

SENDER: • Complete items 1 and/or 2 for additional services. • Complete items 3, and 4a & b. • Print your name and address on the reverse of this form so that we can return this card to you. • Attach this form to the front of the mailpiece, or on the back if space does not permit. • Write "Return Receipt Requested" on the mailpiece next to the article number.		I also wish to receive the following services (for an extra fee): 1. <input type="checkbox"/> Addressee's Address 2. <input type="checkbox"/> Restricted Delivery Consult postmaster for fee.	
3. Article Addressed to: Mr. Ken Hall, President and CEO Pro-Line Boats, Inc. Post Office Box 1348 Crystal River, FL 32629		4a. Article Number P 832 538 752	
		4b. Service Type <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise	
		7. Date of Delivery 12-19-91 <i>Jone</i>	
5. Signature (Addressee)		8. Addressee's Address (Only if requested and fee is paid)	
6. Signature (Agent) <i>A. B. ...</i>			

PS Form 3811, October 1990 ☆ U.S. GPO: 1990-273-861 **DOMESTIC RETURN RECEIPT**

P 832 538 752



Certified Mail Receipt

No Insurance Coverage Provided
 Do not use for International Mail
 (See Reverse)

Sent to	
Mr. Ken Hall, Pro-Line Boats	
Street & No.	
P. O. Box 1348	
P.O., State & ZIP Code	
Crystal River, FL 32629	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Address of Delivery	
TOTAL Postage & Fees	\$
Postmark or Date	
Mailed: 12-16-91	
Permit: AC 09-180615	

PS Form 3800, June 1990

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
NOTICE OF PERMIT

In the matter of an
Application for Permit by:

DER File No. AC 09-180615
Citrus County


Mr. Ken Hall, President and CEO
Pro-Line Boats, Inc.
Post Office Box 1348
Crystal River, Florida 32629

Enclosed is Permit Number AC 09-180615 for after-the-fact construction of a boat manufacturing facility located in Homosassa, Citrus County, Florida, issued pursuant to Section(s) 403, Florida Statutes.

Any party to this Order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION


C. H. Fancy, P.E., Chief
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400
904-488-1344

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF PERMIT and all copies were mailed before the close of business on 12-16-91 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED,
on this date, pursuant to
§120.52(11), Florida Statutes,
with the designated Department
Clerk, receipt of which is hereby
acknowledged.


(Clerk)

12-16-91
(Date)

Copies furnished to:
W. Thomas, SWD
A. Trbovich, ESE
M. Dybevick, P.E.
J. Koogler, P.E.

Final Determination

Pro-Line Boats, Inc.
Citrus County
Homosassa, Florida

Fiberglass Boat Plant

Permit Number: AC 09-180615

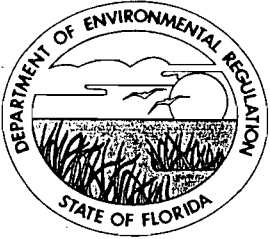
Florida Department of Environmental Regulation
Division of Air Resources Management
Bureau of Air Regulation

December 4, 1991

Final Determination

The Technical Evaluation and Preliminary Determination for an after-the-fact construction permit for a boat manufacturing facility in Homosassa, Citrus County, Florida, was distributed on November 1, 1991. The Notice of Intent to Issue was published in the Ocala Star-Banner on November 9, 1991. Copies of the evaluation were available for public inspection at the Department's Tampa and Tallahassee offices.

No comments were submitted on the Department's Intent to Issue the permit. The final action of the Department will be to issue construction permit AC 09-180615 as proposed in the Technical Evaluation and Preliminary Determination.



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

PERMITTEE:
Pro-Line Boats, Inc.
Post Office Box 1348
Crystal River, Florida 32629

Permit Number: AC 09-180615
Expiration Date: August 31, 1992
County: Citrus
Latitude/Longitude: 28°50'30"N
82°34'20"W
Project: Fiberglass Boat Plant
(After-the-Fact Construction)

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-2 and 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For after-the-fact construction of a facility to produce fiberglass boats. This facility is located at 1520 South Suncoast Blvd., Homosassa, Citrus County, Florida. The UTM coordinates of this site are Zone 17, 346.6 km E and 3,191 km N.

The source shall be constructed in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

Attachments are listed below:

1. Resubmitted application received on September 25, 1991.

PERMITTEE:
Pro-Line Boats, Inc.

Permit Number: AC 09-180615
Expiration Date: August 31, 1992

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

PERMITTEE:
Pro-Line Boats, Inc.

Permit Number: AC 09-180615
Expiration Date: August 31, 1992

GENERAL CONDITIONS:

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:

- a. Have access to and copy any records that must be kept under the conditions of the permit;
- b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

PERMITTEE:
Pro-Line Boats, Inc.

Permit Number: AC 09-180615
Expiration Date: August 31, 1992

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-30.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. The permittee shall comply with the following:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
- b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and

PERMITTEE:
Pro-Line Boats, Inc.

Permit Number: AC 09-180615
Expiration Date: August 31, 1992

GENERAL CONDITIONS:

records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the dates analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

14. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SPECIFIC CONDITIONS:

1. The construction and operation of this source shall be in accordance with the capacities and specifications stated in the application.

2. The plant shall be allowed to operate for up to 5,840 hours per year (two 8-hour shifts per day).

3. Visible emissions from the dust collection system shall not be greater than 5% opacity and compliance shall be demonstrated at 90-100% of permitted capacity using DER Method 9 in accordance with F.A.C. Rule 17-2.700.

4. Hydrocarbon emissions (VOC) shall not exceed the following calculated hourly values. Total VOC emissions from the facility shall not exceed 517 lbs/day (30 day average), and 94 tons/year. Compliance shall be demonstrated by applying the following raw material utilization rates and emission factors:

PERMITTEE:
Pro-Line Boats, Inc.

Permit Number: AC 09-180615
Expiration Date: August 31, 1992

SPECIFIC CONDITIONS:

	Utilization Rate (lbs/hr)	VOC Content	Fraction Emitted	VOC Emissions (lbs/hr)
Styrene (Resin - Hand Layup)	133.9	0.4	0.08	4.0
Styrene (Resin - Spray Layup)	66.0	0.4	0.11	2.9
Styrene (Gel Coat - Hand Layup)	26.4	0.34	0.31	2.8
Styrene (Gel Coat - Spray Layup)	13.0	0.34	0.31	1.3
Acetone	20.5	1.0	1.0	20.5
Wax-Golden Liquid	0.5	0.9	1.0	0.5
Lacquer Thinner	0.1	1.0	1.0	0.1
Resin Stripper	0.1	1.0	1.0	0.1

5. Nonvolatile acetone substitutes shall be used to the maximum extent practicable to further reduce the quantity of acetone consumed.

6. No air pollutants shall be discharged which cause or contribute to an objectionable odor (F.A.C. Rule 17-2.620(2)).

7. The dust collector compliance test shall be conducted within 90 days after this permit is issued and the results reported to the Department's Southwest District office before this construction permit expires. The Department shall be notified at least 15 days in advance of the test.

8. VOC compliance shall be demonstrated over a 90-day period and the results reported to the Department's Southwest District office before this construction permit expires. The Department shall be notified at least 15 days in advance of the commencement of the 90-day compliance demonstration period.

PERMITTEE:
Pro-Line Boats, Inc.

Permit Number: AC 09-180615
Expiration Date: August 31, 1992

SPECIFIC CONDITIONS:

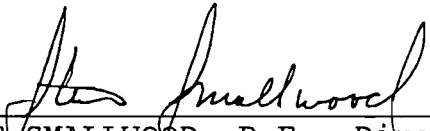
9. Six months from the date of the construction permit, the permittee shall submit a plan of action providing reasonable assurance that objectionable odors and toxic air pollutants exceeding acceptable ambient concentrations will not be discharged off of the facility's property boundary or where the public has access, whichever is closest, pursuant to F.A.C. Rules 17-2.200 and 17-2.620(1) and (2). The plan must contain various control system strategies that could be implemented to reduce or eventually eliminate VOC emissions from each type of operation.

10. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit (F.A.C. Rule 17-4.090).

11. An application for an operation permit must be submitted to the Southwest District office at least 90 days prior to the expiration date of this construction permit. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rules 17-4.055 and 17-4.220).

Issued this 13th day
of December, 1991

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION



STEVE SMALLWOOD, P.E., Director
Division of Air Resources
Management



State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

For Routing To Other Than The Addressee	
To: _____	Location: _____
To: _____	Location: _____
To: _____	Location: _____
From: _____	Date: _____

Interoffice Memorandum

TO: Steve Smallwood
FROM: Clair Fancy *CF*
DATE: December 4, 1991
SUBJ: Approval of Construction Permit AC 09-180615
Pro-Line Boats, Inc.

Attached for your approval and signature is a permit prepared by the Bureau of Air Regulation for the above mentioned company for after-the-fact construction of a boat manufacturing facility in Homosassa, Citrus County, Florida.

No comments were received during the public notice period.

I recommend your approval and signature.

CF/JR/plm

Attachments

Check Sheet

Company Name: _____
Permit Number: _____
PSD Number: _____
Permit Engineer: _____

Pro Line Boats
AC 09 - 1806015

Cross References:

-
-
-

Application:

- Initial Application
- Incompleteness Letters
- Responses
- Waiver of Department Action
- Department Response
- Other

Intent:

- Intent to Issue
- Notice of Intent to Issue
- Technical Evaluation
- BACT or LAER Determination
- Unsigned Permit

Correspondence with:

- EPA
- Park Services
- Other
- Proof of Publication
- Petitions - (Related to extensions, hearings, etc.)
- Waiver of Department Action
- Other

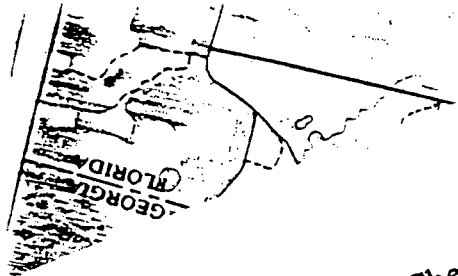
Final

Determination:

- Final Determination
- Signed Permit
- BACT or LAER Determination
- Other

Post Permit Correspondence:

- Extensions/Amendments/Modifications
- Other



PS Form 3811, July 1983 447-845

SENDER: Complete items 1, 2, 3 and 4.
 Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. Show to whom, date and address of delivery.
 2. Restricted Delivery.

3. Article Addressed to:
 Ken Hall, Pres.
 Pro-Line Boats Inc
 PO Box 1348
 Crystal River, FL 32629

4. Type of Service: <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified <input type="checkbox"/> Express Mail	Article Number P062 921 946
--	--------------------------------

Always obtain signature of addressee or agent and **DATE DELIVERED.**

5. Signature - Addressee
 X SC

6. Signature - Agent
 X *[Signature]*

7. Date of Delivery
 1-8-93

8. Addressee's Address (ONLY if requested and fee paid)

DOMESTIC RETURN RECEIPT



P 062 921 946



Receipt for Certified Mail
 No Insurance Coverage Provided
 Do not use for International Mail
 (See Reverse)

Sent to	Ken Hall
Street and No.	Pro-Line Boats
City, State and ZIP Code	Crystal River, FL
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	1-6-93

AC09-180615

PS Form 3800, June 1991



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

December 30, 1992

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Ken Hall, President and CEO
Pro-Line Boats, Inc.
Post Office Box 1348
Crystal River, Florida 32629

Dear Mr. Hall:

Re: Construction Permit No. AC09-180615

The Department received a request dated December 7, 1992, from Koogler & Associates for amendment of certain conditions of the after-the-fact construction permit referenced above. Listed below are amendments acceptable to the Department:

Specific Condition No. 2

Present:

The plant shall be allowed to operate for up to 5,840 hours per year (two 8-hour shifts per day).

Amended:

The plant shall be allowed to operate for up to 5,840 hours per year (three 8-hour shifts per day).

Specific Condition No. 3

No change is necessary.

Specific Condition No. 4

Present:

Hydrocarbon emissions (VOC) shall not exceed the following calculated hourly values. Total VOC emissions from the facility shall not exceed 517 lbs/day (30 day average), and 94 tons/year. Compliance shall be demonstrated by applying the following raw material utilization rates and emission factors:

Mr. Ken Hall
 Pro-Line Boats, Inc.
 Page 2

	Utilization Rate (lbs/hr)	VOC Content	Fraction Emitted	VOC Emissions (lbs/hr)
Styrene (Resin - Hand Layup)	133.9	0.4	0.08	4.0
Styrene (Resin - Spray Layup)	66.0	0.4	0.11	2.9
Styrene (Gel Coat - Hand Layup)	26.4	0.34	0.31	2.8
Styrene (Gel Coat - Spray Layup)	13.0	0.34	0.31	1.3
Acetone	20.5	1.0	1.0	20.5
Wax-Golden Liquid	0.5	0.9	1.0	0.5
Lacquer Thinner	0.1	1.0	1.0	0.1
Resin Stripper	0.1	1.0	1.0	0.1

Amended:

Hydrocarbon emissions (VOC) shall not exceed the following calculated hourly values. Total annual VOC emissions from the facility shall not exceed 76 tons. Compliance shall be demonstrated by applying the following raw material utilization rates and emission factors:

	Utilization Rate (lbs/hr)	VOC Content	Fraction Emitted	VOC Emissions (lbs/hr)
Styrene (Resin - Hand Layup)	133.9	0.4	0.08	4.0
Styrene (Resin - Spray Layup)	66.0	0.4	0.11	2.9
Styrene (Gel Coat - Hand Layup)	26.4	0.34	0.31	2.8

Styrene (Gel Coat - Spray Layup)	13.0	0.34	0.31	1.3
Acetone	12.5	1.0	1.0	12.5
Wax-Golden Liquid	0.5	0.9	1.0	0.5
Lacquer Thinner	0.1	1.0	1.0	0.1
Resin Stripper	0.1	1.0	1.0	0.1
Contact Cement	2.0	0.87	0.95	1.7
Totals	254.5	--	--	25.9

Specific Condition No. 5

Deleted entirely (No change in numbering for subsequent conditions).

Specific Conditions Nos. 6, 7 and 8

No change is necessary.

Specific Condition No. 9

Present:

Six months from the date of the construction permit, the permittee shall submit a plan of action providing reasonable assurance that objectionable odors and toxic air pollutants exceeding acceptable ambient concentrations will not be discharged off of the facility's property boundary or where the public has access, whichever is closest, pursuant to F.A.C. Rules 17-2.200 and 17-2.620(1) and (2). The plan must contain various control system strategies that could be implemented to reduce or eventually eliminate VOC emissions from each type of operation.

Amended:

The permittee shall at all times apply the following measures to control VOC emissions at the permitted facility:

- a) Follow work practices outlined in the emission reduction report (Attachment No. 3) including employees' hand protection, using covered acetone containers, and restricting employees' access to acetone.

Mr. Ken Hall
Pro-Line Boats, Inc.
Page 4

- b) Convert from the use of acetone to an acetone substitute for all lamination steps in the boat manufacturing process and limit other acetone uses to the maximum extent practicable.
- c) Replace spray type resin applicators with roller applicators for the lamination process.

Specific Conditions Nos. 10 and 11

No change is necessary.

This letter shall become Attachment No. 5 to this permit, while the Koogler & Associates emission reduction report dated September, 1992, and Koogler's letter dated December 7, 1992, become Attachments Nos. 3 and 4, respectively.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant and the parties listed below must be filed within 14 days of receipt of this intent. Petitions filed by other persons must be filed within 14 days of publication of the public notice or within 14 days of their receipt of this intent, whichever first occurs. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information:

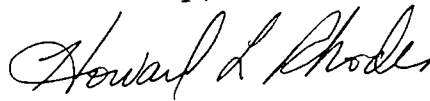
- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by Petitioner, if any;

Mr. Ken Hall
Pro-Line Boats, Inc.
Page 5

- (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and
- (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this intent. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this intent in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

Sincerely,



Howard L. Rhodes
Director
Division of Air Resources
Management

HLR/JR/plm

cc: W. Thomas, SWD
J. Koogler, P.E.



State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

For Routing To Other Than The Addressee	
To: _____	Location: _____
To: _____	Location: _____
To: _____	Location: _____
From: _____	Date: _____

Interoffice Memorandum

TO: Howard L. Rhodes
FROM: Clair Fancy *CF*
DATE: December 30, 1992
SUBJ: Amendment of Permit No. AC09-180615
Pro-Line Boats, Inc.

Attached for your approval and signature is a permit amendment prepared by the Bureau of Air Regulation for the subject boat building facility. The only major change involves a 40% reduction in allowable VOC emissions which has been demonstrated through the use of an acetone substitute and altered work practices. Although the permittee did not request this reduction at this time, they have presented evidence sufficient for the Department to require the emission reduction as part of this amendment. Other amendments consist of minor changes in permit language for clarification of operating hours and work practices.

I recommend your approval and signature.

HLR/CF/plm

1765
OK
OK
OK
12/29



KOOGLER & ASSOCIATES

ENVIRONMENTAL SERVICES

4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 ■ FAX 377-7158

KA 412-91-01

December 7, 1992

Mr. John M. Reynolds, Jr.
Division of Air Resources Management
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Subject: Pro-Line Boats, Inc.
Homosassa, Citrus County, Florida
Construction Permit No. AC09-180615

Dear Mr. Reynolds:

Pro-Line Boats, Inc. (Pro-Line) owns and operates a facility that produces fiberglass boats. The company is located at 1520 South Suncoast Boulevard in Homosassa, Citrus County, Florida. On December 4, 1991, the Department issued Pro-Line an after-the-fact construction permit (AC09-180615) for the facility. As has been previously discussed with you, Pro-Line requests that certain Specific Conditions of the construction permit be revised to provide clarification of the permit as it relates to the operating practices and procedures of Pro-Line. The proposed amendments to the Specific Conditions are set forth in the following paragraphs with new language indicated by underlining. Deletions have been stricken through. Following each amendment is a rationale for the proposed change. On behalf of Pro-Line, I would appreciate it if you will review the following proposed amendments to the subject permit and incorporate these amendments into the subject permit.

1. Specific Condition No. 1 - No change.

RECEIVED

DEC 08 1992

Division of Air
Resources Management

2. Specific Condition No. 2 - The plant shall be allowed to operate for up to 5,840 hours per year ~~(two 8 hour shifts per day)~~.

RATIONALE: The application for Permit AC09-180615 presented annual and hourly average material usages and estimated air pollutant emission rates based on an equivalent operating time of 16 hours per day (two 8-hour shifts) and 365 days per year. In actual practice, Pro-Line sometimes operates up to 24 hours per day, while at other times the entire plant may be shut down for several consecutive days. Under this variable operating schedule, the annual hours of operation will not exceed 5,840 hours per year; the total annual operating time set forth in Permit AC09-180615 and the operating time used in the application to calculate annual and hourly average emission rates.

OK

To avoid misinterpretation at some future date, Pro-Line requests that the reference to two 8-hour shifts per day be stricken from Specific Condition No. 2 of the subject permit. Pro-Line has no objection to the annual operating time of 5,840 hours per year.

3. Specific Condition No. 3 - Visible emissions from the dust collection system shall not be greater than 5% opacity and compliance shall be demonstrated pursuant to Specific Condition No. 5 at 90-100% of permitted capacity using Department Method 9 in accordance with F.A.C. Rule 17-2.700.

NOT NECESSARY

RATIONALE: Specific Condition No. 3 limits the opacity of visible emissions from the dust collection system associated with the Pro-Line wood shop to five percent as determined by Department Method 9. Proposed Specific Condition No. 5 of Permit AC09-180615 specifies the schedule for conducting the visible emission compliance test on the wood shop. Pro-Line requests that the suggested language be added to Specific Condition No. 3 to tie together the two specific permit conditions related to the opacity standard.

4. Specific Condition No. 4 - Hydrocarbon emissions (VOC) shall not exceed the following calculated hourly values. Total VOC emissions from the facility shall not exceed 821 517 lbs/day (30 day average), and 99.8 94 tons/year. Compliance shall be demonstrated pursuant to Specific Condition No. 6 by applying the following raw material utilization rates and emission factors:

REVISE THIS TO REFLECT NEW WORK PRACTICES FOR ACETONE



Material	Utilization Rate (lbs/hr)	VOC Content	Fraction Emitted	VOC Emissions (lbs/hr)
Styrene (Resin - Hand Layup)	133.9	0.4	0.08	4.0
Styrene (Resin - Spray Layup)	66.0	0.4	0.11	2.9
Styrene (Gel Coat - Hand Layup)	26.4	0.34	0.31	2.8
Styrene (Gel Coat - Spray Layup)	13.0	0.34	0.31	1.3
Acetone	20.5 ^{12.5}	1.0	1.0	20.5 ^{12.5}
Wax-Golden Liquid	0.5	0.9	1.0	0.5
Lacquer Thinner	0.1	1.0	1.0	0.1
Resin Stripper	0.1	1.0	1.0	0.1
<u>Contact Cement</u>	<u>2.0</u>	<u>0.869</u>	<u>0.95</u>	<u>1.6</u>

See Documented Reduction in Report

RATIONALE: Specific Condition No. 4 limits total hydrocarbon emissions by limiting the use of all materials containing VOCs. Proposed Specific Condition No. 6 of Permit AC09-180615 establishes the procedures by which compliance is to be demonstrated. Pro-Line requests that the suggested language be added to proposed Specific Condition No. 4 to tie together the two specific permit conditions related to VOC emission standards.

Specific Condition No. 4 also includes typical hourly utilization rates of the VOC containing materials used by Pro-Line. The purpose of this inventory was to establish a basis for the daily average and the annual average VOC emission rate limits set forth in Specific Condition No. 4.

During the review of control technologies and work practices required by Specific Condition No. 9 of the existing permit and during the inventorying of materials as required for the demonstration of compliance with existing Specific Condition No. 4 (in accordance with Specific



Condition No. 8 of the existing permit), it came to the attention of Pro-Line that contact cement had not been included as a VOC containing material in the permit application. Pro-Line uses two 55-gallon drums per month of the cement or 1164 pounds of cement per month. The cement is Number 505, non-flammable contact cement, supplied by Horizon Chemicals. The VOC content of the cement is 86.9 percent, and the fraction of VOCs released is estimated to be 95 percent. This utilization rate is equivalent to 2.4 pounds of cement per hour, resulting in a VOC emission rate of 2.0 pounds per hour. On an annual basis, this is equivalent to a VOC emission rate of 5.8 tons per year; increasing the annual VOC emission rate from the Pro-Line facility to 99.8 tons per year.

For permitting purposes, Pro-Line requests that contact cement be included in the typical inventory of materials as set forth in Specific Condition No. 4. The addition of this material will also require that the annual average total VOC emission rate from the Pro-Line facility, as limited by Specific Condition No. 4, be amended from 94 tons per year to 99.8 tons per year.

The daily average emission rate of total VOCs as limited by Specific Condition No. 4 must also be amended to incorporate the use of contact cement. Additionally, and to be consistent with the amendment requested to Specific Condition No. 2, Pro-Line requests that the daily average VOC emission rate be amended to reflect a maximum daily work schedule of 24 hours. As stated in the Rationale for amending Specific Condition No. 2, this schedule will provide Pro-Line the operating flexibility to meet market demands without increasing the annual hours of operation. The addition of contact cement to the material use inventory and a maximum daily operating time of 24 hours will increase the maximum daily VOC emission rate from 517 pounds per day to 821 pounds per day (30-day average).

*Eliminate
30 day average
leaving only
10/hr & tons/yr*

In requesting these amendments to Specific Condition No. 4, it should be noted that since the date of issue of the subject permit, Pro-Line has adopted work practice standards in accordance with Specific Condition No. 9 of the existing permit to reduce acetone consumption, and hence reduce VOC emissions. The reduction in acetone use, which has been documented in the report required by Specific Condition No. 9 of the existing permit, is approximately 40 percent (or 8 pounds per hour and 24 tons per year). The subject permit is representative of Pro-Line activities at the time of permitting (December 1991) and should therefore incorporate the material usage and VOC emissions presently documented in Specific Condition No. 4 (with the addition of the contact cement). Reductions in VOC emissions as a result of the requirement of Specific Condition No. 9 can be addressed in future permits.

*Acetone
Reduction
should be
Addressed
in this
amendment.*



5. ~~Specific Condition No. 5 - Nonvolatile acetone substitutes shall be used to the maximum extent practicable to further reduce the quantity of acetone consumed. [Merged into new Specific Condition No. 7.]~~

RATIONALE: Specific Condition No. 5 of existing Permit AC09-180615 requires Pro-Line to use non-volatile acetone substitutes to the maximum extent practical to reduce total VOC emissions. Specific Condition No. 9 of the permit essentially duplicates Specific Condition No. 5 by requiring Pro-Line to submit a plan of action to the Department within six months of the date of the construction permit defining various strategies and/or work practices reasonably available to the permittee, considering technical and economic feasibility, to reduce total VOC emissions from each type of operation at the Pro-Line facility. To eliminate the duplication of conditions, Pro-Line is suggesting a new Specific Condition No. 7 to replace existing Specific Condition Nos. 5 and 9. To be responsive to existing Specific Condition No. 5, new Specific Condition No. 7 will require Pro-Line to prepare and submit to the Department a report of VOC emission control devices, systems and/or work practices reasonably available to the permittee considering technical and economic feasibility to reduce total VOC emissions from each type of operation, including the use of acetone. New Specific Condition No. 7 will further require Pro-Line to develop an action plan to implement use of acetone supplement(s) determined in the report to be available, practical and feasible. (Note that this report has been submitted to the Department).

NOT
A
RACT-NAA
PERMIT

6. ~~Specific Condition No. 6 - No air pollutants shall be discharged which cause or contribute to an objectionable odor (F.A.C. Rule 17-2.620(2)). [Merged into new Specific Condition No. 7.]~~

RATIONALE: Specific Condition No. 6 of Permit AC09-180615 parallels Rule 17-2.620(2), F.A.C. and requires that no air pollutants which cause or contribute to an objectionable odor be discharged from a facility. Pro-Line recognizes that compliance with applicable rules of Chapter 17-2, F.A.C. are mandated by both Chapter 17-2 and 17-4 of the F.A.C. whether or not the specific rules are contained in an air permit.

To comply with the requirements of existing Specific Condition No. 6 and the requirements set forth in proposed Specific Condition No. 7, Pro-Line has prepared and submitted to the Department a report of VOC emission control devices, systems and/or work practices that are feasible and reasonably available to reduce VOC emissions from the facility and to minimize the release of odors off the facility's property. Also, as required by proposed Specific Condition No. 7, Pro-Line has developed an action plan for implementing the practices, control devices and systems reported to be available, feasible and practical.



Pro-Line recognizes that it must comply with the requirements of Rule 17-2.620(2), F.A.C. and is of the opinion that compliance with new Specific Condition No. 7 will provide this assurance to the Department. It is Pro-Line's opinion that the reference to a specific section of Rule 17-2 in the construction permit is unnecessary and redundant as the intent of existing Specific Condition No. 6 is covered in new Specific Condition No. 7, and by the fact that compliance with all applicable requirements of Chapter 17-2 are required whether or not they are referenced in a permit.

7. Specific Condition No. ~~5~~ 7 - The dust collector compliance test shall be conducted within 90 days after this permit is issued and the results reported to the Department's Southwest District Office before this construction permit expires. The Department shall be notified at least 15 days in advance of the test.

RATIONALE: Existing Specific Condition No. 7 is renumbered as proposed Specific Condition No. 5. This condition sets forth the schedule and the notification requirements for demonstrating compliance with the opacity standard applicable to the Pro-Line wood shop and established by Specific Condition No. 3 of Permit AC09-180615.

8. Specific Condition No. ~~6~~ 8 - ~~VOC compliance shall be demonstrated over a 90-day period and the results reported to the Department's Southwest District office before this construction permit expires. The Department shall be notified at least 15 days in advance of the commencement of the 90-day compliance demonstration period.~~

Prior to submission of the application for an operating permit, the permittee shall:

- a. Inventory the use of all VOC containing materials over a 90-day period, including:
 1. Resin
 2. Gel Coat
 3. Acetone
 4. Wax-Golden Liquid
 5. Lacquer Thinner
 6. Resin Stripper
 7. Contact Cement
- b. Calculate the average VOC emissions (lbs/hr) from the above-listed materials based on a 90-day average usage;



- c. Demonstrate that the total VOC emissions (lbs/hr) from the above-listed materials on a 90-day average are equal to or less than the total VOC emissions (lbs/hr) set forth in Specific Condition No. 4.

RATIONALE: Specific Condition No. 8 of the existing Permit AC09-180615 is renumbered as proposed Specific Condition No. 6. Based upon discussions with Department staff, the proposed wording is intended to more specifically detail the procedure that is to be used by Pro-Line to demonstrate compliance with the total VOC emission limiting standard established by Specific Condition No. 4. The proposed condition specifies how the total VOC emissions are to be determined and that the total VOC emission rate is to be equal to or less than the total VOC emissions (pounds per hour) set forth in proposed Specific Condition No. 4. (Note that this compliance report has been submitted to the Department).

9. ~~Specific Condition No. 7 9 - Six months from the date of the construction permit, the permittee shall submit a plan of action providing reasonable assurance that objectionable odors and toxic air pollutants exceeding acceptable ambient concentrations will not be discharged off of the facility's property boundary or where the public has access, whichever is closest, pursuant to F.A.C. Rules 17-2.200 and 17-2.620(1) and (2). The plan must contain various control system strategies that could be implemented to reduce or eventually eliminate VOC emissions from each type of operation.~~

No later than six months from the date of issue of this construction permit, the permittee shall submit a report and develop a plan of action of emission control devices, systems and/or work practices reasonably available to the permittee considering technical and economic feasibility to:

- a. Reduce VOC emissions from each type of operation at the facility; and
- b. Minimize the release of objectionable odors beyond the facility's property boundary or where the public has access, whichever area is closer.

RATIONALE: Specific Condition No. 9 of existing Permit AC09-180615 requires that Pro-Line submit a plan of action providing the Department with reasonable assurance that objectionable odors and toxic air pollutants exceeding acceptable ambient concentrations will not be present beyond the facility boundary or where the public has access. The plan is to contain a review of various control system strategies that could be implemented to reduce VOC emissions from each type of operation at the Pro-Line facility. Also, Specific Condition Nos. 5 and 6 of the existing permit, as previously referenced, contain requirements directed toward

NOT
NECESSARY!
REPORT HAS
BEEN SUBMITTED

DELETE
No. 9



reducing or minimizing VOC emissions and the emissions of odor causing compounds.

Pro-Line is suggesting a new Specific Condition No. 7 which combines the requirements of existing Specific Condition Nos. 5, 6 and 9. The new condition requires that Pro-Line submit to the Department, within six months of the date of the construction permit (consistent with the requirement of existing Specific Condition No. 9), a report of VOC emission control devices, systems and/or work practices reasonably available to Pro-Line considering technical and economic feasibility to reduce total VOC emissions from each type of operation and to minimize the release of objectionable odors off the Pro-Line property or at points where the public has access, whichever is closer. (It should be noted that this report has been submitted to the Department). Proposed Specific Condition No. 7 also requires that Pro-Line develop a plan of action to implement the reasonable available and feasible control devices, systems and work practices within a reasonable period of time.

Assurance that concentrations of toxic air pollutants in excess of Acceptable Ambient Concentrations will not occur beyond the Pro-Line property, as required by existing Specific Condition No. 9, was provided in the application for Construction Permit AC09-180615. Pro-Line is of the opinion that further demonstration of this condition is redundant and unnecessary. Hence, proposed Specific Condition No. 7 requires no additional demonstration of compliance with Acceptable Ambient Concentrations for toxic air pollutants.

10. Specific Condition No. ~~8~~ ¹⁰ - The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit (F.A.C. Rule 17-4.090).

RATIONALE: Existing Specific Condition No. 10 has been renumbered as proposed Specific Condition No. 8.

11. Specific Condition No. ~~9~~ ¹¹ - An application for an operation permit must be submitted to the Southwest District Office at least 90 days prior to the expiration date of this construction permit. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rules 17-4.055 and 17-4.220).

RATIONALE: Existing Specific Condition No. 11 has been renumbered as proposed by Specific Condition No. 9.



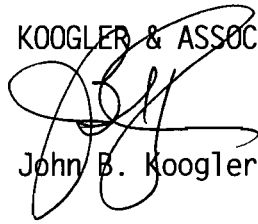
Mr. John M. Reynolds, Jr.
Florida Department of
Environmental Regulation

December 7, 1992
Page 9

Your review and consideration of these proposed amendments is appreciated. If you have any questions regarding these suggested changes, please do not hesitate to contact me.

Very truly yours,

KOOGLER & ASSOCIATES



John B. Koogler, Ph.D., P.E.

JBK:wa

c: Mr. Glenn Bell, Pro-Line



BEST AVAILABLE COPY

PRO-LINE BOAT 02-88
PHONE 904 795-4111
P O BOX 1348
CRYSTAL RIVER, FL 32629

10941

63-134/631
BRANCH 114

November 13 19 92

PAY
TO THE
ORDER OF

FLA. DEPARTMENT OF ENVIRONMENTAL REGULATION

\$ 50.00

PRO-LINE BOATS INC. 50 DOLS 00 CTS

DOLLARS

VOID AFTER 90 DAYS



Sun Bank and Trust Company
Crystal River Office
P.O. Box 156
Brooksville, FL 34605-0156

FOR Permit #AC09-180615 Extension Request

Ken Hall

11-17-92

Mr. Glenn Bell

Re: Our telephone conversation of today,
I am returning your check.

Sincerely,

Ben Wilson
Ben Wilson
Der Pensacola, Fl.

428



QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL
PACKAGE
TRACKING NUMBER

5157338491

22354

5157338491

BEST AVAILABLE COPY

RECIPIENT'S COPY

Date 11-20-92			
From (Your Name) Please Print GLENN BELL		To (Recipient's Name) Please Print JOHN REYNOLDS	
Your Phone Number (Very Important) (904) 795-4111		Recipient's Phone Number (Very Important)	
Company PRO-LINE WATS INC		Company FLA DEPT OF ENVIRONMENTAL REGULATION	
Department/Floor No.		Department/Floor No.	
Street Address 1520 S SUN COAST BLVD		Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.) TWIN TOWERS OFFICE BLDG	
City HOUSTON		City TALLAHASSEE	
State FL		State FL	
ZIP Required 3 4 4 4 8		ZIP Required 32399-2400	
YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.)			
IF HOLD FOR PICK-UP, Print FEDEX Address Here			
Street Address			
City State ZIP Required			
PAYMENT: 1 <input type="checkbox"/> Bill Sender 2 <input type="checkbox"/> Bill Recipient's FedEx Acct. No. 3 <input type="checkbox"/> Bill 3rd Party FedEx Acct. No. 4 <input type="checkbox"/> Bill Credit Card			
5 <input type="checkbox"/> Cash/Check			
4 SERVICES (Check only one box)		5 DELIVERY AND SPECIAL HANDLING (Check services required)	
Priority Overnight (Delivery by next business morning) 11 <input type="checkbox"/> YOUR PACKAGING 16 <input checked="" type="checkbox"/> FEDEX LETTER* 12 <input type="checkbox"/> FEDEX PAK* 13 <input type="checkbox"/> FEDEX BOX 14 <input type="checkbox"/> FEDEX TUBE Economy Two-Day (Delivery by second business day) 30 <input type="checkbox"/> ECONOMY Freight Service (for packages over 150 lbs.) 70 <input type="checkbox"/> OVERNIGHT FREIGHT** 80 <input type="checkbox"/> TWO-DAY FREIGHT**		Standard Overnight (Delivery by next business afternoon, No Saturday delivery) 51 <input type="checkbox"/> YOUR PACKAGING 56 <input type="checkbox"/> FEDEX LETTER* 52 <input type="checkbox"/> FEDEX PAK* 53 <input type="checkbox"/> FEDEX BOX 54 <input type="checkbox"/> FEDEX TUBE Government Overnight (Restricted for authorized users only) 46 <input type="checkbox"/> GOVT LETTER 41 <input type="checkbox"/> GOVT PACKAGE 1 <input type="checkbox"/> HOLD FOR PICK-UP (Fill in Box H) 2 <input checked="" type="checkbox"/> DELIVER WEEKDAY 3 <input type="checkbox"/> DELIVER SATURDAY (Extra charge) (Not available to all locations) 4 <input type="checkbox"/> DANGEROUS GOODS (Extra charge) 5 <input type="checkbox"/> 6 <input type="checkbox"/> DRY ICE _____ Lbs. 7 <input type="checkbox"/> OTHER SPECIAL SERVICE _____ 8 <input type="checkbox"/> 9 <input type="checkbox"/> SATURDAY PICK-UP (Extra charge) 10 <input type="checkbox"/> 12 <input type="checkbox"/> HOLIDAY DELIVERY (If offered) (Extra charge)	
		6 PACKAGES WEIGHT In Pounds Only YOUR DECLARED VALUE	
		Emp. No. Date Federal Express Use	
		<input type="checkbox"/> Cash Received <input type="checkbox"/> Return Shipment <input type="checkbox"/> Third Party <input type="checkbox"/> Chg. To Del. <input type="checkbox"/> Chg. To Hold Street Address City State Zip Received By: X Date/Time Received. FedEx Employee Number	
		Base Charges Declared Value Charge Other 1 Other 2 Total Charges	
		DIM SHIPMENT (Chargeable Weight) <input type="checkbox"/> _____ lbs. L x W x H Received At 1 <input type="checkbox"/> Regular Stop 3 <input type="checkbox"/> Drop Box 2 <input type="checkbox"/> On-Call Stop 4 <input type="checkbox"/> B.S.C. 5 <input type="checkbox"/> Station	
		7 Release Signature:	
		REVISION DATE 2/92 PART #137204 FXEM 8/92 FORMAT #126 126 © 1991-92 FEDEX PRINTED IN U.S.A.	



P.O. Box 1348, Crystal River, FL 34423-1348

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DER - MAIL ROOM
1992 NOV 23 AM 9 56

MR. JOHN REYNOLDS

Air Permit #
1031

001031

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- 1. Addressee's Address
 - 2. Restricted Delivery
- Consult postmaster for fee.

3. Article Addressed to:
 Ken Hall
 Pro-Line Boats, Inc
 P O Box 1348
 Crystal River, FL

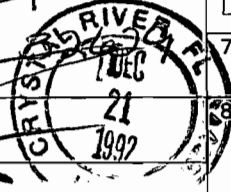
4a. Article Number
P 062 921 930

- 4b. Service Type
- Registered
 - Certified
 - Express Mail
 - Insured
 - COD
 - Return Receipt for Merchandise

7. Date of Delivery

5. Signature (Addressee)

6. Signature (Agent)



8. Addressee's Address (Only if requested and fee is paid)

Thank you for using Return Receipt Service.

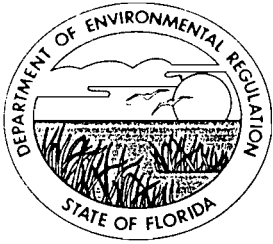
P 062 921 930



Receipt for Certified Mail
 No Insurance Coverage Provided
 Do not use for International Mail
 (See Reverse)

Sent to	Ken Hall
Street and No.	Pro-Line Boats
P.O., State and ZIP Code	Crystal River, FL
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	12-16-92 AC 09-180615

PS Form 3800, June 1991



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

December 10, 1992

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Ken Hall, President and CEO
Pro-Line Boats, Inc.
P.O. Box 1348
Crystal River, Florida 32629

Dear Mr. Hall:

The Department received your request for extension of the construction permit referenced below. Since this is the second extension request for the purpose of drafting proposed amendments, the Department cannot grant a third extension for this purpose. The permit is amended as shown.

Permit No. AC 09-180615

Current Expiration Date: November 30, 1992

New Expiration Date: February 26, 1993

This letter shall become Attachment No. 3 to this permit.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant and the parties listed below must be filed within 14 days of receipt of this intent. Petitions filed by other persons must be filed within 14 days of publication of the public notice or within 14 days of their receipt of this intent, whichever first occurs. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statute

The Petition shall contain the following information:

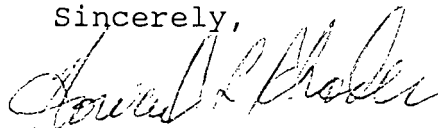
- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;

Mr. Ken Hall
December 10, 1992
Page Two

- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by Petitioner, if any;
- (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and
- (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's action may be different from the position taken by it in this intent. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this intent in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

Sincerely,



Howard L. Rhodes
Director
Division of Air Resources
Management

HLR/JR/w

cc: W. Thomas, SWD
J. Koogler, P.E.



State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

For Routing To Other Than The Addressee	
To: _____	Location: _____
To: _____	Location: _____
To: _____	Location: _____
From: _____	Date: _____

Interoffice Memorandum

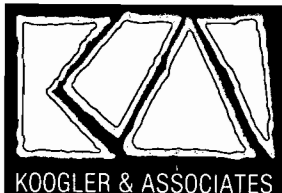
TO: Howard L. Rhodes
FROM: Clair Fancy *CF*
DATE: December 10, 1992
SUBJ: Permit Extension - Pro Line Boats AC09-180615

Attached for your approval and signature is a permit extension prepared by the Bureau of Air Regulation. The permittee requested an additional 90 days to draft revised permit conditions before submitting their operation permit application to the District Office.

I recommend that this extension be approved.

HR/CF/w

Attachments



KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 ■ FAX 377-7158

KA 412-91-01

November 6, 1992

Mr. John Reynolds
Division of Air Resources
Management
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Subject: DER File AC09-180615
Pro-Line Boats, Inc.
Citrus County, Florida
Request for Extension of Construction
Permit

Dear Mr. Reynolds:

On behalf of Pro-Line Boats, Inc. I would like to request a ninety (90) extension of the expiration date of permit AC09-180615, from November 30, 1992 to February 26, 1993. The purpose of this request is to allow time to complete amendments to some of the Specific Conditions of the subject permit. Suggested permit amendments and the rationale for the amendments are being prepared and will be submitted to your office as soon as possible.

It is our opinion that it would be most appropriate to finalize the requested amendments to the air construction permit before Pro-Line applies for an air operating permit. The requested 90-day extension to the expiration date of the subject permit will allow the Department time to review and finalize these amendments.

RECEIVED

NOV 10 1992

Division of Air
Resources Management

Mr. John Reynolds
Florida Department of
Environmental Regulation

November 6, 1992
Page 2

I appreciate your consideration of the request set forth herein. If there are any questions or if additional clarification is required, please do not hesitate to contact me.

Very truly yours,

KOOGLER & ASSOCIATES



John B. Koogler, Ph.D., P.E.

JBK:mem

c: Mr. Glen Bell, Pro-Line Boats, Inc.





KOOGLER & ASSOCIATES

ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 • FAX 377-7158

KA 412-91-01

October 2, 1992

Mr. Harry Kerns
Florida Department of
Environmental Regulation
Southwest District Office
4520 Oak Fair Blvd.
Tampa, FL 33610-7347

RECEIVED

OCT 5 1992

Division of Air
Resources Management

Subject: Pro-Line Boats, Inc.
Homasassa, Florida

Dear Mr. Kerns:

On December 13, 1991, Pro-Line Boats, Inc. (Pro-Line) was issued Air Construction Permit AC09-180615 by the Florida Department of Environmental Regulation (FDER) for a fiberglass boat manufacturing facility located in Homasassa, Citrus County, Florida.

Specific Condition No. 9 of the permit requires Pro-Line to submit to FDER a report on VOC emission control devices, equipment and/or work practices reasonably available to Pro-Line, to reduce VOC emissions from the facility and to minimize the release of objectional odor causing compounds off the facility property. Enclosed you will find a report which serves to satisfy the requirements of Specific Condition No. 9 of permit AC09-180615.

If you have any questions concerning the enclosed report, please do not hesitate to give me a call.

Very truly yours,

KOOGLER & ASSOCIATES

John B. Koogler, Ph.D., P.E.

JBK:mem
Enc.

c: Mr. John Reynolds, FDER, Tallahassee ✓
Mr. J.D. Boone Kuersteiner, Huey, Guilday, Kuersteiner
Mr. Glenn Bell, Pro-Line Boats, Inc.

EMISSION CONTROL DEVICES,
EQUIPMENT AND/OR WORK PRACTICES FOR
REDUCING EMISSIONS FROM A
FIBERGLASS BOAT BUILDING FACILITY

PRO-LINE BOATS, INC.
CITRUS COUNTY, FLORIDA

September 1992

KOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 N.W. 13TH STREET
GAINESVILLE, FL 32609
(904) 377-5822



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1.0 INTRODUCTION

On December 13, 1991, Pro-Line Boats, Inc. (Pro-Line) was issued Air Construction Permit AC09-180615 by the Florida Department of Environmental Regulation (FDER) for a fiberglass boat manufacturing facility located in Homasassa, Citrus County, Florida. Pro-Line is an existing facility located in an area designated by FDER as attainment for all air pollutants. Information presented in the application for the Permit demonstrated that Pro-Line is a minor emitting facility; emitting less than 100 tons per year of volatile organic compounds (VOCs). The information further demonstrated that concentrations of specific VOC compounds (acetone, styrene and MEK) released from the facility and appearing in the ambient air beyond the Pro-Line property line are well below guideline No Threat Levels (NTLs) established by FDER.

Specific Condition No. 9 of the Permit requires Pro-Line to submit to FDER a report on VOC emission control devices, equipment and/or work practices reasonably available to Pro-Line, to reduce VOC emissions from the facility and to minimize the release of objectional odor causing compounds off the facility property. This report summarizes and documents alternatives that Pro-Line has reviewed and selected, considering technical and economic feasibility, to reduce VOC emissions from production operations. The control devices, equipment and/or work practices that have been, and/or will be, implemented by Pro-Line will reduce VOC emissions below the levels documented in the permit application and below levels that have already been demonstrated to result in off-site ambient concentrations that are less than FDER NTLs.

2.0 PROCESS DESCRIPTION

The fiberglass reinforced plastic fabrication process has been described in several reports (References 1,2,3). These reports have also described the sources of VOC emissions and have, to varying degrees, presented alternatives for reducing VOC emissions. In the following paragraphs, a general description of the fiberglass reinforced plastic boat building industry is presented. The descriptive material contained in the following paragraphs was abstracted from the EPA report, *Volatile Organic Compound Control at Specific Sources in Louisville, Kentucky and Nashville, Tennessee*, EPA-904/9-81-087, December 1981(1).

The fiberglass reinforced plastic boat industry is composed of many small businesses contained within SIC Code 3732; Boat Building and Repairing. There is a wide range in the number of employees and the size of boats built. The size of fiberglass boats ranges from less than 12 feet up to 230 feet in length. Fiberglass boats are generally divided into two size categories. Boats 30 feet in length or less are termed "small" and boats greater than 30 feet in length are termed "large." A facility may produce as many as 70 boats per day or as few as one boat per week, depending on the size of the business and the size of the boat.

Pro-Line is a medium-sized fiberglass boat manufacturing facility specializing in the construction of small boats. The company produces boats ranging from 16 to 29 feet in length.

There are several production methods applicable to fiberglass boat manufacturing; however, the primary method used in production of small boats is contact open molding. The primary VOC emissions associated with this production process are styrene and acetone. The contact molding method consists of applying layers of resin impregnated fiberglass reinforcement (laminates) on an open female or male mold. The laminate is built up to the required thickness and then allowed to harden or cure. After the cure is completed, the part is removed and the mold is reused. A male mold is convex, leaving a smooth inner surface, and a female mold is concave, leaving a smooth outer surface on the product. As a smooth outer surface is normally desired, female molds are most commonly used in fiberglass boat production.

The primary type of resin used in fiberglass boat production is polyester resin. Polyester resins typically consist of 40-50 percent styrene monomer and 50-60 percent polyester solids. Before applying the resin, the necessary catalyst and accelerator are added to initiate curing. During curing, the styrene monomer polymerizes forming a thermosetting plastic. This is an exothermic process, and because styrene monomer reacts more rapidly at elevated temperatures, the reaction is autocatalytic.

The different parts of the boat (deck, hull, small parts) are fabricated in the molding room. The decks and hulls are fabricated in the main area of the molding room while the small parts are fabricated in other areas. The first step in the production process involves coating the mold with

a releasing agent such as wax. A gel coat is then applied to the mold with a spray gun in a ventilated spray booth. The gel coat is a pigmented polyester resin which forms the outer smooth surface of the molded parts. After spraying, the gel coat hardens or cures with a smooth surface against the mold and a tacky outer surface which enhances bonding of the first layer of laminate.

After the gel coat cures, the first layer of resin and fiberglass laminate is applied using one of the lamination methods described in the following section. The lamination procedure is repeated until the desired thickness is achieved. Structural reinforcements such as wood, plastic, and metal are also added during lamination. Lamination is a batch process with time between laminates dependent on cure time of the resin. After the final lamination has cured, the excess is trimmed from the part and the part is removed from the mold.

After the parts are removed from the mold, they are taken to an assembly area where they are sanded and the boat is assembled. Carpet and accessories are installed to produce the finished product.

2.1 Methods of Lamination

There are two methods of lamination used in the fiberglass boat manufacturing industry; hand lay-up and spray-up. Each method offers advantages and disadvantages over the other and a combination of the two is often used.

The advantage of using hand lay-up with woven roving or cloth laminate is that a product with a higher strength to weight ratio is produced. However, the hand lay-up fabrication process requires more time. A common practice in the industry is to combine these two methods. With this combination, parts of a boat that require strength are fabricated using hand lay-up while parts that do not need as much strength, such as small parts, are fabricated using spray-up. This results in a lightweight boat that is produced in the minimum amount of time.

2.1.1 Hand Lay-up

In the hand lay-up method, resin is generally applied with a spray gun. When a spray gun is used to apply the resin, a brush is usually employed to even out the resin. After a thin coat of resin has been applied to the gel coat or previous layer of laminate, fiberglass reinforcement is hand placed over the wet resin. The primary fiberglass reinforcements used in hand lay-up are woven roving, cloth and mat. Squeegees or metal rollers are then used to force the resin up through the reinforcement and remove any entrapped air; a process referred to as "wet out". The resin is allowed to gel and the lamination process is repeated until the desired thickness of fiberglass laminate is obtained.

Three types of spray guns may be used in hand lay-up. These are catalyst injection, dual component and hot pot. The most common type used in the industry, and the type used by Pro-Line, is the catalyst injection resin gun. Catalyst injection spray guns mix accelerated resin and the catalyst

in the proper proportion inside the spray head and then spray the mixture through a single spray nozzle. With dual component spray guns, two streams of resin are sprayed simultaneously. One stream consists of resin premixed with accelerator and one stream consists of resin premixed with catalyst. The spray nozzles are aimed so the two spray streams mix outside the spray gun and form a single spray stream. Hot pot spray guns have a pressure pot attached to the gun head. The laminator mixes the resin, accelerator and catalyst in the pressure pot by hand. All of the resin must be sprayed once it has been mixed in the pot or it will gel inside the spray gun.

2.1.2 Spray Lay-up

The spray-up method of lamination is an alternative to hand lay-up for hull and deck fabrication and is the most common method of small parts production. The spray-up method employs a chopper gun to simultaneously apply resin and chopped strands of glass reinforcement. Brushes and rollers are then used to spread the mixture and remove entrapped air. This process is repeated until the desired thickness is obtained.

The spray-up method is restricted to laminates using chopped glass strand as the reinforcement. Due to the type of reinforcement, laminates produced in spray-up have lower glass-to-resin ratios than the woven roving or cloth laminates produced in hand lay-up. Because the strength is proportional to the glass-to-resin ratio, laminates produced in spray-up also have a lower strength than woven roving or cloth laminates.

2.2 Cleanup

Cleanup of hands, tools and spray guns is a very important part of the production of fiberglass boats. Tools such as brushes, rollers and squeegees must be cleaned with a solvent after applying each batch of resin. Also, spray guns must be flushed with a solvent after each use and thoroughly cleaned daily. This cleaning prevents resin from curing on the tools and guns and making them unusable. In addition, periodic hand cleaning is necessary for employee comfort. The cleaning solvent most commonly used is acetone.

Acetone is made available to each employee for tool cleaning and for spray gun cleaning. Also, most resin guns have a clean acetone feed line to flush the internal parts after each use. Acetone for hand cleaning must be relatively clean to avoid hand irritation; therefore, a procedure is generally adopted in which clean acetone is first used for hand cleaning. When the acetone becomes too contaminated for hand cleaning, it is transferred to the tool cleaning container until it is no longer effective for cleaning tools. The acetone is then transferred to a third container for soaking resin guns between applications. Finally, when the acetone becomes too contaminated for any further use, it is transferred to solvent recovery. Each employee usually has his/her own set of hand and tool cleaning containers in the molding room and spray gun containers are available for each spray gun. The containers used may be open top or covered.

2.3 Sources of VOC Emissions

There are generally two major sources of VOC emissions in fiberglass boat manufacturing facilities. These are acetone emissions from cleanup and styrene emissions from lamination.

2.3.1 Acetone

The major source of emissions is the acetone emissions from cleanup of hands, tools and spray guns. Cleanup is usually done in the molding room. Tool and spray gun cleaning is usually required after applying each batch of resin. Also, employees must clean their hands periodically. When hands, tools and spray guns are removed from the acetone, a good deal of liquid is carried out. This liquid readily evaporates.

Spray guns are normally flushed with acetone after each resin application. When spray guns are flushed, the atomized acetone vaporizes.

In addition to emissions resulting from cleanups, acetone also evaporates from any uncovered acetone containers in the molding room. Containers with spring-loaded lids are often used to reduce evaporation between cleanups.

Acetone emissions typically account for 50 to 80 percent of the total plant VOC emissions. As reported in the Pro-Line permit application, acetone accounted for 60 percent of the VOC emissions at the Pro-Line

facility. These emissions are due to carry out, atomization, and agitation of acetone during cleaning of hands, tools, and spray guns and evaporation of acetone from containers between cleanings. The major factors affecting acetone emissions are the number of lamination employees, use of hand protection, use of covers on acetone containers, employee work habits, and resin gel time. All of these factors may vary from plant to plant.

The number of lamination employees directly affects total acetone emissions because each employee must clean his/her hands, tools, and spray gun (if used) after each lamination. Also, normal practice is for each employee to have his/her own set of acetone containers which increases the surface area available for acetone evaporation.

The use of hand protection affects the number of times the employees must clean their hands. The two types of hand protection available are gloves and barrier creams. Usually employees must clean their hands after every resin application (20 to 30 minutes). The use of gloves can reduce the number of cleanups to as few as four times daily. Covered containers will reduce acetone emissions by reducing the evaporation from the acetone containers between cleanups.

Employee work habits can reduce emissions by reducing the amount of resin which must be removed from hands and arms. Employee work habits are mainly influenced by initial training and supervision. Another factor which can affect the amount of resin which employees get on their hands

and arms is the complexity of the mold. The more complex the mold the more difficult it is for employees to keep clean.

The gel time of the resin affects emissions because it determines the number of times that hands, tools, and spray guns must be cleaned in a given period of time. Shorter gel times mean more frequent resin applications and cleanings. Resin gel times can vary from 10 to 30 minutes. However, most resin gel times are about 15 minutes. If hand protection is used, resin gel time should not affect the frequency of hand cleanup as much as when no hand protection is used.

Other factors which affect acetone emissions are the liquid level of acetone in the containers, air velocity across the containers, and room temperature. Increasing any of these factors will increase acetone evaporation. These factors are generally determined by the amount of acetone issued per employee, room air ventilation required for worker safety, and temperature required for resin curing. The amount of acetone issued can be reduced if gloves are used to reduce hand cleanup and covered containers are used to reduce acetone evaporation. Reducing the room air ventilation to reduce evaporation is not feasible because this would expose employees to higher concentrations of styrene vapors. The temperature required for proper resin curing is determined by the resin manufacturer and cannot be easily changed.

The resin application method (spray gun or brush application) is not one of the controlling factors affecting acetone emissions as both types of applicators require cleaning.

2.3.2 Styrene

Styrene emissions occur during the lamination of the deck, hull and small parts. There are two sources of styrene emissions in each of these steps; the evaporation of the styrene from the resin or gel coat overspray and the vaporization of the styrene from the applied resin or gel coat before polymerization occurs.

Resin can be applied by spraying, brushing or rolling while the gel coat is always sprayed. When spraying the resin or gel coat, approximately 90 percent is actually applied to the part and 10 percent is lost as overspray. If the resin is brushed or rolled on, over 99 percent is actually applied to the piece with less than one percent of the resin being lost.

The overspray is made up of small particles; therefore, there is more surface area for styrene evaporation. Because of this, all of the styrene in oversprayed resin and gel coat evaporates before polymerization can occur. Styrene emissions also occur during the curing of the resin or gel coat; however, it is estimated that only about eight percent of the styrene monomer in the applied resin or gel coat evaporates before polymerization is complete. Thus, while overspray accounts for only about 10 percent of the resin and gel coat use, styrene emissions from overspray account for about 58 percent of the total styrene emissions.

The Occupational Health and Safety Administration (OSHA) requires that the

styrene concentration in the employee work area not exceed 50 parts per million (ppm). Because of this requirement all the styrene emitted in these operations is vented outside the building.

2.4 Pro-Line Boats, Inc. Production Process

The production process used by Pro-Line is shown in Figure 1. The gel coat resin used by Pro-Line consists of 34 percent styrene monomer, 0-5 percent methacrylate and the remainder, pigmented solids. Following the gel coat application, Pro-Line uses both the spray lay-up and hand lay-up methods of applying the fiberglass reinforced resin. The spray lay-up process is used for fabrication of small parts while the hand lay-up method is used for hulls and decks. With the hand lay-up method, the resin is sprayed over the gel coat and the glass fiber material is hand rolled into place. Additional structural supports and stringers are laid into the hull and deck and secured by additional resin and chopped glass fiber reinforcement.

Pro-Line uses the catalyst injection method for the spray application of resin. In this process, the resin and catalysts are mixed within the spray gun. The resin used by Pro-Line is a general purpose polyester resin containing approximately 40 percent styrene and 60 percent resin solids. The gel time of the resin is approximately 20 minutes.

The VOC emissions reported in the Pro-Line permit application are summarized in Table 1. These data show that the VOC emissions consist of

acetone (60 percent), styrene from gel coat application (12 percent), styrene from resin application (20 percent) and emissions from other sources (8 percent). The VOCs are exhausted from the building by seven wall-mounted exhaust fans. The total volume of air discharged by these fans is approximately 154,000 cubic feet per minute. This exhaust rate keeps the acetone concentration in the building air at approximately 15 ppm and the concentration of styrene at about 5 ppm. These concentrations are below limits established by OSHA.

The low concentrations of both acetone and styrene in the air exhausted from the fabrication building, coupled with the large volume of exhaust air required to meet OSHA standards, result in a condition that makes add-on air pollution control equipment extremely costly. The feasibility of add-on air pollution control equipment is discussed in a subsequent section of this report.

Pro-Line recycles approximately 40 percent of the acetone purchased each year through an on-site still. The still is completely contained; hence, there are no emissions from the still. The solidified still bottoms are utilized as extenders in putty used in the boat building process. The acetone emissions listed in Table 1 represented acetone losses to the atmosphere that were made up by purchases (prior to Pro-Line switching to an acetone substitute).

3.0 EMISSION CONTROL ALTERNATIVES

The three types of VOC emission control techniques applicable to the fiberglass boat building industry are:

1. Add-on air pollution control equipment,
2. Process or work practice changes, and
3. Use of substitute or alternative materials.

Of these three techniques, only the second and third have been demonstrated to be practical and cost effective for the fiberglass boat building industry.

3.1 Add-on Controls

The South Coast Air Quality Management District (California) published a report dated January 23, 1987, entitled, *Staff Report, Proposed Rule 1162-Polyester Resin Operations*(2). In this report, the cost and effectiveness of four types of add-on air pollution control equipment potentially applicable to the fiberglass boat building industry were investigated. These controls were incineration, absorption (scrubbing), adsorption, and condensation.

Because of the large volume of air required to be exhausted from the Pro-Line facility to meet OSHA standards (approximately 154,000 cfm) and the

low VOC concentration in the exhaust air (20-25 ppm total VOC), the exhaust air has an extremely low heat content. This leads to high supplemental fuel requirements and increased operating costs for either thermal or catalytic incinerators. Similarly, the high air volume and low VOC concentration result in high capital and high operating costs for carbon adsorption units and chemical absorption units (scrubbers). Additionally, scrubbers using either sodium hydroxide or sodium hypochlorite have not been demonstrated in the fiberglass fabrication industry and they create a secondary waste-water discharge problem. Condensers have been found not to be practical when VOC concentrations fall below 1,000 ppm. The 20-25 ppm VOC concentration in the air exhausted from the Pro-Line facility is far below this limit.

Based upon cost information presented in the South Coast Air Quality Management District report(2), the following efficiencies and annualized costs have been estimated for various types of add-on control equipment when applied to the Pro-Line facility:

Control Equipment	VOC Control Efficiency (%)	Annualized Cost Per Ton of VOC Removed (\$/ton)	Pro-Line Total Annualized Cost (\$/yr)
Incineration	90%	\$25,000	\$2,250,000
Carbon Adsorption	70%	15,000	1,050,000
Chemical Absorption (Scrubbing)	70%	15,000	1,050,000
Condensation	NA	NA	NA

These control costs are excessive, particularly in view of the fact that Pro-Line is a minor emitting facility located in an area classified by FDER as attainment for all air pollutants. A similar conclusion was reached regarding add-on air pollution control equipment for fiberglass boat manufacturing facilities in the previously referenced EPA report (1). In Section 3.4 of that report, it is stated:

"For chemical scrubbing and incineration [the only options considered], preliminary estimates showed both controls to be too expensive so they were dropped from further consideration."
(parenthetical note added)

3.2 Process Modifications and Work Practice Controls

Pro-Line has investigated process modifications and work practices for controlling VOC emissions from both resins and acetone. For resin application in the hand lay-up area, Pro-Line investigated the use of a resin roller for resin application as a replacement to the presently used spray-type applicators. For reducing acetone emissions during cleanup in various areas, work practice control has been investigated and implemented.

3.2.1 Equipment Modification for Styrene Emission Control

The conventional spray-type resin applicators are standard equipment for most open mold fabrication of fiberglass products. This equipment is

efficient for delivering large quantities of resin to an open mold in a relatively short period of time. The disadvantage of this equipment is overspray and bounceback of resin during the delivery process. It has been estimated that approximately 10 percent of the resin (accounting for over 50 percent of styrene emissions) is lost due to overspray and bounceback.

An alternative to the spray-type resin applicator is a resin roller, which is similar in design to a paint roller. The roller utilizes a fluid pump to draw the resin from a reservoir and deliver it to the roller surface and a separate and adjustable catalyst pump. The roller can replace the spray-type applicator in many systems, thus minimizing the expense of complete equipment changeover.

At the time the permit application was submitted, Pro-Line used Magnum Chopper System spray-type applicators for resin application during the hand lay-up process. Pro-Line investigated both the Magnum Industries resin roller impregnator and Arjay Technologies solvent free applicator (resin roller). Because Pro-Line uses Magnum equipment, Magnum Industries was asked to demonstrate a resin roller impregnator at the Pro-Line plant. This demonstration took place on March 24, 1992. The results of the resin roller demonstration showed that resin bounceback and overspray virtually were eliminated. During the demonstration, approximately five percent less resin was used when compared with application by the gun-type spray applicator. On the negative side, approximately 15 percent more labor was required to apply resin with the roller applicator. Improved efficiencies in resin use and labor are expected by Pro-Line as experience is gained.

As a result of the resin roller demonstration, Pro-Line has decided to replace the spray-type applicators at the eight impregnation stations in the lamination area with Magnum resin rollers over a period of 24 months. The cost of the conversion to resin rollers will be approximately \$3,000 per station, or \$24,000 total.

A side benefit of using the resin roller is a reduction in the use of cleanup solvents (acetone) because of the elimination of overspray.

The use of the resin roller is estimated to reduce styrene emissions from the hand lay-up process up to 50 percent. This reduction is realized through a reduced usage of resin (by the elimination of overspray) and through a reduction in the vaporization of styrene because of the elimination of resin atomization during the spray application.

Documentation of the resin roller demonstration and technical information on the two types of resin rollers investigated are included in Appendix A.

3.2.2 Work Practice Controls for Acetone Emissions

Several work practices are used in the fiberglass boat building industry to reduce acetone emissions. These include hand protection, spring-loaded covered acetone containers and limited issue of acetone. Also, as mentioned in a previous section, the use of a roller applicator for resin reduces overspray, and will thus reduce the amount of acetone required for cleanup.

Pro-Line initiated work practice controls for acetone beginning in early 1992. These practices have included a combination of the aforementioned practices and have been successful in reducing acetone consumption by approximately 50 percent.

3.3 Material Substitution

Material substitutions that Pro-Line has investigated include the use of styrene suppressed resins, low-styrene resins and an acetone substitute.

3.3.1 Styrene Suppressed Resins

Styrene suppressed resins decrease styrene emissions by entrapping some of the styrene monomer that would otherwise vaporize during the gelling process. The suppressant that is normally used is a wax. Boat manufacturers in general have found that styrene suppressed resins are not acceptable as the wax residue contributes to delamination and separation of the composite lay-up. For this reason, styrene suppressed resins are not yet acceptable for use in the fiberglass boat building industry.

3.3.2 Low-styrene Resins

The use of low-styrene resin is another method of reducing styrene emissions. Emission reductions are realized because the styrene monomer content of the low styrene resin is in the range of 35 percent compared with a 40-50 percent content in conventional resins. The resin that Pro-

Line presently uses has a 40 percent styrene monomer content.

Pro-Line investigated the use of a low styrene resin with a 35 percent styrene monomer content and found the cost of this resin to be \$0.04 per pound greater than the cost of the resin presently being used (see Appendix B). Based on resin consumption during the first quarter of 1992, Pro-Line projected an annual resin use for 1992 of approximately 740 tons. At a \$0.04 per pound cost differential, the additional cost of the low styrene resin would be in excess of \$59,000 a year. The reduction in styrene emissions that would result from the use of the low styrene resins would be in the range of three tons per year and the cost associated with this reduction would be in the range of \$19,000 per ton of VOC. This cost is considered excessive and, as a result, Pro-Line cannot convert to the use of a low styrene resin.

3.3.3 Acetone Substitutes

Various substitutes are available for acetone; the cleaning solvent most widely used in the fiberglass boat building industry. As acetone accounted for approximately 60 percent of the VOC emissions from Pro-Line at the time of the permit application (see Table 1), the replacement of some or all of the acetone would have the greatest potential for reducing VOC emissions from the Pro-Line facility. The acetone replacements that are available are either low vapor pressure organic compounds or emulsifiers. Pro-Line has investigated four potential acetone replacements as described in the following paragraphs.

One of the replacements investigated by Pro-Line was di-acetone alcohol, a low vapor pressure and low flashpoint organic solvent produced by Shell Chemical. The major disadvantage of di-acetone alcohol is the toxic characteristics of the compound. The personnel exposure limit for di-acetone alcohol is 50 ppm compared with an exposure limit of 1,000 ppm for acetone. Because of the toxic characteristics of this compound, Pro-Line excluded it from further consideration.

A second acetone substitute investigated was the product Ship Shape; a non-flammable, low vapor pressure organic chemical produced by GAF Chemicals Corporation. Pro-Line had this material demonstrated at their facility on February 19, 1992. The compound was found to cause employee skin irritation, and because of its slower evaporation rate, it caused a "fish eye" appearance in the fiberglass finish. The compound also created some other potential problems which are documented in the demonstration report included in Appendix C.

Pro-Line also investigated a dibasic ester solvent produced by DuPont but determined it was not practical to arrange for a demonstration of this material.

Why?
NOT.

An emulsifier produced by the Superior Oil Company and marketed under the trade name "Super Blue" was investigated by Pro-Line and was demonstrated at the facility on March 11, 1992. The system consists of a water based, biodegradable cleaner and a water soluble rinse. The demonstration showed "Super Blue" caused no skin irritation to employees and it did not affect

the appearance or cure time of resin. On the negative side, the material did not clean up resin as well as acetone and it required the use of rather bulky heating equipment. In spite of the disadvantages, Pro-Line has elected to use "Super Blue" as an acetone replacement in the lamination area. Acetone will still be used for cleanup in the assembly area as the large "Super Blue" heaters are not practical in this area. Small amounts of acetone will also continue to be used in the lamination area. The use of the acetone substitute in the lamination area is expected to reduce acetone emissions by approximately 50 percent.

Appendix C contains documentation on the acetone substitutes that have been reviewed by Pro-Line.

4.0 CONCLUSION

Pro-Line has reviewed emission control devices, equipment and work practices that are reasonably available to the industry considering technical and economic feasibility. The options that appear feasible at this time include work practice controls for the reduction of acetone emissions, a material substitution for acetone in certain areas of the plant and equipment modification involving the replacement of spray-type resin applicators with roller applicators during hand lay-up in the lamination area. No alternatives were found to be feasible at the present time for reducing emissions during the spray lay-up of resin, during gel coat application or for the replacement of some of the minor material uses accounting for VOC emissions such as resin strippers, lacquer thinners, mold waxes, and contact cement. Add-on air pollution control devices were determined to be economically impractical.

1 Work practice controls that will result in a reduction of acetone emissions include the use of hand protection, covered acetone containers and a limitation on the issue of acetone to employees. During the first quarter of 1992, these practices were demonstrated to reduce acetone consumption, and hence, acetone emissions by approximately 50 percent.

2 Pro-Line has also converted to the use of Superior Oil "Super Blue" acetone substitute in the lamination area. This replacement was made during June-July 1992. The use of the acetone substitute in the lamination area is expected to reduce acetone consumption by an additional

50 percent. The combined use of the work practice controls and the acetone substitute should reduce acetone emissions at Pro-Line by approximately 75 percent.

*Change
allocatable
acetone!
(reduce by
25%)*

Pro-Line presently uses, and will continue to use, an on-site acetone recovery system to recover and reuse contaminated acetone. The solid still bottoms from this recycling process are used as extenders in putty's which are used in the boat manufacturing process. There are essentially no emissions from this still.

3 Over the next two years, Pro-Line will replace spray-type resin applicators with roller type applicators at eight stations in the lamination area. This equipment replacement will reduce styrene emissions during the hand lay-up process used in the manufacture of decks and hulls.

The roller applicators are expected to reduce styrene emissions from hand lay-up resin application by up to 50 percent by eliminating overspray and bounceback and reducing the evaporation of styrene caused by the atomization of resin when the spray type applicators are used. These equipment modifications will also reduce the potential for release of objectional odor off the facility property.

Vapor suppressed resins were not considered practical because of delamination problems experienced by fiberglass boat manufacturers using this type of resin. Likewise, the conversion to low styrene resin was not considered practical for economic reasons. It was determined that low styrene resins would result in a cost in excess of \$19,000 per ton of VOC emissions eliminated.

Add-on pollution control equipment was considered economically impractical because of the large volume of air exhausted from the Pro-Line facility and because of the low VOC concentration in this air. The cost of VOC control for the various add-on alternatives investigated ranged from \$15,000 to \$25,000 per ton of VOC; or from 1.05 to 2.25 million dollars per year for the Pro-Line facility.

The above discussed VOC control alternatives selected by Pro-Line are expected to reduce total VOC emissions from the facility by approximately 50 percent. Pro-Line will continue to investigate work practice controls, substitute materials and other controls as they become available to the boat building industry. Alternatives that are found to be technically and economically feasible will be incorporated into the Pro-Line production process within a reasonable period of time.

REFERENCES

1. USEPA. Volatile Organic Compound Control at Specific Sources in Louisville, KY and Nashville, TN, Section C, Fiberglass Boat Manufacturing, EPA-904/9-81-087, December 1981.
2. Staff Report. Polyester Resin Operations - Proposed Rule 1162. South Coast Air Quality Management District (California) Rule Development Division, January 23, 1987.
3. Davis, D. and Y.J. Lao. Pollution Reduction Strategies in the Fiberglass Boatbuilding and Open Mold Plastics Industries. East Carolina University, Greenville, NC 1987.



TABLE 1
SUMMARY OF VOC EMISSIONS BEFORE ADOPTION
OF CONTROL ALTERNATIVES

PRO-LINE BOATS, INC.
CRYSTAL RIVER, FLORIDA

Material	Annual Usage (tons/yr)	VOC Content (wt. fraction)	Fraction VOC Released (%)	VOC Emissions	
				(tpy)	(lb/hr)(2)
Resin(3)					
Hand lay-up (75%)	390.9	0.40	7.5(1)	11.7	4.02
Spray lay-up (25%)	192.6	0.40	11.0(1)	8.5	2.92
TOTAL	783.5				
Gel Coat(3)	115.2	0.34	30.5(1)	11.9	4.09
Acetone	59.7	1.00	100	59.7	20.50
Resin Stripper	0.4	0.98	100	0.4	0.14
Foam Gun Cleaner	0.4	0.01	100	0.0	0.00
Lacquer Thinner	0.4	1.00	100	0.4	0.14
Wax, Golden Liquid	1.5	0.90	100	1.4	0.48
Contact Cement	7.0	0.87	95	5.8	2.00
TOTAL				99.8	32.29

(1) Emission factors from AP-42, Sect. 4.12, Table 4.12-2.

(2) Based on two 8-hour shifts per day, 7 day/wk, 52 wk/yr.

(3) VOC in styrene.

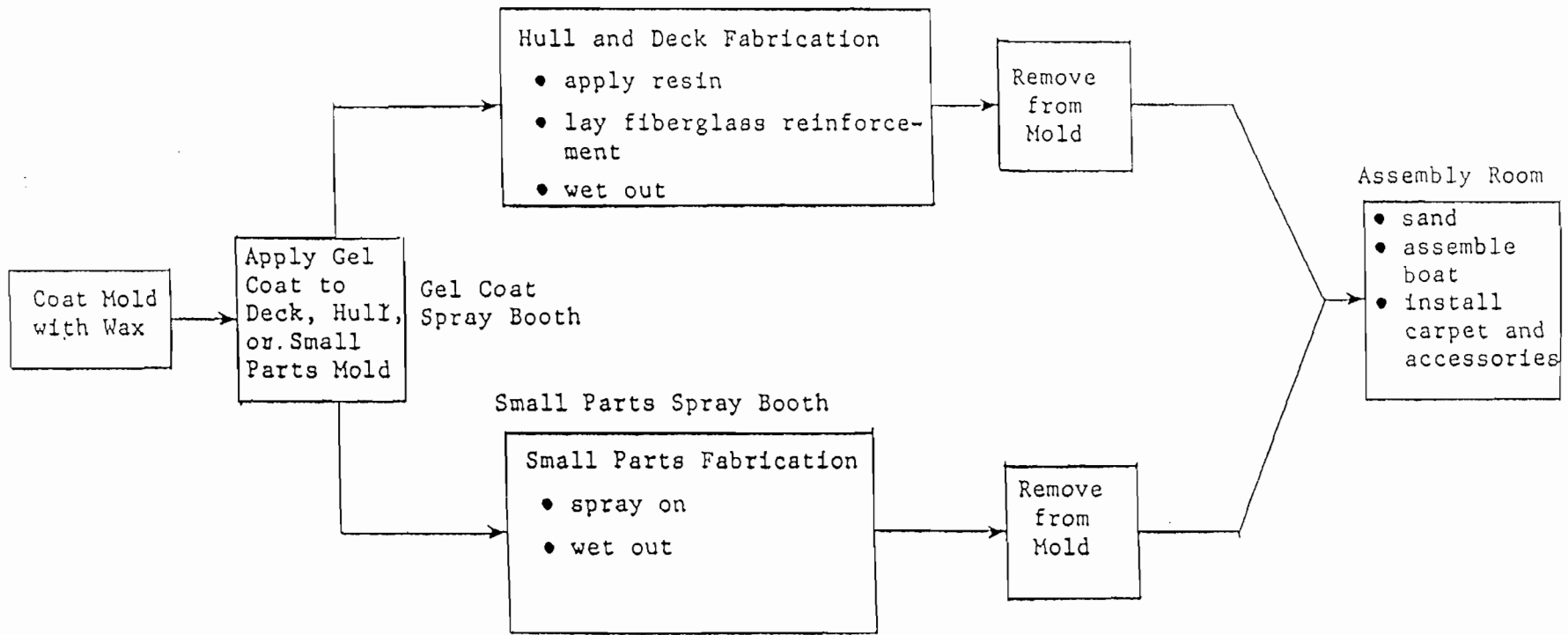


Figure 1
Fiberglass Boat Production Process

APPENDIX



APPENDIX A
RESIN ROLLER DEMONSTRATION

MAGNUM INDUSTRIES



INFORMATION RECORDS OF DEMONSTRATIONS, MONITORING, SAMPLING AND/OR MEASUREMENTS

- 1) Date: 3-24-92
- 2) Time: 2:15 pm
- 3) Place: Lamination Bldg. # 1 Pro-Line Boats
- 4) Products Being Demonstrated:

Magnum Industries Resin Roller Impregnator

5) Person/Persons Responsible For Performing Demonstrations :

Joe Hedger - Magnum Industries Sales Manager
Johnny Walker - Plant Manager
Jan Jones - Lamination Manager
Phillip Stevens - Lamination Floor Supervisor

6) Dates Analysis Were Performed: 3-24, 3-25, 3-26, 3-27-92

7) Person/Persons Performing Analysis:

Johnny Walker - Plant Manager
Jan Jones - Lamination Manager
Phillip Stevens - Lamination Floor Supervisor

8) The Analytical Techniques And/Or Methods Used:

Comparisons between existing equipment and proposed resin roller impregnator

- A) spray up fumes comparisons
- B) overspray comparisons
- C) time difference in operation
- D) resin usage comparison
- E) physical properties comparisons

9) Results Of Such Analysis:

- A) spray up fumes were eliminated using the resin roller impregnator
- B) over spray was zero
- C) it took approximately 15% more labor
- D) resin usage was approximately 5% less
- E) because of the use of less resin, the resin to glass ratio was less therefore the glass content was greater therefore stronger. No lab tests were run.

10) Additional Comments:

Approximate cost to modify / convert from our present spray equipment to the resin roller impregnator system would cost approximately \$3000.00 per unit times 8 units giving Pro-Line an approximate capital out lay of \$24,000.00

11) Conclusion Convert when possible

cc: DER File



THE RESIN ROLLER IMPREGNATOR

The resin roller impregnator is one of our newest developments. It was designed for those doing hand-lay-up and bucket and brush wet out. The resin roller was also designed to eliminate all spray-up fumes, which it does, this system will not only eliminate fumes but also mixes the resin and catalyst internally blending the catalyst and resin together. With this system waste will be cut by 5 to 10%. Time in lay-up is also reduced because one operator is wetting-out and rolling out at the same time.

The weight of your product can be reduced because when properly used, the roller will soak up excess resin and this can then be used where needed.

Glass to resin ratio will be constantly maintained. In fact you will probably get a higher amount of glass to resin than achieved ever before.

Here is how the system operates. Catalyst and resin are pumped from the main source already metered by the slave pump to correct percentages out to the dispensing block. When the block is opened catalyst and resin then flow together and are mixed in the static tube. After they are mixed the flow continues down the extension tube and out of the

roller tube. The catalyzed resin flows through the roller tube into an auger and out into the collar. At the end of a day, simply take the roller off and either clean or dispose. Then, flush the tube which will take only seconds. This system can go as slow or as fast as anyone can handle it, so all applications of hand lay-up or bucket and brush should seriously take a close look at this new system.

A special note, for those of you plagued by O.S.H.A. and the E.P.A. If your product will permit the use of a Resin Roller Impregnator, you can reduce your fumes to that of the curing resin only.

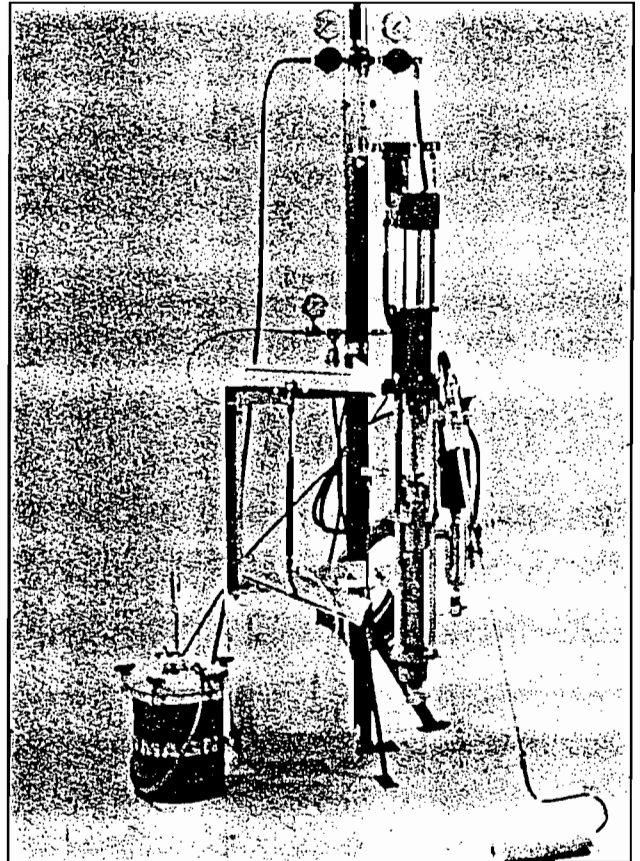
11701 - 56th Court North
Clearwater, FL 34620
FAX # 1-813-572-6895
Clearwater, FL 1-813-573-2955
Toronto, Ontario 416-238-8815
Montreal, Quebec 514-638-4330

Standard Features:

- I - MS-3000-6 Catalyst Slave System with AP 0600 Resin Pump
- I - MA-MRD Air Manifold
- I - MRD-1000-MA Catalyst Manifold System
- I - MRD-1000 BLK Mixing Block Assembly
- I - MRD-1000 RHD Roller Head Assembly
- I - WMM-1000 Wall Mount Mast
- I - PD-FP Flush Pot

Optional Features:

- Booms 12 foot, 12, 16, 18, 20, up to 34 foot long
- PC-1000 Cart Assembly
- DC-1000 Drum Cart Assembly
- FM-1000 Floor Mount
- 3 foot and 6 foot Roller Extensions



**RESIN ROLLER
IMPREGNATOR**

ARJAY TECHNOLOGIES, INC.

FAT ARJAY TECHNOLOGIES, INC.

2020 WILD ACRES ROAD
LARGO, FLORIDA 34641
813-538-0600
FAX 813-531-6213

Mr. Glen Bell
Pro-Line Boats, Inc.
P.O. Box 1348
Crystal River, FL 32623-1348

March 27, 1992

Dear Glen:

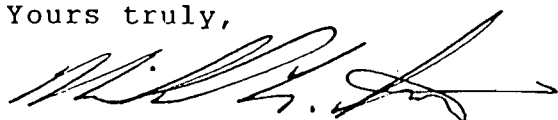
It was a pleasure speaking with you concerning our products and services. As a composites manufacturer ourselves, we have some insight into the problems that you face. I am certain that you will find our solutions to be practical and profitable.

Enclosed is literature which should help to explain what we have to offer. The Solvent Free Applicator (SOFA) is one very important part of our overall system that we have developed during 18 years of manufacturing over 3,000 boats from 16 to 44 feet.

The SOFA is truly state of the art, but we have found that no one yet has believed that based on phone calls or letters. You have to see it to believe it! If you can possibly arrange to visit our facility and witness the SOFA in operation, I can guarantee that it will be worth your while in terms of money saving ideas that you can put into use immediately upon your return.

I look forward to meeting you and having the opportunity to demonstrate just how fast and clean laminating can be.

Yours truly,



Michael E. Spoto



ARJAY
TECHNOLOGIES

Perspective

Winter 1992

PROFITABLE INSIGHTS ON MANAGING IN THE COMPOSITES INDUSTRY

Making Training Pay

Most of us are beginning to realize that well trained employees are productive, stay in the job longer and produce higher quality parts. One hour of training per week per employee amounts to 1/40th or 2.5% of their work week (by comparison, the average Japanese worker receives 3 times this amount of training). When labor costs can run 20% of sales and higher, investing 2.5% of this resource in training can pay big dividends.

Coming up with meaningful training material on a week to week basis can be extremely challenging. There is very little material available which pertains specifically to the composites industry. We have assembled a list of affordable and relevant resource materials that would be useful to someone organizing a training program. Contact us and request Bulletin #T101.

"Business as Unusual" At CFA Orlando Meeting

After being showered with \$40,000, over 1,000 attendees of the Composites Fabrication Association's Fabrication '91 heard Bob Cottrell, ATI president, speak on how the 90's will require "Business as Unusual". While the money wasn't real, the message was bankable: Stop Waste And Train.

The Arjay SWAT approach has led to large reductions in both gel coat and resin usage that make the \$40,000 seem small. In addition to saving money, these reductions have meant no respirators and very low styrene emissions.

A transcript of the talk can be obtained by faxing your business card - (813) 531-6213.

Arjay Technologies will be participating in the International Boatbuilders' Exhibition and Conference (IBEX) in Ft. Lauderdale, FL February 5-7. Bob Cottrell will be a panel member on the topic, "Of Fumes and Fines".

ARJAY TECHNOLOGIES LAUNCHED

Arjay Technologies, Inc. (ATI), a new venture dedicated to providing a full range of engineering design and turn-key equipment packages to the composites industry, was officially launched on October 1, 1991.

ATI will provide customers with detailed and practical assistance for improving production operations, including material reductions, productivity and quality improvements and emission reductions. The focus of these efforts will be waste reduction through employing equipment and techniques developed over 17 years by

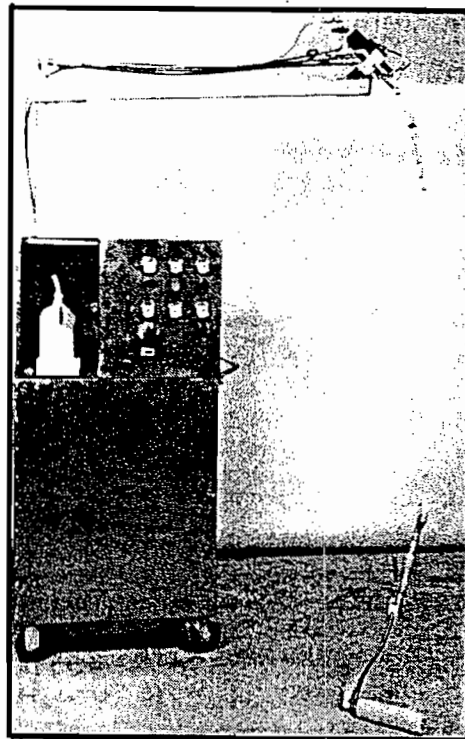
Arjay Industries. These techniques in most instances can result in dramatic improvement of manufacturing efficiencies and profits.

Arjay has been a leader in innovative techniques such as resin transfer molding (1978), core spraying (1979), zero acetone usage (1989), zero resin spray (1990) and solvent-free internal mix resin applicators. In addition to making this strong technical background available to future customers, Arjay brings a pragmatic business approach which emphasizes large cost savings and hands-on implementation techniques.

ATI ANNOUNCES SOFA

Arjay Technologies, Inc. recently introduced the Solvent-Free Applicator (SOFA), a pressure fed

roller that can be operated without having to stop to purge with solvent. The unit incorporates a large number of features that result in material savings, greater productivity and much lower maintenance and supplies costs. Several of these features are covered in a patent currently pending.



A variety of attachments are available for the SOFA, allowing it to be used in a number of ways: Standard and narrow rollers with short or long handles, pouring attachments and even fan "spray" tips that distribute resin with minimal styrene loss.

The features are too numerous to cover here, but the bottom line is that this unit was designed by the people that use it. It is a practical, low total cost approach that will be a major component of an ATI turnkey system.



ARJAY
TECHNOLOGIES

COMPOSITES TECHNICAL BULLETIN

SOLVENT-FREE APPLICATOR

T-102

The Solvent-Free Applicator is a versatile dispensing unit which mixes and delivers polyester resin and catalyst in a clean, controlled manner.

FEATURES

1. Totally enclosed stainless steel cabinet
 - Keeps moving parts clean and protected from damage
 - Allows compliance with OSHA lock-out/tag-out regulations
2. Centralized, labeled instrument panel
 - Unit can be started up, operated and shut down from panel
 - Resin and catalyst flow data displayed on panel
3. Novel fluid path design incorporates "plug flow"
 - Eliminates the need to purge with solvent
 - Allows up to 20 lbs/min of laminate to be applied
4. Various applicator devices are available
 - Standard and narrow pressure fed rollers
 - Brushing, pouring and fan "spray" attachments
 - Change applicators quickly, without tools
5. Convenient, productive design
 - Complete 360 degree rotation of wand over two axes
 - One hose (not 3) to applicator gives additional flexibility
 - Boom design for portable or fixed location lends yet additional freedom of movement to operator

BENEFITS

1. Virtually remove solvent from the plant floor
 - NO solvent is used to purge the internal mix system during use
 - NO solvent is used to clean the roller sleeves
 - Solvent reductions of over 80% have been documented
2. Reduce styrene levels to well below limits required by OSHA.
 - Levels of 12 PPM are documented.
 - NO respirators are needed.
3. Reduce labor costs
 - Decreased unit downtime, cleaning and maintenance time
 - Process is continuous and steady versus stop/start
4. Lower maintenance costs
 - Lower pressures mean longer pump life
 - NO needles and seats to wear.
 - Annual maintenance costs of less than \$450/unit have been recorded
5. Superior part quality
 - Better mixing with visual control improves part consistency
 - Improved worker morale due to better working conditions

APPENDIX B
LOW STYRENE RESIN REVIEW



LOW STYRENE MONOMER RESIN COST COMPARISON

3 month quarterly resin usage (in pounds)	368,896
	x 4
yearly resin usage (in pounds)	1,475,584
cost increase using low Styrene resin (per pound)	x .04
proposed total annual cost increase	\$ 59,023.36

PROPOSED VOC REDUCTION USING LOW STYRENE MONOMER RESIN

MATERIAL	DENSITY LB/GAL	VOC %,WT	FRACTION VOC RELEASED	ANNUAL USAGE (T.P.Y.)	ANNUAL VOC (T.P.Y.)
poly/resin	9.2	0.40	.075-67% hand	737.79	14.83
40% Styrene			.110-33% spray		+ 10.71
					<u>25.54</u>
					total
poly/resin			.075-67% hand	737.79	12.98
35% Styrene	9.2	0.35	.110-33% spray		+ 9.37
					<u>22.35</u>
					total
			total VOC reduction	3.19	

COST PER TON OF REDUCTION

annual cost increase (using low Styrene monomer resin)	\$ 59,023.36
total VOC reduction	<u>3.19</u>
cost per ton of VOC reduction	\$ 18,502.62

NOTE: As you can see the cost is too great to consider using low styrene resin monomer. This also does not take into account the decrease in cosmetics.

Polyester Unit
P.O. Drawer 2130
South Side of Highway 60 West
Bartow, FL 33830
813/533-8128



1 May 1992

Mr. Glenn Bell
Pro-Line Boat
P.O. Box 1348
Crystal River, FL 32629-1348

Dear Glenn:

As discussed we can provide you with a low styrene emission resin called MR 18150 at \$0.04 per pound premium to your current MR 12504. Product data sheets are enclosed for both resins. MR 18150 does not have the resistance to blisters from water that MR 12504 does, and also does not have the excellent cosmetics of MR 12504. It's emission under Rule 1162 would be about 50 grams per square meter versus 85 grams per square meter for MR 12504.

Please call George Farrington, Technical Service Representative, or me at (813) 533-8128 if you need any more information.

Sincerely,

ARISTECH CHEMICAL CORPORATION

A handwritten signature in dark ink that reads 'Ron Hulse' with a long, sweeping underline.

Ron Hulse
Sales Representative

Copy: Scott Hall

MR 12504 Low Profile Laminating Resins

The MR 12504 series of polyester laminating resins is designed to eliminate or minimize the print-through of fiberglass onto the gelcoat. These resins are intended for use where superior cosmetics are desired. They are thixotropic and promoted for room temperature cure with MEKP. Laminates made with these resins will cure to a tack-free surface without the use of surfacing agents. It is recommended that the user take special care to determine the suitability of its manufacturing practices and procedures for successful use of this product. For example, the extent of sanding or grinding needed to assure adequate secondary bonding to cured surfaces should be carefully determined by the user. Outdoor storage of parts, particularly involving exposure to sunlight, may make secondary bonding more difficult. The harder cure achieved by low profile resins also requires that the user determine carefully the extent of glass reinforcement needed to assure a strong, crack-resistant laminate. A minimum of 30% glass by weight is recommended.

TYPICAL PROPERTIES OF LIQUID RESIN

Viscosity @ 77°F, cps.	600
Thixotropic Index	3.0
Specific Gravity @ 77°F	1.05
Appearance	Hazy pink
Monomer, %	42

TYPICAL CURING PROPERTIES

	12504A	12504R	12504W	12504	12504S
1.25%MEKP, 77°F, 100 gram mass					
Gel Time, minutes	15	20	25	30	35
Gel to Peak Exotherm, minutes	12	12	12	12	15
Peak Exotherm, °F	300	300	300	300	300

TYPICAL MECHANICAL PROPERTIES

	laminate*
Flexural Strength, psi	29,000
Flexural Modulus, psi x 10 ⁶	0.98
Tensile Strength, psi	17,000
Tensile Modulus, psi x 10 ⁶	1.35
Tensile Elongation, %	1.3
Barcol Hardness, 2 hours after gel overnight	10-20 35-45

*Laminate: 1/8", 32% glass mat

Results obtained with this data cannot be guaranteed and final determination of the suitability of any information or material for use contemplated or the manner of use is the sole responsibility of the user.

MR 18150
Low Styrene Emission Laminating Resin

MR 18150 is a thixotropic, pre-accelerated resin designed for open mold laminating where significant reductions in styrene vapor emissions and styrene odor are required. This resin exhibits fast wet-out of the glass fiber reinforcements and offers excellent resistance to drainage on vertical surfaces. It exhibits moderate exotherm and trim time.

TYPICAL PROPERTIES OF LIQUID RESIN

Brookfield Viscosity, Model RVF @ 77°F, 20 rpm, cps	600
Thixotropic Index, minimum	2.5
Monomer, %	39
Gel Time @ 77°F, 1.25% DDM-9 in 100 gram mass, min	28
Interval (Gel to Peak), minutes	12
Peak Exotherm, °F	285

TYPICAL PROPERTIES OF 1/8" LAMINATE (3 PLYS 1 1/2 oz. MAT - 30% GLASS)

Flexural Strength, psi	29,300
Flexural Modulus, psi x 10 ⁶	0.89
Tensile Strength, psi	18,000
Tensile Modulus, psi x 10 ⁶	1.06
Elongation, %	2.6
Barcol Hardness	44

Results obtained with this data cannot be guaranteed and final determination of the suitability of any information or material for the use contemplated or the manner of use is the sole responsibility of the user.

FOR CAUTIONS AND OTHER INFORMATION RELATING TO THE HANDLING OF AND THE EXPOSURE TO THIS PRODUCT, PLEASE SEE THE APPLICABLE MATERIAL SAFETY DATA SHEET PUBLISHED BY ARISTECH.

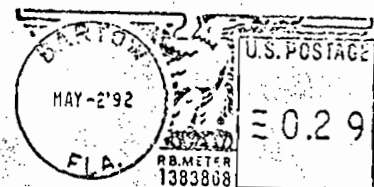
5/91

BEST AVAILABLE COPY

Aristech Chemical Corporation
Polyester Unit
P.O. Drawer 2130
South Side of Highway 60 West
Bartow, FL 33830

ARISTECH 

MR. GLENN HALL
PRO LINE BOATS
P.O. BOX 1348
CRYSTAL RIVER, FL. 32629-1348



APPENDIX C
ACETONE SUBSTITUTES

SUPERIOR OIL
"SUPER BLUE"



INFORMATION RECORDS OF DEMONSTRATIONS, MONITORING, SAMPLING AND/OR MEASUREMENTS

- 1) Date: 3-11-92
- 2) Time: 10:45 am
- 3) Place: Pro-Line Lamination Bldg. # 1
- 4) Products Being Demonstated:
S-280-low vapor pressure, high boiling point solvent, combustable liquid. * MSDS received
Super Blue-emulsifier cleanser, 10 to 1 mix ratio with water (1.5 gal to 15 gal water) * MSDS received
Defoamer-low shelf life. Used to reduce foam caused by heavy use of Super Blue cleanser. * MSDS received
- 5) Person/Persons Responsible For Performing Demonstration:
Pro-Line
Johnny Walker-Plant Manager
Jan Jones-Lamination Building Manager
Phillip Stevens-Lamination Floor Supervisor
- 6) Dates Analysis Were Performed: 3-11-92 through 4-30-92
- 7) Person/Persons Performing Analysis:
Pro-Line
Johnny Walker-Plant Manager
Jan Jones-Lamination Building Manager
Phillip Stevens-Lamination Floor Supervisor
- 8) The Analytical Techniques And/Or Methods Used:
 - A) Removal of uncured resin from hands/skin
 - B) Small amounts mixed with gelcoat. to mock gelcoat contaminated with each product being demonstrated to simulate the use of in production
 - C) Small amounts mixed with resin to mock resin being contaminated with each product being demonstrated to simulate the use of in production
 - D) Monitored employee reaction to the use of versus acetone
 - E) Clean the spray equipment
- 9) Results Of Such Analysis:
 - A) No apparent reaction to either chemical being demonstrated. Safe to use!
 - B) In small quantities there was no fish eye nor was there any effect on the quality of the cured gelcoat.
 - C) Did not effect the cure time, barcole, nor the appearance whatsoever
 - D) The employees actually liked using the acetone substitute.
 - E) Did not do as good a job as acetone
- 10) Additional Comments:
Superior Oils acetone replacement system will be able to be used mostly in lamination, but will not be a 100% acetone replacement. Acetone will still be used to clean the equipment in lamination as well as being used in the assembly area because of the bulky equipment needed to heat the Super Blue cleaning solution.
- 11) Conclusion
Ordered 4 wash stations as well as the Super Blue, S-280 and Defoamer to be used in lamination

cc: DER File

PROLINE®

BOATS

Pro-Line Boats, Inc.
May 11, 1992

TO: Distribution
FROM: Glenn Bell
SUBJECT: Superior Oil's Acetone Substitute Procedures

Superior Oil's acetone substitute known as Super Blue and S-280 has very important procedures to be followed in order to comply with the record keeping requirements under SARA Title III as well as other OSHA and DER regulations.

It is extremely important that the Super Blue be mixed at a 1 part Super Blue to 10 part water in the wash stations and changed out at a minimum of every other day in order to keep the spent Super Blue classified as a non-hazardous waste. The S-280 should also be changed out at a minimum of every other day in order to keep it classified as a non-hazardous waste, too. It is extremely important not to contaminate either substance with acetone because that in itself would classify both chemicals as a hazardous waste.

The spent Super Blue is to be put into 250 gallon tote tanks and stored in a designated pick up area. The S-280 is to be put into 55 gallon drums and stored also in the same designated pick up area.

Maintenance, Rick Large, will verify and sign the shipping manifests prepared by the Jacksonville transportor when they come to pick up the full Super Blue 250 gallon totes. The transportor will then take them to a non-hazardous waste, waste water facility. A copy of the manifest is to be given to Glenn Bell for the SARA Title III record keeping file. Maintenance, Rick Large, is also to collect $\frac{1}{2}$ pint samples of every 55 gallon drum of spent S-280. He is to number both the sample and the drum with the same tracking numbers. The numbered samples are to be given to Michelle Boston so that she can manifest the spent S-280 samples for shipment. After the manifests are made Michelle is to give the samples to the Shipping Department. Maintenance is also to notify Michelle ahead of time so that she can manifest the 55 gallon drums of spent S-280 for transport back to Superior Oil for recycling. A copy of these manifests are to be given to Glenn Bell as well.

There will be a one time, one quart sample of spent Super Blue which must be sent to Steve Mahoney Superior Oil 400 West Regent Street Indianapolis, Indiana 46225. All S-280 samples are to be sent to this address as well.

Again, I want to emphasize the importance not to contaminate either the Super Blue or the S-280 with acetone and it is extremely important that you change them out on a regular basis in order not to exceed the levels necessary to keep them classified as non-hazardous wastes.

DISTRIBUTION: Ken Hall
Earl Sanders
Scott Hall
Rita Roberts
Johnny Walker
Bob Brewster
Marlene Law
C.W. Davis
Jan Jones
Michelle Boston
DER File



**The
SUPERIOR
SYSTEM
for
Acetone
Replacement**

**A BLUEPRINT
FOR SUCCESS**

The Superior System Components

- 1) The main component is "Super Blue"; a water based biodegradable concentrated cleaner that will effectively clean liquid polyester resin from tools and equipment. Dilution recommendations are 1:10 with water.
- 2) The component that enhances the performance of Super Blue is the Superior Parts Washer. This machine features a motorized brush, an electric heating element, and an air dryer. When used with Super Blue, a warm, rotating, cleaning action is produced.
- 3) The secondary component is Superior 280 Super Flush. This water soluble cleaner completes the cleaning cycle by removing any residual material. It also absorbs water which prevents contamination to the laminate when tools are reused.

What is "The Superior System for Acetone Replacement"?

"The Superior System for Acetone Replacement" is a unique "systems approach" incorporating a water based concentrated cleaner and a water soluble flush. These items are special formulated cleaning agents that work together in a dual capacity to effectively remove liquid polyester resin from tools and equipment.

The concentrated cleaner "Super Blue" is activated by a motorized washer machine featuring an air driven brush assembly that rapidly but gently performs the initial phase of the cleaning process.

"Superior 280 Super Flush" is the second part of the cleaning process that adds the "finishing touch" by removing any residual material from tools and equipment.

How to use "The Superior System for Acetone Replacement"

- 1) Dilute Super Blue 1:10 with water and fill the parts washer tub until the level is even with the bottom of brush assembly.
(1½ gal. Super Blue/15 gal. water)
- 2) Turn on heating element switch.
- 3) Activate the brush assembly by engaging the knee switch.
- 4) While holding the tools, place against the rotating brush until resin is removed.
- 5) Place tools into Superior 280 Super Flush and move tools about in a back and forth motion to remove any residual material.
- 6) Blow dry tools with air dryer on parts washer. Tools are now ready for reuse.
- 7) Thoroughly wash hands with soap and water.

The Superior Total Package

Superior has assembled all the components available into an attractive group known as the "*Superior Total Package*." This package gives the FRP fabricator all the items necessary to successfully perform an effective, systematic cleaning operation.

Superior Total Package Components

- Superior Parts Washer Machine
- Super Blue Resin Cleaner
- Superior 280 Super Flush
- Superior Drum Mount Proportioner
- Superior Advisory Service on technical/environmental issues
- Superior Decant Disposal Unit (Optional)

The "Superior Total Package" is the complete solution for removing Acetone from the workplace.

Super Blue
Cleaner

Super Blue Resin Cleaner

Product Description

A water based, biodegradable, highly concentrated cleaner that contains *no harsh corrosives or hazardous solvents*.

Product Use

Readily removes liquid polyester resin from tools and equipment, and is safe to use on most metals and plastics.

Advantages

- 1) Cleans Effectively - Does not leave sticky residual resin
- 2) Is Non-Flammable - Reduces fire danger and possibly insurance costs
- 3) Minimizes health hazard
- 4) Contains a fresh citrus fragrance for easy handling
- 5) Reduces disposal costs, is environmentally sound
- 6) Requires less storage space
- 7) A non hazardous material

Mixing Information

Because Super Blue is a highly concentrated cleaner, it is recommended to be diluted; 1 part of Super Blue to 10 parts of water.

Packaging

Available in 5 gallon - 55 gallon plastic containers.

MATERIAL SAFETY DATA SHEET

Product Name: Super Blue Resin Cleaner

SECTION I - PRODUCT IDENTIFICATION

Manufacturer: Superior Oil Company
Fiberglass Division
400 W. Regent St.
Indianapolis. IN 46225

Telephone: 317-781-4400

Date of preparation: November 1, 1990

SECTION II - HAZARDOUS INGREDIENTS

Ingredients:	ACGIH TLV	% (w/w)
none		

SECTION III - PHYSICAL DATA

Specific Gravity : 1.01-1.03
Boiling Point : 212 degrees F.
Vapor Pressure: 17.5 mm Hg.
Vapor Density : NA
Evaporation Rate : same as water
Solubility in Water : complete
Appearance : blue liquid
Odor : mild citrus

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Deg. F.) : Not Applicable
Lower Explosive Limit : none
Upper Explosive Limit : none
Extinguishing Media : water, foam, carbon dioxide, dry
chemical as for surrounding fires
Special Fire Fighting Procedures : None
Unusual Fire/Explosion Hazards : None

SECTION V - REACTIVITY DATA

Chemical Stability : Stable
Conditions to Avoid : Extremely high temperatures
Incompatible Materials : Strong oxidizers
Hazardous Decomposition Products : Carbon dioxide, carbon
monoxide
Hazardous Polymerization : will not occur

SECTION VI - HEALTH HAZARD DATA

Effects of Overexposure :

Eyes - Contact can cause irritation, redness.

Skin - Prolonged or repeated contact can cause irritation.

Breathing - Mist may irritate nasal and respiratory passages.

First Aid Procedures :

Eyes - Flush from with water for 15 minutes.

Get medical help if irritation persists.

Respiratory System : Remove to fresh air. If necessary, give oxygen, artificial respiration.

Ingestion : Give large quantities of water. Get medical assistance.

Carcinogenicity : Not listed as carcinogenic by IARC, NTP, OSHA, ACGIH.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken in case of spill : Absorb on solid absorbent or wash down with water.

Waste Disposal Method : Dispose in accordance with all local, state and federal regulations.

Precautions to be Taken in Handling and Storing : Store at moderate temperatures. Keep container closed when not in use.

Other Precautions : Keep out of the reach of children. Return empty drums to a licensed reconditioning service.

SECTION VIII - SPECIAL PROTECTION INFORMATION

Respiratory Protection : Use NIOSH approved respirator for product mists.

Ventilation : Recommended

Protective Gloves : Recommended for prolonged or repeated contact.

Eye Protection : Wear safety glasses or face shield.

Other Protective Clothing or Equipment : Eye wash station.

SECTION IX - HMIS RATINGS

Health: 1

Fire: 0

Reactivity : 0

This information is based on data available to us and is accurate and reliable to the best of our knowledge at the time of printing. However, no warranty is expressed or implied regarding the accuracy or completeness of the information contained herein. Final determination of the suitability of this material for the use contemplated is the sole responsibility of the user. Buyer assumes all risk and liabilities. Buyer accepts and uses this material on these conditions.

Superior 280 Super Flush

Product Description

A water soluble solvent that contains no corrosive materials.

Product Use

Removes residual liquid polyester resin from tools and equipment.
This product is designed to be used in its supplied form.

Advantages

- 1) Absorbs water from tools which prevents contamination to the laminate when tools are reused.
- 2) Acts as a lubricant for the metal shaft areas on roller tools.
- 3) Is non-flammable - reduces fire danger.
- 4) Minimizes health hazard.
- 5) A non hazardous material.

Packaging

Available in 5 gallon - 55 gallon metal containers.

Properties

Physical form	Water White Liquid
Odor	Sweet Solvent Fragrance
Flash Point (T.C.C. deg. F.)	172 (lowest flashing component)
.....
W.P.G.	8.8

MATERIAL SAFETY DATA SHEET

APPROVED BY U S DEPT OF LABOR, ESSENTIALLY SIMILAR TO FORM OSHA174

SUPERIOR SOLVENTS AND CHEMICALS
400 West Regent Street
Indianapolis, Indiana 46225
EMERGENCY PHONE NUMBER: 317-783-6681

CHEMICAL NAME & SYNONYMS: SOLVENT BLEND TRADE NAME: S-0280 SUPER FLUSH

I. PHYSICAL DATA

BOILING POINT: 368
SPECIFIC GRAVITY (Water = 1): 1.066
POUNDS / GALLON: 8.88
VAPOR PRESSURE: 0.012
VAPOR DENSITY (Air = 1): > 1
SOLUBILITY IN WATER (%): 24.24
DRY TIME (Ether = 1): > 1
% VOLATILE BY VOLUME: 100.0
APPEARANCE: Water white liquid
ODOR: Typical solvent

II. HAZARDOUS INGREDIENTS

MATERIALS:	CAS #	VOL (%)	ACGIH TWA (ppm)	OSHA TWA (ppm)
DIMETHYL GLUTARATE	1119-40-0	> 29	N/E	N/E
DIOXYBISPROPANOLMETHYLEETHER	34590-94-8	> 9	100	100

III. FIRE & EXPLOSION HAZARD DATA

LOWER EXPLOSIVE LIMIT IN AIR (% by vol): 0.9
UPPER EXPLOSIVE LIMIT IN AIR (% by vol): 8.0
FLASH POINT (T.C.C. deg F): 172 (lowest flashing component)

EXTINGUISHING MEDIA Carbon Dioxide, Alcohol Foam, or Dry Chemical

SPECIAL FIRE FIGHTING PROCEDURES S.C.B.A. for fire fighting in enclosed areas. Water spray may be used to cool exposed containers and protect personnel. In advanced fires, maintain a safe distance from sealed containers.

UNUSUAL EXPLOSION AND FIRE PROCEDURES COMBUSTIBLE LIQUID! Use away from heat and open flame. Use only with adequate ventilation. Keep container closed when not in use.

Legal responsibility is assumed only for the fact that all studies reported here & all opinions are those of qualified experts. Buyer assumes all risks and liabilities. The buyer accepts and uses this material on these conditions.

IV. REACTIVITY DATA

STABILITY: STABLE: X UNSTABLE:

CONDITIONS TO AVOID: Isolate from heat, sparks, and open flames.

INCOMPATIBILITY: Strong oxidizers.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Oxides of carbon (CO, CO2)

HAZARDOUS POLYMERIZATION: Will not occur.

V. HEALTH HAZARD DATA

ROUTES OF ENTRY: INHALATION - YES SKIN - YES INGESTION - YES

EFFECTS OF ACUTE OVEREXPOSURE: Material is an eye and skin irritant. Excessive vapor inhalation will lead to central nervous system depression. Harmful or fatal if swallowed.

CHRONIC OVEREXPOSURE: Material may defat the skin on repeated exposure leading to dermatitis.

MUTAGENICITY: NTP: NO IARC: NO OSHA: NO

-THIS BLEND CONTAINS NO LISTED CARCINOGENS-

SIGNS & SYMPTOMS OF EXPOSURE: The signs of central nervous system depression begin with headache, dizziness and apparent intoxication, and progress through loss of consciousness and possible complete nervous system collapse.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Skin contact can aggravate existing dermatitis.

EMERGENCY & FIRST AID PROCEDURE: EYE CONTACT - rinse with water for 15 minutes. If irritation persists call a physician. SKIN CONTACT - wash with plenty of soap and water. Wash contaminated clothing before reuse. EXCESSIVE VAPOR INHALATION - remove victim to fresh air and restore breathing if necessary. Call a physician if there are signs of breathing difficulties. IF SWALLOWED - do not induce vomiting, call a physician immediately with the listing of materials on this sheet.

VI. PRECAUTIONS FOR SAFE HANDLING & USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Stop spill at the source, dike the area and contain the flow mop up or absorb and place in suitable container. Notify proper authorities if an RQ was involved.

WASTE DISPOSAL METHOD: As directed by local and federal pollution laws.

PRECAUTIONS TO BE TAKEN IN HANDLING & STORING: Avoid free fall of liquid, ground containers when pouring. Store and use below 120°F and away from direct heat and open flame.

VII. CONTROL MEASURES

RESPIRATORY PROTECTION: Organic cartridge type respirator if ventilation or other mechanical means cannot keep air below TLV.

VENTILATION: Local exhaust is preferable, but any mechanical means that will keep vapors below limits is acceptable.

PROTECTIVE GLOVES: Recommended - must not dissolve in solvents.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Chemical goggles and apron are recommended if splashing is possible. An eye wash and safety shower should be available.

WORK/HYGIENIC PRACTICES: Avoid breathing vapor or spray mist. Wash hands thoroughly after contact and before breaks or meals.

VIII. L313 LISTED MATERIALS

As per the requirements of 40 CFR 372.45, the following components of this blend are listed in Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986.

MATERIAL	CAS #	MAXIMUM % BY WGT
- NONE LISTED -		

The act also requires that this notice accompany the MSDS in all redistributions and not be detached or omitted from future copies.

Disposal

Super Blue Resin Cleaner

This product is biodegradable and is considered "Non Hazardous." Generally speaking, this product may be safe to discharge into the local sewer system; however, Superior highly recommends that a sample of the used material be submitted to the local wastewater facility for approval *before* being discharged into the sewer system.

Disposal of Super Blue into septic systems, streams or lagoons is *not recommended*. To address this, Superior offers the "Superior Decant Disposal Unit." This method of disposal particularly accommodates shops that do not have immediate access to a sewer system. Detailed information on this system can be found within the brochure.

Superior 280 Super Flush

The used portion of this product is considered a "Non-Hazardous Waste." The disposal of this material should be handled by emptying the spent flush into a DOT approved metal drum. Superior will provide pick-up and removal of the waste without charge for disposal; however, the customer will assume return freight charges to Superior. Because the spent product is considered non hazardous, a manifest is not necessary for transporting. Superior 280 Super Flush should *not* be discharged into any sewer, septic system, stream or lagoon under any circumstance.

GAF CHEMICALS
"SHIP SHAPE"



INFORMATION RECORDS OF DEMONSTRATIONS, MONITORING, SAMPLING AND/OR MEASUREMENTS

- 1) Date: 2-19-92
- 2) Time: 10:15am-3:45pm
- 3) Place: Lamination (Bldg. #1) Pro-Line Boats
- 4) Products Being Demonstrated: Ship Shape-non flammable/low evaporation/high flash point/acetone replacement
- 5) Person/Persons Responsible For Performing Demonstration:
GLS Sales Representative John Denisco-explained product and instructed how to use it.
Pro-Line Boats Plant Manager Johnny Walker-safety and workability oversight observer
Lamination Bldg. Manager Jan Jones-workability
Lamination Floor Supervisor Philip Stevens workability
Safety/Environmental oversight Glenn Bell
Purchasing Manager Scott Hall-cost comparisons
- 6) Dates Analysis Were Performed: 2-19-92, 2-20-92
- 7) Person/Persons Performing Analysis: same as #5
- 8) The Analytical Techniques And/Or Methods Used:
 1. Removal of uncured resin from hands/skin.
 2. Small amts. mixed with gelcoat to mock gelcoat contaminated with ship shape.
 3. Small amts. mixed with resin to mock resin being contaminated with ship shape during manufacturing.
- 9) Results Of Such Analysis:
 1. Caused skin irritation because of its slower evaporation rate. Extremely higher potential of employee injury and company liability.
 2. Caused fish eye because of its low evaporation rate.
 3. Did not cure properly.
 4. Slippery tools and/or hands cause a potential safety hazard.
 5. Disposal of spent ship shape with acetone in it is classified as a hazardous waste, therefore, the costs and liability of disposal is greater than current acetone recycling. (no hazardous waste)
- 10) Additional Comments: Sales literature was received but MSDS was not
- 11) Conclusion: Stay with acetone

cc: DER File



THE SHIPSHAPE ACETONE REPLACEMENT PROGRAM

Dear Customer:

With the emphasis on VOC reductions, worker safety and waste minimization, acetone replacement is becoming more of a necessity rather than an option in today's fabrication shop. GAF Corporation has developed a product, ShipShape Resin Cleaner, that really works as an acetone replacement, and they've gone one step further. GAF and GLS Fiberglass will provide a complete waste minimization and reclamation service to our customers with regard to ShipShape Resin Cleaner. You use ShipShape in your shop and GLS will pick up the used material leaving you with no disposal problems. Obviously for a program like this to work, several parameters must be established. Following is a description of how the ShipShape acetone replacement system works.

THE SHIPSHAPE PROGRAM

1. You purchase ShipShape Resin Cleaner from GLS and use it much like acetone. Ask Your GLS representative for specific application details and product benefits.
2. Because ShipShape does not evaporate like acetone, you will accumulate used ShipShape material. ShipShape becomes sticky at a resin loading of about 20% to 25% and at this point fresh material must be used.
3. After you have accumulated a minimum of 2 drums of used resin cleaner, a representative sample of the used material is collected and sent to an identified independent lab for testing. This testing is needed to insure that the ShipShape material, although used, has remained non-hazardous. The initial testing and sample shipping containers are provided free of charge.
4. ShipShape Resin Cleaner is biodegradable and non-hazardous. In order for GLS to be able to pick up used material, it must remain non-hazardous. This is why testing is required.
5. There are basically two ways ShipShape can become hazardous.
 - A. resin loading higher than 20% to 25% will cause the flash point of the spent material to drop below 140 degrees F which would cause it to be classified as hazardous.
 - B. If other hazardous chemicals such as methylene chloride or acetone are added to ShipShape, the material will be classified as hazardous.

6. GLS is not authorized to transport hazardous waste. If spent ShipShape material is found to be hazardous through initial testing or by the authorized recycler, the disposal of this material becomes the responsibility of the fabricator.
7. Therefore, do not over load ShipShape with resin. At a resin loading of 20% to 25% the cleaner will become sticky and fresh material must be used. Do not add other hazardous materials to the ShipShape cleaner.
8. After the initial testing has classified the sample as characteristically non-hazardous, GLS will make arrangements to pick up the used ShipShape resin cleaner from your location at no cost.
9. Additional periodic testing may be required every 2 to 3 years and flash point testing may be required more often depending on the characteristics of the used material generated. Subsequent testing becomes the responsibility of the fabricator.
10. It is extremely important that users of ShipShape protect themselves from long term skin contact with the material. Like acetone, ShipShape is a defatting agent. Unlike acetone, ShipShape does not evaporate quickly and will stay on the skin. Prolonged skin contact with ShipShape will cause severe skin irritation. Natural rubber gloves must be used when handling and using ShipShape.

The attached program outline from GAF will provide additional details of the ShipShape waste reclamation program.

ShipShape is a complete acetone replacement program that offers you significant advantages over other acetone substitute products. This cost effective program completely eliminates the need for acetone and the dangers and regulatory concerns associated with acetone. Please contact your GLS representative for any additional information.

I have read and understand the above information and the attached ShipShape program outline.

Signature

Title

Date

Company

History of
ACTION

ACETONE REPLACEMENT IN SHOP

Ref: Fiberglass Fabrication

An attempt to list the major plant employee objections will follow with the reasons for these objections when changing cleaning procedures from acetone to ShipShape™ resin cleaner. Acetone has been used since modern day inception of this industry and is well liked as well as giving good performance for jobs to be completed.

Confronting these objections upfront is very important to a successful replacement program.

Objection #1

ShipShape feels greasy and it's slippery. This makes it hard to hold on to my tools. It's making my job more difficult to perform.

Reasons Why:

ShipShape doesn't evaporate like acetone. Acetone evaporates 237 X faster. The benefit is that ShipShape is not escaping to the atmosphere as quickly; reducing VOC emissions. It has superior solvency lasting many times longer.

What To Do:

Employees should wear recommended gloves that have a grip. Also, use rollers with wider handles and made of wood vs. metal.

Objection #2

ShipShape feels hot to the touch. It seems to give off heat.

Reasons:

ShipShape is a de-fatting material like most solvents. It will remove fats, absorb sweat and water, giving a warming sensation first. If acetone didn't evaporate so readily, you would get a similar warm feeling.

Page #2
Acetone Replacement

What To Do:

Again, recommended gloves are to be worn and attempt to keep hands out of product as much as possible. For incidental skin contact, flush with water.

Objection #3

I have used acetone, when necessary to remove resin from my skin to prevent burning and set-up. Acetone cleans it and doesn't burn.

Reason:

Acetone dissolves the uncured resin and evaporates, giving a cooling sensation.

What To Do:

Under no circumstance should any solvent including acetone, be recommended for cleaning resin from skin surfaces. There are approved hand cleaners that are effective in removing most polyester resins from skin. Dispensers for this should be strategically placed for easy access. Also, safety showers and eye-wash stations should be installed.

Objection #4

In the finishing department, when I use ShipShape to clean out my spray bottle when I reload and do touch-up, I get a fish-eye effect.

Reason:

ShipShape is not evaporating off like acetone, so it gets mixed into gel coat.

What To Do:

Instead of one spray bottle on the work station, put two. When the first is cleaned, turn it upside down to drain and dry while using the reserve.

GAF

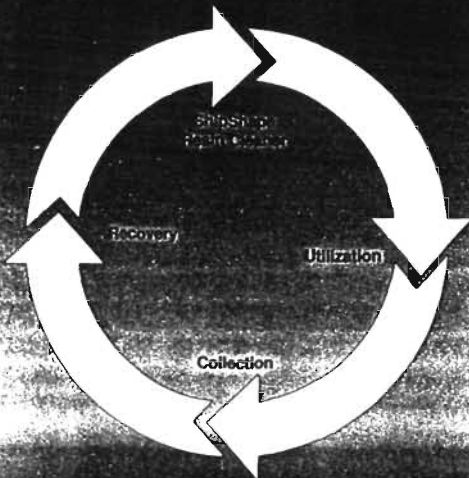
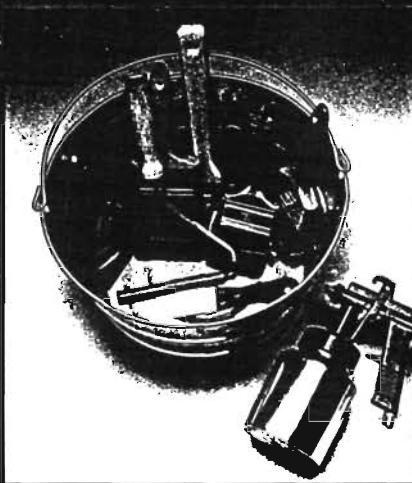
**Not Just a
Replacement for Acetone:
A Better Way to Clean.**



Ship Shape

RESIN CLEANER

ShipShape resin cleaner cleans both hand tools and spray



Reduce Your VOC Emissions Without Compromising Performance.

The ShipShape™ cleaner doesn't evaporate like acetone, resulting in lower VOC emission levels. It is a powerful cleaner, as effective as acetone, and safer to use because it is non-flammable.

Evaporation Rate Comparisons

(standardized to n-Butyl Acetate and to ShipShape Resin Cleaner)

Product	n-Butyl Acetate=1	ShipShape™ Resin Cleaner=1
Acetone	5.7	237
Methylene Chloride	14.5	604
Water-Based Emulsifier	0.020	0.83
ShipShape Resin Cleaner	0.024	1.0

Don't Settle For Watered Down Substitutes.

ShipShape resin cleaner is a carefully formulated product. It is not a water-based emulsifier, and there's no heating required. Use ShipShape brand confidently for all of your hand tools and spray equipment.

ShipShape™ Resin Cleaner Is An Economical and Environmentally Sensible Solution.

With ShipShape resin cleaner, you get better than 90% yield upon reclamation. You can use the ShipShape product over and over again. You will reduce costs and minimize waste. Unlike acetone, still bottoms from ShipShape resin cleaner are characteristically non-hazardous.



Let GAF Show You "How To Get ShipShape™".

GAF can show you how to get the most out of the ShipShape™ cleaner, and how to use it safely. Even though it is less volatile than acetone, ShipShape Resin Cleaner requires careful handling and training.

One Cleaner For All Shop Applications.

Because you have been used to the versatility of acetone, GAF designed its ShipShape cleaner to do many jobs. It cleans painting equipment, urethane foam feeder lines, lay-up tools, spray equipment, and more. Put ShipShape resin cleaner to work in your spray booth, fabrication room or foam injection area.



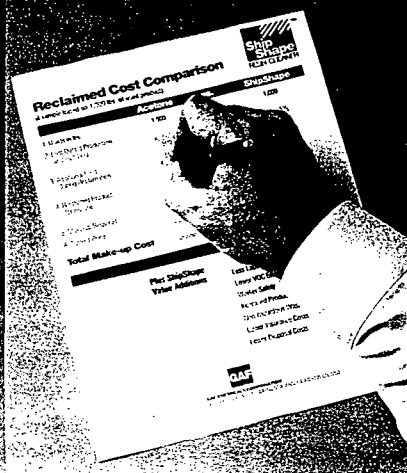
ShipShape™ Resin Cleaner Technical Data.

TYPICAL PROPERTIES	
Physical Form	Water-thin, liquid
Color	(APHA) 500 max.
Freezing Point	-20°C
Boiling Point	202 - 204°C
Vapor Pressure	1 mmHg at 20°C
Refractive Index	1.450 - 1.454
Specific Gravity	1.05 - 1.07 (20°C)
Flash Point	(197.0°F) Setaflex CC
Odor	Sweet
Water Miscibility	Complete

Note These Facts.

ShipShape brand has a high flash point and low evaporation. It is not an emulsifier, but it is just as safe. It is classified as non-flammable. Additionally, it will lower VOC emissions and is 90% reclaimable.

With this analysis, you can readily determine the value of the ShipShape replacement program.



**Free Investment Return Analysis.
Call (201) 628-3110.**

Find out what ShipShape cleaner can do for your cleaning jobs and your bottom line. Call today to arrange a free analysis.

**Ship
Shape**

RESIN CLEANER

GAF Introduces ShipShape™ Resin Cleaner.

Laboratory tests have shown that acetone evaporates over 200 times faster than the ShipShape™ Resin Cleaner. This means that you need less ShipShape material and your actual cleaning costs can be lowered.



GAF Sales Offices

Northeast Region

GAF Chemicals Corporation
North Thompson Avenue
Bohnd Brook, NY 08805
(201) 271-2282/130

Midwest Region

GAF Chemicals Corporation
St. Regis Office Center
Suite 124
1910 S. Highland Avenue
Lombard, IL 60148
(708) 932-1022

Western Region

GAF Chemicals Corporation
Suite 285
17724 Sky Park Boulevard
Irvine, CA 92714
(714) 260-1107

Southern Region

GAF Chemicals Corporation
Suite 211
Two Parkway Plaza
2550 Parkway Road
Charlotte, NC 28210
(704) 544-0502

Canada & Latin America

GAF Chemicals Corporation
1361 Alps Road
Wayne, NJ 07470
(201) 271-2282

European Region

GAF EUROPE
40 Alum Tipping Road
Surrey Research Park
Chislehurst
Surrey, GB S21 8PP England
44 (0)181 601 1707

Asia Pacific Region

GAF ASIA PACIFIC (PTE) LTD.
200 Cantonment Road
Fax 05-05 Southpoint
Singapore 0203
Republic of Singapore
65 (2) 22-19-105

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Seller warrants that, at the time of delivery, the material delivered shall conform to seller's specifications therefore and shall be free and clear of all liens and encumbrances. Seller does not make and is not to be held liable for any warranty of merchantability or fitness for a particular use or purpose or for any other warranty of any kind whatsoever, express or implied, except as set forth in the preceding sentence. Buyer assumes all risk and liability with respect to results obtained by the use of such material whether used alone or in combination with other products. No claims of any kind whatsoever, regardless of the theory on which a claim may be made including, without limitation, negligence, contract, breach of warranty, absolute liability in tort, misrepresentation or otherwise, with respect to material delivered or for failure to deliver any material, shall be greater in amount than the purchase price of the material in respect of which damages are claimed. In no event shall seller be liable for incidental, consequential, special, indirect or punitive damages. Failure of buyer to give written notice of claim within sixty (60) days after delivery of material or the date stated for delivery, as the case may be, shall constitute a waiver by buyer of all claims with respect to such material.



GAF Chemicals Corporation
1361 Alps Road
Wayne, N.J. 07470

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FIBERGLASS

1-813-686-1153
1-800-457-4357
Fax: 1-813-683-2679

JOHN DeNISCO
Sales Representative

GLS FIBERGLASS COMPANY, a division of
GREAT LAKES TERMINAL & TRANSPORT CORPORATION
733 S. KRAFT ROAD · LAKELAND, FLORIDA 33801

SHIP SHAPE (R)

RESIN CLEANER WASTE MANAGEMENT

- A SHARED RESPONSIBILITY -

September 20, 1990

Part 3 - RESPONSIBLE CARE BY THE USER OF ShipShape^(R) RESIN CLEANER

The manufacturer who replaces acetone or other hazardous cleaning solvents with ShipShape^(R) resin cleaner is doing more than changing materials: he is undertaking an environmental and cost-saving program.

The benefits of introducing ShipShape^(R) resin cleaner are summarized in accompanying literature.

The use of ShipShape^(R) for cleaning applications is similar to the procedure for other cleaning solvents. These steps are covered in operational instructions.

Here is what the molder, fabricator or other user of ShipShape^(R) needs to know about the closed-loop waste management system for this resin cleaner:

3.1 Saturation Point

Because ShipShape^(R) resin cleaner does not evaporate quickly, like acetone, the user will accumulate material whose cleaning effectiveness is lost. At resin loadings of 20 to 25 percent, ShipShape^(R) will appear sticky and thickened, and at this point fresh material must be used.

Development of a simple test device is underway to enable your operators to know when to use fresh ShipShape^(R).

3.2 Testing Sequence

When two 55 gallon drums of used ShipShape^(R) resin cleaner have been accumulated, samples of this material will be tested by the manufacturer at no charge to the user.

These samples must be representative of the used ShipShape^(R) resin cleaner which will be generated in full production usage. Recommended procedures for the sampling will be provided by the distributor. A repeat test may be performed within three months of the first analysis if deemed necessary.

These samples will be tested in a laboratory to determine that the ShipShape^(R) resin cleaner has retained its non-hazardous characteristics. Sample bottles and a convenient mailer will be provided free of charge for these tests.

REMEMBER: the ShipShape^(R) program is unique because it offers a characteristically non-hazardous resin cleaner which can remain non-hazardous even after it has been used for its intended purpose, if the manufacturer's instructions are followed.

BUT: the resin cleaner can become hazardous if it is overloaded with polyester resin, if it becomes contaminated with halogenated or non-halogenated VOC wastes (e.g. acetone), or if it picks up certain levels of specific chemical constituents.

3.3 Flash Point

Flash point is the term used to determine whether a material is hazardous because of its ignitability characteristic. If the flash point is lowered to 140° F or below, the material must be designated hazardous. This means excessive costs for treatment and disposal by licensed waste handlers.

Virgin ShipShape^(R) resin cleaner has a flash point of 197° F. Most unsaturated polyester resins have a flash point below 100° F. Therefore, if excessive resin is added to ShipShape^(R) the resin cleaner waste, the resulting material could have a flash point below 140° F. RCRA regulations do not permit users to dilute ignitable hazardous waste in an attempt to raise the flash point.

3.4 Corrosivity

The second of the hazardous waste characteristics is corrosivity - that is, aqueous waste with a pH of 2 or less, or 12.5 or more, or that corrodes steel at a rate greater than 0.25 inches per year.

3.5 Reactivity

The reactivity characteristic defines a material as so unstable that its tendency to react or explode poses a problem at all stages of the waste management process. Neither the corrosivity or reactivity characteristics are expected to be a problem for used ShipShape^(R) resin cleaner.

3.6 Toxicity Characteristic Leaching Procedure (TCLP)

The final hazardous waste characteristic to be concerned about was formerly referred to as extraction procedure (EP) toxicity. Effective September 25, 1990 for generators of more than 1,000 kilograms (2,200 lbs., or about four 55 gallon drums) per month, and effective March 29, 1991 for small quantity generators (from about one-half to four 55-gallon drums), the EP test is replaced with the stricter TCLP.

The TCLP is meant to simulate the leaching which could occur in a landfill. It is a more aggressive test than the EP, and materials which passed former criteria may now exceed the newer regulatory levels.

The EP test evaluated waste for regulatory levels of fourteen hazardous substances. The TCLP adds 25 new organic chemical constituents. The new lists are as follows:

<u>Constituent</u>	<u>Regulatory Level (mg/L)</u>	<u>Affected Plastics Area</u>
Barium	100.0	Pigments
Benzene	0.5	Waste Oil, Styrenics, ABS/UPE
Cadmium	1.0	Pigments
Chlorobenzene	100.0	Phenolics
Chromium	5.0	Pigments
1,4-Dichlorobenzene	7.5	PPS
1,2-Dichloroethane	0.5	PVC, Phenolics
1,1-Dichloroethylene	0.7	PVC, Phenolics
Methyl ethyl ketone	200.0	Styrenics, Solvents
Tetrachloroethylene	0.7	PVC, Phenolics
Trichloroethylene	0.5	PVC
Vinyl chloride	0.2	PVC

<u>Constituent</u>	<u>Regulatory Level (mg/L)</u>
Arsenic	5.0
Carbon Tetrachloride	0.5
Chlordane	0.03
Chloroform	6.0

<u>Constituent</u>	<u>Regulatory Level (mg/L)</u>
o-Cresol	200.0
m-Cresol	200.0
p-Cresol	200.0
Cresol	200.0
2,4-D	10.0
2,4-Dinitrotoluene	0.13
Endrin	0.02
Heptachlor (and its hydroxide)	0.008
Hexachlorobenzene	0.13
Hexachloro-1,3-butadiene	0.5
Hexachloroethane	3.0
Lead	5.0
Lindane	0.4
Mercury	0.2
Methoxychlor	10.0
Nitrobenzene	2.0
Pentachlorophenol	100.0
Pyridine	5.0
Selenium	1.0
Silver	5.0
Toxaphene	0.5
2,4,5-Trichlorophenol	400.0
2,4,6-Trichlorophenol	2.0
2,4,5-TP(Silvex)	1.0

ShipShape^(R) program managers do not believe that the TCLP will result in ShipShape^(R) resin cleaner used in the composites industry being characterized as hazardous, but the initial testing must be performed.

3.7 Periodic Retesting

Despite the initial testing program, which is required, users of ShipShape^(R) resin cleaner will be provided with flash point testing on a spot-check basis as deemed necessary. It should not be necessary to have the TCLP test performed repeatedly, as long as the user is manufacturing with very similar materials. The waste generator is responsible, however, for characterizing waste if a new resin system is adopted containing lower flash point chemicals, or any of the TCLP constituents.

For those who do not change materials in a significant way, EPA may require retesting every two or three years as a monitoring measure, but this requirement has not yet been finalized.

3.8 Records

It is essential that accurate records be kept for three years, relative to the used resin cleaner generated and associated test data.

3.9 Representative Sampling

Users are responsible for determining that the used material tested is representative of the material which will be shipped for recycling at full production levels. This means that the test samples should not be taken from a work station whose waste stream is unique. Depending on the users' products and processes, it will normally be recommended that all used ShipShape^(R) resin cleaner be combined, and the test sample drawn from the shop's accumulation. A standard funnel with a built-in strainer should be placed on the bung hole of the used ShipShape^(R) resin cleaner for recycling drum. The used ShipShape^(R) resin cleaner enters the drum passing through the funnel and strainer. Metal and polypropylene tube samples are available from laboratory and safety supply distributors. This equipment comes with operating instructions pertinent to each supplier's design.

CAUTION:

Never mix used ShipShape^(R) resin cleaner waste streams with waste oil from draining a machine, or with

waste from the use of other solvents. This will not "dilute" the hazardous waste into non-hazardous, but instead will render all waste hazardous. Supervisors must organize their waste stream and storage procedures to prevent accidental mixing of the waste streams. Professional recyclers will analyze incoming products routinely, so as to protect their own equipment, and thus will discover any substances which may have been added inadvertently.

3.10 Hazardous Waste

If the used ShipShape^(R) resin cleaner tests as hazardous by laboratory evaluation, or if it becomes contaminated with hazardous constituents, the used ShipShape^(R) resin cleaner may not be picked up by the distributor for recycling. In case used ShipShape^(R) resin cleaner becomes hazardous, determine the generator or small quantity generator regulations which apply to your facility, and handle and transport the material accordingly. Mischaracterization, and/or shipping hazardous material as non-hazardous are violations and subject to citations by regulatory agencies.

3.11 Predetermination of Waste Characteristics

Only the generator can determine by test the nature of his own waste streams. Neither the distributor nor the manufacturer of the delivered materials can predict the exact nature of the waste which will be generated from the products supplied. The reason for this is that each user varies in the amount of materials consumed, mixing rate, gel times, moisture present, individual work habits, and many other individual features of the user operation.

3.12 Used Containers

Used, non-hazardous ShipShape^(R) resin cleaner is collected in the original ShipShape^(R) containers for transfer from the user for recycling. Any excess, empty ShipShape^(R) containers (which, of course, are not hazardous waste) may be designated for steel drum reclamation. Excess ShipShape^(R) drums must never be used for the storage or

(Jobsite Information Placard:)

INFORMATION ON ShipShape^(R) RESIN CLEANER

We have switched to a new cleaning product in this facility. We are no longer using acetone. We will use ShipShape^(R) resin cleaner from GAF Chemicals Corp. This new product offers us many valuable benefits such as lower fire rating, lower release of fumes and vapors to the environment, reduced inventory, improved waste management and most importantly, better safety features for our workers and our neighbors.

To enjoy the benefits of this new system, we must learn some new procedures which we have agreed to follow as our part of a partnership with our supplier and the manufacturer. Here's what we have to do:

1. View the training film.
Read the literature provided.
Follow your supervisor's instructions.
Ask questions!
2. Clean hand tools, parts, fixtures and spray equipment as you have in the past.
3. Wear gloves and protect your clothes. Wear eye protection. Keep a pail of fresh water handy to rinse with if you accidentally spill ShipShape^(R) resin cleaner on your hands or skin. If you accidentally get some in your eyes, flush immediately with large volumes of fresh water.
4. Check this resin cleaner frequently. Eventually it will become sticky and no longer clean well. Replace it with fresh material and pour the used ShipShape^(R) resin cleaner into specially marked drums. Our distributor will pick it up and provide us with fresh cleaner.
5. Keep used ShipShape^(R) resin cleaner separate from all other waste materials. Special markings, locations, drums and procedures will be assigned to deposit used cleaner. Never mix or dispose anything other than used ShipShape^(R) in these containers. This will insure that the container will never become hazardous waste.

Following these steps will make us good partners and keep our operation "ship shape."

SHARED RESPONSIBILITY SUMMARY OF
ROLES/REGULATORY AGENCIES

Overall environmental guidance, EPA Toxic Substances Control Act, OSHA Hazard Communication Standard, DOT regulations for product shipment.

GAF Chemicals Corporation

OSHA General Duty clause, Worker training under the HCS, personal protective equipment supervision. Ultimate responsibility for compliance with EPA, RCRA and state/local waste management rules.

User of ShipShape^(R)
resin cleaner

Transport of used non-hazardous resin cleaner for recycling.

Distributor

Transport and/or disposal of contaminated used cleaner which tests as or becomes characterized as hazardous under RCRA.

Licensed hazardous waste transport and/or disposal agent at the cost of the user-generator.

Monitoring of new rules and regulations which affect the status, shipment, use and recycling of ShipShape^(R) resin cleaner. Ongoing communications and training materials for safe, cost effective use and waste management.

GAF Chemicals Corporation

DUPONT
DIBASIC ESTER (DBE)



DU PONT CHEMICALS

DBE Solvent

Applications

DBE-Based Industrial Cleaning Solvents and Paint Strippers

Due to concerns about regulatory and health issues involving chlorinated hydrocarbons and other volatile solvents, many companies are seeking effective replacements for industrial cleaning applications.

Du Pont Dibasic Ester (DBE) solvent and DBE-based blends have been used successfully in several such applications. DBE provides high solvent power, low health and environmental risk, and is low in cost relative to other active solvents.

The following formulations were designed to provide high flash point, low toxicity, and effectiveness. These formulations have been useful for the applications listed and may be considered as "starter" formulations for developing cleaning blends or industrial paint removers. However, the specific formulation best suited for a given application may be quite different. Du Pont has the technical resources to help identify that specific blend.

DU PONT DBE DIBASIC ESTER
INDUSTRIAL CLEANING FORMULATIONS*

These formulations are to be used only under conditions of good ventilation.

FOR POLYURETHANES

- Adhesives
 - DBE
 - DBE/N-methyl-2-pyrrolidone 80/20
 - DBE/ethyl 3-ethoxypropionate 70/30

Choice depends on nature of the polyurethane composition to be removed.

- Foam
 - DBE

Generally neat DBE is satisfactory. It may be necessary for certain compositions to use one of the above blends.

- Cast
 - DBE

FOR UNSATURATED POLYESTER RESINS

DBE or 60/40 DBE/Aromatic 150 blend

FOR ACRYLIC RESINS

DBE

FOR INKS

DBE

FOR PAINT SYSTEMS

DBE or a DBE blend depending on the nature of the paint.

FOR COMPOSITE SURFACES

DBE

*Suggested starter formulation which will probably need modification to satisfy specific cleaning needs.

DU PONT DBE DIBASIC ESTER
PAINT STRIPPER FORMULATIONS*

These formulations are to be used only under conditions of good ventilation.

GENERAL PURPOSE

Formulation A - Effective for many paints	<u>Wt. %</u>
Du Pont DBE solvent	40
N-Methyl-2-pyrrolidone	15
Aromatic 150 solvent	40.2
Potassium oleate	4
Thickener (Methocel® 311, Dow Chemical)	0.8-1.0
Formulation B-2 - Contains no aromatics	<u>Wt. %</u>
Du Pont DBE solvent	47
N-Methyl-2-pyrrolidone	18
Paraffinic hydrocarbon (Conosol® C-200, Conoco)	31
Potassium oleate	3
Thickener (Methocel® 311, Dow Chemical)	0.8-1.0

SPECIALTY STRIPPERS

Dip Strippers - May be used hot

Formulation D	<u>Wt. %</u>
Du Pont DBE solvent	100
Formulation E	<u>Wt. %</u>
Du Pont DBE solvent	60
N-Methyl-2-pyrrolidone	40
Formulation F	<u>Wt. %</u>
Du Pont DBE solvent	60
Ethyl-3-ethoxypropionate	40

Paint Booth

Formulation A or B

Military Aircraft coating

No satisfactory DBE-based stripper found as yet.

*Suggested starter formulations which will probably need modification to satisfy specific stripping needs.

For more information write to:
Du Pont chemicals/Petrochemicals,
P.O. Box 80723, Wilmington, DE 19880-0723.
Or call 1-800-231-0998

Du Pont Dibasic Esters



*for Fiberglass-reinforced Plastics
and Cultured Marble*



Dibasic Esters as a cleanup solvent for unsaturated polyester (PE) resin

■ Market Description

Du Pont Dibasic Esters (DBE) have demonstrated their effectiveness as a solvent for the cleanup of tools and equipment used in the manufacture of fiberglass-reinforced plastics (FRP) and cultured marble. DBE will dissolve uncured general purpose (ortho-phthalic), Iso (isophthalic) and DCPD (dicyclopentadiene) unsaturated polyester resins and vinyl ester resins.

Acetone has been the solvent of choice because of its availability, low cost, and rapid dissolution of the uncured resin. Additionally, acetone evaporates very rapidly and does not leave a residue. This rapid evaporation is a key reason why acetone has come under attack. Acetone gives the user high volatile organic compound (VOC) emissions. High VOCs, coupled with its low flash point (fire hazard), make it undesirable to continue to use acetone as the solvent for this industry.

■ Applications

DBE is a low VOC, high flash point organic solvent that requires no mixing or heating to work. It is versatile and can be used for both internal and external cleaning operations.

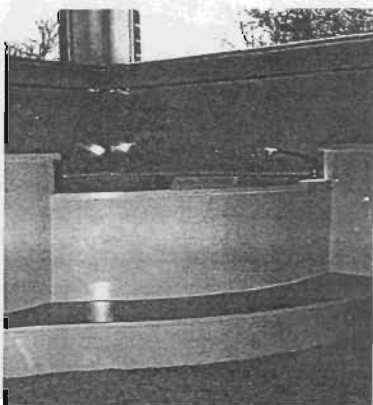
DBE is being effectively used at the present time to purge gel coat gun, chopper gun and pressure roller lines and equipment. Also it is used to clean rollers, tools and the outside of chopper guns and other equipment.

■ Gel Coat Gun Purge

DBE can remove unwanted gel coat from the internal parts of the gel coat gun system. DBE dissolves the resin mixture, although at a slower rate than acetone. DBE coats the O-rings and gaskets it contacts with a film that prevents parts from drying out. The DBE can be effective with "hot pot" systems—systems using a small pressure vessel as a gel coat source and normal lengths of line (less than 5 feet) connecting the vessel to the gun. The cleaning effectiveness in a hot pot system decreases as the length of line increases, and is less effective with isophthalic/neopentyl glycol (iso-neo) tooling gels. There is a procedure available for hot pot systems that use long connecting lines. Ask your Du Pont representative for a copy.

A two-drum flushing system should be used to minimize the effort involved in recycling. The initial blast of the solvent is collected in one bucket, which will then contain spent material that is richer in resin than solvent. The remaining flush volume will be collected in a second container. The second container will be richer in solvent than resin. The second container will then be easier to recycle.

DBE can be used to clean the exterior of the gun as well. It is compatible with the hoses and metals used in most gun systems. It does not evaporate like acetone and the residual film can be wiped off with a clean rag.



■ Chopper Gun Cleanup

DBE is an effective cleaner for both the exterior and the interior of chopper guns. Resin can be removed from the static mixer in internal mix guns and from the mixing block in external mix guns. DBE is compatible with the cutter roller and with the O-rings and gaskets in gun systems.

■ Pressure Roller Systems

DBE is effective in cleaning pressure roller systems. It is compatible with the O-rings, gaskets, and metals that comprise a typical system. It is placed in the solvent reservoir and used exactly the same as acetone is used now but it will take significantly less DBE to do the same job.

DBE is compatible with the adhesive holding the fluffy roller to the spool and will not cause it to disintegrate. Upon start-up, have the operator wipe an extra swipe or two on the cardboard before the laminate is rolled again to purge any residual DBE.

■ General Tool Cleanup

As a solvent, DBE can be used directly from the drum without mixing or heating. A closed bucket system, much like the current practice with acetone, is recommended with DBE. This not only helps to conserve the solvent, it also helps to limit emissions. Even though resin dissolves fairly easily in DBE, the addition of scrub brushes to the bucket will speed the removal of resin from the brushes and rollers.

Rollers and brushes cannot be dried by waving since DBE evaporates slowly. Splatter will remain where it lands until wiped up. DBE is compatible with the base resin so the rollers and brushes do not have to be

completely dry before reuse. However, it is recommended that excess DBE be removed from tools before reusing them. Methods for removing excess DBE include hanging tools up to drain, tapping tools on empty buckets and using air to blow off excess DBE. The latter requires an air distribution nozzle using air pressure at OSHA-approved levels. DBE will not quickly evaporate between uses, although the storage buckets should be kept closed to minimize evaporation.

■ Technical Information

Safety Precautions

As with any chemical, employ good manufacturing practices when using DBE. Give special attention to ventilation. Air turnover in a building where DBE is used should be sufficient to keep the concentration of DBE below the allowable exposure limit (AEL). Calculations show about 6,000 CFM is required for each bucket of DBE being used. When using DBE, airflow should be at least 25 feet per minute over buckets and be directed away from workers. Buckets need to be covered when not in use. A method for monitoring concentrations of DBE in the workplace has been developed and is available for industry use.

If inhaled, remove to fresh air immediately. If not breathing, give artificial



respiration. If breathing is difficult, give oxygen. Call a physician.

Avoid skin contact. Wear impervious clothing, such as gloves, apron, boots or whole body suit made of butyl rubber, as appropriate.

Flush skin with water after excessive contact. Wash contaminated clothing before reuse.

Wear safety glasses. Wear coverall goggles when the possibility exists for eye contact due to splashing or spraying of material.

In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

If swallowed, do not induce vomiting. Immediately give two glasses of water or activated charcoal slurry. Never give anything by mouth to an unconscious person. Call a physician.

Toxicity

DBE shows low to moderate toxicity by oral, inhalation and skin absorption. It has been shown to cause eye and skin irritation. The effects can be mild to severe. Overexposure may cause blurring of vision. (See the Materials Safety Data Sheet for details and for the recommended personal protection equipment.)

Biodegradability

DBE is biodegradable under certain concentrations. Acclimated sludges will tolerate levels as high as 1000 ppm. During acclimation, the sludge can handle levels as high as

300 ppm of DBE. The local treatment facility should be given advanced notification of the potential for DBE in the inbound water.

Compatibility with Elastomers

DBE is compatible with many elastomers. Among these are: ethylene propylene rubber (EPR rubber), silicone, TEFLON* and KALREZ*.

VITON* and Buna-N (NBR rubber) are not recommended for use with DBE solvent. As with acetone, these will not degrade, but will swell.

Waste Handling

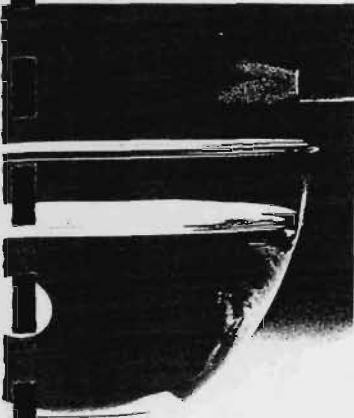
DBE can be effectively recycled using commercially available vacuum distillation equipment. It can be distilled at about 280°F (124°C) and 26 inches of mercury vacuum.

The spent DBE will have a heating value about 9,000 BTU/lb (this will vary depending on actual stream makeup) which allows it to be incinerated effectively or included in a fuels blending program.

• For More Information

For more information on Du Pont Dibasic Esters and their use in FRP/Cultured Marble applications, call 1-800-231-0998, ext. 45987.

*VITON, TEFLON and KALREZ are Du Pont registered trademarks.



General Information

Typical Compositions (wt. %'s)

	DBE	DBE-2, DBE-2SPG	DBE-3	DBE-4	DBE-5	DBE-6	DBE-9
Dimethyl Adipate	18	28	89		0.1	98.0	0.2
Dimethyl Glutarate	61	71	10	0.3	99	0.5	66
Dimethyl Succinate	20	0.3	0.2	98.4	0.4	<0.1	33
Methanol	0.1	<0.1	<0.1	<0.5	<0.1	<0.1	0.1
Water (max.)	0.1	0.1	0.2	0.04	0.1	<0.1	0.1

Physical Properties

Molecular weight	159 ^d	163 ^d	173 ^d	146	160	174	156 ^d
Sp. Gr. at 20/20°C ^b	1.092 ^e	1.081 ^e	1.068 ^e	1.121	1.091	1.064	1.099 ^e
Density at 20°C (lbs./gal.)	9.09 ^e	9.00 ^e	8.89 ^e	9.33	9.08	8.86	9.15 ^e
Distillation Range, °C	196-225	210-225	215-225	196	210-215	227-230	196-215
Vapor Pressure at 20°C (Torr)	0.2 ^e	0.1 ^e	0.06 ^e	0.3	0.1	<0.05	0.3 ^e
Solubility in water— Wt. % at 20°C	5.3	4.2	2.5	7.5	4.3	2.4	~5
Water Solubility in DBEs— Wt. % at 20°C	3.1	2.9	2.5	3.8	3.2	2.4	~3.5
Freezing Point, °C	-20 ^e	-13 ^e	8	19	-37	10	-10 ^e
Flash Point, Tag Closed, Cup °C (°F)	100 (212)	104 (219)	102 (216)	94 (200)	107 (225)	113 (235)	94 (202)
Auto-ignition Temp., °C	370	375	360	365	365	N/A	365
Latent Heat of Vaporization, cal/g	81	80	79	85	81	79	82
Viscosity at 25°C, cst.	2.4	2.5	2.5	2.5	2.5	2.5	2.4

Solvent Properties

Solubility Parameters^a

Nonpolar	8.1	8.3	8.3	8.3	8.3	8.3	8.3
Polar	3.4	2.2	2.1	2.5	2.3	2.1	2.3
Hydrogen Bonding	4.1	4.7	4.5	5.0	4.8	4.5	4.8
Surface Tension at 20°C, dynes/cm	35.6	N/A	N/A	N/A	N/A	N/A	N/A
Electrical Resistance ^c at 24°C, megohms	0.5	N/A	N/A	N/A	N/A	N/A	N/A

Footnotes:

^aHansen Solubility Theory.

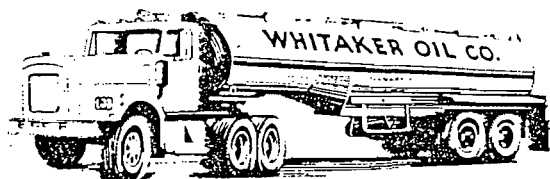
^b Δ sp. gr./ Δ T for the DBEs is -0.0007 per ° over the range 20-50°C.

^cRansberg Paint Resistance Tester Model 219CB.

^dAverage for mixture.

^eApproximate, based on composition.

WHITAKER SOLVENTS
DI-ACETONE ALCOHOL



TELEPHONE: (407) 656-0088
ORDERS: 1-800-221-0521

WHITAKER SOLVENTS & CHEMICALS
A DIVISION OF

WHITAKER OIL COMPANY
280 ENTERPRISE STREET
P.O. BOX 68
OCOEE, FLORIDA 34761

March 2, 1992

Proline Boats
P. O. Box 1348
Crystal River, Florida 32629

Attention: Mr. Scott Hall

Dear Scott,

During the past year there have been many products offered to the fiberglass, polyester users, to replace Acetone. The subject has created much confusion and panic in an effort to offer a safe product that gives the performance of Acetone. The latest offering is Di-Acetone Alcohol. A slow evaporating solvent produced by Shell Chemical, offering a high flash point.

Enclosed are the Material Safety Data Sheets for Acetone and Di-Acetone Alcohol. We offer both solvents and conclude the following:

1. Acetone and Di-Acetone Alcohol are 100% VOC (Volatile organic compound) and will evaporate totally.
2. Acetone has a low flash point and Di-Acetone Alcohol has a high flash point.
3. Acetone offers low cost combined with greater worker safety.
4. Di-Acetone Alcohol states under "employee protection" that if exposure exceeds OSHA limits, 50 ppm, you must wear a NIOSHA approved respirator to prevent over exposure. If you can smell the Di-Acetone Alcohol, you have a problem, exceeds the 50 ppm.

Acetone and Di-Acetone Alcohol limits are as follows:

	<u>Acetone</u>	<u>Di-Acetone Alcohol</u>
<u>Exposure Limits</u>		
OSHA/TWA	1000 ppm	50 ppm

(Acetone is four times safer than Di-Acetone Alcohol)

	<u>Acetone</u>	<u>Di-Acetone Alcohol</u>
<u>Toxicity</u>		
Oral LD/50	24	4
Dermal LD-50	20	13

The bottom line is ~~Acetone is the overall best choice.~~ Di-Acetone Alcohol is the choice if you want high flash point, but not the choice for worker safety. Review the enclosed data and you can see that Acetone is the best choice. Please call and we can discuss this subject in detail.

Cordially,

Dick
 Richard A. Mackey
 Vice President

cc: R. Mackey
 File

RM/cjw

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece next to the article number.

I also wish to receive the following services (for an extra fee):

1. Addressee's Address
2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Ken Hall
 Pro-line Boats, Inc
 PO BOX 1348
 Crystal River, FL 32629

4a. Article Number

P 710 058 497

4b. Service Type

- Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery

5. Signature (Addressee)

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, October 1990

U.S. GPO: 1990-273-861

DOMESTIC RETURN RECEIPT

P 710 058 497



Certified Mail Receipt

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

Sent to	Ken Hall
Street & No.	Pro-line Boats
P.O., State & ZIP Code	Crystal River, FL
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Address of Delivery	
TOTAL Postage & Fees	\$
Postmark or Date	6-29-92 AC 09-180615

PS Form 3800, June 1990



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

June 29, 1992

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Ken Hall, President and CEO
Pro-Line Boats, Inc.
Post Office Box 1348
Crystal River, Florida 32629

Dear Mr. Hall:

The Department received your request for extension of the construction permit referenced below. The request is acceptable and the permit is amended as shown:

Permit No. AC 09-180615

Current Expiration Date: August 31, 1992

New Expiration Date: November 30, 1992

This letter shall become Attachment No. 2 to this permit.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant and the parties listed below must be filed within 14 days of receipt of this intent. Petitions filed by other persons must be filed within 14 days of publication of the public notice or within 14 days of their receipt of this intent, whichever first occurs. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information:

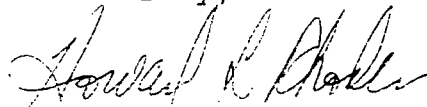
- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;

Mr. Ken Hall
Page 2 of 2

- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by Petitioner, if any;
- (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and
- (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this intent. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this intent in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

Sincerely,



Howard L. Rhodes
Interim Director
Division of Air Resources
Management

HLR/JR/plm

c: W. Thomas, SWD
A. Trbovich, ESE
M. Dybevick, P.E.
J. Koogler, P.E.



State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

For Routing To Other Than The Addressee	
To: _____	Location: _____
To: _____	Location: _____
To: _____	Location: _____
From: _____	Date: _____

Interoffice Memorandum

TO: Howard Rhodes
FROM: *for* Clair Fancy *HKP*
DATE: June 29, 1992
SUBJ: Amendment to Permit AC 09-180615
Pro-Line Boats, Inc.

Attached for your approval and signature is a letter extending the expiration date of the subject permit.

The Bureau recommends approval of this amendment.

CHF/JR/plm

Attachment.

09803

PRO-LINE BOAT 02-88
 PHONE 904 795-4111
 P O BOX 1348
 CRYSTAL RIVER, FL 32629


63-134/631
 BRANCH 114

June 12 19 92

PAY TO THE ORDER OF Florida Department of Environmental Regulation \$ 50.00

PRO-LINE BOATS INC. 50 DOLS 00 CTS DOLLARS

VOID AFTER 90 DAYS

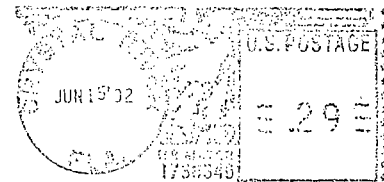
 **Sun Bank and Trust Company**
 Crystal River Office
 P.O. Box 156
 Brooksville, FL 34605-0156

FOR Permit extensions Ken Hall



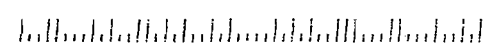
P.O. Box 1348, Crystal River, FL 32623-1348

RECEIVED
 DER - MAIL ROOM
 1992 JUN 17 AM 11: 28



FL Dept. of Environmental Regulation
 2600 Blair Stone Rd.
 Tallahassee, FL
 32399-2400

AC Permit
 09-180615




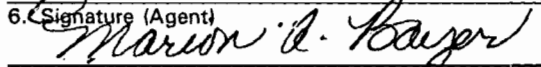
SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt Fee will provide you the signature of the person delivered to and the date of delivery.

I also wish to receive the following services (for an extra fee):

1. Addressee's Address
2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to: John B Koogler Koogler & Assoc. 4014 NW 13th St. Gainesville, FL 32609	4a. Article Number P 710 058 484
5. Signature (Addressee) 	4b. Service Type <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
6. Signature (Agent) 	7. Date of Delivery 6/5 8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, November 1990

☆ U.S. GPO: 1991-287-066

DOMESTIC RETURN RECEIPT

P 710 058 484



Certified Mail Receipt

No Insurance Coverage Provided

Do not use for International Mail

(See Reverse)

PS Form 3800, June 1990

Sent to		John Koogler
Street & No.		Koogler & Assoc
City, State & ZIP Code		Gainesville, FL
Postage		\$
Certified Fee		
Special Delivery Fee		
Restricted Delivery Fee		
Return Receipt Showing to Whom & Date Delivered		
Return Receipt Showing to Whom, Date, & Address of Delivery		
TOTAL Postage & Fees		\$
Postmark or Date		6-3-92 AC 09-180615



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

June 2, 1992

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

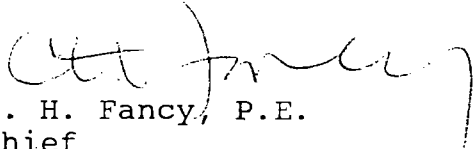
John B. Koogler, Ph.D., P.E.
Koogler & Associates Environmental Services
4014 N.W. 13th Street
Gainesville, FL 32609

Dear Dr. Koogler:

RE: Pro-Line Boats, Inc.
Citrus County, AC 09-180615
Permit Extension Request

The Bureau of Air Regulation received your May 15, 1992, request for the above referenced project. On October 30, 1991, Rule 17-4.050(4)(o), F.A.C., was changed to require a \$50 processing fee for permit extensions; therefore, we will not be able to take action on your request until the fee is received. If you have any questions, please call Patty Adams at (904)488-1344.

Sincerely,


C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

CHF/pa

Enclosure

cc: John Reynolds



KOOGLER & ASSOCIATES

ENVIRONMENTAL SERVICES

4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 • FAX 377-7158

KA 412-91-01

May 15, 1992

RECEIVED
MAY 20 1992
Division of Air
Resources Management

VIA FAX

Mr. John Reynolds
Division of Air Resources
Management
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Subject: DER File AC09-180615
Pro-Line Boats, Inc.
Citrus County, Florida
Request for Extension of Construction
Permit

Dear Mr. Reynolds:

On December 13, 1991, the Department issued the subject air construction permit to Pro-Line Boats, Inc. (Pro-Line) for a fiberglass boat manufacturing facility in Citrus County, Florida. The expiration date of the permit is August 31, 1992. Specific Condition No. 10 of the permit allows for the expiration date of the permit to be extended for good cause and requires that the request for extension be submitted to the Bureau of Air Regulation at least 60 days before the expiration date of the permit. By this letter, I am requesting that the expiration date of the subject permit be extended approximately 90 days to November 30, 1992.

Pro-Line has demonstrated compliance with the visible emission limit established by Specific Condition No. 3 of the subject permit. The demonstration was conducted in accordance with Specific Condition No. 7 and the report demonstrating compliance was submitted to the Department's Southwest District Office under cover of our letter dated April 9, 1992. Also, Pro-Line has demonstrated compliance with the daily average and annual average hydrocarbon emission limits of Specific Condition No. 4. This compliance was demonstrated in accordance with Specific Condition No. 8 and a report demonstrating compliance was submitted to your office and to the Department's Southwest District Office on May 15, 1992.

Mr. John Reynolds
Florida Department of
Environmental Regulation

May 15, 1992
Page 2

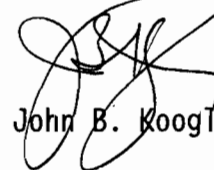
Pro-Line is presently in the process of reviewing control devices, systems and/or work practices available to the company that will reduce VOC emissions from the facility. It is estimated that 90 additional days will be required to complete this review. Therefore, by this letter, I am also requesting that the date in which Pro-Line is to submit a report and plan of action on control devices and/or work practices for reducing VOC emission in accordance with Specific Condition No. 9 be extended from June 13, 1992 (6 months from the date of issue of the construction permit) to September 13, 1992. The additional time required to complete this report and plan of action is one reason for requesting the extension of the expiration date of the subject permit.

The second reason for requesting the extension is to complete amendments to some of the Specific Conditions of the subject permit. These amendments were discussed with you during a meeting in your office on February 12, 1992. A draft of the proposed amendments and a Rationale for the amendments is presently being prepared and will be submitted to your office in the near future. It is our opinion that it would be most appropriate to finalize the requested amendments to the air construction permit before Pro-Line applies for an air operating permit. The requested 90-day extension to the expiration date of the subject permit will also allow these amendments to be finalized.

I appreciate your consideration of the requests set forth herein. If there are any questions or if additional clarification is required regarding these matters, please do not hesitate to contact me.

Very truly yours,

KOGLER & ASSOCIATES



John B. Koogler, Ph.D., P.E.

JBK:wa

c: Mr. Harry Kerns, FDER, Tampa
Mr. Glenn Bell, Pro-Line
Mr. J.D.B. Kuersteiner



PROOF OF PUBLICATION
THE OCALA STAR-BANNER
 Published—Daily
 OCALA, MARION COUNTY, FLORIDA

STATE OF FLORIDA,
 COUNTY OF MARION.

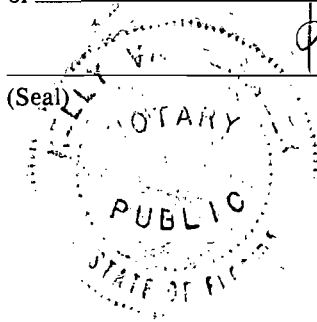
Before me the undersigned authority personally appeared Lynn Maxwell, who on oath says that he is Classified manager of the Ocala Star-Banner, a daily newspaper published at Ocala, in Marion County, Florida; that the attached copy of advertisement, being a notice in the matter of #B7010-Notice of Intent _____ in the _____ Court, was published in said newspaper in the issues of November 9, 1991

Affiant further says that the said THE OCALA STAR-BANNER is a daily newspaper published at Ocala, in said Marion County, Florida, and that the said newspaper has heretofore been continuously published in said Marion County, Florida, daily, and has been entered as second class mail matter at the post office in Ocala, in said Marion County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he has neither paid nor promised any person, firm or cooperation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Lynn Maxwell

Sworn to and subscribed before me this 11 day of November, A.D., 1991

 Notary Public



Notary Public, State of Florida at Large
 My Commission Expires Sept. 1, 1994

STATE OF FLORIDA
 DEPARTMENT OF
 ENVIRONMENTAL REGULATION
 NOTICE OF INTENT TO ISSUE
 PERMIT

The Department of Environmental Regulation gives notice of its intent to issue a permit to Pro-Line Boats, Inc., Post Office Box 1348, Crystal River, Florida 32629, for after-the-fact construction of a boat manufacturing facility at their site in Homosassa, Citrus County, Florida. A determination of Best Available Control Technology (BACT) was not required. The proposed project is not subject to Prevention of Significant Deterioration regulations. The Department is issuing this intent to issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel at the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The petition shall contain the following information: (a) the name, address and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by Petitioner, if any; (e) A statement of facts which petitioner contends warrant reversal or modification of the department's action or proposed action; (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207 F.A.C.

The application is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:
 Department of Environmental Regulation
 Bureau of Air Regulation
 2600 Blair Stone Road
 Tallahassee, Florida 32399-2400
 Department of Environmental Regulation
 Southwest District
 4520 Oak Fair Boulevard
 Tampa, Florida 33610-7347

Any person may send written comments on the proposed action to Mr. Preston Lewis at the Department's Tallahassee address. All comments received within 14 days of the publication of this notice will be considered in the Department's final determination.

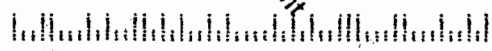


P.O. Box 1348, Crystal River, FL 32623-1348



Mr. C.H. Fancy, P.E.
Bureau of Air Regulation
Florida Dept. of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RECEIVED
NOV 18 1991
Division of Air
Resources Management



SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece next to the article number.

I also wish to receive the following services (for an extra fee):

- 1. Addressee's Address
- 2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Mr. Ken Hall, Pres. & CEO
 Pro-Line Boats, Inc.
 P.O. Box 1348
 Crystal River, FL 32629

4a. Article Number

P 617 884 185

4b. Service Type

- Registered Insured
- Certified COD
- Express Mail Return Receipt for Merchandise

7. Date of Delivery

11-5-91

8. Addressee's Address (Only if requested and fee is paid)

5. Signature (Addressee)

6. Signature (Agent)



PS Form 3811, October 1990

DOMESTIC RETURN RECEIPT

P 617 884 185



Certified Mail Receipt

No Insurance Coverage Provided
 Do not use for International Mail
 (See Reverse)

Sent to Ken Hall	
Street & No. Pro-Line Boats	
P.O., State & ZIP Code Crystal River, FL	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Address of Delivery	
TOTAL Postage & Fees	\$
Postmark or Date	11-1-91
AC 09-180615	

PS Form 3800, June 1990



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

November 1, 1991

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. Ken Hall, President and CEO
Pro-Line Boats, Inc.
Post Office Box 1348
Crystal River, Florida 32629

Dear Mr. Hall:

Attached is one copy of the Technical Evaluation and Preliminary Determination and proposed permit for after-the-fact construction of a boat manufacturing facility located in Homosassa, Citrus County, Florida.

Please submit any written comments you wish to have considered concerning the Department's proposed action to Mr. Preston Lewis of the Bureau of Air Regulation.

Sincerely,

for C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

CHF/JR/plm

Attachments

c: W. Thomas, SW Dist.
A. Trbovich, E.S.E.
M. Dybevick, P.E.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

CERTIFIED MAIL

In the Matter of an
Application for Permit by:

DER File No. AC 09-180615
Citrus County

Pro-Line Boats, Inc.
Post Office Box 1348
Crystal River, Florida 32629

INTENT TO ISSUE

The Department of Environmental Regulation gives notice of its intent to issue a permit (copy attached) for the proposed project as detailed in the application specified above, for the reasons stated in the attached Technical Evaluation and Preliminary Determination.

The applicant, Pro-Line Boats, Inc., originally applied on May 14, 1990, to the Department of Environmental Regulation for an after-the-fact construction permit for their existing facility located in Homosassa, Citrus County, Florida. The application was revised and resubmitted on September 25, 1991.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes and Florida Administrative Code (F.A.C.) Chapters 17-2 and 17-4. The project is not exempt from permitting procedures. The Department has determined that a construction permit is required for the proposed work.

Pursuant to Section 403.815, Florida Statutes and Rule 17-103.150, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Notice of Intent to Issue Permit. The notice shall be published one time only within 30 days in the legal ad section of a newspaper of general circulation in the area affected. For the purpose of this rule, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within seven days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

The Department will issue the permit with the attached conditions unless a petition for an administrative proceeding (hearing) is filed pursuant to the provisions of Section 120.57, F.S.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant and the parties listed below must be filed within 14 days of receipt of this intent. Petitions filed by other persons must be filed within 14 days of publication of the public notice or within 14 days of their receipt of this intent, whichever first occurs. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information;

(a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;

(b) A statement of how and when each petitioner received notice of the Department's action or proposed action;

(c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;

(d) A statement of the material facts disputed by Petitioner, if any;

(e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;

(f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and

(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this intent. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this intent in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
NOTICE OF INTENT TO ISSUE PERMIT

The Department of Environmental Regulation gives notice of its intent to issue a permit to Pro-Line Boats, Inc., Post Office Box 1348, Crystal River, Florida 32629, for after-the-fact construction of a boat manufacturing facility at their site in Homosassa, Citrus County, Florida. A determination of Best Available Control Technology (BACT) was not required. The proposed project is not subject to Prevention of Significant Deterioration regulations. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

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the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

The application is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Regulation
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Department of Environmental Regulation
Southwest District
4520 Oak Fair Boulevard
Tampa, Florida 33610-7347

Any person may send written comments on the proposed action to Mr. Preston Lewis at the Department's Tallahassee address. All comments received within 14 days of the publication of this notice will be considered in the Department's final determination.

Technical Evaluation
and
Preliminary Determination

Pro-Line Boats, Inc.
Citrus County
Homosassa, Florida

Fiberglass Boat Plant

Permit Number: AC 09-180615

Florida Department of Environmental Regulation
Division of Air Resources Management
Bureau of Air Regulation

October 31, 1991

I. Application

A. Pro-Line Boats, Inc.
Post Office Box 1348
Crystal River, Florida 32629

B. Request

The Department received an after-the-fact construction permit application on May 14, 1990, for an existing fiberglass boat plant at the applicant's site in Homosassa, Florida. The application was revised and deemed complete on September 25, 1991.

C. Location/Classification

The applicant's boat plant (SIC Code 3732) is located at 1520 South Suncoast Boulevard in Homosassa, Florida. Latitude and longitude of the boat plant are 28°50'30"N and 82°34'20"W, respectively. The UTM coordinates are Zone 17, 346.6 km E and 3,191.2 km N.

II. Project Description/Emissions

Fiberglass pleasure boats are manufactured by the applicant using an airless mold injection method. Laminations of resin and fiberglass are applied over gel coat before the wooden and foam structural parts are installed. After lamination the boats are extracted from their molds and trimmed of excess material. Upholstered parts are then prepared and used in the final assembly along with parts manufactured elsewhere.

Fiberglass boat manufacturing generates particulate matter (PM) emissions (sawdust from wood working and fiberglass from grinding) and hydrocarbon (VOC) emissions from various operations such as molding and clean-up. Dilution air is used to purge production buildings of VOC emissions with no air pollution controls. The estimated VOC and PM emissions are shown below:

VOC EMISSIONS:

	Utilization Rate (lbs/hr)	VOC Content	Fraction Emitted	Emissions (lbs/hr)
Styrene (Resin - Hand Layup)	133.9	0.4	0.08	4.0
Styrene (Resin - Spray Layup)	66.0	0.4	0.11	2.9
Styrene (Gel Coat - Hand Layup)	26.4	0.34	0.31	2.8

Styrene (Gel Coat - Spray Layup)	13.0	0.34	0.31	1.3
Acetone	20.5	1.0	1.0	20.5
Wax-Golden Liquid	0.5	0.9	1.0	0.5
Lacquer Thinner	0.1	1.0	1.0	0.1
Resin Stripper	<u>0.1</u>	1.0	1.0	<u>0.1</u>
Total	260.5			32.2

$$\text{TPY} = \frac{32.2}{2000} \times 5824 = \underline{94.0}$$

PM EMISSIONS:

Particulate Matter				0.1
				TPY = $\frac{0.1}{2000} \times 5824 = 0.3$

In 1989, the Department adopted a policy requiring boat builders to develop control strategies designed to reduce these emissions. The applicant is required to submit a proposed plan of action providing reasonable assurance that odors and toxic air pollutants exceeding acceptable ambient concentrations will not be discharged pursuant to Florida Administrative Code (F.A.C.) Rule 17-2.620. The plan must contain various control strategies that could be implemented to reduce or eventually eliminate these emissions.

III. Air Quality Analysis

The project has been evaluated in accordance with the procedures contained in the Department's Air Toxics Permitting Strategy (draft). The maximum hourly emissions of potential air toxics were modeled to determine the maximum predicted ambient concentrations for comparison to the no threat levels contained in the air toxics permitting strategy. The primary pollutants evaluated were styrene and acetone. Styrene was the principal VOC air toxic of interest. The maximum predicted concentrations for other pollutants were based on the ratio of their projected emissions to those of styrene. Total facility-wide emissions of styrene were projected to be 11 lbs/hr.

The applicant used the Industrial Source Complex Short-Term (ISCST) model with one year of meteorological data (1986 Tampa National Weather Service data). The vents from the facility were modeled as point sources. Modeling was performed using polar receptors along 36 radials spaced at 10 degree increments at distances up to 10,000 meters from the facility. Additional receptors were placed along the property boundaries.

The modeling results are shown below. The maximum predicted concentrations are less than the appropriate no threat levels.

VOC	Averaging Time	Maximum Concentration (ug/m ³)	No Threat Level (ug/m ³)	Location (meters/degrees)
Styrene	8	111	2,150	159/310
	24	38	516	159/310
Acetone	8	206	35,600	159/310
	24	70	8,544	159/310
Other	8	8	NA	159/310
	24	3	NA	159/310

IV. Rule Applicability

The construction permit application is subject to review under Chapter 403, Florida Statutes, and Florida Administrative Code (F.A.C.) Chapters 17-2 and 17-4. The facility is located in an area classified as attainment for regulated air pollutants. Since the boat manufacturing facility is classified as minor (total emissions less than 100 TPY), it is not subject to the new source review requirements of F.A.C. Rule 17-2.500. Applicable rules are (1) F.A.C. Rule 17-2.520, Sources Not Subject to Prevention of Significant Deterioration or Nonattainment Requirements; (2) F.A.C. Rule 17-2.610, General Particulate Emission Limiting Standards; and (3) F.A.C. Rule 17-2.620, General Pollutant Emission Limiting Standards.

V. Conclusion

Based on the information provided by Pro-Line Boats, Inc., the Department has reasonable assurance that the proposed project, as proposed herein, will not cause or contribute to a violation of an ambient air quality standard, PSD increment, or any other technical provisions of Chapter 17-2 of the Florida Administrative Code.

P. Shultz #41755
10/31/91



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

PERMITTEE:

Pro-Line Boats, Inc.
Post Office Box 1348
Crystal River, Florida 32629

Permit Number: AC 09-180615

Expiration Date: August 31, 1992

County: Citrus

Latitude/Longitude: 28°50'30"N
82°34'20"W

Project: Fiberglass Boat Plant
(After-the-Fact Construction)

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-2 and 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For after-the-fact construction of a facility to produce fiberglass boats. This facility is located at 1520 South Suncoast Blvd., Homosassa, Citrus County, Florida. The UTM coordinates of this site are Zone 17, 346.6 km E and 3,191 km N.

The source shall be constructed in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

Attachments are listed below:

1. Resubmitted application received on September 25, 1991.

PERMITTEE:
Pro-Line Boats, Inc.

Permit Number: AC 09-180615
Expiration Date: August 31, 1992

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

PERMITTEE:
Pro-Line Boats, Inc.

Permit Number: AC 09-180615
Expiration Date: August 31, 1992

GENERAL CONDITIONS:

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:

- a. Have access to and copy any records that must be kept under the conditions of the permit;
- b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

PERMITTEE:
Pro-Line Boats, Inc.

Permit Number: AC 09-180615
Expiration Date: August 31, 1992

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-30.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. The permittee shall comply with the following:

a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and

PERMITTEE:
Pro-Line Boats, Inc.

Permit Number: AC 09-180615
Expiration Date: August 31, 1992

GENERAL CONDITIONS:

records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the dates analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

14. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SPECIFIC CONDITIONS:

1. The construction and operation of this source shall be in accordance with the capacities and specifications stated in the application.

2. The plant shall be allowed to operate for up to 5,840 hours per year (two 8-hour shifts per day).

3. Visible emissions from the dust collection system shall not be greater than 5% opacity and compliance shall be demonstrated at 90-100% of permitted capacity using DER Method 9 in accordance with F.A.C. Rule 17-2.700.

4. Hydrocarbon emissions (VOC) shall not exceed the following calculated hourly values. Total VOC emissions from the facility shall not exceed 517 lbs/day (30 day average), and 94 tons/year. Compliance shall be demonstrated by applying the following raw material utilization rates and emission factors:

PERMITTEE:
Pro-Line Boats, Inc.

Permit Number: AC 09-180615
Expiration Date: August 31, 1992

SPECIFIC CONDITIONS:

	Utilization Rate (lbs/hr)	VOC Content	Fraction Emitted	VOC Emissions (lbs/hr)
Styrene (Resin - Hand Layup)	133.9	0.4	0.08	4.0
Styrene (Resin - Spray Layup)	66.0	0.4	0.11	2.9
Styrene (Gel Coat - Hand Layup)	26.4	0.34	0.31	2.8
Styrene (Gel Coat - Spray Layup)	13.0	0.34	0.31	1.3
Acetone	20.5	1.0	1.0	20.5
Wax-Golden Liquid	0.5	0.9	1.0	0.5
Lacquer Thinner	0.1	1.0	1.0	0.1
Resin Stripper	0.1	1.0	1.0	0.1

5. Nonvolatile acetone substitutes shall be used to the maximum extent practicable to further reduce the quantity of acetone consumed.

6. No air pollutants shall be discharged which cause or contribute to an objectionable odor (F.A.C. Rule 17-2.620(2)).

7. The dust collector compliance test shall be conducted within 90 days after this permit is issued and the results reported to the Department's Southwest District office before this construction permit expires. The Department shall be notified at least 15 days in advance of the test.

8. VOC compliance shall be demonstrated over a 90-day period and the results reported to the Department's Southwest District office before this construction permit expires. The Department shall be notified at least 15 days in advance of the commencement of the 90-day compliance demonstration period.

PERMITTEE:
Pro-Line Boats, Inc.

Permit Number: AC 09-180615
Expiration Date: August 31, 1992

SPECIFIC CONDITIONS:

9. Six months from the date of the construction permit, the permittee shall submit a plan of action providing reasonable assurance that objectionable odors and toxic air pollutants exceeding acceptable ambient concentrations will not be discharged off of the facility's property boundary or where the public has access, whichever is closest, pursuant to F.A.C. Rules 17-2.200 and 17-2.620(1) and (2). The plan must contain various control system strategies that could be implemented to reduce or eventually eliminate VOC emissions from each type of operation.

10. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit (F.A.C. Rule 17-4.090).

11. An application for an operation permit must be submitted to the Southwest District office at least 90 days prior to the expiration date of this construction permit. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rules 17-4.055 and 17-4.220).

Issued this _____ day
of _____, 1991

**STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION**

STEVE SMALLWOOD, P.E., Director
Division of Air Resources
Management



KOOGLER & ASSOCIATES

ENVIRONMENTAL SERVICES

4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 • FAX 377-7158

KA 412-91-01

October 4, 1991

RECEIVED

OCT 7 1991

Bureau of
Air Regulation

Mr. C.H. Fancy
Florida Department of
Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Subject: Revision of Permit Application
Air Construction Permit AC09-180615

Dear Mr. Fancy:

Enclosed is a copy of Air Construction Permit Application AC09-180615, revised on October 4, 1991 and submitted on behalf of Pro-Line Boats, Inc. This application was originally submitted to the Department in May 1990 and amended and resubmitted in June 1991.

Four copies of this application are being sent to Mr. John Reynolds of your staff.

If you have any questions concerning the enclosed application, please do not hesitate to give me a call.

Very truly yours,

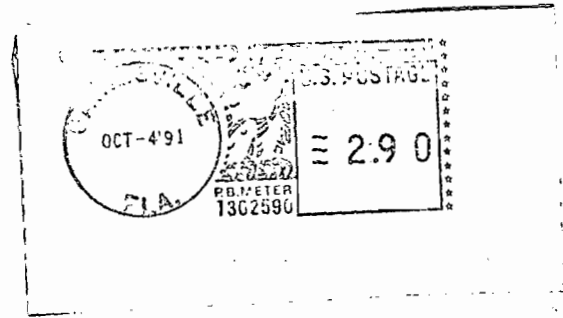
KOOGLER & ASSOCIATES


John B. Koogler, Ph.D., P.E.


JBK:mab

cc: Mr. John Reynolds, FDER, Tallahassee
Mr. Bill Thomas, FDER, Tampa
Mr. Cecil Davis, Pro-Line Boats, Inc.
Mr. Ralph DeMeo, Huey, Gilday, Kuersteiner et al.

C. Holladay
J. Blum



RECEIVED
OCT 07 1991
Division of Air Resources Management


KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES

4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
904/377-5822 • FAX 377-7158

TO:
Mr. C.H. Fancy
Florida Department
of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

FIRST CLASS MAIL

RECEIVED

OCT 7 1991

Bureau of
Air Regulation

A CONSTRUCTION PERMIT APPLICATION
AND SUPPORTING DOCUMENTATION
FOR A BOAT MANUFACTURING FACILITY

Prepared for:

PRO-LINE BOATS, INC
CRYSTAL RIVER, FLORIDA

Prepared by:

ENVIRONMENTAL SCIENCE AND ENGINEERING, INC.
GAINESVILLE, FLORIDA

May 1990

Revised by:

KOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 N.W. 13TH STREET
GAINESVILLE, FL 32609

October 1991

Revised 10/4/91



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1.0 INTRODUCTION

1.1 Background

Pro-Line Boats, Inc., a boat manufacturing facility located in Homosassa, Florida, has been in operation since November 1971. A map showing the location of the plant is provided as Figure 1-1.

Pro-Line Boats submitted an air pollution construction permit application to the Florida Department of Environmental Regulation (FDER) in May 1990 and amended the application in June 1991. Attached is a second amendment incorporation more reliable and updated emission factors (from AP-42) and a more representative materials use estimate (a two year summary - 5/88-4/90).

1.2 Regulatory Requirements

FDER defines "major facility" as a facility which emits or has the potential to emit 100 tons per year or more of any regulated pollutant (except lead and acrylonitrile).

Rule 17-2.500(2)(d), FAC states that PSD review applies to new major facilities that have the potential to emit greater than or equal to 250 tons per year of a regulated pollutant or 100 tons per year or more for facilities which belong to any of the facility categories listed in Table 500-1, FAC. Modification of existing major facilities are subject to PSD review if (1) the existing facility would be subject to PSD review if it

Revised 10/4/91



were itself a proposed new facility, and (2) the modification would result in a significant net emission increase of any regulated pollutant.

Because Pro-Line Boats began operations in November 1971 (prior to January 18, 1972), it is an existing source as defined under Rule 17-2.100(73),FAC. Potential VOC emissions from Pro-Line Boats are less than 100 tons per year based on 1988 AP-42 emission factors. Therefore, the facility is classified as a minor existing facility.

The VOCs released from the Pro-Line polyester resin (fiberglass boat building) activity are styrene and acetone. Both have a low odor threshold and are photoreactive. Currently, there are no standards for styrene or acetone emissions from such processes in the state of Florida. However, there is a FDER policy for controlling toxic emissions from stationary sources. The ambient guidelines established by the Air Toxics Policy are referred to as No Threat Levels (NTLs). An ample margin of safety is incorporated in the NTLs, making them conservative enough to protect the public from simultaneous exposures to multiple air toxics, and from additional exposures to the same toxics through other environmental pathways.

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Figure 1-1
LOCATION OF PRO-LINE BOATS
MANUFACTURING FACILITY

SOURCE: USGS, 1988.

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& ENGINEERING, INC.

2.0 FACILITY DESCRIPTION

2.1 General Description and Layout

Pro-Line Boats builds pleasure boats and components using fiberglass and polyester resin. The manufactured boat components are then coated with gel coat and acrylic paint. Generally, fabrication is conducted during the day shift and coating during the evening shift.

These operations, which release volatile organic compounds (VOCs), are performed in Building No. 1 at the Homosassa plant. Wood and cabinet works, which emit small amounts of particulate matter (PM), are also conducted in Building No. 1. Figure 2-1 displays the facility plot plan showing locations of the buildings.

2.2 Emission Points

Building No. 1 is divided into two large rooms where the fabricating and coating operations take place. Proper ventilation to meet applicable industrial hygiene standards is accomplished by using seven large exhaust fans which draw air from the building (see Figure 2-2). The doors are left open to allow replacement air to flow into the building. The building also has eleven roof vents to aid ventilation, but the effectiveness of these openings without assistance from the fans is questionable. Chemical usages are shown in Table 2-1, and specifications of the exhaust fans are as follows:

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Number of fans - 7
Fan Diameter - 4 feet
Height of discharge above grade - 6 feet
Volume of air moved per fan - 21,925 cubic feet/min
Temperature of air - Ambient
Exit velocity - 29 feet/sec

Wood working (cabinet shop) takes place at the northeast corner, and molding repairs are done at the southeast corner of Building No. 1. There are two canister-type dust collectors pulling air from the wood working areas. These collectors use filters which are similar to the ones used in home vacuum cleaners and are cleaned or replaced as needed (typically three times a day).

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TABLE 2-1
SUMMARY OF MATERIALS USAGE
PRO-LINE BOATS, INC.
CRYSTAL RIVER, FLORIDA

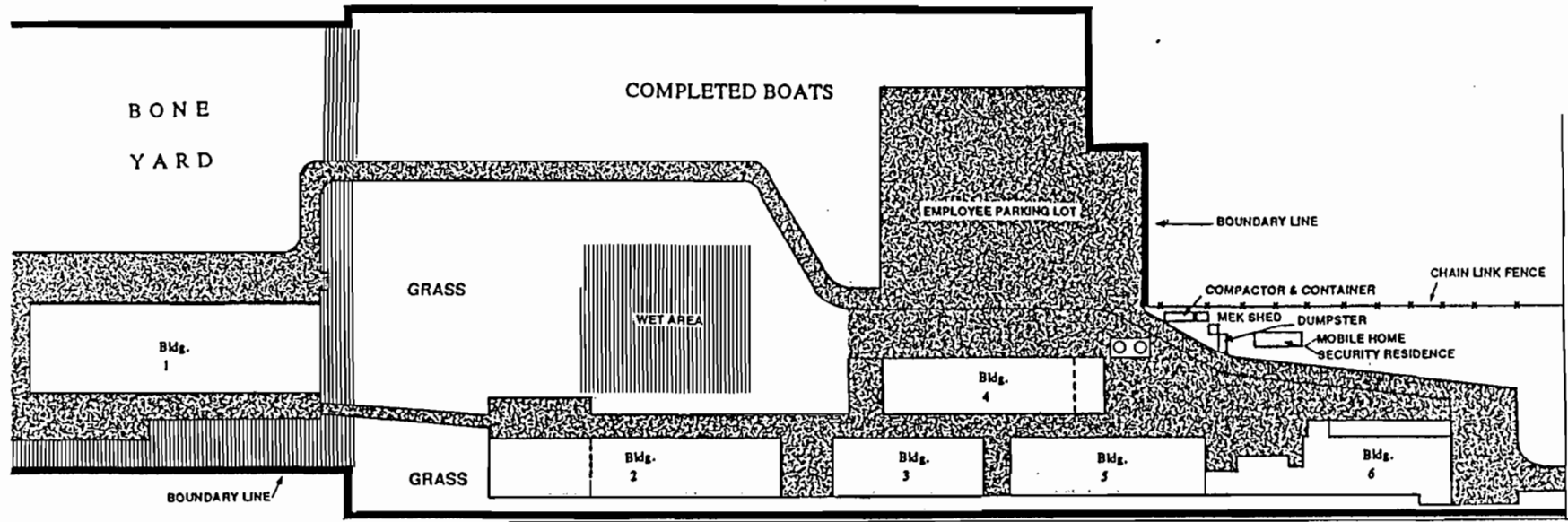
Material	Reported Usage		Density (lb/gal)	Avg. Annual Use(1) (tons/yr)	VOC Content (wt. fraction)
	5/88-4/89	5/89-4/90			
Polyester Resin	1,005,720	1,302,200 lb	9.2	577.0	0.40
Tooling Resin	13,500	12,500 lb	9.2	<u>6.5</u>	<u>0.40</u>
RESIN TOTAL				583.5	0.40
Gel-Coat	227,118	233,631 lb	10.8	115.2	0.34
Acetone	19,457	17,260 gal	6.5	59.7	1.00
Resin Stripper	100	60 gal	10.8	0.4	0.98
Foam Gun Cleaner	NR	100 gal	8.5	0.4	0.01
Lacquer Thinner	NR	75 gal(2)	6.9	0.4	1.00
Wax, Golden Liquid	352	495 gal	7.2	1.5	0.90

(1) Average over the two year period 5/88 - 4/90.

(2) Use during the 8 month period 1/90 - 8/90.

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NO SCALE

N

KEY

PAVED

WET AREA

Figure 2-1
PRO-LINE BOAT MANUFACTURING
FACILITIES PLOT PLAN

SOURCE: PRO-LINE BOATS, 1990.

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& ENGINEERING, INC.

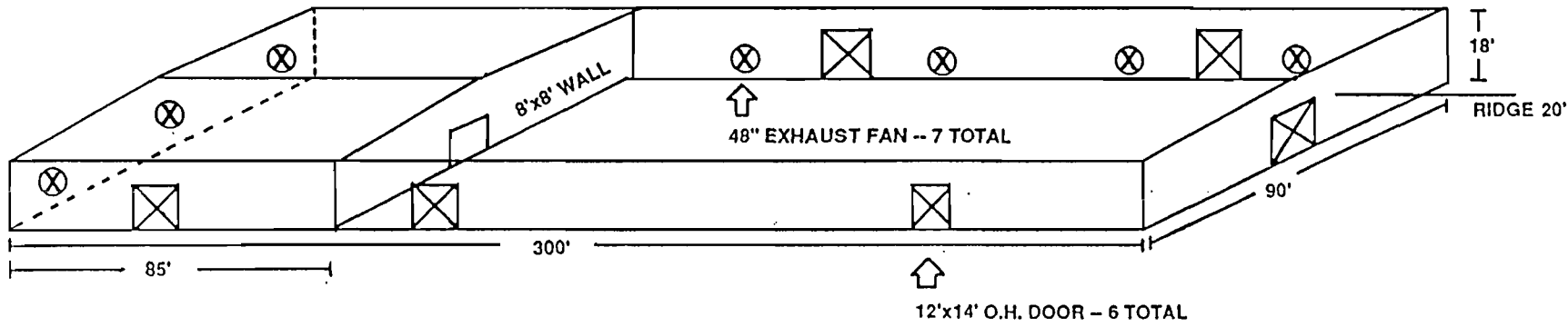


Figure 2-2
BUILDING NO. 1
VENTILATION ARRANGEMENT

SOURCE: PRO-LINE BOATS, 1990.

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& ENGINEERING, INC.

3.0 TECHNICAL APPROACH

In 1988, VOC emission factors for fiberglass impregnation and fabrication processes were published by EPA as Section 4.12 of publication AP-42. A copy of this section is attached.

A source impact analysis was also performed to demonstrate that ambient air quality guidelines (NTLs) will not be exceeded. Dispersion modeling was performed using the latest available Industrial Source Complex (ISC) model (EPA, 1987. Section 6.0 discusses model inputs and results in detail.

Revised 10/4/91



4.12 POLYESTER RESIN PLASTICS PRODUCT FABRICATION

4.12.1 General Description¹⁻²

A growing number of products are fabricated from liquid polyester resin reinforced with glass fibers and extended with various inorganic filler materials such as calcium carbonate, talc, mica or small glass spheres. These composite materials are often referred to as fiberglass reinforced plastic (FRP), or simply "fiberglass". The Society Of The Plastics Industry designates these materials as "reinforced plastics/composites" (RP/C). Also, advanced reinforced plastics products are now formulated with fibers other than glass, such as carbon, aramid and aramid/carbon hybrids. In some processes, resin products are fabricated without fibers. One major product using resins with fillers but no reinforcing fibers is the synthetic marble used in manufacturing bathroom countertops, sinks and related items. Other applications of nonreinforced resin plastics include automobile body filler, bowling balls and coatings.

Fiber reinforced plastics products have a wide range of application in industry, transportation, home and recreation. Industrial uses include storage tanks, skylights, electrical equipment, ducting, pipes, machine components, and corrosion resistant structural and process equipment. In transportation, automobile and aircraft applications are increasing rapidly. Home and recreational items include bathroom tubs and showers, boats (building and repair), surfboards and skis, helmets, swimming pools and hot tubs, and a variety of sporting goods.

The thermosetting polyester resins considered here are complex polymers resulting from the cross-linking reaction of a liquid unsaturated polyester with a vinyl type monomer, most often styrene. The unsaturated polyester is formed from the condensation reaction of an unsaturated dibasic acid or anhydride, a saturated dibasic acid or anhydride, and a polyfunctional alcohol. Table 4.12-1 lists the most common compounds used for each component of the polyester "backbone", as well as the principal cross-linking monomers. The chemical reactions that form both the unsaturated polyester and the cross-linked polyester resin are shown in Figure 4.12-1. The emission factors presented here apply to fabrication processes that use the finished liquid resins (as received by fabricators from chemical manufacturers), and not to the chemical processes used to produce these resins. (See Chapter 5, Chemical Process Industry.)

In order to be used in the fabrication of products, the liquid resin must be mixed with a catalyst to initiate polymerization into a solid thermoset. Catalyst concentrations generally range from 1 to 2 percent by original weight of resin; within certain limits, the higher the catalyst concentration, the faster the cross-linking reaction proceeds. Common catalysts are organic peroxides, typically methyl ethyl ketone peroxide or benzoyl peroxide. Resins may contain inhibitors, to avoid self curing during resin storage, and promoters, to allow polymerization to occur at lower temperatures.

TABLE 4.12-1. TYPICAL COMPONENTS OF RESINS

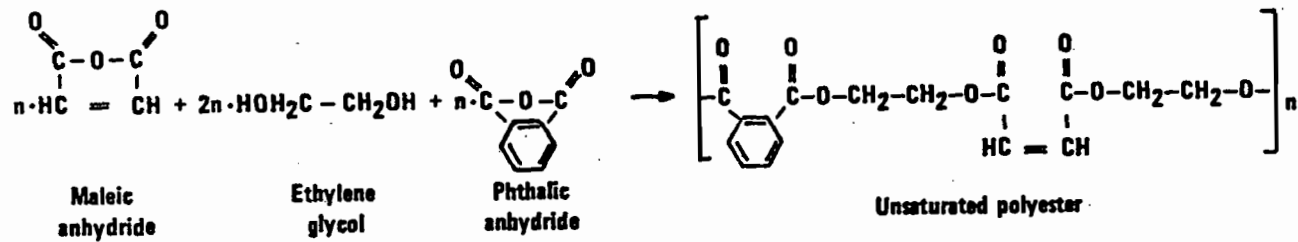
To Form the Unsaturated Polyester		
<u>Unsaturated Acids</u>	<u>Saturated Acids</u>	<u>Polyfunctional Alcohols</u>
Maleic anhydride Fumaric acid	Phthalic anhydride Isophthalic acid Adipic acid	Propylene glycol Ethylene glycol Diethylene glycol Dipropylene glycol Neopentyl glycol Pentaerythritol
Cross-linking Agents (Monomers)		
Styrene Methyl methacrylate Vinyl toluene Vinyl acetate Diallyl phthalate Acrylamide 2-ethyl hexylacrylate		

The polyester resin/fiberglass industry consists of many small facilities (such as boat repair and small contract firms) and relatively few large firms that consume the major fraction of the total resin. Resin usage at these operations ranges from less than 5,000 kilograms per year to over 3 million kilograms per year.

Reinforced plastics products are fabricated using any of several processes, depending on their size, shape and other desired physical characteristics. The principal processes include hand layup, spray layup (sprayup), continuous lamination, pultrusion, filament winding and various closed molding operations.

Hand layup, using primarily manual techniques combined with open molds, is the simplest of the fabrication processes. Here, the reinforcement is manually fitted to a mold wetted with catalyzed resin mix, after which it is saturated with more resin. The reinforcement is in the form of either a chopped strand mat, a woven fabric or often both. Layers of reinforcement and resin are added to build the desired laminate thickness. Squeegees, brushes and rollers are used to smooth and compact each layer as it is applied. A release agent is usually first applied to the mold to facilitate removal of the composite. This is often a wax, which can be treated with a water soluble barrier coat such as polyvinyl alcohol to promote paint adhesion on parts that are to be painted. In many operations,

REACTION 1



REACTION 2

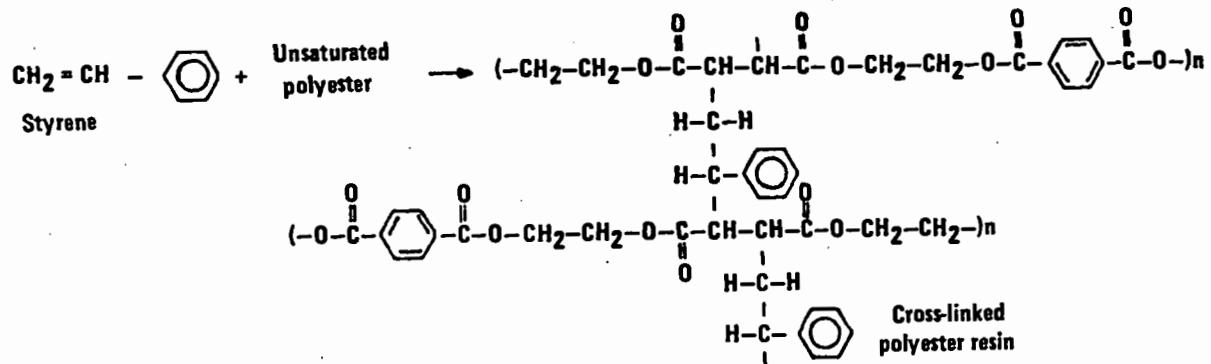


Figure 4.12-1. Typical reactions for unsaturated polyester and polyester resin formation.

the mold is first sprayed with gel coat, a clear or pigmented resin mix that forms the smooth outer surface of many products. Gel coat spray systems consist of separate sources of resin and catalyst, with an airless hand spray gun that mixes them together into an atomized resin/catalyst stream. Typical products are boat hulls and decks, swimming pools, bathtubs and showers, electrical consoles and automobile components.

Spray layup, or "sprayup", is another open mold process, differing from hand layup in that it uses mechanical spraying and chopping equipment for depositing the resin and glass reinforcement. This process allows a greater production rate and more uniform parts than does hand layup, and often uses more complex molds. As in hand layup, gel coat is frequently applied to the mold before fabrication to produce the desired surface qualities. It is common practice to combine hand layup and sprayup operations.

For the reinforced layers, a device is attached to the sprayer system to chop glass fiber "roving" (uncut fiber) into predetermined lengths and project it to merge with the resin mix stream. The stream precoats the chop, and both are deposited simultaneously to the desired layer thickness on the mold surface (or on the gel coat that was applied to the mold). Layers are built up and rolled out on the mold as necessary to form the part. Products manufactured by sprayup are similar to those made by hand layup, except that more uniform and complex parts can generally be produced more efficiently with sprayup techniques. However, compared to hand layup, more resin generally is used to produce similar parts by spray layup because of the inevitable overspray of resin during application.

Continuous lamination of reinforced plastics materials involves impregnating various reinforcements with resins on an in-line conveyor. The resulting laminate is cured and trimmed as it passes through the various conveyor zones. In this process, the resin mix is metered onto a bottom carrier film, using a blade to control thickness. This film, which defines the panel's surface, is generally polyester, cellophane or nylon, and may have a smooth, embossed or matte surface. Methyl methacrylate is sometimes used as the cross-linking agent, either alone or in combination with styrene, to increase strength and weather resistance. Chopped glass fibers free-fall into the resin mix and are allowed to saturate with resin, or "wet out". A second carrier film is applied on top of the panel before subsequent forming and curing. The cured panel is then stripped of its films, trimmed and cut to the desired length. Principal products include translucent industrial skylights and greenhouse panels, wall and ceiling liners for food areas, garage doors and cooling tower louvers. Figure 4.12-2 shows the basic elements of a continuous laminating production line.

Pultrusion, which can be thought of as extrusion by pulling, is used to produce continuous cross-sectional lineals similar to those made by extruding metals such as aluminum. Reinforcing fibers are pulled through a liquid resin mix bath and into a long machined steel die, where heat initiates an exothermic reaction to polymerize the thermosetting resin matrix. The composite profile emerges from the die as a hot, constant cross-sectional that cools sufficiently to be fed into a clamping and pulling mechanism. The product can then be cut to desired lengths. Example products include electrical insulation materials, ladders, walkway gratings, structural supports, and rods and antennas.

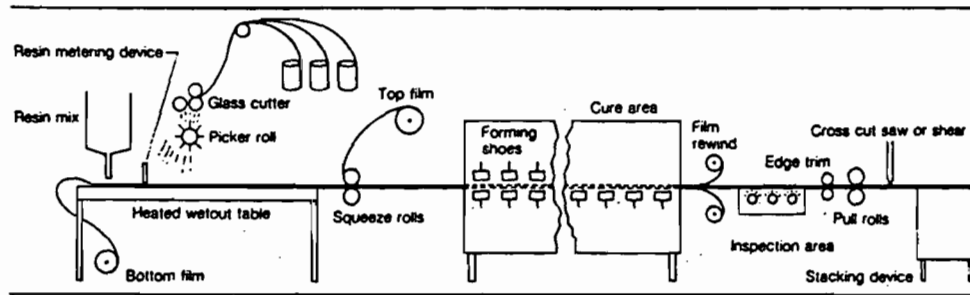


Figure 4.12-2. Typical continuous lamination production process.²

Filament winding is the process of laying a band of resin impregnated fibers onto a rotating mandrel surface in a precise geometric pattern, and curing them to form the product. This is an efficient method of producing cylindrical parts with optimum strength characteristics suited to the specific design and application. Glass fiber is most often used for the filament, but aramid, graphite, and sometimes boron and various metal wires may be used. The filament can be wetted during fabrication, or previously impregnated filament ("prepreg") can be used. Figure 4.12-3 shows the filament winding process, and indicates the three most common winding patterns. The process illustration depicts circumferential winding, while the two smaller pictures show helical and polar winding. The various winding patterns can be used alone or in combination to achieve the desired strength and shape characteristics. Mandrels are made of a wide variety of materials and, in some applications, remain inside the finished product as a liner or core. Example products are storage tanks, fuselages, wind turbine and helicopter blades, and tubing and pipe.

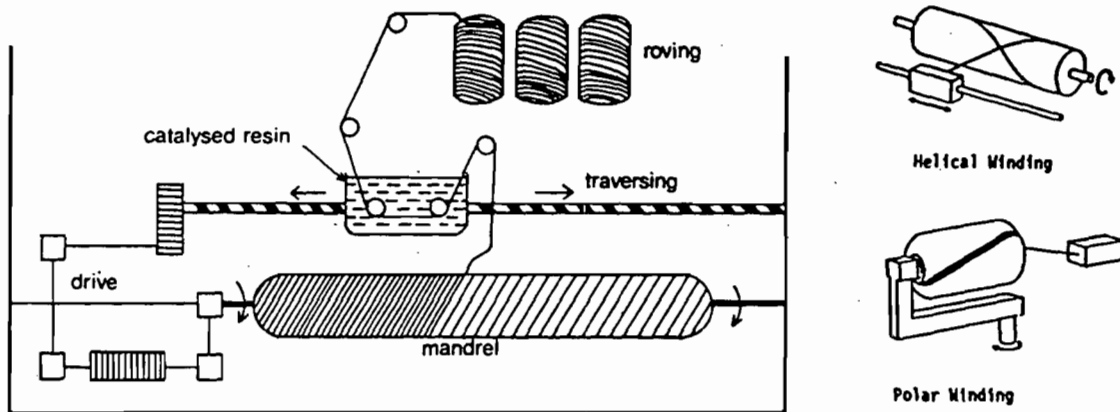


Figure 4.12-3. Typical filament winding process.³

Closed, such as compression or injection, molding operations involve the use of two matched dies to define the entire outer surface of the part. When closed and filled with a resin mix, the matched die mold is subjected to heat and pressure to cure the plastic. For the most durable production configuration, hardened metal dies are used (matched metal molding). Another closed molding process is vacuum or pressure bag molding. In bag molding, a hand layup or sprayup is covered with a plastic film, and vacuum or pressure is applied to rigidly define the part and improve surface quality. The range of closed molded parts includes tool and appliance housings, cookware, brackets and other small parts, and automobile body and electrical components.

Synthetic marble casting, a large segment of the resin products industry, involves production of bathroom sinks, vanity tops, bathtubs and accessories using filled resins that have the look of natural marble. No reinforcing fibers are used in these products. Pigmented or clear gel coat can either be applied to the mold itself or sprayed onto the product after casting to simulate the look of natural polished marble. Marble casting can be an open mold process, or it may be considered a semiclosed process if cast parts are removed from a closed mold for subsequent gel coat spraying.

4.12.2 Emissions And Controls

Organic vapors consisting of volatile organic compounds (VOC) are emitted from fresh resin surfaces during the fabrication process and from the use of solvents (usually acetone) for cleanup of hands, tools, molds and spraying equipment. Cleaning solvent emissions can account for over 36 percent of the total plant VOC emissions.⁴ There also may be some release of particulate emissions from automatic fiber chopping equipment, but these emissions have not been quantified.

Organic vapor emissions from polyester resin/fiberglass fabrication processes occur when the cross-linking agent (monomer) contained in the liquid resin evaporates into the air during resin application and curing. Styrene, methyl methacrylate and vinyl toluene are three of the principal monomers used as cross-linking agents. Styrene is by far the most common. Other chemical components of resins are emitted only at trace levels, because they not only have low vapor pressures but also are substantially converted to polymers.⁵⁻⁶

Since emissions result from evaporation of monomer from the uncured resin, they depend upon the amount of resin surface exposed to the air and the time of exposure. Thus, the potential for emissions varies with the manner in which the resin is mixed, applied, handled and cured. These factors vary among the different fabrication processes. For example, the spray layup process has the highest potential for VOC emissions because the atomization of resin into a spray creates an extremely large surface area from which volatile monomer can evaporate. By contrast, the emission potential in synthetic marble casting and closed molding operations is considerably lower, because of the lower monomer content in the casting resins (30 to 38 percent, versus about 43 percent) and of the enclosed nature of these molding operations. It has been found that styrene

evaporation increases with increasing gel time, wind speed and ambient temperature, and that increasing the hand rolling time on a hand layup or sprayup results in significantly higher styrene losses.¹ Thus, production changes that lessen the exposure of fresh resin surfaces to the air should be effective in reducing these evaporation losses.

In addition to production changes, resin formulation can be varied to affect the VOC emission potential. In general, a resin with lower monomer content should produce lower emissions. Evaluation tests with low-styrene-emission laminating resins having a 36 percent styrene content found a 60 to 70 percent decrease in emission levels, compared to conventional resins (42 percent styrene), with no sacrifice in the physical properties of the laminate.⁷ Vapor suppressing agents also are sometimes added to resins to reduce VOC emissions. Most vapor suppressants are paraffin waxes, stearates or polymers of proprietary composition, constituting up to several weight percent of the mix. Limited laboratory and field data indicate that vapor suppressing resins reduce styrene losses by 30 to 70 percent.⁷⁻⁸

Emission factors for several fabrication processes using styrene content resins have been developed from the results of facility source tests (B Rating) and laboratory tests (C Rating), and through technology transfer estimations (D Rating).¹ Industry experts also provided additional information that was used to arrive at the final factors presented in Table 4.12-2.⁶ Since the styrene content varies over a range of approximately 30 to 50 weight percent, these factors are based on the quantity of styrene monomer used in the process, rather than on the total amount of resin used. The factors for vapor-suppressed resins are typically 30 to 70 percent of those for regular resins. The factors are expressed as ranges, because of the observed variability in source and laboratory test results and of the apparent sensitivity of emissions to process parameters.

Emissions should be calculated using actual resin monomer contents. When specific information about the percentage of styrene is unavailable, the representative average values in Table 4.12-3 should be used. The sample calculation illustrates the application of the emission factors.

Sample Calculation - A fiberglass boat building facility consumes an average of 250 kg per day of styrene-containing resins using a combination of hand layup (75%) and spray layup (25%) techniques. The laminating resins for hand and spray layup contain 41.0 and 42.5 weight percent, respectively, of styrene. The resin used for hand layup contains a vapor-suppressing agent.

From Table 4.12-2, the factor for hand layup using a vapor-suppressed resin is 2 - 7 (0.02 to 0.07 fraction of total styrene emitted); the factor for spray layup is 9 - 13 (0.09 to 0.13 fraction emitted). Assume the midpoints of these emission factor ranges.

Total VOC emissions are:

$$(250 \text{ kg/day}) [(0.41)(0.045)(0.75) + (0.425)(0.11)(0.25)] \\ = 6.4 \text{ kg/day.}$$

TABLE 4.12-2. EMISSION FACTORS FOR UNCONTROLLED POLYESTER RESIN PRODUCT FABRICATION PROCESSES^a

(100 x mass of VOC emitted/mass of monomer input)

Process	Resin		Emission Factor Rating	Gel Coat		Emission Factor Rating
	NVS	VS ^b		NVS	VS ^b	
Hand layup	5 - 10	2 - 7	C	26 - 35	8 - 25	D
Spray layup	9 - 13	3 - 9	B	26 - 35	8 - 25	B
Continuous lamination	4 - 7	1 - 5	B	c	c	--
Pultrusion ^d	4 - 7	1 - 5	D	c	c	--
Filament winding ^e	5 - 10	2 - 7	D	c	c	--
Marble casting	1 - 3	1 - 2	B	f	f	--
Closed molding ^g	1 - 3	1 - 2	D	c	c	--

Use 30.5%

Use 7.5%

Use 11.0%

^aReference 9. Ranges represent the variability of processes and sensitivity of emissions to process parameters. Single value factors should be selected with caution. NVS = nonvapor-suppressed resin. VS = vapor-suppressed resin.

^bFactors are 30-70% of those for nonvapor-suppressed resins.

^cGel coat is not normally used in this process.

^dResin factors for the continuous lamination process are assumed to apply.

^eResin factors for the hand layup process are assumed to apply.

^fFactors unavailable. However, when cast parts are subsequently sprayed with gel coat, hand and spray layup gel coat factors are assumed to apply.

^gResin factors for marble casting, a semiclosed process, are assumed to apply.

TABLE 4.12-3. TYPICAL RESIN STYRENE PERCENTAGES

Use data from MSDS

Resin Application	Resin Styrene Content ^a (wgt. %)
Hand layup	43
Spray layup	43
Continuous lamination	40
Filament winding	40
Marble casting	32
Closed molding	35
Gel coat	35

^aMay vary by at least +5 percentage points.

Emissions from use of gel coat would be calculated in the same manner. If the monomer content of the resins were unknown, a representative value of 43 percent could be selected from Table 4.12-3 for this process combination. It should be noted that these emissions represent evaporation of styrene monomer only, and not of acetone or other solvents used for clean-up.

In addition to process changes and materials substitution, add-on control equipment can be used to reduce vapor emissions from styrene resins. However, control equipment is infrequently used at RP/C fabrication facilities, due to low exhaust VOC concentrations and the potential for contamination of adsorbent materials. Most plants use forced ventilation techniques to reduce worker exposure to styrene vapors, but vent the vapors directly to the atmosphere with no attempt at collection. At one continuous lamination facility where incineration was applied to vapors vented from the impregnation table, a 98.6 percent control efficiency was measured.¹ Carbon adsorption, absorption and condensation also have been considered for recovering styrene and other organic vapors, but these techniques have not been applied to any significant extent in this industry.

Emissions from cleanup solvents can be controlled through good house-keeping and use practices, reclamation of spent solvent, and substitution with water based solvent substitutes.

References for Section 4.12

1. M. B. Rogozen, Control Techniques for Organic Gas Emissions from Fiberglass Impregnation and Fabrication Processes, ARB/R-82/165, California Air Resources Board, Sacramento, CA, (NTIS PB82-251109), June 1982.
2. Modern Plastics Encyclopedia, 1986-1987, 63 (10A), October 1986.
3. C. A. Brighton, G. Pritchard and G. A. Skinner, Styrene Polymers: Technology and Environmental Aspects, Applied Science Publishers, Ltd., London, 1979.
4. M. Elsherif, Staff Report, Proposed Rule 1162 - Polyester Resin Operations, South Coast Air Quality Management District, Rule Development Division, El Monte, CA, January 23, 1987.
5. M. S. Crandall, Extent of Exposure to Styrene in the Reinforced Plastic Boat Making Industry, Publication No. 82-110, National Institute For Occupational Safety And Health, Cincinnati, OH, March 1982.
6. Written communication from R. C. Lepple, Aristech Chemical Corporation, Polyester Unit, Linden, NJ, to A. A. MacQueen, U.S. Environmental Protection Agency, Research Triangle Park, NC, September 16, 1987.
7. L. Walewski and S. Stockton, "Low-Styrene-Emission Laminating Resins Prove It in the Workplace", Modern Plastics, 62(8):78-80, August 1985.

8. M. J. Duffy, "Styrene Emissions - How Effective Are Suppressed Polyester Resins?", Ashland Chemical Company, Dublin, OH, presented at 34th Annual Technical Conference, Reinforced Plastics/Composites Institute, The Society Of The Plastics Industry, 1979.
9. G. A. LaFlam, Emission Factor Documentation for AP-42 Section 4.12: Polyester Resin Plastics Product Fabrication, Pacific Environmental Services, Inc., Durham, NC, November 1987.

SECTION 4.0
PERMIT APPLICATION

Revised 10/4/91



Florida Department of Environmental Regulation
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

DER Form # _____
Form Title _____
Effective Date _____
DER Application No. _____
Filed in by DER _____

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Boat Manufacturing Facility [] New¹ [X] Existing¹

APPLICATION TYPE: [X] Construction [] Operation [] Modification

COMPANY NAME: Pro-Line Boats COUNTY: Citrus

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) Bldg. #6 Boat Fabrication

SOURCE LOCATION: Street 1520 South Suncoast Boulevard City Homosassa

UTM: East 346.609 km North 3191.248 km

Latitude 28 ° 50 ' 30 "N Longitude 82 ° 34 ' 20 "W

APPLICANT NAME AND TITLE: Mr. Ken Hall, President and CEO

APPLICANT ADDRESS: P.O. Box 1348, Crystal River, FL 32629

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Pro-Line Boats

I certify that the statements made in this application for a construction permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: Original Application Signed by Applicant

Ken Hall, President and CEO.
Name and Title (Please Type)

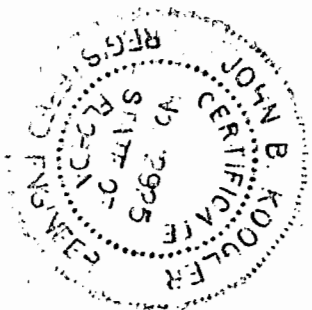
Date: _____ Telephone No. (904) 795-4111

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that

¹ See Florida Administrative Code Rule 17-2.100(57) and (104)

the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.



Signed _____

John B. Koogler, Ph.D., P.E.

Name (Please Type)

Koogler & Associates, Environmental Services

Company Name (Please Type)

4014 N.W. 13th Street, Gainesville, FL 32609

Mailing Address (Please Type)

Florida Registration No. 12925 Date: 10/4/91 Telephone No. (904) 377-5822

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

See Section 1.0

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction _____ Completion of Construction _____

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

E. Requested permitted equipment operating time: hrs/day 16 ; days/wk 7 ; wks/yr 52 ;
if power plant, hrs/yr _____ ; if seasonal, describe: _____

F. If this is a new source or major modification, answer the following questions..
(Yes or No)

See Section 1.2

1. Is this source in a non-attainment area for a particular pollutant? No
a. If yes, has "offset" been applied? _____
b. If yes, has "Lowest Achievable Emission Rate" been applied? _____
c. If yes, list non-attainment pollutants. _____
2. Does best available control technology (BACT) apply to this source?
If yes, see Section VI. No
3. Does the State "Prevention of Significant Deterioration" (PSD)
requirement apply to this source? If yes, see Sections VI and VII. No
4. Do "Standards of Performance for New Stationary Sources" (NSPS)
apply to this source? No
5. Do "National Emission Standards for Hazardous Air Pollutants"
(NESHAP) apply to this source? No
- H. Do "Reasonably Available Control Technology" (RACT) requirements apply
to this source? No
a. If yes, for what pollutants? _____
b. If yes, in addition to the information required in this form,
any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any justifi-
cation for any answer of "No" that might be considered questionable.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

See Table 2-1

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): Not Applicable

2. Product Weight (lbs/hr): Not Applicable

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Name of Contaminant	Emission ¹		Allowed Emission Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
VOC (1)	32.29	94.0	NA	NA	32.29	94.0	Bldg I-Fans
PM (1)	0.11	0.32	NA	NA	11.09	32.4	
(1) See Section 5.0 for details; including Tables 5-1 and 5-2.							

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

D. Control Devices: (See Section V, Item 4) None

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)

E. Fuels Not Applicable

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating. Not Applicable

Annual Average _____ Maximum _____

G. Indicate liquid or solid wastes generated and method of disposal.

Hazardous waste is handled through FDER approved processing procedures. Non-hazardous

solid waste is handled in compliance with applicable state and local regulations.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: _____ ft. Stack Diameter: _____ ft.
 Gas Flow Rate: _____ ACFM _____ DSCFM Gas Exit Temperature: _____ °F.
 Water Vapor Content: _____ % Velocity: _____ FPS

Exhaust fan data is provided in Section 2.2.

SECTION IV: INCINERATOR INFORMATION

Not Applicable

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq. & Gas By-prbd.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ day/wk _____ wks/yr. _____

Manufacturer _____

Date Constructed _____ Model No. _____

	Volume (ft) ³	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diameter: _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: Cyclone Wet Scrubber Afterburner
 Other (specify) _____

Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)] N/A
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
Section 5.0
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test). Section 3.0
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
Figures 1-1, 2-1
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.
Figure 2-2

9. The appropriate application fee in accordance with Rule 17-4.05. The check should be made payable to the Department of Environmental Regulation.
10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY Not Applicable

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?

Yes No

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy)

Yes No

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

D. Describe the existing control and treatment technology (if any).

1. Control Device/System:

2. Operating Principles:

3. Efficiency:*

4. Capital Costs:

*Explain method of determining

- 5. Useful Life:
- 7. Energy:
- 9. Emissions:

- 6. Operating Costs:
- 8. Maintenance Cost:

Contaminant	Rate or Concentration

10. Stack Parameters

- a. Height: ft. b. Diameter: ft.
- c. Flow Rate: ACFM d. Temperature: °F.
- e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

- a. Control Device: b. Operating Principles:
- c. Efficiency:¹ d. Capital Cost:
- e. Useful Life: f. Operating Cost:
- g. Energy:² h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

- a. Control Device: b. Operating Principles:
- c. Efficiency:¹ d. Capital Cost:
- e. Useful Life: f. Operating Cost:
- g. Energy:² h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Costs:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

- 1. Control Device:
- 2. Efficiency:¹
- 3. Capital Cost:
- 4. Useful Life:
- 5. Operating Cost:
- 6. Energy:²
- 7. Maintenance Cost:
- 8. Manufacturer:
- 9. Other locations where employed on similar processes:
- a. (1) Company:
- (2) Mailing Address:
- (3) City:
- (4) State:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant

Rate or Concentration

(8) Process Rate:¹

b. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant

Rate or Concentration

(8) Process Rate:¹

10. Reason for selection and description of systems:

¹Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION Not Applicable

A. Company Monitored Data

1. _____ no. sites _____ TSP _____ () SO₂+ _____ Wind spd/dir

Period of Monitoring _____ / _____ / _____ to _____ / _____ / _____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

*Specify bubbler (B) or continuous (C).

2. Instrumentation, Field and Laboratory

- a. Was instrumentation EPA referenced or its equivalent? [] Yes [] No
b. Was instrumentation calibrated in accordance with Department procedures?
[] Yes [] No [] Unknown

B. Meteorological Data Used for Air Quality Modeling

1. _____ Year(s) of data from _____ / _____ / _____ to _____ / _____ / _____
month day year month day year
2. Surface data obtained from (location) _____
3. Upper air (mixing height) data obtained from (location) _____
4. Stability wind rose (STAR) data obtained from (location) _____

C. Computer Models Used

1. _____ Modified? If yes, attach description.
2. _____ Modified? If yes, attach description.
3. _____ Modified? If yes, attach description.
4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
TSP	_____ grams/sec
SO ²	_____ grams/sec

E. Emission Data Used in Modeling

Attach list of emission sources. Emission data required is source name, description of point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

5.0 EMISSION RATE CALCULATIONS

Potential VOC emission rates from the facility, based on material consumption rates, are estimated using the following general equation:

$$E = \sum_1^{n-i} (U_i \times C_i \times EF_i)$$

where E = VOC emissions, tons/year

U_i = annual usage rate of material i, tons/year (Table 2-1)

C_i = fraction of VOC in the material i, wt%/100 (Table 2-1)

EF_i = emission factor for process combination (AP-42, Sect.4-12)

n = number of different materials

Potential emission rates, as defined in the FDER permit application form, represent uncontrolled emissions. In the case of Pro-Line Boats, potential VOC emissions are equal to actual emissions. Details of the emission rates are presented in Table 5-1 and 5-2.

VOC emission factors are based upon the quantity of styrene monomer rather than the amount of resin/gel coat which can have a wide range of volatile monomer content. All of the VOC emissions from the resin and gel coat are treated as styrene which is by far the primary cross-linking agent. Release factors for acetone and other solvents are conservatively assumed as 1.0, or 100%.



Particulate emissions are calculated by using the daily sawdust production rate and assuming a control efficiency of 99.99 percent.

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TABLE 5-1
SUMMARY OF VOC EMISSIONS
PRO-LINE BOATS, INC.
CRYSTAL RIVER, FLORIDA

Material	Annual Usage (tons/yr)	VOC Content (wt. fraction)	Fraction VOC Released (%)	VOC Emissions	
				(tpy)	(lb/hr)(2)
Resin					
Hand layup (67%)	390.9	0.40	7.5(1)	11.7	4.02
Spray layup (33%)	<u>192.6</u>	0.40	11.0(1)	8.5	2.92
TOTAL	583.5				
Gel-Coat					
Hand layup (67%)	77.2	0.34	30.5(1)	8.0	2.75
Spray layup (33%)	<u>38.0</u>	0.34	30.5(1)	3.9	1.34
TOTAL	115.2				
Acetone	59.7	1.00	100	59.7	20.50
Resin Stripper	0.4	0.98	100	0.4	0.14
Foam Gun Cleaner	0.4	0.01	100	0.0	0.00
Lacquer Thinner	0.4	1.00	100	0.4	0.14
Wax, Golden Liquid	1.5	0.90	100	1.4	0.48
TOTAL				94.0	32.29

(1) Emission factors from AP-42, Sect. 4.12, Table 4.12-2.

(2) Based on two 8-hour shifts per day, 7 day/wk, 52 wk/yr.

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TABLE 5-2
 SUMMARY OF PARTICULATE MATTER EMISSIONS
 PRO-LINE BOATS, INC.
 CRYSTAL RIVER, FLORIDA

Process	Daily Output (lb/day)	Filter Efficiency (%)	Emission Rate	
			ton/yr	lb/hr*
Wood Shop	177.5	99.99	0.32	0.11

*Based on 16 hours/day, 7 days/week, 52 weeks/year

SOURCE: ESE, 1991



6.0 SOURCE IMPACT ANALYSIS

For air quality modeling purposes, the areas within a 3-km radius surrounding Pro-Line Boats, Inc. would be classified as rural and as having "simple" terrain. For a modeling application of this type, Industrial Source Complex (ISC) model is considered appropriate. The ISC model is a steady-state Gaussian plume model that can be used to assess air quality impacts from a wide variety of sources. It is capable of calculating concentrations for averaging times ranging from 1-hour to annual. The latest short-term version of ISC (ISC-ST) is used for this study for the following reasons:

1. It is an EPA approved model;
2. It is generally the most commonly used model;
3. It is capable of predicting impacts from multiple sources (including stack, area, and volume sources) that are distributed over large areas;
4. It is appropriate in areas of flat or gently rolling terrain;
5. Rural or urban mode can be selected; and
6. Either cartesian or polar receptor coordinate grids can be used.

Meteorological data used in the study is 1986 surface and upper air/mixing height data from Tampa International Airport. This data was obtained from FDER and would be representative of conditions of Pro-Line Boats. Tampa

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International Airport is located approximately 55 miles south of Homosassa.

A polar coordinate receptor system is used with its center at the southeast corner of Building 6. Radials are placed in 10* increments surrounding the facility. Starting from the property boundary, rings are located at 25-meter increments to 100 meters, then at 50-meter increments to 500 meters, then at 100-meter increments to 1000 meters, and finally at 1000-meter increments to 10,000 meters. Additional receptors are sited along the property boundary (fence line).

All of the vents are treated as point sources, and styrene emissions are analyzed. The regulatory default option, which is recommended by EPA, was turned on. The use of this option automatically selects appropriate wind profile exponents and other model parameters. Downwash effects are included using GEP (Version 1.21), a computer program developed by Bowman Environmental Engineering in Dallas Texas, to evaluate directional downwash.

Results of the dispersion modeling are presented in Table 6-1.

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TABLE 6-1
SUMMARY OF HIGHEST OFF-SITE AMBIENT IMPACTS

VOC	Averaging Time	Maximum Concentration ($\mu\text{g}/\text{m}^3$)	No Threat Level ($\mu\text{g}/\text{m}^3$)	Location (meters/degrees)
Styrene	8	111	2,150	159/310
	24	38	516	159/310
Acetone	8	206	35,600	159/310
	24	70	8,544	159/310
Other	8	8	NA	159/310
	24	3	NA	159/310

Revised 10/4/91





MATERIAL SAFETY DATA SHEET

REICHOLD CHEMICALS, INC.
Reactive Polymers Division
800 Capitola Drive
Research Triangle Park
Durham, NC 27713

Information Telephone No. 919-544-9225

ALL CHEMICAL EMERGENCIES
1-800-424-9300

Issue Date: 02/05/90

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SECTION I - PRODUCT IDENTIFICATION

Product Code: 33-210-00
Trade Name: Polyurethane 33-236-00
Product Class: Unsaturated Polyester
C.A.S. Number: Mixture

RESIN

SECTION II - INGREDIENTS

Ingredients	CAS #	Weight max. %	Exposure Limits
Polyester resin	Proprietary	65.0	None assigned
Styrene Monomer	100-42-5	45.0	50.0 ppm

SECTION III - PHYSICAL DATA

Boiling Point: 299 Deg. F.
 Volatile %: 35 - 45 Use 40% VOC
 Vapor Density: Heavier than Air.
 Specific Grav: 1.10
 Evap. Rate: Slower than n-Butyl Acetate.
 Appearance: Purple opaque liquid. Pungent odor.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flammability Class: 1.1 Flash Point: 69 Deg. F. LEL: 1.1

-EXTINGUISHING MEDIA-

Water spray, foam, dry chemical, carbon dioxide or any class B extinguishing agent

-SPECIAL FIREFIGHTING PROCEDURES-

Firefighters and others exposed to vapors or products of combustion should wear self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

-UNUSUAL FIRE & EXPLOSION HAZARDS-

At elevated temperatures, such as in a fire, polymerization may take place. If polymerization takes place in a closed container, there is the possibility of violent rupture of the container. Product vapors may form an explosive mixture in air.

SECTION V - HEALTH HAZARD DATA

-HEALTH HAZARD DATA-

OSHA PEL and ACGIH TLV for styrene are both 50 ppm for an 8-hour time-weighted average (TWA). The OSHA and ACGIH Short Term Exposure Limit (STEL) are 100 ppm for a 15-minute period. Exposure to styrene exceeded the STEL during a 15-minute period in a laboratory trial exposure. Use the average for...

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SECTION V - HEALTH HAZARD DATA (cont.)

-PERMISSIBLE EXPOSURE LEVEL (cont.)

a single STEL period must not exceed 100 ppm.

-EFFECTS OF OVEREXPOSURE:

SKIN: Prolonged or frequent contact may cause defatting and dryness of the skin with resultant irritation and possible dermatitis. Styrene may be absorbed through the skin in toxic amounts.

EYES: May cause irritation. Liquid splashes may result in more serious injuries. May cause lachrymation (tears).

INHALATION: Vapors may cause mucous membrane irritation and upper respiratory tract discomfort. High concentrations may result in headache, nausea, insensibility and other central nervous system effects. Repeated exposure to high concentrations may cause liver and kidney damage.

INGESTION: May cause gastrointestinal disturbances, pain and discomfort.

-FIRST AID

SKIN: Wash with soap and water.

EYES: Flush with copious amounts of water for 15 minutes. Seek immediate medical aid.

INHALATION: Remove victim from exposure. If victim is unconscious, administer artificial respiration and/or oxygen as needed. Seek medical aid.

INGESTION: DO NOT INDUCE VOMITING (aspiration hazard). Seek immediate medical aid.

-PRIMARY ROUTE(S) OF ENTRY:

Inhalation and Skin Absorption

-CARCINOGENICITY:

The International Agency for Research on Cancer (IARC) has classified styrene as possibly carcinogenic to humans (class IIb). The IARC IIb classification is not based on significant new evidence that styrene might be a carcinogen, but on a revised IARC classification scheme and new data on styrene oxide.

SECTION VI - REACTIVITY DATA

STABILITY [] Unstable [X] Stable

HAZARDOUS POLYMERIZATION [X] May occur [] Will not occur

-INCOMPATIBILITY

Strong acids and oxidizing agents.

-CONDITIONS TO AVOID

Heat and direct sunlight

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SECTION VI - REACTIVITY DATA (cont)

-HAZARDOUS DECOMPOSITION PRODUCTS:

Heating of this material to decomposition may cause the emission of irritating, acrid fumes.

SECTION VII - SPILL OR LEAK PROCEDURES

-STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Remove all sources of ignition. Ventilate area. Absorb spill with an absorbent material such as sawdust, vermiculite or sand and place in a closed container. If large spill, dike the area to prevent this material from entering water systems or sewers.

-WASTE DISPOSAL METHOD

This material has been tested and found to have a flash point below 140 F. If discarded, this material and containers should be treated as hazardous wastes based on the characteristic of ignitability as defined under the federal RCRA regulations (40 CFR 261). Disposal of this material and its container, requires compliance with applicable labeling, packaging, and record keeping standards. Extreme care should be taken to ensure that it is disposed of only in a facility permitted for disposal of hazardous wastes.

For further information, contact your state or local solid waste agency or the United States Environmental Protection Agency's RCRA hotline (1-800-424-9346 or 202-382-3000).

SECTION VIII - SPECIAL PROTECTION INFORMATION

-RESPIRATORY PROTECTION:

A canister-type respirator must be worn to prevent the inhalation of vapors or spray mists when the TLV or PEL is exceeded.

-VENTILATION:

General ventilation is required during normal use. Local ventilation may be required during certain operations to keep exposure levels below the TLV listed in Section II of this data sheet.

-PROTECTIVE GLOVES:

Wear appropriate impervious gloves to prevent skin contact.

-EYE PROTECTION:

Wear face shield or chemical goggles.

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SECTION VIII - SPECIAL PROTECTION INFORMATION (cont.)

-OTHER PROTECTIVE EQUIPMENT:

Wear protective clothing to prevent skin contact.
 Eye wash station and safety shower should be available

SECTION IX - SPECIAL PRECAUTIONS

-PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

Avoid storage above 100 Deg. F. Avoid prolonged or repeated skin contact. Avoid inhalation of heated vapors or spray mists.

-OTHER PRECAUTIONS:

Avoid improper addition of promoter and/or catalyst. A promoter and catalyst used with this product should always be mixed separately with the product and must never be mixed together.

SECTION X - SUPPLEMENTAL INFORMATION

-REGULATORY INFORMATION:

SCAQM Rule 1702 establishes specific process, control, housekeeping, and recordkeeping requirements for fabrication operations using polyester resin materials. It is the responsibility of the fabricator to ensure compliance with these requirements.

-SARA STATUS:

One or more of the chemical substances listed in section II of this MSDS is subject to the reporting requirements of section 313 of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR 372.

This material has been categorized as having the following hazard(s) as defined by SARA Title III regulations (40 CFR 370):
 acute, chronic, fire, reactive

-DOT PROPER SHIPPING NAME:

Resin Solution

-UN NUMBER:

UN1866

-DOT HAZARD CLASS:

Flammable liquid

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MATERIAL SAFETY DATA SHEET

CO-PLAS INCORPORATED
5106 WHEELER AVE.
FORT SMITH, AR 72901

INFORMATION & EMERGENCY TELEPHONE NO.: 501-646-7865
CHEMTREC : 800-424-9300

PREPARATION DATE: 02/13/90

REPLACES DATE: NEW MSDS

PREPARER: MGG

SECTION I - PRODUCT IDENTIFICATION

WHITE GEL COAT

WG 30497

SECTION II - HAZARDOUS INGREDIENTS

CHEMICAL NAME	CAS NUMBER	WT. PERCENT IS LESS THAN	OCCUPATIONAL EXPOSURE LIMITS			VAPOR PRESSURE mmHg 20C	KNOWN OR SUSPECTED CARCINOGEN	SEC 313
			(TLV-TWA)	(TLV-STEL)	(PEL)			
METHYL METHACRYLATE MONOMER	90-62-6	5%	100 PPM	75 PPM	NO INFO	29.0	NO	NO
STYRENE	100-42-5	30%	50 PPM	100 PPM	100 PPM	4.5	YES	YES
PIGMENT WHITE 6	13463-67-7	15%	10 MG/M3	NO INFO	15 MG/M3	0.0	NO	NO
SILICON DIOXIDE	7631-86-9	5%	10 MG/M3	NO INFO	20 MPPCF	0.0	NO	NO

THIS PRODUCT CONTAINS ONE OR MORE MATERIALS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF THE EMERGENCY PLANNING AND THE COMMUNITY RIGHT-TO-KNOW ACTS OF 1986 AND OF 40 CFR 372.

N.A. - NOT APPLICABLE

SECTION III - PHYSICAL DATA

BOILING RANGE : 214-295 F
ODOR : AROMATIC
APPEARANCE : WHITE LIQUID

VOLATILE BY WEIGHT: 34.4% VOC
VOLATILE BY VOLUME: 51.0%

VAPOR DENSITY : IS HEAVIER THAN AIR
EVAPORATION RATE: IS SLOWER THAN ETHER

SOLUBILITY : INSOLUBLE
PRODUCT DENSITY : 10.9 LBS./GAL. (U.S.)

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY CLASSIFICATION:

FLASH POINT: 82 F
(SETAFLASH CLOSED CUP)

LEL: 1.1 %
UEL: 12.5 %

OSHA - FLAMMABLE LIQUID - CLASS IC
DOT - FLAMMABLE LIQUID OR SOLID

EXTINGUISHING MEDIA: CARBON DIOXIDE DRY CHEMICAL FOAM

=====

SECTION VI - REACTIVITY DATA

STABILITY: THIS PRODUCT IS STABLE UNDER NORMAL STORAGE CONDITIONS.

HAZARDOUS POLYMERIZATION: COULD OCCUR UNDER NORMAL CONDITIONS. CARE MUST BE EXERCISED.

HAZARDOUS DECOMPOSITION PRODUCTS: ON BURNING, EMITS ACRID FUMES, CARBON DIOXIDE AND CARBON MONOXIDE.

CONDITIONS TO AVOID: HEAT AND DIRECT SUNLIGHT

INCOMPATIBILITY: STRONG ACIDS, PEROXIDES AND OTHER OXIDIZING AGENTS, ORGANIC METAL SOAP.

=====

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: KEEP SPECTATORS AWAY. ELIMINATE IGNITION SOURCES. USE SELF-CONTAINED BREATHING APPARATUS (PRESSURE DEMAND, OSHA/NIOSH-APPROVED), IMPERVIOUS CLOTHING AND BOOTS. DIKE AND CONTAIN SPILL WITH SAND OR EARTH. TRANSFER LIQUID TO CONTAINERS FOR RECOVERY OR DISPOSAL AND SOLID DIKING MATERIAL TO SEPERATE CONTAINERS FOR DISPOSAL.

WASTE DISPOSAL METHOD: INCINERATE LIQUID AND CONTAMINATED DIKING MATERIAL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

=====

SECTION VIII - SAFE HANDLING AND USE INFORMATION

RESPIRATORY PROTECTION: NONE NEEDED IF GOOD VENTILATION IS MAINTAINED. OTHERWISE WEAR SELF-CONTAINED BREATHING APPARATUS (PRESSURE DEMAND, OSHA/NIOSH APPROVED OR EQUIVALENT).

VENTILATION: SUFFICIENT VENTILATION, IN VOLUME AND PATTERN, SHOULD BE PROVIDED TO KEEP AIR CONTAMINATION BELOW CURRENT APPLICABLE OSHA PERMISSIBLE EXPOSURE LIMIT OR ACGIH'S TLV LIMIT.

PROTECTIVE GLOVES: RECOMMENDED FOR PROLONGED OR REPEATED CONTACT.

EYE PROTECTION: CHEMICAL GOGGLES WITH SIDE SHIELDS OR FACE SHIELD RECOMMENDED.

OTHER PROTECTIVE EQUIPMENT: USE PROTECTIVE CREAMS WHERE SKIN CONTACT IS LIKELY. REMOVE AND WASH CONTAMINATED CLOTHING BEFORE REUSE. EYEWASH FACILITY, SAFETY SHOWER, IMPERVIOUS CLOTHING

HYGIENIC PRACTICES: WASH HANDS BEFORE EATING OR SMOKING. SMOKE IN DESIGNATED AREAS ONLY.

=====

=====

SECTION IX - SPECIAL PRECAUTIONS

=====

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: STORE IN A COOL DRY AREA WITH VENTILATION SUITABLE FOR STORING MATERIALS SHOWN IN SECTION II.

OTHER PRECAUTIONS: PROVIDE RESPIRATORY PROTECTION AGAINST FUMES GENERATED DURING BURNING. PROVIDE RESPIRATORY PROTECTION AGAINST DUST CREATED BY SANDING AND/OR GRINDING OF FINISHED PARTS.

=====

SECTION X - HMIS RATINGS

=====

HEALTH: 2

FLAMMABILITY: 3

REACTIVITY: 2

=====

THE INFORMATION CONTAINED HEREIN IS, TO THE BEST OF OUR KNOWLEDGE AND BELIEF, ACCURATE. HOWEVER, SINCE THE CONDITIONS OF HANDLING AND USE ARE BEYOND OUR CONTROL, WE MAKE NO GUARANTEE OF RESULTS, AND ASSUME NO LIABILITY FOR DAMAGES INCURRED BY USE OF THIS MATERIAL. IT IS THE RESPONSIBILITY OF THE USER TO COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS.



MATERIAL SAFETY DATA SHEET

REICHOLD CHEMICALS, INC.
Reactive Polymers Division
800 Capitola Drive
Research Triangle Park
Durham, NC 27713

Information Telephone No. 919-544-9225

ALL CHEMICAL EMERGENCIES
1-800-424-9300

FEB 19 1990

Executive/Environmental Manager
MIL-LINE BOATS INC
2100 SOUTH YUNICAST BLVD

MIAMI, FL 33146

Dear Customer

To ensure safe use of our products and to comply with OSHA Hazard Communication Standards, we are pleased to send you the latest Material Safety Data Sheet(s) for the following Reichhold product code(s):

33-226

The information is being forwarded to you through our computer-related program, which automatically generates and mails a hard or updated MSDS to all purchasers of the product at the time of the first shipment.

To be sure that the enclosed MSDS(s) serves its purpose, please pass it along to all personnel who handle or use the product and to the appropriate product safety personnel.

Sincerely,

Customer Service



MATERIAL SAFETY DATA SHEET

24-HOUR EMERGENCY TELEPHONE (606) 324-1133

009478

ACETONE

PAGE: 1

ACCEPTED BY O.S.H.A. AS ESSENTIALLY SIMILAR TO O.S.H.A. FORM 20

ASHLAND PRODUCT NAME: ACETONE
CAS NUMBER: 67 64 1

HORIZON CHEMICALS & PAINTERS SUPPLY INC
14802 49TH STREET
CLEARWATER FL 33528

DS 20 097 4313520-
DATA SHEET NO: 0004335-004
LATEST REVISION DATE: 04/88-BE092
PRODUCT: 3010000
INVOICE: 273551
INVOICE DATE: 03/30/88
TO:

ATTN: PLANT MGR./SAFETY DIR.

SECTION I-PRODUCT IDENTIFICATION

GENERAL OR GENERIC ID: KETONE
HAZARD CLASSIFICATION: (03) FLAMMABLE LIQUID (173.118)

SECTION II-HAZARDOUS COMPONENTS

Table with 5 columns: INGREDIENT, PERCENT, PEL, TLV, and a blank column. Row 1: ACETONE, 100, 1000, 750 PPM.

SECTION III-PHYSICAL DATA

Table with 3 columns: PROPERTY, REFINEMENT, MEASUREMENT. Rows include: INITIAL BOILING POINT, VAPOR PRESSURE, VAPOR DENSITY, SPECIFIC GRAVITY, PERCENT VOLATILES, EVAPORATION RATE.

SECTION IV-FIRE AND EXPLOSION DATA

FLASH POINT(TCC) -4.00 DEG F (-20.00 DEG C)
EXPLOSIVE LIMIT (PRODUCT) LOWER - 2.6%
EXTINGUISHING MEDIA: ALCOHOL FOAM OR CARBON DIOXIDE OR DRY CHEMICAL
HAZARDOUS DECOMPOSITION PRODUCTS: MAY FORM TOXIC MATERIALS: CARBON DIOXIDE AND CARBON MONOXIDE, VARIOUS HYDROCARBONS, ETC.
SPECIAL FIREFIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE WHEN FIGHTING FIRES.
UNUSUAL FIRE & EXPLOSION HAZARDS: MATERIAL IS HIGHLY VOLATILE AND READILY GIVES OFF VAPORS WHICH MAY TRAVEL ALONG THE GROUND OR BE MOVED BY VENTILATION AND IGNITED BY PILOT LIGHTS, OTHER FLAMES, SPARKS, HEATERS, SMOKING, ELECTRIC MOTORS, STATIC DISCHARGE, OR OTHER IGNITION SOURCES AT LOCATIONS DISTANT FROM MATERIAL HANDLING POINT.
NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIVELY.

SECTION V-HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LEVEL 1000 PPM
THRESHOLD LIMIT VALUE 750 PPM
SEE SECTION II
EFFECTS OF OVEREXPOSURE: FOR PRODUCT
EYES - CAUSES IRRITATION, REDNESS, TEARING.
SKIN - CAN CAUSE SLIGHT IRRITATION.
BREATHING - EXCESSIVE INHALATION OF VAPORS CAN CAUSE NASAL IRRITATION, DIZZINESS, WEAKNESS, FATIGUE, NAUSEA, HEADACHE, POSSIBLE UNCONSCIOUSNESS, AND EVEN ASPHYXIATION.
SWALLOWING - CAN CAUSE GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING, AND DIARRHEA.
FIRST AID:

MATERIAL SAFETY
DATA SHEET

P. O. BOX 2219, COLUMBUS, OHIO 43216 • (614) 889-3333

24-HOUR EMERGENCY TELEPHONE (606) 324-1133

009478

BEST AVAILABLE COPY

ACETONE

PAGE: 2

SECTION V-HEALTH HAZARD DATA (CONTINUED)

IF ON SKIN; THOROUGHLY WASH EXPOSED AREA WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING. LAUNDRY-CONTAMINATED CLOTHING BEFORE RE-USE.

IF IN EYES; FLUSH WITH LARGE AMOUNTS OF WATER, LIFTING UPPER AND LOWER LIDS OCCASIONALLY, GET MEDICAL ATTENTION.

IF SWALLOWED; IMMEDIATELY DRINK TWO GLASSES OF WATER AND INDUCE VOMITING BY EITHER GIVING IPECAC SYRUP OR BY PLACING FINGER AT BACK OF THROAT. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. GET MEDICAL ATTENTION IMMEDIATELY.

IF BREATHED; IF AFFECTED, REMOVE INDIVIDUAL TO FRESH AIR. IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN. IF BREATHING HAS STOPPED GIVE ARTIFICIAL RESPIRATION. KEEP PERSON WARM, QUIET AND GET MEDICAL ATTENTION.

SECTION VI-REACTIVITY DATA

HAZARDOUS POLYMERIZATION; CANNOT OCCUR

STABILITY; STABLE

INCOMPATIBILITY; AVOID CONTACT WITH, STRONG OXIDIZING AGENTS, STRONG ALKALIES, STRONG MINERAL ACIDS.

SECTION VII-SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

SMALL SPILL; ABSORB LIQUID ON PAPER, VERMICULITE, FLOOR ABSORBENT, OR OTHER ABSORBENT MATERIAL AND TRANSFER TO HOOD.

LARGE SPILL; ELIMINATE ALL IGNITION SOURCES (FLARES, FLAMES INCLUDING PILOT LIGHTS, ELECTRICAL SPARKS). PERSONS NOT WEARING PROTECTIVE EQUIPMENT SHOULD BE EXCLUDED FROM AREA OF SPILL UNTIL CLEAN-UP HAS BEEN COMPLETED. STOP SPILL AT SOURCE, DIKE AREA OF SPILL TO PREVENT SPREADING, PUMP LIQUID TO SALVAGE TANK. REMAINING LIQUID MAY BE TAKEN UP ON SAND, CLAY, EARTH, FLOOR ABSORBENT, OR OTHER ABSORBENT MATERIAL AND SHOVELED INTO CONTAINERS.

WASTE DISPOSAL METHOD:

SMALL SPILL; ALLOW VOLATILE PORTION TO EVAPORATE IN HOOD. ALLOW SUFFICIENT TIME FOR VAPORS TO COMPLETELY CLEAR HOOD DUCT WORK. DISPOSE OF REMAINING MATERIAL IN ACCORDANCE WITH APPLICABLE REGULATIONS.

LARGE SPILL; DESTROY BY LIQUID INCINERATION. CONTAMINATED ABSORBENT MAY BE DEPOSITED IN A LANDFILL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

SECTION VIII-PROTECTIVE EQUIPMENT TO BE USED

RESPIRATORY PROTECTION; IF TLV OF THE PRODUCT OR ANY COMPONENT IS EXCEEDED, A NIOSH/MSHA JOINTLY APPROVED AIR SUPPLIED RESPIRATOR IS ADVISED IN ABSENCE OF PROPER ENVIRONMENTAL CONTROL. OSHA REGULATIONS ALSO PERMIT OTHER NIOSH/MSHA RESPIRATORS UNDER SPECIFIED CONDITIONS. (SEE YOUR SAFETY EQUIPMENT SUPPLIER). ENGINEERING OR ADMINISTRATIVE CONTROLS SHOULD BE IMPLEMENTED TO REDUCE EXPOSURE.

VENTILATION; PROVIDE SUFFICIENT MECHANICAL (GENERAL AND/OR LOCAL EXHAUST) VENTILATION TO MAINTAIN EXPOSURE BELOW TLV(S).

PROTECTIVE GLOVES; WEAR RESISTANT GLOVES SUCH AS, NATURAL RUBBER, NEOPRENE, NITRILE RUBBER

EYE PROTECTION; CHEMICAL SPLASH GOGGLES IN COMPLIANCE WITH OSHA REGULATIONS ARE ADVISED; HOWEVER, OSHA REGULATIONS ALSO PERMIT OTHER TYPE SAFETY GLASSES. (CONSULT YOUR SAFETY EQUIPMENT SUPPLIER)

OTHER PROTECTIVE EQUIPMENT; TO PREVENT REPEATED OR PROLONGED SKIN CONTACT, WEAR IMPERVIOUS CLOTHING AND BOOTS.

SECTION IX-SPECIAL PRECAUTIONS OR OTHER COMMENTS

CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED. SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUES (VAPOR, LIQUID, AND/OR SOLID), ALL HAZARD PRECAUTIONS GIVEN IN THE DATA SHEET MUST BE OBSERVED.

OVEREXPOSURE TO MATERIAL HAS APPARENTLY BEEN FOUND TO CAUSE THE FOLLOWING EFFECTS IN LABORATORY ANIMALS; KIDNEY DAMAGE, EYE DAMAGE

THE INFORMATION ACCUMULATED HEREIN IS BELIEVED TO BE ACCURATE BUT IS NOT WARRANTED TO BE WHETHER ORIGINATING WITH ASHLAND OR NOT. RECIPIENTS ARE ADVISED TO CONFIRM IN ADVANCE OF NEED THAT THE INFORMATION IS CURRENT, APPLICABLE, AND SUITABLE TO THEIR CIRCUMSTANCES.

M A T E R I A L S A F E T Y D A T A S H E E T

CHARLES A. CROSBIE LABS., INC. 1821 Randolph St. L.A., CA 90001 213/582-1000

TRADE NAME: . CC-2000 & CC-2001DT COATINGS REMOVERS

Eff. 3-12-86

Resin Stripper

1. PHYSICAL DATA:

BOILING POINT: 145°F SP. GRAVITY: 1.3
VAP PRESS: 300 mm % VOLATILE by VOLUME: 98%
VAP DENSITY: Greater than 1 EVAPORATION RATE(ether=1): Less than 1
SOL. IN WATER: Slight ODOR: Ethereal
APPEARANCE: Gelatinous, Flocculent Liquid White to Light Yellow

2. INGREDIENTS:

Over 80% Methylene Chloride, Technical. Inasmuch as the other ingredients do not modify the information applying to Methylene Chloride, Technical, we are using the following Material Safety Data Sheet for Methylene Chloride, Technical, provided by DOW Chemical, effective 10/04/85 as the MSDS for Crosbie CC-2000 & CC-2001 DT Coatings Removers.

M A T E R I A L S A F E T Y D A T A S H E E T

DOW CHEMICAL U.S.A. Midland, MI 48674 Emergency Phone: 517-636-4400

MSD: 000009

Page: 1

PRODUCT NAME: METHYLENE CHLORIDE, TECHNICAL

Effective Date: 10/04/85

Date Printed: 10/16/85

Product Code: 55590

1. INGREDIENTS:

Methylene Chloride

CAS# 000075-09-2 99.9

2. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT: NONE

FLAMMABLE LIMITS

METHOD USED: TOC, TCC, COC

LFL: 13% @ 25C

EXTINGUISHING MEDIA: WATER FOG

UFL: 23% @ 25C

FIRE & EXPLOSION HAZARDS: Forms flammable vapor-air mixtures at temperatures above ambient. Lower temperatures increase the difficulty of getting it to ignite. Avoid open flames & welding arcs. (see reactivity data).

FIRE FIGHTING EQUIPMENT: Wear positive pressure self-contained respiratory equipment.

3. REACTIVITY DATA:

STABILITY: (CONDITIONS TO AVOID) Hydrolysis producing small amounts of hydrochloric acid possible with gross water contamination.

3. REACTIVITY DATA: (CONTINUED)

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) Aluminum, possibly Sodium, Potassium, Magnesium, Chromic Anhydride, Lead Perchlorate and Perchloric Acid.

HAZARDOUS DECOMPOSITION PRODUCTS: Open flames and welding arcs can cause thermal degradation with the evolution of hydrogen chloride and very small amounts of phosgene and chlorine.

HAZARDOUS POLYMERIZATION: Will not occur.

4. ENVIRONMENTAL AND DISPOSAL INFORMATION:

ACTION TO TAKE FOR SPILLS/LEAKS: Small spills: Mop up, wipe up or soak up immediately. Remove to out of doors. Large spills: Evacuate area. Contain liquid; transfer to closed metal containers. Keep out of water supply.

DISPOSAL METHOD: When disposing of the unused contents, the preferred options are to send to licensed reclaimer, permitted incinerators, or to evaporate very small quantities in compliance with local, state, and federal regulations including Subtitle C of the Resource Conservation and Recovery Act. Dumping into sewers, on the ground, or with any body of water is strongly discouraged, and may be illegal. Consult The Dow Chemical Company for further information.

5. HEALTH HAZARD DATA:

EYE: May cause moderate eye irritation and slight corneal injury. Vapors may irritate eyes. In animals, irritation and corneal injury healed primarily within 8 days.

SKIN CONTACT: Prolonged or repeated exposure may cause skin irritation, even a burn. Repeated contact may cause drying or flaking of skin.

SKIN ABSORPTION: A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. The dermal LD50 has not been determined.

INGESTION: Single dose oral toxicity is low. The oral LD50 for rats is in the range of 1500-2500 mg/kg. If aspirated (liquid enters the lung), may be rapidly absorbed through the lungs and result in injury to other body systems.

INHALATION: Minimal anesthetic or narcotic effects may be seen in the range of 500-1000 ppm methylene chloride. Progressively higher levels over 1000 ppm can cause dizziness, drunkenness; concentrations as low as 10,000 ppm can cause unconsciousness and death. These high levels may also cause cardiac arrhythmias (irregular heartbeats).

Excessive exposure may cause irritation to upper respiratory tract. In confined or poorly ventilated areas, vapors can readily accumulate and can cause unconsciousness and death.

SYSTEMIC & OTHER EFFECTS: Excessive exposure may cause carboxy-hemoglobinemia, thereby impairing the blood's ability to transport oxygen.

5. HEALTH HAZARD DATA: (CONTINUED)

Excessive exposure may cause central nervous system, liver or kidney effects. Methylene Chloride has been shown to increase the rate of spontaneously occurring malignant tumors in one strain of laboratory mouse and benign tumors in laboratory rats. Other animal studies, as well as several human epidemiology studies, failed to show a tumorigenic response relatable to methylene chloride. Methylene Chloride is not believed to pose a measurable carcinogenic risk to man when handled as recommended. Birth defects are unlikely. Exposures having no effect on the mother should have no effect on the fetus. Did not cause birth defects in animals; other effects were seen in the fetus only at doses which caused toxic effects to the mother. In animal studies, has been shown not to interfere with reproduction. Negative or equivocal results have been obtained in mutagenicity test using mammalian cells or animals. This is consistent with the lack of interaction with DNA in rats and hamsters. Although results of Ames bacterial tests have generally been positive, overall the data suggest that genotoxic potential does not appear to be a significant factor in the toxicity of Methylene Chloride.

6. FIRST AID:

EYES: Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel.

SKIN: Wash off in flowing water or shower. Remove contaminated clothing and wash before reuse.

INGESTION: Do not induce vomiting. Call a physician and/or transport to emergency facility immediately.

INHALATION: Remove to fresh air. If not breathing, give mouth-to-mouth resuscitation. If breathing is difficult, give oxygen. Call a physician.

NOTE TO PHYSICIAN: Because rapid absorption may occur through lungs if aspirated and cause systemic effects, the decision of whether to induce vomiting or not should be made by a physician. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. Exposure may increase "myocardial irritability." Do not administer sympathomimetic drugs unless absolutely necessary. If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

7. HANDLING PRECAUTIONS:

EXPOSURE GUIDELINE (S): ACGIH TLV is 100 ppm. OSHA PEL is 500 ppm; ACC is 1000 ppm; MAC is 2000 ppm.

VENTILATION: Controlling airborne concentrations below the ACGIH TLV exposure guideline is recommended. Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations. Lethal concentrations may exist in areas with poor ventilation.

7. HANDLING PRECAUTIONS: (CONTINUED)

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use an approved air-purifying respirator. For emergency and other conditions where the exposure guideline may be greatly exceeded, use an approved positive pressure self-contained breathing apparatus. In confined or poorly ventilated areas, use an approved positive pressure self-contained breathing apparatus.

SKIN PROTECTION: For brief contact, no precautions other than clean body-covering clothing should be needed. When prolonged or frequently repeated contact could occur, use protective clothing impervious to this material. Selection of specific items such as gloves, boots, apron or full-body suit will depend on operation.

EYE PROTECTION: Use safety glasses. Where contact with liquid is likely, chemical goggles are recommended because eye contact with this material may cause pain, even though it is unlikely to cause injury.

8. ADDITIONAL INFORMATION:

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Exercise reasonable care and caution. Avoid breathing vapors. Store in cool place. Concentrated vapors of this product are heavier than air and will collect in low areas such as pits, degreasers, storage tanks, and other confined areas. Do not enter these areas where vapors of this product are suspected unless special breathing apparatus is used and observer is present for assistance. Do not pressure product out of vessel or transport container with air.

MSDS STATUS: Revised 1, 3, 5, 6, 7, 8, and 9.

The Information Herein Is Given In Good Faith, No Warranty, Expressed Or Implied, Is Made. Consult The Dow Chemical Company For Further Information.

**PROGRESS SALES
CORPORATION**

Binks/Poly-Craft Systems
1792 Northgate Blvd.
SARASOTA, FLORIDA 34234
Phone (813) 355-6627

All information, recommendations and suggestions appearing herein concerning our product are based upon tests and data believed to be reliable. However, it is the user's responsibility to determine the safety, toxicity, and suitability for his own use of the product described herein. Since the actual use by others is beyond our control, no guarantee, expressed or implied, is made by Charles A. Crosbie Labs., Inc. as to the effects of such use, the results to be obtained, or the safety and toxicity of the product nor does Charles A. Crosbie Labs., Inc. assume any liability arising out of use, by others, of the product referred to herein. The information herein is not to be construed as absolutely complete since additional information may be necessary or desirable when particular or exceptional conditions or circumstances exist or because of applicable laws or government regulations.



MATERIAL SAFETY DATA SHEET

DIPROPYLENE GLYCOL (Handwritten: Gun Cleaners)

004018

THIS MSDS COMPLIES WITH 29 CFR 1910.1200 (THE HAZARD COMMUNICATION STANDARD)

Product Name: DIPROPYLENE GLYCOL
CAS NUMBER: 25265-71-8

05 50 093 3331750-

Data Sheet No: 0003556-002
Prepared: 03/04/86
Supersedes: 03/06/85

FOAM CRAFT, INC.
6235 S. MCINTOSH ROAD
SARASOTA FL 33583

PRODUCT: 3300000
INVOICE: 347448
INVOICE DATE: 06/02/89
TO: SAME

ATTN: PLANT MGR./SAFETY DIR.

SECTION I - PRODUCT IDENTIFICATION

General or Generic ID: GLYCOL
DOT Hazard Classification: NOT APPLICABLE

SECTION II - COMPONENTS

IF PRESENT, IARC, NTP AND OSHA CARCINOGENS AND CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III SECTION 313 ARE IDENTIFIED IN THIS SECTION. SEE DEFINITION PAGE FOR CLARIFICATION

Table with 5 columns: INGREDIENT, % (by WT), PEL, TLV, Note. Row 1: DIPROPYLENE GLYCOL, 100, (1)

Notes:

(1) PEL/TLV NOT ESTABLISHED FOR THIS MATERIAL

SECTION III - PHYSICAL DATA

Table with 2 columns: Property, Value. Rows include Boiling Point, Vapor Pressure, Specific Vapor Density, Specific Gravity, Percent Volatiles, Evaporation Rate.

SECTION IV - FIRE AND EXPLOSION INFORMATION

FLASH POINT(PHCC) 250.0 Deg F (121.1 Deg C)
EXPLOSIVE LIMIT (PRODUCT) LOWER - 2.2%
EXTINGUISHING MEDIA: ALCOHOL FOAM OR WATER FOG OR CARBON DIOXIDE OR DRY CHEMICAL
HAZARDOUS DECOMPOSITION PRODUCTS: MAY FORM TOXIC MATERIALS; CARBON DIOXIDE AND CARBON MONOXIDE, ETC.
FIREFIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN THE POSITIVE PRESSURE DEMAND MODE WHEN FIGHTING FIRES.
SPECIAL FIRE & EXPLOSION HAZARDS: NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIVELY.
NFPA CODES: HEALTH- 0, FLAMMABILITY- 1, REACTIVITY- 0

SECTION V - HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LEVEL: NOT ESTABLISHED.
EFFECTS OF ACUTE OVEREXPOSURE: FOR PRODUCT
EYES - CAN CAUSE MODERATE IRRITATION, REDNESS, TEARING.
SKIN - MAY CAUSE IRRITATION.
BREATHING - OF MIST CAN CAUSE IRRITATION OF NASAL AND RESPIRATORY PASSAGES.
SWALLOWING - CAN CAUSE GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING, AND DIARRHEA.
FIRST AID:
IF ON SKIN: THOROUGHLY WASH EXPOSED AREA WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING. LAUNDRY CONTAMINATED CLOTHING BEFORE RE-USE.
IF IN EYES: FLUSH WITH LARGE AMOUNTS OF WATER, LIFTING UPPER AND LOWER LIDS OCCASIONALLY, GET MEDICAL ATTENTION.
IF SWALLOWED: IMMEDIATELY DRINK TWO GLASSES OF WATER AND INDUCE VOMITING BY EITHER GIVING IPECAC SYRUP OR BY PLACING FINGER AT BACK OF THROAT. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. GET MEDICAL ATTENTION IMMEDIATELY.



MATERIAL SAFETY
DATA SHEET

DIPROPYLENE GLYCOL

Page: 2

004018

SECTION V - HEALTH HAZARD DATA (Continued)

IF BREATHED: IF AFFECTED, REMOVE INDIVIDUAL TO FRESH AIR. IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN. IF BREATHING HAS STOPPED GIVE ARTIFICIAL RESPIRATION. KEEP PERSON WARM, QUIET AND GET MEDICAL ATTENTION.

EFFECTS OF CHRONIC OVEREXPOSURE: FOR PRODUCT

OVEREXPOSURE TO THIS MATERIAL (OR ITS COMPONENTS) HAS APPARENTLY BEEN FOUND TO CAUSE THE FOLLOWING EFFECTS IN LABORATORY ANIMALS: LIVER ABNORMALITIES, KIDNEY DAMAGE

SECTION VI - REACTIVITY DATA

HAZARDOUS POLYMERIZATION: CANNOT OCCUR

STABILITY: STABLE

INCOMPATIBILITY: AVOID CONTACT WITH: STRONG OXIDIZING AGENTS.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

SMALL SPILL: ABSORB LIQUID ON PAPER, VERMICULITE, FLOOR ABSORBENT, OR OTHER ABSORBENT MATERIAL AND TRANSFER TO HOOD.

LARGE SPILL: PREVENT RUN-OFF TO SEWERS, STREAMS OR OTHER BODIES OF WATER. IF RUN-OFF OCCURS, NOTIFY PROPER AUTHORITIES AS REQUIRED, THAT A SPILL HAS OCCURED.

PERSONS NOT WEARING PROTECTIVE EQUIPMENT SHOULD BE EXCLUDED FROM AREA OF SPILL UNTIL CLEAN-UP HAS BEEN COMPLETED. STOP SPILL AT SOURCE, DIKE AREA OF SPILL TO PREVENT SPREADING, PUMP LIQUID TO SALVAGE TANK. REMAINING LIQUID MAY BE TAKEN UP ON SAND, CLAY, EARTH, FLOOR ABSORBENT, OR OTHER ABSORBENT MATERIAL AND SHOVELED INTO CONTAINERS.

WASTE DISPOSAL METHOD:

SMALL SPILL: DISPOSE OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

LARGE SPILL: CONTAMINATED ABSORBENT MAY BE DEPOSITED IN A LANDFILL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

DISPOSE OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

SECTION VIII - PROTECTIVE EQUIPMENT TO BE USED

RESPIRATORY PROTECTION: IF OVEREXPOSURE HAS BEEN DETERMINED OR DOCUMENTED, A NIOSH/MSHA JOINTLY APPROVED AIR SUPPLIED RESPIRATOR IS ADVISED IN ABSENCE OF PROPER ENVIRONMENTAL CONTROL. OSHA REGULATIONS ALSO PERMIT OTHER NIOSH/MSHA RESPIRATORS UNDER SPECIFIED CONDITIONS. (SEE YOUR SAFETY EQUIPMENT SUPPLIER). ENGINEERING OR ADMINISTRATIVE CONTROLS SHOULD BE IMPLEMENTED TO REDUCE EXPOSURE.

VENTILATION: PROVIDE SUFFICIENT MECHANICAL (GENERAL AND/OR LOCAL EXHAUST) VENTILATION TO MAINTAIN EXPOSURE BELOW LEVEL OF OVEREXPOSURE (FROM KNOWN, SUSPECTED OR APPARENT ADVERSE EFFECTS).

PROTECTIVE GLOVES: WEAR RESISTANT GLOVES (CONSULT YOUR SAFETY EQUIPMENT SUPPLIER).

EYE PROTECTION: CHEMICAL SPLASH GOGGLES IN COMPLIANCE WITH OSHA REGULATIONS ARE ADVISED; HOWEVER, OSHA REGULATIONS ALSO PERMIT OTHER TYPE SAFETY GLASSES. (CONSULT YOUR SAFETY EQUIPMENT SUPPLIER)

OTHER PROTECTIVE EQUIPMENT: TO PREVENT REPEATED OR PROLONGED SKIN CONTACT, WEAR IMPERVIOUS CLOTHING AND BOOTS.

SECTION IX - SPECIAL PRECAUTIONS OR OTHER COMMENTS

CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED. SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUES (VAPOR, LIQUID, AND/OR SOLID), ALL HAZARD PRECAUTIONS GIVEN IN THE DATA SHEET MUST BE OBSERVED.

THE INFORMATION ACCUMULATED HEREIN IS BELIEVED TO BE ACCURATE BUT IS NOT WARRANTED TO BE WHETHER ORIGINATING WITH THE COMPANY OR NOT. RECIPIENTS ARE ADVISED TO CONFIRM IN ADVANCE OF NEED THAT THE INFORMATION IS CURRENT, APPLICABLE, AND SUITABLE TO THEIR CIRCUMSTANCES.

ACCEPTED BY O.S.H.A. AS ESSENTIALLY SIMILAR TO O.S.H.A. FORM 20

DATE: May 23, 1989

PREPARER'S SIGNATURE *C.M. Manner*

MANUFACTURER'S NAME: HORIZON CHEMICALS, INC.

EMERGENCY PHONE #813-535-6474

- 14805 49TH ST. NO., CLEARWATER, FL 34622

SECTION I PRODUCT IDENTIFICATION

PRODUCT CODE: 3622 GENERAL OR GENERIC: Solvent Blend HAZARDOUS CLASSIFICATION: Flammable liquid H41263

SECTION II - HAZARDOUS COMPONENTS

INGREDIENT	CAS#	PERCENT	TLV	LEL	VAPOUR PRESSURE MM HG
Toluol	108-88-3	63.9	100	200	23
Acetone	67-64-1	18.8	750	1000	186
Isopropyl Alcohol	67-63-0	3.7	400	400	33
Methyl-2 Pentanone	108-10-1	4.2	50	100	16
Xylene	1330-20-7	8.2	100	100	5.1
Ethoxyethyl Acetate	111-15-9	1.2	5	100	2

SECTION III - PHYSICAL DATA

PROPERTY

BOILING POINT (estimated) (°F) 133 PERCENT VOLATILE BY VOLUME (%) 100 SPECIFIC GRAVITY (H₂O=1) .83
 EVAPORATION RATE FASTER SLOWER THAN ETHER VAPOUR DENSITY HEAVIER LIGHTER , THAN AIR

SECTION IV - FIRE AND EXPLOSION DATA

FLASH POINT (TCC) Less than 20°F FLAMMABLE LIMITS See Sec. II EXTINGUISHING MEDIA: Alcohol foam or carbon dioxide or dry chemical

SPECIAL FIRE FIGHTING PROCEDURES: Self contained breathing apparatus with a full face piece operated in pressure - demand or other positive pressure mode.

UNUSUAL FIRE & EXPLOSION HAZARDS: Vapors are heavier than air and may travel along the ground or may be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electric motors, or other ignition sources at locations distant from material handling point. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT: See Section II

EFFECTS OF OVEREXPOSURE:

SKIN: Prolonged or repeated contact can cause moderate irritation, defatting, dermatitis.

BREATHING: Excessive inhalation of vapors can cause nasal and respiratory irritation, dizziness, weakness, fatigue, nausea, headache, possible unconsciousness, and even asphyxiation.

SWALLOWING: Can cause gastrointestinal irritation, nausea, vomiting, and diarrhea. Aspiration of materials into the lungs can cause chemical pneumonitis which can be fatal.

EMERGENCY AND FIRST AID PROCEDURES:

IF ON SKIN: Thoroughly wash exposed area with soap and water. Remove contaminated clothing. Launder contaminated clothing before re-use.

IF IN EYES: Flush with large amounts of water, lifting upper and lower lids occasionally, get medical attention.

IF SWALLOWED: Do not induce vomiting. Call physician or transport to an emergency facility.

IF BREATHED: If affected, remove individual to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped give artificial respiration. Keep person warm, quiet and get medical attention.

BEST AVAILABLE COPY

HORIZON CHEMICALS, INC. (813) 535-6474 PAGE 3 OF 3

SECTION IX - SPECIAL PRECAUTIONS OR OTHER COMMENTS

03622

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:
CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED. SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUES (VAPOUR, LIQUID, AND/OR SOLID), ALL HAZARD PRECAUTIONS GIVEN IN THIS DATA SHEET MUST BE OBSERVED.

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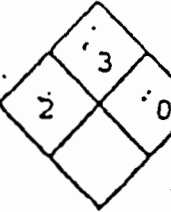
SECTION X - TOXIC CHEMICALS SARA TITLE III

THIS PRODUCT CONTAINS THE FOLLOWING TOXIC CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF THE EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW ACT OF 1986 AND OF 40 CFR 372

CHEMICAL	CAS NUMBER	WEIGHT %
Toluol	108-88-3	63.9
Acetone	67-64-1	18.8
Isopropyl Alcohol	67-63-0	3.7
Methyl-2 Pentanone	108-10-1	4.2
Xylene	1330-20-7	8.2



MATERIAL SAFETY DATA SHEET



Revised August 1986

MANUFACTURER'S NAME

SPECIALTY PRODUCTS COMPANY

STREET ADDRESS

P.O. Box 306,

CITY, STATE AND ZIP CODE

Jersey City, NJ 07303

PHONE:

(201) 434-4700

EMERGENCY TELEPHONE NO.

Transportation Emergencies call CHEMTREC (800) 424-9300

PRODUCT: Golden Wax Liquid
 COMMON NAME: Mixture
 IUPAC NAME: NA
 CHEMICAL NAME: Not Applicable
 CHEMICAL FAMILY: Aromatic and Aliphatic Hydrocarbon Mixture.
 DOT PROPER SHIPPING NAME:
 Not Applicable

WARNING STATEMENT:

Warning: Flammable
 DO NOT induce vomiting if swallowed.
 For industrial use only.

Section I: INGREDIENTS

	C.A.S. NUMBER	TLV*	TL
Toluene	108883 Y	200A	
Xylene	1330207 Y	100A	
Stoddard Solvent	8052413 N	500A	
Nonane	111842 N	200B	
Naphthalene	91203 Y	10A	
Trimethyl Benzenes		25B	
Paraffins, Cycloparaffins & Aromatics		NE*	
Isopropanol	67630 Y	400	

*Threshold Limit Value

A, OSHA

B, ACGIH

C, See Section III

D, Other

*Not Established

EMERGENCY: Have a physician call LOS ANGELES POISON CONTROL CENTER (24 hrs.) 213/664-2121

Eye Contact	If this product comes in contact with the eyes, flush with large quantities of water for at least 15 minutes and seek immediate medical attention.
Skin Contact	If this product comes in contact with the skin, wash with soap and large quantities of water and seek medical attention if irritation from contact persists.
Inhalation	If breathing difficulties, dizziness, or lightheadedness occur when working in areas with high vapor concentrations, victim should seek air free of vapors. If victim experiences continued breathing difficulties, administer oxygen until medical assistance can be rendered. If breathing stops, begin artificial respiration and seek immediate medical attention.
Ingestion	If this product is swallowed, DO NOT induce vomiting. Seek immediate medical advice and/or attention.

Section III -- PHYSIOLOGICAL EFFECTS AND HEALTH INFORMATION

Eye Effects	This product may be an eye irritant.
Skin Effects	This product may cause skin irritation upon prolonged or repeated contact.
Systemic Effects	<p>Various studies have shown a possible association with exposure to this product and the following:</p> <ul style="list-style-type: none"> Respiratory tract irritation Central nervous system depression in high concentrations Liver and kidney damage Brain cell damage may result from long term inhalation of toluene vapor (6/1/82)

Section VII - STORAGE AND SPECIAL PRECAUTIONS

and Precautions	Keep product containers cool, dry and away from sources of ignition. Use and store this product with adequate ventilation (see Section IV).
Other Precautions	Personnel should avoid inhalation of vapors (see Sections I, II, III, V, VI).

Section VIII - FIRE AND EXPLOSION HAZARD DATA

DOT Flammability Classification	Flammable Liquid	Flash Point Range: <input type="checkbox"/> Below 20° F, <input checked="" type="checkbox"/> 20° F - 100° F <input type="checkbox"/> 100° F - 200° F <input type="checkbox"/> Over 200° F <input type="checkbox"/> None to boiling
Extinguishing Media	Use foam, CO ₂ or dry chemical fire fighting apparatus.	
Unusual Fire and Explosion Hazards	Keep work areas free of hot metal surfaces and other sources of ignition.	
Fire Fighting Procedures	The use of self-contained breathing apparatus is recommended for fire fighters. Water may be unsuitable as an extinguishing media, but helpful in keep adjacent containers cool. Avoid spreading burning liquid with water used for cooling purposes.	

Section IX - PHYSICAL DATA

Approximate Boiling Range, ° F	231 - 310	Vapor Density: <input checked="" type="checkbox"/> Heavier Than Air <input type="checkbox"/> Lighter Than Air
Evaporation Rate: <input type="checkbox"/> Faster Than Ether <input checked="" type="checkbox"/> Slower Than Ether	Percent Volatiles: 90 VOC	Solubility in Water: Negligible
Specific Gravity: <input checked="" type="checkbox"/> Lighter Than Water <input type="checkbox"/> Heavier Than Water	Weight per Gallon: 7.2	

Appearance and Odor:

This product is light yellow and has a characteristic odor.

Section X - DOCUMENTARY INFORMATION

Golden Wax Liquid

Issue Date 5-12-86

The above information is believed to be correct as of the date hereof. However, no warranty of merchantability, fitness for any use, or any other warranty is expressed or is to be implied regarding the accuracy of these data, the results to be obtained from the use of the material, or the hazards connected with such use. Since the information contained herein may be applied under conditions beyond our control and with which we may be unfamiliar, and since data made available subsequent to the date hereof may suggest modification of the information, we do not assume responsibility for the results of its use. This information is furnished the condition that the person receiving it shall make his own determination as to the suitability of the material for his particular purpose and on the condition that he assume the risk of his use thereof.

Section IV - SPECIAL PROTECTION INFORMATION

Laboratory Use Only (See MSDS)	The use of respiratory protection depends on vapor concentration above the time-weighted TLV; use a NIOSH approved cartridge respirator or gas mask.		
Ventilation	General mechanical ventilation may be sufficient to keep product vapor concentrations within specified time-weighted TLV ranges. If general ventilation proves inadequate to maintain safe vapor concentrations, supplemental local exhaust may be required. Other special precautions such as respiratory masks or environmental containment devices may be required in extreme cases.		
Protective Gloves	The use of impermeable gloves is advised to prevent skin irritation in sensitive individuals.	Eye Protection	Safety glasses; chemical goggles and/or face shields are recommended to safeguard against potential eye contact, irritation, or injury.
Other Protective Equipment	Impermeable aprons are advised when working with this product. The availability of eye washes and safety showers in work areas is recommended.		

Section V - REACTIVITY DATA

Stability	Unstable	X	Conditions to Avoid:
	Stable		
Incompatibility (Materials to Avoid)	This product is incompatible with strong oxidizing agents, strong acids or bases, and selected amines.		
Hazardous Decomposition Products	Thermal decomposition in the presence of air may yield carbon monoxide and/or carbon dioxide.		
Hazardous Polymerization	May Occur	X	Conditions to Avoid:
	Will Not Occur		

Section VI - SPILL OR LEAK PROCEDURES

HIGHWAY OR RAILWAY SPILLS - CALL CHEMTREC 800/424-9300

Precautions in Case of Release or Spill	Keep sources of ignition and hot metal surfaces isolated from the spill. Flush spilled material into suitable retaining areas or containers with large quantities of water. Small amounts of spilled material may be absorbed into an appropriate absorbant. *
Reportable Quantity	Notify Coast Guard National Response Center; Phone No. 800-424-8802, if Spill is Greater Than 1000 lbs (454 kilograms)
Waste Disposal Method	Dispose of product in accordance with applicable local, county, state and federal regulations.

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)	ISW(1) = 1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)	ISW(2) = 4
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)	ISW(3) = 2
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)	ISW(4) = 0
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)	ISW(5) = 0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)	ISW(6) = 1
COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)	
WITH THE FOLLOWING TIME PERIODS:	
HOURLY (YES=1,NO=0)	ISW(7) = 0
2-HOUR (YES=1,NO=0)	ISW(8) = 0
3-HOUR (YES=1,NO=0)	ISW(9) = 0
4-HOUR (YES=1,NO=0)	ISW(10) = 0
6-HOUR (YES=1,NO=0)	ISW(11) = 0
8-HOUR (YES=1,NO=0)	ISW(12) = 1
12-HOUR (YES=1,NO=0)	ISW(13) = 0
24-HOUR (YES=1,NO=0)	ISW(14) = 1
PRINT 'M'-DAY TABLE(S) (YES=1,NO=0)	ISW(15) = 1
PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE SPECIFIED BY ISW(7) THROUGH ISW(14):	
DAILY TABLES (YES=1,NO=0)	ISW(16) = 0
HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)	ISW(17) = 1
MAXIMUM 50 TABLES (YES=1,NO=0)	ISW(18) = 1
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)	ISW(19) = 1
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3)	ISW(20) = 0
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)	ISW(21) = 1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)	ISW(22) = 1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)	ISW(23) = 0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)	ISW(24) = 1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)	ISW(25) = 2
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)	ISW(26) = 1
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)	ISW(27) = 1
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)	ISW(28) = 1
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)	ISW(29) = 2
DEBUG OPTION CHOSEN (YES=1,NO=2)	ISW(30) = 1
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)	ISW(31) = 0
NUMBER OF INPUT SOURCES	NSOURC = 7
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)	NGROUP = 0
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)	IPERD = 0
NUMBER OF X (RANGE) GRID VALUES	NXPNTS = 26
NUMBER OF Y (THETA) GRID VALUES	NYPNTS = 36
NUMBER OF DISCRETE RECEPTORS	NXWYPT = 36
SOURCE EMISSION RATE UNITS CONVERSION FACTOR	TK =.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED	ZR = 10.00 METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA	IMET = 9
DECAY COEFFICIENT FOR PHYSICAL OR CHEMICAL DEPLETION	DECAY =0.000000E+00
SURFACE STATION NO.	ISS = 12842
YEAR OF SURFACE DATA	ISY = 86
UPPER AIR STATION NO.	IUS = 12842
YEAR OF UPPER AIR DATA	IUY = 86
ALLOCATED DATA STORAGE	LIMIT =500000 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN	MIMIT = 15181 WORDS

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

*** RANGES OF POLAR GRID SYSTEM ***
(METERS)

25.0,	50.0,	75.0,	100.0,	150.0,	200.0,	250.0,	300.0,	350.0,	400.0,
450.0,	500.0,	600.0,	700.0,	800.0,	900.0,	1000.0,	2000.0,	3000.0,	4000.0,
5000.0,	6000.0,	7000.0,	8000.0,	9000.0,	10000.0,				

*** RADIAL ANGLES OF POLAR GRID SYSTEM ***
(DEGREES)

10.0,	20.0,	30.0,	40.0,	50.0,	60.0,	70.0,	80.0,	90.0,	100.0,
110.0,	120.0,	130.0,	140.0,	150.0,	160.0,	170.0,	180.0,	190.0,	200.0,
210.0,	220.0,	230.0,	240.0,	250.0,	260.0,	270.0,	280.0,	290.0,	300.0,
310.0,	320.0,	330.0,	340.0,	350.0,	360.0,				

*** RANGE, THETA COORDINATES OF DISCRETE RECEPTORS ***
(METERS, DEGREES)

(119.0,	10.0),	(124.0,	20.0),	(135.0,	30.0),	(152.0,	40.0),	(180.0,	50.0),
(230.0,	60.0),	(255.0,	70.0),	(263.0,	80.0),	(393.0,	90.0),	(186.0,	100.0),
(94.0,	110.0),	(62.0,	120.0),	(49.0,	130.0),	(41.0,	140.0),	(37.0,	150.0),
(33.0,	160.0),	(24.0,	170.0),	(23.0,	180.0),	(24.0,	190.0),	(25.0,	200.0),
(27.0,	210.0),	(31.0,	220.0),	(37.0,	230.0),	(47.0,	240.0),	(66.0,	250.0),
(126.0,	260.0),	(122.0,	270.0),	(125.0,	280.0),	(130.0,	290.0),	(140.0,	300.0),
(159.0,	310.0),	(170.0,	320.0),	(150.0,	330.0),	(138.0,	340.0),	(132.0,	350.0),
(129.0,	360.0),	(

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

*** SOURCE DATA ***

SOURCE NUMBER	T W P K E E	Y A NUMBER PART. CATS.	EMISSION RATE	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	HEIGHT (METERS)	TEMP.	EXIT VEL.	BLDG. HEIGHT (METERS)	BLDG. LENGTH (METERS)	BLDG. WIDTH (METERS)	
			TYPE=0,1 (GRAMS/SEC)					TYPE=0 (DEG.K);	TYPE=0 (M/SEC);				VERT.DIM TYPE=1 (METERS)
1	0 0	0	0.21300E+01	-300.0	10.0	0.0	1.83	298.00	8.84	6.00	-5.49	277.60	277.60
2	0 0	0	0.21300E+01	-300.0	45.0	0.0	1.83	298.00	8.84	6.00	-5.49	277.60	227.60
3	0 0	0	0.21300E+01	-300.0	75.0	0.0	1.83	298.00	8.84	6.00	-5.49	277.60	277.60
4	0 0	0	0.21300E+01	-185.0	90.0	0.0	1.83	298.00	8.84	6.00	-5.49	277.60	277.60
5	0 0	0	0.21300E+01	-135.0	90.0	0.0	1.83	298.00	8.84	6.00	-5.49	277.60	277.60
6	0 0	0	0.21300E+01	-85.0	90.0	0.0	1.83	298.00	8.84	6.00	-5.49	277.60	277.60
7	0 0	0	0.21300E+01	-45.0	90.0	0.0	1.83	298.00	8.84	6.00	-5.49	277.60	277.60

Note: Revised VOC Emissions

Styrene - 11.03 lb/hr or 1.39 g/s

Acetone - 20.5 lb/hr or 2.58 g/s

Other - 0.76 lb/hr or 0.10 g/s

Modeled emissions = $2.13 \times 7 = 14.91 \text{ g/s}$

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE 1

IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW
1	5.5	311.1,	2	5.5	312.7,	3	5.5	304.8,	4	5.5	287.7,	5	5.5	261.8,	6	5.5	227.9,
7	5.5	187.2,	8	5.5	140.7,	9	5.5	90.0,	10	5.5	140.7,	11	5.5	187.2,	12	5.5	227.9,
13	5.5	261.8,	14	5.5	287.7,	15	5.5	304.8,	16	5.5	312.7,	17	5.5	311.1,	18	5.5	300.0,
19	5.5	311.1,	20	5.5	312.7,	21	5.5	304.8,	22	5.5	287.7,	23	5.5	261.8,	24	5.5	227.9,
25	5.5	187.2,	26	5.5	140.7,	27	5.5	90.0,	28	5.5	140.7,	29	5.5	187.2,	30	5.5	227.9,
31	5.5	261.8,	32	5.5	287.7,	33	5.5	304.8,	34	5.5	312.7,	35	5.5	311.1,	36	5.5	300.0,

SOURCE 2

IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW
1	5.5	311.1,	2	5.5	312.7,	3	5.5	304.8,	4	5.5	287.7,	5	5.5	261.8,	6	5.5	227.9,
7	5.5	187.2,	8	5.5	140.7,	9	5.5	90.0,	10	5.5	140.7,	11	5.5	187.2,	12	5.5	227.9,
13	5.5	261.8,	14	5.5	287.7,	15	5.5	304.8,	16	5.5	312.7,	17	5.5	311.1,	18	5.5	300.0,
19	5.5	311.1,	20	5.5	312.7,	21	5.5	304.8,	22	5.5	287.7,	23	5.5	261.8,	24	5.5	227.9,
25	5.5	187.2,	26	5.5	140.7,	27	5.5	90.0,	28	5.5	140.7,	29	5.5	187.2,	30	5.5	227.9,
31	5.5	261.8,	32	5.5	287.7,	33	5.5	304.8,	34	5.5	312.7,	35	5.5	311.1,	36	5.5	300.0,

SOURCE 3

IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW
1	5.5	311.1,	2	5.5	312.7,	3	5.5	304.8,	4	5.5	287.7,	5	5.5	261.8,	6	5.5	227.9,
7	5.5	187.2,	8	5.5	140.7,	9	5.5	90.0,	10	5.5	140.7,	11	5.5	187.2,	12	5.5	227.9,
13	5.5	261.8,	14	5.5	287.7,	15	5.5	304.8,	16	5.5	312.7,	17	5.5	311.1,	18	5.5	300.0,
19	5.5	311.1,	20	5.5	312.7,	21	5.5	304.8,	22	5.5	287.7,	23	5.5	261.8,	24	5.5	227.9,
25	5.5	187.2,	26	5.5	140.7,	27	5.5	90.0,	28	5.5	140.7,	29	5.5	187.2,	30	5.5	227.9,
31	5.5	261.8,	32	5.5	287.7,	33	5.5	304.8,	34	5.5	312.7,	35	5.5	311.1,	36	5.5	300.0,

SOURCE 4

IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW
1	5.5	311.1,	2	5.5	312.7,	3	5.5	304.8,	4	5.5	287.7,	5	5.5	261.8,	6	5.5	227.9,
7	5.5	187.2,	8	5.5	140.7,	9	5.5	90.0,	10	5.5	140.7,	11	5.5	187.2,	12	5.5	227.9,
13	5.5	261.8,	14	5.5	287.7,	15	5.5	304.8,	16	5.5	312.7,	17	5.5	311.1,	18	5.5	300.0,
19	5.5	311.1,	20	5.5	312.7,	21	5.5	304.8,	22	5.5	287.7,	23	5.5	261.8,	24	5.5	227.9,
25	5.5	187.2,	26	5.5	140.7,	27	5.5	90.0,	28	5.5	140.7,	29	5.5	187.2,	30	5.5	227.9,
31	5.5	261.8,	32	5.5	287.7,	33	5.5	304.8,	34	5.5	312.7,	35	5.5	311.1,	36	5.5	300.0,

SOURCE 5

IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW
1	5.5	311.1,	2	5.5	312.7,	3	5.5	304.8,	4	5.5	287.7,	5	5.5	261.8,	6	5.5	227.9,
7	5.5	187.2,	8	5.5	140.7,	9	5.5	90.0,	10	5.5	140.7,	11	5.5	187.2,	12	5.5	227.9,
13	5.5	261.8,	14	5.5	287.7,	15	5.5	304.8,	16	5.5	312.7,	17	5.5	311.1,	18	5.5	300.0,
19	5.5	311.1,	20	5.5	312.7,	21	5.5	304.8,	22	5.5	287.7,	23	5.5	261.8,	24	5.5	227.9,
25	5.5	187.2,	26	5.5	140.7,	27	5.5	90.0,	28	5.5	140.7,	29	5.5	187.2,	30	5.5	227.9,
31	5.5	261.8,	32	5.5	287.7,	33	5.5	304.8,	34	5.5	312.7,	35	5.5	311.1,	36	5.5	300.0,

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE 6

IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW
1	5.5,	311.1,	2	5.5,	312.7,	3	5.5,	304.8,	4	5.5,	287.7,	5	5.5,	261.8,	6	5.5,	227.9,
7	5.5,	187.2,	8	5.5,	140.7,	9	5.5,	90.0,	10	5.5,	140.7,	11	5.5,	187.2,	12	5.5,	227.9,
13	5.5,	261.8,	14	5.5,	287.7,	15	5.5,	304.8,	16	5.5,	312.7,	17	5.5,	311.1,	18	5.5,	300.0,
19	5.5,	311.1,	20	5.5,	312.7,	21	5.5,	304.8,	22	5.5,	287.7,	23	5.5,	261.8,	24	5.5,	227.9,
25	5.5,	187.2,	26	5.5,	140.7,	27	5.5,	90.0,	28	5.5,	140.7,	29	5.5,	187.2,	30	5.5,	227.9,
31	5.5,	261.8,	32	5.5,	287.7,	33	5.5,	304.8,	34	5.5,	312.7,	35	5.5,	311.1,	36	5.5,	300.0,

SOURCE 7

IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW
1	5.5,	311.1,	2	5.5,	312.7,	3	5.5,	304.8,	4	5.5,	287.7,	5	5.5,	261.8,	6	5.5,	227.9,
7	5.5,	187.2,	8	5.5,	140.7,	9	5.5,	90.0,	10	5.5,	140.7,	11	5.5,	187.2,	12	5.5,	227.9,
13	5.5,	261.8,	14	5.5,	287.7,	15	5.5,	304.8,	16	5.5,	312.7,	17	5.5,	311.1,	18	5.5,	300.0,
19	5.5,	311.1,	20	5.5,	312.7,	21	5.5,	304.8,	22	5.5,	287.7,	23	5.5,	261.8,	24	5.5,	227.9,
25	5.5,	187.2,	26	5.5,	140.7,	27	5.5,	90.0,	28	5.5,	140.7,	29	5.5,	187.2,	30	5.5,	227.9,
31	5.5,	261.8,	32	5.5,	287.7,	33	5.5,	304.8,	34	5.5,	312.7,	35	5.5,	311.1,	36	5.5,	300.0,

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* HIGHEST 8-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 2602.99400 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	25.0	50.0	75.0	100.0	150.0
360.0 /	261.79860 (60, 2)	830.20750 (60, 2)	969.91710 (27, 2)	297.73780 (184, 2)	264.52100 (58, 2)
350.0 /	329.20350 (60, 2)	915.17100 (60, 2)	1694.27800 (27, 2)	390.65180 (208, 2)	314.92880 (58, 2)
340.0 /	433.15690 (60, 2)	441.11910 (27, 2)	2602.99400 (60, 2)	394.12840 (184, 2)	244.94450 (58, 2)
330.0 /	498.08730 (60, 2)	555.74970 (5, 2)	969.20960 (5, 2)	1105.99100 (27, 2)	288.82430 (58, 2)
320.0 /	464.49740 (60, 2)	709.21660 (60, 2)	992.35580 (60, 2)	1989.08100 (27, 2)	348.98210 (58, 2)
310.0 /	348.53920 (60, 2)	360.23610 (60, 2)	399.81080 (27, 2)	1123.65500 (5, 2)	521.61880 (208, 2)
300.0 /	234.86440 (5, 2)	244.94030 (27, 2)	541.69200 (5, 2)	535.58960 (60, 2)	459.95450 (27, 2)
290.0 /	223.22490 (80, 2)	288.32970 (60, 2)	467.05870 (60, 2)	255.00030 (60, 2)	725.90390 (60, 2)
280.0 /	233.23460 (80, 2)	323.46390 (60, 2)	194.69000 (80, 2)	265.97740 (60, 2)	227.47000 (11, 1)
270.0 /	228.70900 (80, 2)	288.10940 (5, 2)	205.97250 (80, 2)	288.03520 (5, 2)	288.03370 (5, 2)
260.0 /	218.21240 (80, 2)	253.96350 (5, 2)	183.06510 (60, 2)	211.46590 (5, 2)	213.72030 (27, 2)
250.0 /	206.91910 (80, 2)	224.29460 (5, 2)	170.71640 (60, 2)	156.89350 (5, 2)	124.80910 (112, 2)
240.0 /	197.40780 (80, 2)	204.70790 (5, 2)	141.72100 (80, 2)	135.11610 (80, 2)	136.76000 (112, 2)
230.0 /	187.65600 (80, 2)	186.46110 (5, 2)	131.93570 (80, 2)	123.64250 (80, 2)	136.05280 (112, 2)
220.0 /	178.76870 (80, 2)	165.34860 (5, 2)	127.77390 (80, 2)	117.54700 (65, 2)	129.38480 (112, 2)
210.0 /	170.17040 (80, 2)	143.89670 (80, 2)	124.70180 (80, 2)	121.13230 (112, 2)	123.88380 (112, 2)
200.0 /	180.87750 (5, 2)	133.55970 (80, 2)	122.25330 (80, 2)	123.45310 (112, 2)	122.77310 (112, 2)
190.0 /	203.23940 (5, 2)	129.32320 (60, 2)	115.68640 (80, 2)	122.69810 (112, 2)	127.19050 (112, 2)
180.0 /	206.86000 (5, 2)	129.27670 (60, 2)	117.62830 (112, 2)	121.81800 (112, 2)	134.05170 (112, 2)
170.0 /	184.65650 (5, 2)	142.79750 (5, 2)	121.08170 (112, 2)	122.25930 (112, 2)	134.56300 (112, 2)
160.0 /	159.90900 (112, 2)	142.04980 (112, 2)	128.58720 (112, 2)	124.30650 (112, 2)	130.01160 (112, 2)
150.0 /	181.33850 (60, 2)	153.44410 (112, 2)	142.53540 (112, 2)	134.50630 (112, 2)	128.92400 (112, 2)
140.0 /	204.41470 (60, 2)	160.10510 (112, 2)	154.60810 (112, 2)	148.33110 (112, 2)	137.65570 (112, 2)
130.0 /	219.28040 (60, 2)	166.17370 (112, 2)	165.56440 (112, 2)	160.20740 (112, 2)	143.43100 (112, 2)
120.0 /	220.98970 (60, 2)	174.76970 (112, 2)	171.14610 (112, 2)	158.63300 (112, 2)	140.00820 (65, 2)
110.0 /	213.43560 (60, 2)	189.81590 (60, 2)	172.09670 (60, 2)	147.65780 (112, 2)	154.64120 (65, 2)
100.0 /	207.10250 (60, 2)	229.51830 (60, 2)	165.47950 (27, 2)	169.61780 (65, 2)	181.61340 (65, 2)
90.0 /	211.92200 (60, 2)	239.66120 (60, 2)	199.65490 (27, 2)	194.74880 (65, 2)	195.72710 (106, 2)
80.0 /	230.39260 (60, 2)	213.35370 (27, 2)	239.48900 (27, 2)	211.77530 (27, 2)	211.22700 (19, 2)
70.0 /	258.86130 (60, 2)	250.43370 (27, 2)	280.72140 (27, 2)	237.89290 (19, 2)	226.09770 (19, 2)
60.0 /	290.34440 (60, 2)	296.62300 (27, 2)	314.37860 (27, 2)	269.05250 (19, 2)	311.69060 (184, 2)
50.0 /	317.62680 (60, 2)	349.01170 (27, 2)	341.64200 (27, 2)	347.31950 (27, 2)	363.64910 (184, 2)
40.0 /	333.09760 (60, 2)	406.28150 (27, 2)	397.49070 (27, 2)	340.52010 (184, 2)	218.39920 (184, 2)
30.0 /	328.15080 (60, 2)	465.26060 (27, 2)	504.19740 (27, 2)	449.01910 (184, 2)	194.64340 (192, 2)
20.0 /	298.84190 (60, 2)	513.57960 (27, 2)	644.74070 (27, 2)	454.33390 (184, 2)	204.12850 (58, 2)
10.0 /	262.02960 (60, 2)	524.37870 (27, 2)	796.76900 (27, 2)	363.97190 (184, 2)	327.01350 (58, 2)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* HIGHEST 8-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 2602.99400 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	200.0	250.0	300.0	350.0	400.0
360.0 /	248.18770 (58, 2)	168.56240 (58, 2)	101.95630 (79, 2)	95.83265 (79, 2)	91.51348 (79, 2)
350.0 /	226.51660 (58, 2)	126.75340 (79, 2)	107.10100 (79, 2)	106.25780 (79, 2)	104.30130 (79, 2)
340.0 /	222.11110 (58, 2)	114.16700 (79, 2)	91.23466 (79, 2)	97.35930 (78, 2)	98.23174 (210, 2)
330.0 /	232.40030 (58, 2)	99.51912 (73, 2)	119.52930 (78, 2)	98.80344 (78, 2)	122.63500 (79, 2)
320.0 /	235.33250 (73, 2)	128.89160 (72, 2)	145.36650 (72, 2)	149.95010 (78, 2)	106.16170 (79, 2)
310.0 /	218.67740 (58, 2)	129.74680 (72, 2)	162.38390 (72, 2)	147.52930 (79, 2)	154.29530 (72, 2)
300.0 /	148.97110 (58, 2)	204.07370 (58, 2)	177.38390 (78, 2)	123.33120 (68, 2)	129.78360 (68, 2)
290.0 /	793.30640 (11, 1)	279.77540 (154, 2)	422.18720 (78, 2)	136.01710C(244, 3)	145.79630 (72, 2)
280.0 /	333.30220 (8, 2)	700.46440 (27, 2)	577.79720 (80, 2)	241.64940 (318, 2)	215.48540 (318, 2)
270.0 /	413.76150 (27, 2)	734.00830 (27, 2)	206.42690 (80, 1)	429.46230 (8, 2)	232.80890 (318, 2)
260.0 /	260.27660 (60, 2)	679.57950 (60, 2)	213.23000 (11, 1)	175.48520 (8, 2)	287.15780 (8, 2)
250.0 /	194.15530 (60, 2)	221.15550 (80, 2)	132.26320 (80, 2)	126.33090 (11, 1)	134.04040 (340, 2)
240.0 /	159.05120 (60, 2)	134.50860 (80, 2)	95.67581 (317, 3)	100.47840 (290, 2)	108.30720 (317, 3)
230.0 /	122.65500 (60, 2)	97.74564 (80, 2)	115.31660 (5, 2)	75.40804 (87, 2)	87.56219 (290, 2)
220.0 /	106.45520 (112, 2)	80.38080 (80, 2)	104.12590 (5, 2)	59.01408 (46, 2)	63.80115 (87, 2)
210.0 /	101.85220 (112, 2)	70.93475 (80, 2)	60.63285 (319, 2)	81.33456 (5, 2)	64.48605 (11, 2)
200.0 /	98.67555 (112, 2)	85.17983 (112, 2)	72.30603 (46, 2)	67.89987 (319, 2)	89.27420 (5, 2)
190.0 /	99.89925 (112, 2)	90.85093 (112, 2)	80.34959 (337, 2)	82.22020 (46, 2)	71.31915 (319, 2)
180.0 /	109.93600 (112, 2)	88.69033 (112, 2)	84.55457 (112, 2)	81.45300 (337, 2)	84.26559 (46, 2)
170.0 /	126.57200 (112, 2)	99.59311 (112, 2)	84.18124 (46, 2)	80.08458 (46, 2)	75.47641 (46, 2)
160.0 /	134.41110 (112, 2)	122.79160 (112, 2)	101.26070 (112, 2)	81.98647 (112, 2)	69.68324 (112, 2)
150.0 /	131.20770 (112, 2)	131.09520 (112, 2)	123.26770 (112, 2)	110.49220 (112, 2)	96.37548 (112, 2)
140.0 /	131.07690 (112, 2)	127.26340 (112, 2)	121.96690 (112, 2)	114.45880 (112, 2)	105.69570 (112, 2)
130.0 /	133.94730 (65, 2)	120.77020 (65, 2)	103.91710 (112, 2)	93.88581 (112, 2)	91.53261 (200, 3)
120.0 /	147.88200 (65, 2)	151.15590 (65, 2)	149.91550 (65, 2)	144.89380 (65, 2)	137.47180 (65, 2)
110.0 /	162.65680 (65, 2)	163.69060 (65, 2)	161.34550 (65, 2)	156.28620 (65, 2)	150.00920 (65, 2)
100.0 /	178.32140 (65, 2)	174.31920 (65, 2)	166.67080 (65, 2)	152.28000 (65, 2)	134.12950 (65, 2)
90.0 /	175.68710 (106, 2)	169.25070 (19, 2)	165.10400 (19, 2)	159.97870 (19, 2)	160.38990 (358, 2)
80.0 /	201.69140 (19, 2)	200.93880 (99, 1)	196.89110 (99, 1)	196.16510 (184, 2)	198.16410 (184, 2)
70.0 /	259.83000 (184, 2)	284.05950 (184, 2)	255.43860 (184, 2)	207.28800 (184, 2)	164.55710 (62, 2)
60.0 /	310.51600 (184, 2)	194.01020 (62, 2)	159.39320 (62, 2)	136.49350 (192, 2)	129.65690 (192, 2)
50.0 /	182.03810 (98, 2)	174.09270 (192, 2)	157.72590 (192, 2)	132.18740 (115, 2)	123.29450 (58, 2)
40.0 /	189.12400 (192, 2)	155.05540 (115, 2)	186.32680 (58, 2)	205.10720 (58, 2)	212.31750 (58, 2)
30.0 /	207.63820 (58, 2)	247.01060 (58, 2)	250.58410 (58, 2)	229.76420 (58, 2)	195.46610 (58, 2)
20.0 /	295.24820 (58, 2)	261.68520 (58, 2)	209.68560 (58, 2)	158.53470 (58, 2)	112.11220 (58, 2)
10.0 /	278.90300 (58, 2)	215.57550 (58, 2)	148.05650 (58, 2)	88.45246 (58, 2)	88.19265 (35, 2)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* HIGHEST 8-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 2602.99400 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	450.0	500.0	600.0	700.0	800.0
360.0 /	96.05589 (79, 2)	100.28150 (79, 2)	105.29170 (79, 2)	98.63767 (79, 2)	85.42078 (79, 2)
350.0 /	112.61810 (79, 2)	116.30870 (79, 2)	111.53010 (79, 2)	96.94276 (37, 2)	81.61640 (345, 2)
340.0 /	112.02750 (79, 2)	123.51620 (79, 2)	80.17091 (75, 2)	87.60834 (334, 2)	78.52106 (232, 3)
330.0 /	107.24100 (79, 2)	83.92004 (75, 2)	82.72942 (75, 2)	85.57594 (73, 1)	84.25201 (73, 1)
320.0 /	79.84401 (148, 2)	80.94706 (72, 2)	96.48383 (72, 2)	94.22305 (73, 1)	82.40976 (215, 1)
310.0 /	178.47500 (72, 2)	143.54060 (72, 2)	139.77310 (72, 1)	142.09640 (72, 1)	136.53070 (72, 1)
300.0 /	131.73420 (68, 2)	136.20360 (68, 2)	137.57340 (68, 2)	142.24950 (328, 2)	135.73970 (328, 2)
290.0 /	158.21420 (147, 2)	168.15970 (147, 2)	157.84600 (147, 2)	135.93290 (147, 2)	110.90970 (147, 2)
280.0 /	198.43250 (314, 2)	194.49080 (314, 2)	167.35950 (314, 2)	167.83270 (94, 3)	162.76990 (94, 3)
270.0 /	244.60790 (318, 2)	243.33350 (318, 2)	215.51850 (318, 2)	182.80860 (318, 2)	169.54160 (314, 2)
260.0 /	239.19140 (340, 2)	209.28660 (130, 2)	163.70680 (89, 2)	140.92150 (258, 2)	133.44420 (356, 3)
250.0 /	160.00070 (317, 3)	198.82030 (340, 2)	214.57270 (340, 2)	224.63810 (318, 1)	216.27380 (318, 1)
240.0 /	116.24630 (317, 3)	128.35810 (290, 2)	159.31610 (290, 2)	154.88880 (317, 3)	148.42860 (340, 2)
230.0 /	95.68681 (290, 2)	100.12200 (290, 2)	111.29300 (301, 2)	140.04090 (301, 2)	139.67150 (301, 2)
220.0 /	69.60345 (87, 2)	72.74197 (11, 2)	81.65134 (301, 2)	92.18533 (301, 2)	99.12752 (301, 2)
210.0 /	63.70059 (11, 2)	59.70481 (11, 2)	70.33123 (11, 2)	75.81072 (11, 2)	64.74770 (11, 2)
200.0 /	72.29071 (5, 2)	69.50856 (11, 2)	64.94099 (11, 2)	58.55653 (11, 2)	58.07943 (11, 2)
190.0 /	75.48105 (5, 2)	92.94138 (5, 2)	68.09253 (5, 2)	54.44212C(103, 3)	60.98485C(150, 3)
180.0 /	81.78275 (46, 2)	73.02814C(127, 3)	78.70113 (5, 2)	90.08131 (5, 2)	78.91692 (5, 2)
170.0 /	78.87802 (337, 2)	79.83757 (5, 2)	78.34121 (5, 2)	76.94688C(127, 3)	76.26482 (5, 2)
160.0 /	65.96863 (46, 2)	61.82749 (13, 2)	64.05393 (337, 2)	62.10598 (337, 2)	57.34191 (5, 2)
150.0 /	83.29427 (112, 2)	72.29274 (112, 2)	60.96636 (103, 2)	64.67288C(227, 3)	64.72588C(284, 3)
140.0 /	96.50711 (112, 2)	87.49656 (112, 2)	75.41513 (103, 2)	77.50204C(278, 3)	76.54042C(278, 3)
130.0 /	93.12605 (200, 3)	91.53719 (200, 3)	85.74613 (200, 3)	86.98016C(141, 3)	90.24913C(141, 3)
120.0 /	128.81970 (65, 2)	119.78750 (65, 2)	106.86880C(229, 3)	106.61610C(229, 3)	106.04580 (200, 3)
110.0 /	143.28920 (65, 2)	136.46190 (65, 2)	123.42890C(229, 3)	133.96970C(229, 3)	139.88260C(229, 3)
100.0 /	120.89450 (229, 2)	113.95660 (229, 2)	112.52830C(160, 3)	110.61640C(160, 3)	109.53510C(226, 3)
90.0 /	163.82560 (358, 2)	163.29170 (358, 2)	153.84900 (358, 2)	138.65630 (358, 2)	122.27400 (358, 2)
80.0 /	192.72100 (184, 2)	182.29690 (184, 2)	155.00810 (184, 2)	127.64400 (184, 2)	104.14920 (184, 2)
70.0 /	146.35680 (62, 2)	127.01170 (62, 2)	136.04780 (183, 1)	132.58640 (183, 1)	120.50030 (183, 1)
60.0 /	118.15820 (192, 2)	126.09570 (184, 1)	153.68340 (184, 1)	166.83440 (184, 1)	170.69370 (184, 1)
50.0 /	135.63300 (58, 2)	143.02990 (58, 2)	144.41930 (58, 2)	134.75890 (58, 2)	121.73610 (58, 2)
40.0 /	206.03850 (58, 2)	191.79790 (58, 2)	155.62540 (58, 2)	121.10890 (58, 2)	95.66986 (321, 3)
30.0 /	159.02670 (58, 2)	125.86390 (58, 2)	75.58253 (58, 2)	78.18176C(324, 3)	80.16616C(324, 3)
20.0 /	87.25268 (63, 2)	86.47449 (63, 2)	72.97225 (63, 2)	87.34008 (203, 1)	106.72120 (203, 1)
10.0 /	91.08692 (35, 2)	88.12215 (35, 2)	96.87102 (210, 3)	106.70270 (210, 3)	92.06796 (210, 3)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* HIGHEST 8-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 2602.99400 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	900.0	1000.0	2000.0	3000.0	4000.0
360.0 /	74.72575 (10, 3)	75.67863 (330, 3)	52.98735 (159, 3)	49.17126 (110, 3)	39.57549 (110, 3)
350.0 /	77.33337 (345, 2)	71.65424 (185, 3)	56.60619 (159, 3)	47.18876C(204, 3)	48.16026C(204, 3)
340.0 /	89.75096 (232, 3)	98.37396 (232, 3)	110.68050 (232, 3)	91.44633 (232, 3)	70.96223C(180, 1)
330.0 /	90.39701 (73, 1)	113.35780 (232, 3)	115.24410C(164, 1)	78.84008 (151, 1)	75.94732 (151, 1)
320.0 /	98.14356 (215, 1)	107.31470 (215, 1)	87.78739 (215, 1)	81.00508 (139, 1)	67.15086 (139, 1)
310.0 /	132.39730 (72, 1)	131.02930 (72, 1)	119.52120C(241, 1)	90.79753C(241, 1)	65.89067 (160, 1)
300.0 /	122.97350 (77, 3)	120.28470 (169, 3)	139.37790 (272, 3)	136.78310 (272, 3)	116.05490 (272, 3)
290.0 /	121.09980 (333, 1)	130.62100 (333, 1)	184.63900C(257, 1)	167.46210C(257, 1)	139.36180C(257, 1)
280.0 /	148.64410 (94, 3)	146.46730 (311, 3)	124.13280 (271, 3)	113.89780 (187, 1)	93.91939 (187, 1)
270.0 /	166.53660 (314, 2)	155.83240 (314, 2)	89.83363C(251, 3)	80.28448 (312, 1)	66.94091 (312, 1)
260.0 /	139.12090 (356, 3)	136.69460 (356, 3)	204.01840 (242, 3)	203.80720 (242, 3)	158.63990 (242, 3)
250.0 /	191.25630 (318, 1)	163.05430 (318, 1)	176.34550 (259, 1)	164.57860 (261, 3)	146.96870 (263, 1)
240.0 /	141.24640 (340, 2)	125.16300 (340, 2)	121.76790 (156, 1)	105.26180 (156, 1)	79.31081 (156, 1)
230.0 /	119.61790 (301, 2)	106.62440 (339, 2)	114.93110C(247, 1)	63.76619 (279, 3)	66.95425 (261, 1)
220.0 /	105.64520 (301, 2)	111.34470 (301, 2)	57.33707 (301, 2)	55.16039 (290, 3)	65.23892 (290, 3)
210.0 /	56.50639 (306, 2)	62.45598 (306, 2)	54.22020C(276, 3)	51.66529C(254, 3)	43.90739C(254, 3)
200.0 /	58.34358 (11, 2)	56.65963 (11, 2)	50.66875 (294, 3)	39.53628 (294, 3)	28.41522C(213, 3)
190.0 /	68.34311C(150, 3)	65.57456C(150, 3)	72.05035 (331, 3)	50.93455 (331, 3)	43.10300 (331, 3)
180.0 /	60.57211 (5, 2)	54.06236C(103, 3)	45.43045C(323, 3)	41.58775C(195, 3)	36.30534C(195, 3)
170.0 /	78.52825 (5, 2)	79.85038 (5, 2)	54.92005 (279, 3)	51.75228 (279, 3)	44.46990 (279, 3)
160.0 /	57.80491C(127, 3)	59.37978C(127, 3)	42.27518 (5, 2)	41.02429C(284, 3)	41.08396C(284, 3)
150.0 /	64.64324C(127, 3)	65.69833C(127, 3)	61.35101C(127, 3)	50.12560C(127, 3)	45.72620C(255, 3)
140.0 /	79.56230C(284, 3)	84.44707C(284, 3)	104.15170C(284, 3)	86.68448C(284, 3)	67.95139C(284, 3)
130.0 /	93.04232C(141, 3)	95.46288C(141, 3)	102.94750C(141, 3)	89.12946C(141, 3)	73.46628C(141, 3)
120.0 /	106.47440 (200, 3)	104.07300 (200, 3)	78.50517 (201, 1)	70.24855 (201, 1)	58.52370 (201, 1)
110.0 /	142.05060C(229, 3)	141.47570C(229, 3)	105.59560C(229, 3)	87.77733C(228, 1)	70.89468C(228, 1)
100.0 /	115.43580C(226, 3)	118.35950C(226, 3)	87.57686C(226, 3)	62.93793 (112, 1)	58.74291 (112, 1)
90.0 /	106.89060 (358, 2)	93.40758 (358, 2)	75.63696 (202, 1)	59.02479C(213, 1)	54.37437C(213, 1)
80.0 /	85.21421 (184, 2)	80.38486 (212, 1)	83.62796C(282, 3)	67.73370 (183, 1)	55.58124 (183, 1)
70.0 /	109.96950 (183, 1)	103.63820 (183, 1)	94.47199 (184, 1)	76.44528C(228, 1)	64.49637C(228, 1)
60.0 /	168.01930 (184, 1)	159.20920 (184, 1)	131.45970 (192, 1)	117.83660 (192, 1)	93.63077 (192, 1)
50.0 /	108.41980 (58, 2)	112.85380 (322, 1)	110.65690 (190, 3)	104.36340 (190, 3)	73.68916 (190, 3)
40.0 /	93.92584 (321, 3)	86.77008 (321, 3)	89.15606C(324, 3)	68.31136C(231, 1)	78.01041C(231, 1)
30.0 /	86.94115C(159, 1)	96.84313C(159, 1)	112.60090 (203, 1)	62.91274 (323, 1)	48.51109 (58, 1)
20.0 /	115.36050 (203, 1)	113.13340 (210, 3)	56.45958 (225, 3)	42.18087 (42, 1)	32.43447 (42, 1)
10.0 /	76.51321 (10, 3)	74.63033 (10, 3)	58.92157 (41, 3)	60.38298C(343, 3)	54.64881C(343, 3)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* HIGHEST 8-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE DISCRETE RECEPTOR POINTS *

- RNG -	- DIR -	CON.	(DAY,PER.)	- RNG -	- DIR -	CON.	(DAY,PER.)
119.0	10.0	229.96720	(208, 2)	124.0	20.0	194.83640	(208, 2)
135.0	30.0	193.72950	(230, 2)	152.0	40.0	207.63500	(98, 2)
180.0	50.0	229.34740	(184, 2)	230.0	60.0	238.08930	(184, 2)
255.0	70.0	283.12980	(184, 2)	263.0	80.0	200.35460	(99, 1)
393.0	90.0	159.55030	(358, 2)	186.0	100.0	179.26510	(65, 2)
94.0	110.0	150.79900	(112, 2)	62.0	120.0	174.86370	(112, 2)
49.0	130.0	166.09110	(112, 2)	41.0	140.0	165.43820	(60, 2)
37.0	150.0	158.87140	(112, 2)	33.0	160.0	154.75240	(112, 2)
24.0	170.0	185.85790	(5, 2)	23.0	180.0	212.12640	(5, 2)
24.0	190.0	208.48620	(5, 2)	25.0	200.0	180.87750	(5, 2)
27.0	210.0	167.96300	(80, 2)	31.0	220.0	176.44640	(60, 2)
37.0	230.0	177.19860	(60, 2)	47.0	240.0	213.89700	(5, 2)
66.0	250.0	177.38030	(80, 2)	126.0	260.0	182.93670	(27, 2)
122.0	270.0	202.32630	(80, 2)	125.0	280.0	333.66580	(60, 2)
130.0	290.0	350.41960	(5, 2)	140.0	300.0	876.93700	(27, 3)
159.0	310.0	1189.17500	(58, 2)	170.0	320.0	251.68550	(58, 2)
150.0	330.0	288.82430	(58, 2)	138.0	340.0	315.28430	(58, 2)
132.0	350.0	256.77150	(58, 2)	129.0	360.0	405.14900	(58, 2)

$$\text{Max 8-hr impacts} = \left(\frac{\text{Actual emissions}}{\text{Modeled emissions}} \right)$$

X 1189.175

Styrene = 110.9 $\mu\text{g}/\text{m}^3$

Acetone = 205.8 $\mu\text{g}/\text{m}^3$

Other = 8.0 $\mu\text{g}/\text{m}^3$

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* 50 MAXIMUM 8-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *

* FROM ALL SOURCES *

RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)	RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)
1	2602.99400	2	60	75.0	340.0	26	700.46440	2	27	250.0	280.0
2	1989.08100	2	27	100.0	320.0	27	683.24080	2	27	75.0	340.0
3	1694.27800	2	27	75.0	350.0	28	679.57950	2	60	250.0	260.0
4	1451.65600	3	27	75.0	340.0	29	671.23500	3	27	100.0	320.0
5	1189.17500	2	58	159.0	310.0	30	653.69140	2	8	100.0	320.0
6	1123.65500	2	5	100.0	310.0	31	648.28500	3	99	140.0	300.0
7	1105.99100	2	27	100.0	330.0	32	644.74070	2	27	75.0	20.0
8	992.35580	2	60	75.0	320.0	33	618.74740	2	27	100.0	310.0
9	969.91710	2	27	75.0	360.0	34	615.76750	2	60	100.0	320.0
10	969.20960	2	5	75.0	330.0	35	588.51960	3	8	100.0	320.0
11	945.29440	2	27	75.0	330.0	36	577.79720	2	80	300.0	280.0
12	915.17100	2	60	50.0	350.0	37	555.74970	2	5	50.0	330.0
13	876.93700	3	27	140.0	300.0	38	543.56400	2	8	100.0	310.0
14	830.20750	2	60	50.0	360.0	39	541.69200	2	5	75.0	300.0
15	827.12700	2	60	140.0	300.0	40	535.58960	2	60	100.0	300.0
16	803.69650	3	26	100.0	320.0	41	532.75190	3	60	75.0	340.0
17	796.76900	2	27	75.0	10.0	42	529.36180	1	99	100.0	330.0
18	793.30640	1	11	200.0	290.0	43	526.57240	2	26	75.0	340.0
19	746.49320	3	60	100.0	320.0	44	524.37870	2	27	50.0	10.0
20	746.16470	2	80	140.0	300.0	45	521.61880	2	208	150.0	310.0
21	734.00830	2	27	250.0	270.0	46	518.64730	2	80	75.0	330.0
22	725.90390	2	60	150.0	290.0	47	516.91100	3	27	150.0	290.0
23	717.47810	2	60	250.0	270.0	48	513.57960	2	27	50.0	20.0
24	709.21660	2	60	50.0	320.0	49	511.80130	2	26	140.0	300.0
25	704.58780	3	27	75.0	320.0	50	504.28450	2	26	75.0	350.0

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 1096.80700 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	25.0	50.0	75.0	100.0	150.0
360.0 /	160.51520 (27, 1)	393.99100C(60, 1)	323.33370 (27, 1)	106.15570 (184, 1)	101.28850 (58, 1)
350.0 /	173.18640C(60, 1)	362.21400C(60, 1)	579.77260 (27, 1)	166.17160C(208, 1)	115.63460 (58, 1)
340.0 /	225.57580C(60, 1)	265.23160 (27, 1)	1096.80700C(60, 1)	137.55290 (184, 1)	91.68733 (58, 1)
330.0 /	248.95130C(60, 1)	284.83440C(60, 1)	337.11670C(5, 1)	368.66380 (27, 1)	107.03030 (58, 1)
320.0 /	217.80020C(60, 1)	302.49160C(60, 1)	484.18450C(60, 1)	898.99970 (27, 1)	128.76800 (58, 1)
310.0 /	156.13890C(60, 1)	152.85240 (27, 1)	235.14450 (27, 1)	390.83680C(5, 1)	221.55210C(208, 1)
300.0 /	110.39970 (27, 1)	139.54380 (27, 1)	188.44150C(5, 1)	292.44160C(60, 1)	153.31880 (27, 1)
290.0 /	105.21630 (27, 1)	164.75340C(60, 1)	197.98680C(60, 1)	146.50650 (27, 1)	358.91170C(60, 1)
280.0 /	100.90230 (27, 1)	164.37240C(60, 1)	95.00266 (27, 1)	157.79680C(60, 1)	137.43110 (8, 1)
270.0 /	95.63881 (27, 1)	121.67290C(60, 1)	84.06200 (80, 1)	108.69230C(60, 1)	100.65590C(5, 1)
260.0 /	89.64846 (27, 1)	88.81583C(5, 1)	87.10078C(60, 1)	73.95281C(5, 1)	77.96758 (27, 1)
250.0 /	91.01266C(60, 1)	84.28123 (80, 1)	77.16084C(60, 1)	70.31793 (106, 1)	55.66710 (27, 1)
240.0 /	89.27043C(60, 1)	80.37466 (80, 1)	67.87856 (106, 1)	63.03893 (80, 1)	50.56740 (112, 1)
230.0 /	85.50366C(60, 1)	76.00949 (80, 1)	63.86698 (106, 1)	58.13415 (80, 1)	51.17476 (112, 1)
220.0 /	80.91345C(60, 1)	69.71191 (80, 1)	59.50323 (106, 1)	52.34707C(65, 1)	49.53157 (112, 1)
210.0 /	76.41329C(60, 1)	64.15757 (106, 1)	56.47327 (106, 1)	49.15989C(65, 1)	48.00952 (112, 1)
200.0 /	72.85573C(60, 1)	63.65690 (106, 1)	55.54121 (106, 1)	47.15563C(65, 1)	47.94684 (112, 1)
190.0 /	71.18027C(60, 1)	63.47392 (106, 1)	55.90991 (106, 1)	46.69901C(65, 1)	49.95593 (112, 1)
180.0 /	72.24082C(60, 1)	63.65905 (106, 1)	57.15790 (106, 1)	47.28369C(65, 1)	52.09468 (112, 1)
170.0 /	76.36521C(60, 1)	64.28461 (106, 1)	59.18000 (106, 1)	50.68626 (106, 1)	51.51707 (112, 1)
160.0 /	82.99774C(60, 1)	65.34820 (106, 1)	61.59990 (106, 1)	55.30879 (106, 1)	49.51059 (112, 1)
150.0 /	90.69971C(60, 1)	66.76982 (106, 1)	64.28725 (106, 1)	59.87503 (106, 1)	49.75458 (112, 1)
140.0 /	97.33738C(60, 1)	70.47454C(60, 1)	67.23180 (106, 1)	64.61657 (106, 1)	56.73939 (106, 1)
130.0 /	101.07200C(60, 1)	73.78073C(60, 1)	70.56427 (106, 1)	69.60117 (106, 1)	64.75208 (106, 1)
120.0 /	100.92250C(60, 1)	76.21700 (27, 1)	74.12296 (106, 1)	74.51261 (106, 1)	72.91890 (106, 1)
110.0 /	98.25378C(60, 1)	85.77502C(60, 1)	79.27073C(60, 1)	79.84496 (106, 1)	82.32530 (106, 1)
100.0 /	100.53730 (27, 1)	102.83390C(60, 1)	84.23757 (27, 1)	88.15308 (106, 1)	95.89798 (106, 1)
90.0 /	106.28510 (27, 1)	111.43340C(60, 1)	92.05019 (106, 1)	101.63910 (106, 1)	110.00330 (106, 1)
80.0 /	112.28760 (27, 1)	114.66080 (27, 1)	104.07100 (106, 1)	117.79260 (106, 1)	115.11390 (106, 1)
70.0 /	118.72910 (27, 1)	124.77430 (27, 1)	118.65400 (106, 1)	130.99900 (106, 1)	103.05320 (99, 1)
60.0 /	128.71590C(60, 1)	135.35730 (27, 1)	131.45020 (106, 1)	132.16020 (106, 1)	129.71430 (99, 1)
50.0 /	139.46390C(60, 1)	148.50280 (27, 1)	139.40920 (106, 1)	120.00940 (99, 1)	130.54480 (184, 1)
40.0 /	145.76970C(60, 1)	166.86540 (27, 1)	141.74570 (106, 1)	149.57520 (99, 1)	97.68470C(98, 1)
30.0 /	144.64510C(60, 1)	193.09580 (27, 1)	168.06680 (27, 1)	158.48050 (99, 1)	84.58554 (183, 1)
20.0 /	149.22150 (27, 1)	231.38270 (27, 1)	214.91390 (27, 1)	158.27820 (184, 1)	86.22231 (58, 1)
10.0 /	154.35140 (27, 1)	287.59700 (27, 1)	265.59050 (27, 1)	128.28670 (184, 1)	124.60400 (58, 1)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 1096.80700 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	200.0	250.0	300.0	350.0	400.0
360.0 /	96.72876 (58, 1)	73.90568 (58, 1)	45.04906 (58, 1)	42.27923C(210, 1)	45.24821C(210, 1)
350.0 /	87.58661 (58, 1)	53.45198 (58, 1)	44.28166C(210, 1)	47.85200C(210, 1)	56.28898C(210, 1)
340.0 /	83.72975 (58, 1)	40.52083 (58, 1)	44.45848C(73, 1)	47.06926C(210, 1)	51.86349C(210, 1)
330.0 /	84.93115 (58, 1)	47.34285C(73, 1)	44.08304 (78, 1)	49.12881C(210, 1)	46.53465C(210, 1)
320.0 /	85.00636C(73, 1)	64.16031 (72, 1)	87.08916 (72, 1)	57.01026 (78, 1)	44.09472 (78, 1)
310.0 /	78.78274 (58, 1)	57.92223 (72, 1)	100.42790 (72, 1)	71.55200 (72, 1)	93.19203 (72, 1)
300.0 /	55.89991 (58, 1)	75.07832 (72, 1)	85.66998 (72, 1)	49.54307 (72, 1)	47.72318 (147, 1)
290.0 /	371.91820 (11, 1)	114.86880C(154, 1)	141.35290 (78, 1)	79.79694C(94, 1)	71.47741C(94, 1)
280.0 /	205.70760 (8, 1)	260.43310 (27, 1)	219.76440 (80, 1)	80.99782 (318, 1)	71.97119 (9, 1)
270.0 /	167.24050 (27, 1)	406.68850 (27, 1)	111.70150 (80, 1)	283.49330 (8, 1)	107.70530 (8, 1)
260.0 /	121.96140C(60, 1)	299.77340C(60, 1)	109.63520 (80, 1)	76.75388 (8, 1)	143.65330 (8, 1)
250.0 /	92.59915C(60, 1)	92.86266 (80, 1)	54.31966 (80, 1)	75.12770 (11, 1)	64.08878 (340, 1)
240.0 /	71.28063C(60, 1)	59.79257 (80, 1)	34.75454C(87, 1)	41.73378C(87, 1)	46.50785C(87, 1)
230.0 /	51.35748C(60, 1)	43.31869 (80, 1)	40.23454C(5, 1)	33.91011C(87, 1)	39.12732C(87, 1)
220.0 /	40.07978 (99, 1)	33.41136 (80, 1)	36.43072C(5, 1)	26.23695C(87, 1)	28.69900C(87, 1)
210.0 /	38.35031 (112, 1)	35.85346 (99, 1)	27.36256 (80, 1)	28.50623C(5, 1)	30.15563 (11, 1)
200.0 /	38.85006 (112, 1)	37.61973 (99, 1)	26.58503 (80, 1)	27.94502 (80, 1)	31.29459C(5, 1)
190.0 /	41.65246 (112, 1)	35.40218 (112, 1)	33.70094 (99, 1)	28.01230 (80, 1)	28.75415 (80, 1)
180.0 /	46.96906 (112, 1)	38.39615 (112, 1)	34.74935 (112, 1)	31.51585 (99, 1)	30.34316 (337, 1)
170.0 /	53.22501 (112, 1)	45.20663 (112, 1)	37.67940 (112, 1)	34.63136 (112, 1)	32.12717 (112, 1)
160.0 /	54.85658 (112, 1)	54.57487 (112, 1)	48.27019 (112, 1)	40.99364 (112, 1)	36.03817 (112, 1)
150.0 /	52.37174 (112, 1)	55.65125 (112, 1)	56.06599 (112, 1)	53.49350 (112, 1)	49.03601 (112, 1)
140.0 /	52.83423 (112, 1)	53.46905 (112, 1)	53.74269 (112, 1)	53.05679 (112, 1)	51.54136 (112, 1)
130.0 /	59.92569C(65, 1)	54.01579C(65, 1)	51.10088C(200, 1)	52.92022C(200, 1)	53.55497C(200, 1)
120.0 /	69.41241 (106, 1)	67.66911C(65, 1)	67.06962C(65, 1)	64.76753C(65, 1)	61.38746C(65, 1)
110.0 /	83.68547 (106, 1)	83.19193 (106, 1)	80.95202 (106, 1)	77.33861 (106, 1)	73.02989 (106, 1)
100.0 /	98.77336 (106, 1)	97.13004 (106, 1)	93.18900 (106, 1)	87.55829 (106, 1)	81.21947 (106, 1)
90.0 /	104.31910 (106, 1)	94.71655 (106, 1)	83.31056 (106, 1)	76.21177 (201, 1)	73.23032 (201, 1)
80.0 /	89.28622 (99, 1)	96.86491 (99, 1)	101.64850 (99, 1)	101.97900 (99, 1)	96.67644 (99, 1)
70.0 /	117.06630 (99, 1)	105.49510 (184, 1)	99.05145 (184, 1)	84.21897 (184, 1)	67.89520 (184, 1)
60.0 /	114.74540 (184, 1)	83.24339C(157, 1)	81.02644 (183, 1)	86.43893 (183, 1)	87.85009 (183, 1)
50.0 /	87.17157C(98, 1)	89.34328 (183, 1)	89.84077 (183, 1)	86.59633 (183, 1)	81.80949 (202, 1)
40.0 /	89.18295 (183, 1)	83.28111 (202, 1)	83.43385 (202, 1)	89.67752 (58, 1)	101.20110 (58, 1)
30.0 /	85.41509 (58, 1)	98.91951 (58, 1)	107.76760 (58, 1)	111.17910 (58, 1)	105.92360 (58, 1)
20.0 /	112.20070 (58, 1)	107.66050 (58, 1)	98.83730 (58, 1)	84.47408 (58, 1)	66.96396 (58, 1)
10.0 /	106.78160 (58, 1)	93.82699 (58, 1)	72.99004 (58, 1)	50.15607 (58, 1)	37.80025C(210, 1)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 1096.80700 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	450.0	500.0	600.0	700.0	800.0
360.0 /	54.06712C(210, 1)	60.63840C(210, 1)	51.37878 (10, 1)	44.95182 (10, 1)	38.49048 (10, 1)
350.0 /	56.41025C(210, 1)	53.57919C(210, 1)	43.70470C(210, 1)	42.95083 (37, 1)	37.98063 (37, 1)
340.0 /	51.33394C(210, 1)	44.79900 (79, 1)	35.31822 (330, 1)	45.41435 (334, 1)	43.21167 (334, 1)
330.0 /	43.94534 (78, 1)	36.64621C(73, 1)	37.74178 (298, 1)	37.92103 (298, 1)	37.45634 (298, 1)
320.0 /	51.58458 (72, 1)	47.92699 (72, 1)	51.38985 (72, 1)	44.96248 (72, 1)	43.54110 (78, 1)
310.0 /	95.21170 (72, 1)	88.92955 (72, 1)	83.44131 (72, 1)	85.68716 (72, 1)	85.35271 (72, 1)
300.0 /	47.08927 (147, 1)	49.04115 (147, 1)	55.80262 (147, 1)	69.45486 (72, 1)	71.25816 (72, 1)
290.0 /	70.63527 (72, 1)	78.12607 (147, 1)	79.01365 (147, 1)	76.47919 (147, 1)	72.34166 (147, 1)
280.0 /	83.26796 (314, 1)	101.60910C(94, 1)	114.30010C(94, 1)	113.14000C(94, 1)	102.87110C(94, 1)
270.0 /	93.38097 (318, 1)	87.59508 (124, 1)	73.11523 (124, 1)	75.88695 (314, 1)	83.29321 (314, 1)
260.0 /	106.91760 (8, 1)	111.10250 (318, 1)	98.69351 (318, 1)	83.50971 (318, 1)	88.26755 (260, 1)
250.0 /	77.80495 (340, 1)	95.50909 (340, 1)	107.50930 (340, 1)	116.91240 (318, 1)	123.67240 (318, 1)
240.0 /	49.75412C(87, 1)	52.54014C(87, 1)	64.56443 (290, 1)	72.52192 (340, 1)	83.86503 (340, 1)
230.0 /	42.01304C(87, 1)	39.85125C(87, 1)	48.36080C(301, 1)	61.37875C(301, 1)	64.15652C(301, 1)
220.0 /	31.08248C(87, 1)	32.98137C(87, 1)	32.45815C(87, 1)	34.49295C(301, 1)	37.72174C(301, 1)
210.0 /	33.29065 (11, 1)	34.19912 (11, 1)	35.39951 (11, 1)	36.42770 (11, 1)	33.39857 (11, 1)
200.0 /	32.29626 (11, 1)	36.34624 (11, 1)	40.06257 (11, 1)	38.86799 (11, 1)	36.01556 (11, 1)
190.0 /	31.56837 (80, 1)	32.87749C(5, 1)	27.94343 (11, 1)	29.81265 (11, 1)	29.63128 (11, 1)
180.0 /	29.72891C(127, 1)	28.73249C(127, 1)	28.42222 (80, 1)	32.05463C(5, 1)	28.36591C(5, 1)
170.0 /	29.86329C(13, 1)	29.83296 (337, 1)	29.37936C(5, 1)	29.07349C(5, 1)	29.08323C(5, 1)
160.0 /	33.58764 (112, 1)	32.14365 (112, 1)	28.19494 (112, 1)	25.65866 (337, 1)	25.39687 (337, 1)
150.0 /	43.98437 (112, 1)	39.26540 (112, 1)	32.44081 (112, 1)	28.73769 (112, 1)	26.63014 (99, 1)
140.0 /	49.39392 (112, 1)	46.84591 (112, 1)	41.34934 (112, 1)	37.80636C(200, 1)	35.91115C(200, 1)
130.0 /	52.62005C(200, 1)	50.57187C(200, 1)	45.96350C(200, 1)	42.64037C(200, 1)	40.69417C(200, 1)
120.0 /	57.46297C(65, 1)	56.04391C(229, 1)	53.86902C(229, 1)	50.86424C(229, 1)	50.39519C(200, 1)
110.0 /	68.53209 (106, 1)	64.14832 (106, 1)	63.78282C(229, 1)	63.49302C(229, 1)	62.37754C(229, 1)
100.0 /	74.79864 (106, 1)	68.63540 (106, 1)	71.48515C(230, 1)	72.00630C(230, 1)	70.32515C(230, 1)
90.0 /	69.87463 (201, 1)	67.87448 (99, 1)	65.83967C(358, 1)	61.40009C(358, 1)	55.95192C(358, 1)
80.0 /	87.98473 (99, 1)	78.23888 (99, 1)	65.04036 (184, 1)	55.86421 (212, 1)	52.11075 (212, 1)
70.0 /	67.89353 (183, 1)	72.29303 (183, 1)	76.41169 (183, 1)	74.08235 (183, 1)	68.86256 (183, 1)
60.0 /	87.65524 (183, 1)	86.96759 (183, 1)	84.34773 (183, 1)	79.74623 (183, 1)	73.55667 (183, 1)
50.0 /	79.73376 (202, 1)	75.86922 (202, 1)	72.46654 (58, 1)	75.35536 (58, 1)	74.77840 (58, 1)
40.0 /	107.22670 (58, 1)	108.03200 (58, 1)	99.41231 (58, 1)	84.84024 (58, 1)	70.10715 (58, 1)
30.0 /	94.53567 (58, 1)	81.03546 (58, 1)	57.08438 (58, 1)	45.77354C(231, 1)	46.96325C(231, 1)
20.0 /	51.04205 (58, 1)	42.59006C(324, 1)	45.77486C(209, 1)	47.63840C(209, 1)	45.57782C(210, 1)
10.0 /	44.35326C(209, 1)	47.00290C(209, 1)	55.44799C(210, 1)	59.63251C(210, 1)	53.09571 (10, 1)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 1096.80700 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	900.0	1000.0	2000.0	3000.0	4000.0
360.0 /	36.61635 (37, 1)	36.06090 (37, 1)	18.73407 (334, 1)	17.10278C(206, 1)	14.42082 (36, 1)
350.0 /	36.44680 (334, 1)	38.30415 (334, 1)	26.64411 (36, 1)	22.43289C(204, 1)	21.08372C(204, 1)
340.0 /	45.37636 (232, 1)	49.43783 (232, 1)	43.28243 (232, 1)	33.21637 (232, 1)	22.56218 (232, 1)
330.0 /	43.30244 (232, 1)	50.91906 (232, 1)	37.20195C(164, 1)	26.29375 (151, 1)	25.32257 (151, 1)
320.0 /	42.98678C(215, 1)	46.35138C(215, 1)	45.76694 (344, 1)	36.23524 (344, 1)	25.62825 (344, 1)
310.0 /	83.33675 (72, 1)	78.70350 (72, 1)	42.25375 (147, 1)	34.23341 (147, 1)	26.36123 (147, 1)
300.0 /	68.72027 (147, 1)	66.82846 (147, 1)	62.26844 (272, 1)	57.00359 (272, 1)	46.19469 (272, 1)
290.0 /	68.57132 (147, 1)	64.88527 (147, 1)	69.38724C(270, 1)	57.21114C(270, 1)	44.50636C(270, 1)
280.0 /	90.05482C(94, 1)	78.97784 (311, 1)	65.71433 (223, 1)	51.63223 (223, 1)	39.70130 (223, 1)
270.0 /	84.95834 (314, 1)	83.87221 (314, 1)	53.12797 (312, 1)	42.57682 (312, 1)	33.54087C(286, 1)
260.0 /	90.01772 (260, 1)	88.20986 (260, 1)	108.15250 (242, 1)	105.75600 (242, 1)	83.53078 (242, 1)
250.0 /	120.59410 (318, 1)	112.00640 (318, 1)	76.16666 (263, 1)	84.25564 (263, 1)	75.18056 (263, 1)
240.0 /	86.20618 (340, 1)	83.55119 (340, 1)	70.21806C(247, 1)	50.72606C(247, 1)	32.28939 (156, 1)
230.0 /	59.41446C(301, 1)	54.13777C(301, 1)	41.37862C(300, 1)	30.64578C(86, 1)	25.98354 (261, 1)
220.0 /	40.93847C(301, 1)	43.87719C(301, 1)	35.50037C(300, 1)	36.36239 (290, 1)	36.74950 (290, 1)
210.0 /	29.18308 (11, 1)	26.29860 (306, 1)	22.75884 (306, 1)	14.76151C(254, 1)	12.70992 (294, 1)
200.0 /	34.46714 (11, 1)	33.03654 (11, 1)	24.35823 (289, 1)	17.10821 (289, 1)	12.59307 (338, 1)
190.0 /	28.63724 (11, 1)	29.32497 (303, 1)	24.01678 (331, 1)	19.05163 (289, 1)	14.80480 (289, 1)
180.0 /	22.52584C(5, 1)	20.22204C(279, 1)	22.82035 (303, 1)	19.77725 (303, 1)	15.55323 (303, 1)
170.0 /	29.65362C(5, 1)	29.98922C(5, 1)	25.18699C(279, 1)	23.41547C(279, 1)	20.01831C(279, 1)
160.0 /	24.68280 (337, 1)	23.46250 (337, 1)	15.87474C(5, 1)	15.95389C(284, 1)	15.97709C(284, 1)
150.0 /	25.87964 (99, 1)	24.55212 (99, 1)	19.52913C(127, 1)	17.61631C(279, 1)	15.02600C(279, 1)
140.0 /	32.96657C(200, 1)	32.84053C(284, 1)	40.50346C(284, 1)	33.71063C(284, 1)	26.42554C(284, 1)
130.0 /	39.68800C(200, 1)	39.37526C(200, 1)	39.40801C(200, 1)	30.34783C(200, 1)	23.32224C(200, 1)
120.0 /	49.85330C(200, 1)	48.25994C(200, 1)	27.02460 (201, 1)	23.84298 (201, 1)	19.81065 (201, 1)
110.0 /	61.95983C(228, 1)	63.37251C(228, 1)	62.28146C(228, 1)	50.48531C(228, 1)	40.51117C(228, 1)
100.0 /	67.06208C(230, 1)	62.81835C(230, 1)	28.68296C(226, 1)	20.97971 (112, 1)	19.58109 (112, 1)
90.0 /	52.22232 (201, 1)	49.92215 (201, 1)	39.01356 (201, 1)	31.21343 (201, 1)	25.02611 (201, 1)
80.0 /	47.94839 (212, 1)	43.74034 (212, 1)	30.28579 (183, 1)	24.85474 (183, 1)	20.00058 (183, 1)
70.0 /	64.01941 (183, 1)	60.48685 (183, 1)	43.91005 (183, 1)	36.33151C(228, 1)	28.25652C(228, 1)
60.0 /	66.34809 (183, 1)	58.97587 (183, 1)	62.01583C(191, 1)	48.06953C(191, 1)	33.69196C(191, 1)
50.0 /	75.87411 (322, 1)	77.79342 (322, 1)	47.16360C(190, 1)	44.23790C(190, 1)	31.22744C(190, 1)
40.0 /	58.97572C(211, 1)	57.07120C(211, 1)	33.58063C(211, 1)	28.48526C(231, 1)	28.06784C(231, 1)
30.0 /	48.00634C(231, 1)	48.86936C(231, 1)	43.52037C(203, 1)	29.91228C(210, 1)	21.75392C(210, 1)
20.0 /	50.62342C(210, 1)	53.93781C(210, 1)	29.14734 (185, 1)	17.03525C(52, 1)	12.34587C(102, 1)
10.0 /	49.52481 (10, 1)	43.82710 (10, 1)	27.07136 (41, 1)	23.13508 (42, 1)	17.27863 (42, 1)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 1096.80700 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	5000.0	6000.0	7000.0	8000.0	9000.0
360.0 /	13.38300 (36, 1)	12.20103 (36, 1)	11.00860 (36, 1)	9.90723 (36, 1)	8.93830 (36, 1)
350.0 /	17.72058C(204, 1)	14.73301C(164, 1)	12.98524C(164, 1)	11.36038C(164, 1)	9.94648C(164, 1)
340.0 /	18.64838C(180, 1)	16.22520C(180, 1)	13.82616C(180, 1)	11.76554C(180, 1)	10.06019C(180, 1)
330.0 /	22.76920 (151, 1)	19.71854 (151, 1)	16.88324 (151, 1)	14.50846 (151, 1)	12.55693 (151, 1)
320.0 /	18.80619C(163, 1)	16.00075C(163, 1)	13.60827C(163, 1)	11.90180 (139, 1)	10.55807 (139, 1)
310.0 /	22.62529C(160, 1)	19.91348C(160, 1)	17.57625C(160, 1)	15.62954C(160, 1)	14.23563 (71, 1)
300.0 /	37.38470 (272, 1)	30.79880 (272, 1)	25.85752 (272, 1)	22.10885 (272, 1)	19.19760 (272, 1)
290.0 /	35.46956C(270, 1)	29.04392C(270, 1)	24.32530C(270, 1)	20.78985C(270, 1)	18.09492C(257, 1)
280.0 /	31.54007 (223, 1)	25.80126 (223, 1)	21.59960 (223, 1)	18.44393 (223, 1)	16.30997C(288, 1)
270.0 /	29.43556C(286, 1)	25.73243C(286, 1)	22.60297C(286, 1)	20.02615C(286, 1)	17.89972C(286, 1)
260.0 /	65.40060 (242, 1)	52.24693 (242, 1)	42.69967 (242, 1)	35.69012 (242, 1)	30.38629 (242, 1)
250.0 /	64.56295 (263, 1)	55.38125 (263, 1)	47.88313 (263, 1)	41.88542 (263, 1)	37.03041 (263, 1)
240.0 /	27.59871C(251, 1)	25.12329C(251, 1)	22.39858C(251, 1)	19.89966C(251, 1)	17.72143C(251, 1)
230.0 /	23.17685 (261, 1)	20.03840 (261, 1)	17.27206 (261, 1)	14.99132 (261, 1)	13.30624C(21, 1)
220.0 /	33.82378 (290, 1)	29.81189 (290, 1)	25.89429 (290, 1)	22.45201 (290, 1)	19.56754 (290, 1)
210.0 /	12.87232C(176, 1)	12.67718C(176, 1)	11.97779C(176, 1)	11.09655C(176, 1)	10.18676C(176, 1)
200.0 /	11.01725 (338, 1)	9.49438 (338, 1)	8.19158 (338, 1)	7.11814 (338, 1)	6.24041 (338, 1)
190.0 /	12.22789 (331, 1)	10.66806C(12, 1)	9.71082C(12, 1)	8.70858C(12, 1)	8.24063C(113, 1)
180.0 /	12.74701C(284, 1)	12.30518C(284, 1)	11.55244C(284, 1)	10.69224C(284, 1)	9.82585C(284, 1)
170.0 /	17.50027C(279, 1)	15.47148C(279, 1)	13.73585C(279, 1)	12.25046C(279, 1)	10.97386C(279, 1)
160.0 /	14.72200C(284, 1)	12.92734C(284, 1)	11.14080C(284, 1)	9.58042C(284, 1)	8.27033C(284, 1)
150.0 /	12.56505C(255, 1)	10.65144C(255, 1)	8.99230C(255, 1)	8.11954C(60, 1)	7.47845C(60, 1)
140.0 /	21.24515C(284, 1)	17.54046C(284, 1)	14.79857C(284, 1)	12.72044C(284, 1)	11.09406C(284, 1)
130.0 /	18.69559C(200, 1)	15.48832C(200, 1)	13.14963C(200, 1)	11.39127C(200, 1)	10.03485C(13, 1)
120.0 /	16.54453 (201, 1)	14.00908 (201, 1)	12.03838 (201, 1)	10.49907 (201, 1)	9.26629 (201, 1)
110.0 /	33.18615C(228, 1)	27.75541C(228, 1)	23.64658C(228, 1)	20.49571C(228, 1)	18.00220C(228, 1)
100.0 /	17.77787 (112, 1)	16.02555 (112, 1)	14.44934 (112, 1)	13.07022 (112, 1)	11.89080 (112, 1)
90.0 /	20.51846 (201, 1)	17.18871 (201, 1)	14.67470 (201, 1)	12.75217 (201, 1)	11.23042 (201, 1)
80.0 /	16.35915 (183, 1)	13.63688 (183, 1)	11.57537 (183, 1)	9.99369 (183, 1)	8.74636 (183, 1)
70.0 /	21.92930C(228, 1)	17.34402C(228, 1)	14.52579 (183, 1)	12.53264 (183, 1)	10.95696 (183, 1)
60.0 /	24.92172 (192, 1)	20.61434 (183, 1)	18.33224 (183, 1)	16.34795 (183, 1)	14.64557 (183, 1)
50.0 /	22.07131C(190, 1)	16.39802C(190, 1)	12.79916C(190, 1)	10.65186C(191, 1)	9.58785C(191, 1)
40.0 /	26.14777C(231, 1)	23.59479C(231, 1)	21.03493C(231, 1)	18.73985C(231, 1)	16.74857C(231, 1)
30.0 /	15.23806C(210, 1)	12.33149 (37, 1)	11.67213C(191, 1)	10.90451C(191, 1)	10.11398C(191, 1)
20.0 /	10.64933C(102, 1)	9.02899C(102, 1)	7.66643C(102, 1)	6.56117C(102, 1)	5.66995C(102, 1)
10.0 /	13.27250C(49, 1)	11.04887C(354, 1)	9.75670C(354, 1)	8.66848C(354, 1)	7.74804C(354, 1)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET.DATA ***

* HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 1096.80700 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / RANGE (METERS)
(DEGREES) / 10000.0

360.0 /	8.09830 (36, 1)
350.0 /	8.74734C(164, 1)
340.0 /	8.66646C(180, 1)
330.0 /	10.95833 (151, 1)
320.0 /	9.45688 (139, 1)
310.0 /	13.13442 (71, 1)
300.0 /	16.88254 (272, 1)
290.0 /	16.12116C(257, 1)
280.0 /	14.68455C(288, 1)
270.0 /	16.12630C(286, 1)
260.0 /	26.26448 (242, 1)
250.0 /	33.04530 (263, 1)
240.0 /	15.85553C(251, 1)
230.0 /	12.26403C(21, 1)
220.0 /	17.17602 (290, 1)
210.0 /	9.32134C(176, 1)
200.0 /	5.52013 (338, 1)
190.0 /	8.02922C(113, 1)
180.0 /	9.00710C(284, 1)
170.0 /	9.87753C(279, 1)
160.0 /	7.18636C(284, 1)
150.0 /	6.89685C(60, 1)
140.0 /	9.79229C(284, 1)
130.0 /	9.14690C(13, 1)
120.0 /	8.30441 (66, 1)
110.0 /	15.98931C(228, 1)
100.0 /	10.87799 (112, 1)
90.0 /	10.00138 (201, 1)
80.0 /	7.74544 (183, 1)
70.0 /	9.68824 (183, 1)
60.0 /	13.19335 (183, 1)
50.0 /	8.65262C(191, 1)
40.0 /	15.04351C(231, 1)
30.0 /	9.35642C(191, 1)
20.0 /	4.94816C(102, 1)
10.0 /	6.96452C(354, 1)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE DISCRETE RECEPTOR POINTS *

- RNG -	- DIR -	CON.	(DAY,PER.)	- RNG -	- DIR -	CON.	(DAY,PER.)
119.0	10.0	98.50470C	(208, 1)	124.0	20.0	83.97906C	(98, 1)
135.0	30.0	91.41723C	(98, 1)	152.0	40.0	96.16335C	(98, 1)
180.0	50.0	95.76904C	(98, 1)	230.0	60.0	91.98473	(184, 1)
255.0	70.0	105.55580	(184, 1)	263.0	80.0	98.36617	(99, 1)
393.0	90.0	73.67988	(201, 1)	186.0	100.0	98.27154	(106, 1)
94.0	110.0	79.40721	(106, 1)	62.0	120.0	73.81577	(106, 1)
49.0	130.0	74.55091C	(60, 1)	41.0	140.0	78.40448C	(60, 1)
37.0	150.0	76.51970C	(60, 1)	33.0	160.0	74.15807C	(60, 1)
24.0	170.0	77.53738C	(60, 1)	23.0	180.0	73.93343C	(60, 1)
24.0	190.0	72.52547C	(5, 1)	25.0	200.0	72.85573C	(60, 1)
27.0	210.0	77.99339C	(60, 1)	31.0	220.0	86.08252C	(60, 1)
37.0	230.0	88.62416C	(60, 1)	47.0	240.0	81.45205	(80, 1)
66.0	250.0	71.68142	(80, 1)	126.0	260.0	75.31845	(106, 1)
122.0	270.0	79.13853	(99, 1)	125.0	280.0	139.16450	(8, 1)
130.0	290.0	161.95340	(27, 1)	140.0	300.0	401.11890	(27, 1)
159.0	310.0	406.72430	(58, 1)	170.0	320.0	93.09900	(58, 1)
150.0	330.0	107.03030	(58, 1)	138.0	340.0	117.16970	(58, 1)
132.0	350.0	100.17140	(58, 1)	129.0	360.0	151.12930	(58, 1)

Max 24-hr impacts = $\left(\frac{\text{Actual emissions}}{\text{Modeled emissions}} \right)$
 X 406.72430

Styrene = 37.9 $\mu\text{g}/\text{m}^3$
 Acetone = 70.4 $\mu\text{g}/\text{m}^3$
 Other = 2.7 $\mu\text{g}/\text{m}^3$

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* 50 MAXIMUM 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *

* FROM ALL SOURCES *

RANK	CON.	PER. DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)	RANK	CON.	PER. DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)
1	1096.80700C	1 60	75.0	340.0	26	323.33370	1 27	75.0	360.0
2	898.99970	1 27	100.0	320.0	27	302.49160C	1 60	50.0	320.0
3	719.53980	1 27	75.0	340.0	28	300.91440	1 27	50.0	350.0
4	579.77260	1 27	75.0	350.0	29	299.77340C	1 60	250.0	260.0
5	484.18450C	1 60	75.0	320.0	30	299.24730	1 99	140.0	300.0
6	475.39780C	1 60	100.0	320.0	31	292.44160C	1 60	100.0	300.0
7	414.07040	1 8	100.0	320.0	32	287.59700	1 27	50.0	10.0
8	411.58290C	1 26	100.0	320.0	33	284.83440C	1 60	50.0	330.0
9	406.72430	1 58	159.0	310.0	34	283.49330	1 8	350.0	270.0
10	406.68850	1 27	250.0	270.0	35	265.59050	1 27	75.0	10.0
11	401.11890	1 27	140.0	300.0	36	265.23160	1 27	50.0	340.0
12	393.99100C	1 60	50.0	360.0	37	262.61790	1 27	100.0	300.0
13	390.83680C	1 5	100.0	310.0	38	260.43310	1 27	250.0	280.0
14	380.16930	1 27	75.0	320.0	39	259.55630	1 80	140.0	300.0
15	371.91820	1 11	200.0	290.0	40	248.95130C	1 60	25.0	330.0
16	368.66380	1 27	100.0	330.0	41	243.86340	1 27	150.0	290.0
17	362.21400C	1 60	50.0	350.0	42	242.14650	1 99	100.0	330.0
18	358.91170C	1 60	150.0	290.0	43	240.87530	1 80	100.0	310.0
19	355.70880C	1 26	75.0	340.0	44	239.61200	1 80	75.0	330.0
20	350.27840C	1 60	140.0	300.0	45	235.14450	1 27	75.0	310.0
21	339.88430	1 8	100.0	310.0	46	231.38270	1 27	50.0	20.0
22	337.32210C	1 60	250.0	270.0	47	230.65120	1 8	100.0	300.0
23	337.11670C	1 5	75.0	330.0	48	228.86400C	1 26	75.0	350.0
24	334.67270	1 27	50.0	360.0	49	225.57580C	1 60	25.0	340.0
25	332.65210	1 27	75.0	330.0	50	225.03970	1 27	50.0	330.0

PO HISTORY UMC PRO-LINE 83413, INC. Page 1
21:21:37, 12 OCT 1988

Screen for PO HISTORY and Purchase History for a part

Part Number	Desc	RESIN	UN	LB
Accounting Value 0.570 Last Actual Cost 0.570 Avg Actual Cost 0.609				
Vendor	PO Nbr	Unit Cost	Quantity	PO Date First Last
#815	REICHOLD 902709	0.530/	1000	06-24-90 06-24-90
#805	ALPHA RESINS 902422	0.530/	40000	07-05-90 07-18-90
#805	ALPHA RESINS 902335	0.530/	40000	06-29-90 07-09-90
#805	ALPHA RESINS 902304	0.530/	40000	06-19-90 06-22-90
#805	ALPHA RESINS 902234	0.530/	40000	06-04-90 06-11-90
#805	ALPHA RESINS 901724	0.530/	40000	05-29-90 06-01-90
#815	REICHOLD 901927	0.530/	40000	05-22-90 06-04-90
#815	REICHOLD 901848	0.540/	40000	05-10-90 05-18-90
#815	REICHOLD 901592	0.540/	40000	05-02-90 06-07-90
#542	SHEREX CHEMICAL CO 900092	0.530/	500	04-25-90 04-25-90

pounds

4 90

Part Number	Desc	RESIN	UN	LB
Accounting Value 0.570 Last Actual Cost 0.570 Avg Actual Cost 0.609				
Vendor	PO Nbr	Unit Cost	Quantity	PO Date First Last
#815	REICHOLD 901531	0.540/	40000	04-29-90 04-30-90
#815	REICHOLD 901347	0.540/	40000	04-12-90 04-20-90
#815	REICHOLD 901301	0.540/	40000	04-05-90 04-11-90
#815	REICHOLD 901148	0.540/	40000	03-29-90 04-05-90
#542	SHEREX CHEMICAL CO 900260	0.540/	2500	03-21-90 03-23-90
#542	SHEREX CHEMICAL CO 711000	0.540/	40000	03-29-90 03-27-90
#815	REICHOLD 900771	0.540/	40000	03-14-90 03-14-90
#815	REICHOLD 900714	0.540/	40000	03-07-90 03-07-90
#815	REICHOLD 900652	0.540/	40000	02-24-90 03-01-90

Part Number	Desc	RESIN	UN	LB
Accounting Value 0.570 Last Actual Cost 0.570 Avg Actual Cost 0.609				
Vendor	PO Nbr	Unit Cost	Quantity	PO Date First Last
#542	SHEREX CHEMICAL CO 900229	0.540/	2500	02-11-90 02-12-90
#815	REICHOLD 900395	0.540/	40000	01-14-90 02-04-90
#815	REICHOLD 900090	0.540/	40000	01-14-90 01-25-90
#542	SHEREX CHEMICAL CO 900210	0.540/	2500	01-14-90 01-25-90
#815	REICHOLD 900054	0.540/	40000	01-11-90 01-15-90
#815	REICHOLD 993067	0.540/	40000	12-01-89 01-03-90
#815	REICHOLD 893082	0.540/	40000	11-30-89 12-07-89
#815	REICHOLD 893028	0.540/	40000	11-22-89 11-30-89
#999	MISCELLANEOUS 892643	0.550/	0	11-13-89 12-03-89
#999	MISCELLANEOUS 892642	0.540/	40000	11-09-89 11-20-89

Part Number	Desc	RESIN	UN	LB
Accounting Value 0.570 Last Actual Cost 0.570 Avg Actual Cost 0.609				
Vendor	PO Nbr	Unit Cost	Quantity	PO Date First Last
#542	SHEREX CHEMICAL CO 892637	0.560/	10000	11-10-89 11-14-89
#805	ALPHA RESINS 892799	0.530/	40000	11-05-89 11-10-89
#805	ALPHA RESINS 898700	0.590/	10000	09-20-89 09-27-89
#999	MISCELLANEOUS 892631	0.540/	10000	11-06-89 11-20-89
#542	SHEREX CHEMICAL CO 892799	0.560/	40000	10-30-89 11-03-89
#542	SHEREX CHEMICAL CO 892736	0.560/	35000	10-20-89 10-25-89
#542	SHEREX CHEMICAL CO 892372	0.560/	2000	10-11-89 10-13-89
#805	ALPHA RESINS 892485	0.560/	40000	10-13-89 10-20-89
#999	MISCELLANEOUS 898630	0.560/	5000	10-04-89 10-23-89
#999	MISCELLANEOUS 892423	0.560/	35000	09-29-89 10-11-89

Accounting Value 0.570

BEST AVAILABLE COPY

Vendor	PO Nbr	Unit Cost	Quantity	PO Date	First	Last
SHEREX CHEMICAL CO	892192	1	0.560/	8000	09-22-89	09-24-89
ALPHA RESINS SUPPL	898476		0.590/	0	09-22-89	09-27-89
SHEREX CHEMICAL CO	892090		0.560/	2200	09-21-89	09-27-89
SHEREX CHEMICAL CO	892130		0.560/	35000	09-19-89	09-19-89
SHEREX CHEMICAL CO	892090		0.590/	35000	09-31-89	09-05-89
ALPHA RESINS SUPPL	898433		0.570/	2500	08-21-89	08-22-89
SHEREX CHEMICAL CO	892043		0.560/	35000	09-21-89	09-24-89
MISCELLANEOUS	898395		0.530/	2500	08-14-89	08-21-89
SHEREX CHEMICAL CO	891995		0.590/	40000	08-07-89	08-15-89

Part Number 400119 Desc RESIN

Accounting Value 0.570
Last Actual Cost 0.570
Avg Actual Cost 0.609

Vendor	PO Nbr	Unit Cost	Quantity	PO Date	First	Last
SHEREX CHEMICAL CO	891975		0.590/	40000	08-04-89	08-09-89
SHEREX CHEMICAL CO	891907		0.590/	40000	07-21-89	07-28-89
SHEREX CHEMICAL CO	891689		0.590/	40000	07-14-89	07-20-89
SHEREX CHEMICAL CO	891643		0.590/	40000	06-30-89	07-13-89
SHEREX CHEMICAL CO	89777		0.590/	43190	07-21-89	07-21-89
SHEREX CHEMICAL CO	89778		0.590/	43840	07-21-89	07-21-89
AZS CORPORATION	65721		0.590/	80000	11-01-89	11-01-89
AZS CORPORATION	65700		0.590/	42660	11-01-89	11-09-89
AZS CORPORATION	65641		0.590/	41880	11-01-89	11-21-89
AZS CORPORATION	65415		0.570/	40000	11-04-89	11-10-89

5-89
4-89
↓

Part Number 400119 Desc RESIN UN LR

Accounting Value 0.570
Last Actual Cost 0.570
Avg Actual Cost 0.609

Vendor	PO Nbr	Unit Cost	Quantity	PO Date	First	Last
AZS CORPORATION	65374A		0.590/	40000	10-21-89	11-02-89
AZS CORPORATION	65372A		0.590/	40000	10-21-89	10-26-89
AZS CORPORATION	65367		0.590/	40000	10-14-89	10-19-89
AZS CORPORATION	65259		0.590/	40000	10-05-89	10-10-89
AZS CORPORATION	65252		0.570/	40000	09-29-89	10-03-89
AZS CORPORATION	65181		0.590/	40000	09-16-89	09-26-89
AZS CORPORATION	65161		0.590/	40000	09-14-89	09-19-89
AZS CORPORATION	64992		0.590/	40000	09-30-89	09-06-89
AZS CORPORATION	64972		0.570/	40000	08-19-89	08-25-89
SHEREX CHEMICAL CO	64819		0.590/	40000	09-09-89	09-11-89

Part Number 400119 Desc RESIN UN LR

Accounting Value 0.570
Last Actual Cost 0.570
Avg Actual Cost 0.609

Vendor	PO Nbr	Unit Cost	Quantity	PO Date	First	Last
AZS CORPORATION	64903		0.590/	40000	07-29-89	09-04-89
AZS CORPORATION	64729		0.590/	40000	07-09-89	07-14-89
SHEREX CHEMICAL CO	64559		0.590/	40000	06-29-89	07-06-89
AZS CORPORATION	64541		0.540/	40000	06-21-89	06-27-89
SHEREX CHEMICAL CO	64494		0.540/	40000	06-10-89	06-16-89
SHEREX CHEMICAL CO	64453		0.540/	40000	06-01-89	06-09-89
SHEREX CHEMICAL CO	64277		0.540/	44000	05-19-89	05-24-89
SHEREX CHEMICAL CO	64277		0.540/	42000	05-19-89	05-11-89

3,100,000 16/2700
x 1/2
x 1/2000
= 777.0 try

5-89
4-89
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5-88

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PO-HISTORY-UMC

PRO-LINE BOATS, INC.

Page 1

21:54:47 12 OCT 1988

Acct MNU Page 0

Screen For PO-HISTORY-UMC - Purchase History

* Part Number	400135	Desc	RESIN, TOOLING	UM	LB
Accounting Value 0.910					
Last Actual Cost 0.910					
Avg Actual Cost 0.894					
-- Deliveries --					
* Vendor	PO Nbr	Unit Cost	Quantity	PO Date	First Last
*358	GLS CHEMICAL FIBER 904226	0.910/	1000	11-09-90	11-12-90
*358	GLS CHEMICAL FIBER 904994	0.910/	500	11-01-90	11-02-90
*358	GLS CHEMICAL FIBER 904905	0.910/	1500	10-12-90	10-15-90
*358	GLS CHEMICAL FIBER 903769	0.930/	500	10-09-90	10-09-90
*358	ALPHA RESINS SUPPL 903220	0.930/	1000	03-23-90	03-23-90
*358	ALPHA RESINS SUPPL 901254	0.950/	1000	03-03-90	03-07-90
*358	ALPHA RESINS SUPPL 901254	0.850/	500	06-22-90	07-03-90
*126	ALPHA RESINS SUPPL 901350	0.850/	1000	05-11-90	05-14-90
*358	GLS CHEMICAL FIBER 901824	0.850/	475	05-08-90	05-10-90
*126	ALPHA RESINS SUPPL 901575	0.850/	1000	04-27-90	04-30-90

pounds

4-90

* Vendor	PO Nbr	Unit Cost	Quantity	PO Date	First Last
*126	ALPHA RESINS SUPPL 900926	0.890/	1000	03-07-90	03-08-90
*126	ALPHA RESINS SUPPL 900058	0.890/	1500	01-12-90	01-15-90
*126	ALPHA RESINS SUPPL 900011	0.890/	500	01-05-90	01-08-90
*126	ALPHA RESINS SUPPL 892068	0.890/	1000	12-01-89	12-04-89
*126	ALPHA RESINS SUPPL 892185	0.890/	1000	09-22-89	09-25-89
*126	ALPHA RESINS SUPPL 891623	0.890/	2500	06-27-89	07-05-89
*126	ALPHA RESINS SUPPL 891422	0.890/	500	06-07-89	06-12-89
*126	ALPHA RESINS SUPPL 891338	0.890/	1000	06-02-89	06-05-89
*126	ALPHA RESINS SUPPL 891264	0.890/	1500	05-17-89	05-22-89
*126	ALPHA RESINS SUPPL 891116	0.890/	1000	05-01-89	05-03-89

5-89

* Part Number	400135	Desc	RESIN, TOOLING	UM	LB
Accounting Value 0.910					
Last Actual Cost 0.910					
Avg Actual Cost 0.894					
-- Deliveries --					
* Vendor	PO Nbr	Unit Cost	Quantity	PO Date	First Last
*126	ALPHA RESINS SUPPL 890958	0.890/	1000	03-07-89	03-08-89
*126	ALPHA RESINS SUPPL 890952	0.890/	500	01-12-89	01-15-89
*126	ALPHA RESINS SUPPL 890644	0.890/	1000	08-17-89	08-20-89
*126	ALPHA RESINS SUPPL 890521	0.850/	1000	03-04-89	03-10-89
*126	ALPHA RESINS SUPPL 65774	0.850/	500	12-09-88	12-12-88
*126	ALPHA RESINS SUPPL 65695	0.950/	1500	11-21-88	11-22-88
*126	ALPHA RESINS SUPPL 64787	0.840/	2500	07-26-88	08-01-88
*126	ALPHA RESINS SUPPL 64541	0.900/	2500	05-15-88	06-20-88
*126	ALPHA RESINS SUPPL 64454	0.760/	1000	04-03-88	06-07-88
*126	ALPHA RESINS SUPPL 64393	0.760/	2000	05-20-88	05-20-88

4-89

5-89

20,000 15/27
x 1/2
x 1/2000
= 6.54y

Screen For FO.HISTORY Show Purchase History for a Part

Part Number 400102 Desc GEL-COAT WHIMBLETON WHITE UN LB

Accounting Value 1.040
Last Actual Cost 1.040
Avg Actual Cost 1.045

pounds

-- Deliveries --

Vendor	PO Nbr	Unit Cost	Quantity	PO Date	First	Last
#246 CO-PLAS, INC.	902919	0.930/		5000 07-20-90	07-20-90	
#246 CO-PLAS, INC.	902667	0.930/		5000 07-20-90	07-23-90	
#246 CO-PLAS, INC.	902350 4	0.930/		5000 05-02-90	07-09-90	
#246 CO-PLAS, INC.	902221	0.930/		5000 05-04-90	05-19-90	
#246 CO-PLAS, INC.	901958	0.930/		5000 05-29-90	05-29-90	
#246 CO-PLAS, INC.	901864	0.930/		5000 05-11-90	05-21-90	
#246 CO-PLAS, INC.	901573	0.930/		5000 04-27-90	05-07-90	
#246 CO-PLAS, INC.	901503	0.930/		10000 04-23-90	04-27-90	
#246 CO-PLAS, INC.	901110	0.930/		10000 04-23-90	04-27-90	
#246 CO-PLAS, INC.	901110	0.930/		5000 04-12-90	04-20-90	

4-90
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Part Number 400102 Desc GEL-COAT WHIMBLETON WHITE UN LB

Accounting Value 1.040
Last Actual Cost 1.040
Avg Actual Cost 1.045

-- Deliveries --

Vendor	PO Nbr	Unit Cost	Quantity	PO Date	First	Last
#246 CO-PLAS, INC.	901303	0.930/		5000 04-05-90	04-13-90	
#246 CO-PLAS, INC.	901163	0.930/		5000 03-29-90	04-03-90	
#246 CO-PLAS, INC.	900937	0.930/		10000 03-09-90	03-19-90	
#246 CO-PLAS, INC.	900795	0.930/		5000 03-12-90	03-12-90	
#246 CO-PLAS, INC.	900765	0.930/		5000 02-27-90	03-01-90	
#246 CO-PLAS, INC.	900637	0.930/		5000 02-14-90	02-21-90	
#246 CO-PLAS, INC.	900522	0.930/		5000 02-05-90	02-12-90	
#246 CO-PLAS, INC.	900329	0.930/		5000 01-25-90	01-31-90	
#246 CO-PLAS, INC.	900089	0.930/		5000 01-16-90	01-19-90	
#246 CO-PLAS, INC.	893034 1	0.930/		10000 11-22-89	12-11-89	

Part Number 400102 Desc GEL-COAT WHIMBLETON WHITE UN LB

Accounting Value 1.040
Last Actual Cost 1.040
Avg Actual Cost 1.045

-- Deliveries --

Vendor	PO Nbr	Unit Cost	Quantity	PO Date	First	Last
#246 CO-PLAS, INC.	893034	0.930/		10000 11-22-89	12-05-89	
#246 CO-PLAS, INC.	892974 2	0.930/		10000 11-18-89	11-22-89	
#246 CO-PLAS, INC.	892973	1.000/		2131 10-15-89	10-15-89	
#246 CO-PLAS, INC.	892904	1.000/		10000 10-31-89	11-10-89	
#246 CO-PLAS, INC.	892735	1.000/		10000 09-20-89	09-20-89	
#246 CO-PLAS, INC.	892421	1.000/		10000 09-20-89	09-20-89	
#246 CO-PLAS, INC.	892193	1.000/		10000 09-12-89	09-29-89	
#246 CO-PLAS, INC.	892161	1.000/		10000 09-14-89	09-19-89	
#246 CO-PLAS, INC.	892071	1.000/		10000 09-25-89	09-29-89	
#246 CO-PLAS, INC.	892008	1.000/		10000 09-11-89	09-15-89	

Part Number 400102 Desc GEL-COAT WHIMBLETON WHITE UN LB

Accounting Value 1.040
Last Actual Cost 1.040
Avg Actual Cost 1.045

-- Deliveries --

Vendor	PO Nbr	Unit Cost	Quantity	PO Date	First	Last
#246 CO-PLAS, INC.	891958	1.050/		11500 09-04-89	08-07-89	
#246 CO-PLAS, INC.	891687	1.050/		10000 07-14-89	07-19-89	
#246 CO-PLAS, INC.	891590	1.050/		10000 06-23-89	06-27-89	
#246 CO-PLAS, INC.	891412	1.050/		10000 05-09-89	05-13-89	
#246 CO-PLAS, INC.	891305	1.050/		10000 05-19-89	05-23-89	
#246 CO-PLAS, INC.	891048	1.050/		10420 04-28-89	05-04-89	
#246 CO-PLAS, INC.	890950	1.050/		6000 04-24-89	04-28-89	
#246 CO-PLAS, INC.	890902	1.050/		13579 04-14-89	04-18-89	
#246 CO-PLAS, INC.	890775	1.050/		10000 03-31-89	04-03-89	
#246 CO-PLAS, INC.	890641	1.050/		10000 03-17-89	03-22-89	

5-89
4-89
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PRO-LINE BOATS, INC.

Page 1

Acct MFB Part 0

Screen For PO HISTORY should be used to view History for a Part

Acetone

gallons

Accounting	Last Actual Cost	Avg Actual Cost	-- Deliveries --			
Vendor	PO Nbr	Unit Cost	Quantity	PO Date	First	Last
*801	WHITAKER	901616	2.057/	1000	05-04-90	05-07-90
*801	WHITAKER	901276	2.057/	1000	04-11-90	04-16-90
*801	WHITAKER	901049	2.057/	1000	03-21-90	03-26-90
*801	WHITAKER	900831	2.057/	1000	02-23-90	03-02-90
*801	WHITAKER	900448	1.930/	1100	02-03-90	02-05-90
*801	WHITAKER	900126	1.930/	1000	01-10-90	01-15-90
*801	WHITAKER	892141	1.930/	1000	12-01-89	12-05-89
*801	WHITAKER	892844	1.930/	1000	11-11-89	11-13-89
*801	WHITAKER	892526	1.930/	1947	11-11-89	11-23-89
*801	WHITAKER	891821	1.930/	1100	09-11-89	09-27-89

4-90
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Part Number	Desc	UM	GL	Accounting Value	Last Actual Cost	Avg Actual Cost	-- Deliveries --	
Vendor	PO Nbr	Unit Cost	Quantity	PO Date	First	Last		
*999	MISCELLANEOUS	892273	1.930/	1000	07-07-89	07-07-89		
*190	MATRIX RECOVERY SY	892284	1.930/	850	06-21-89	06-29-89		
*190	MATRIX RECOVERY SY	891853	2.050/	850	03-11-89	03-15-89		
*190	MATRIX RECOVERY SY	891772	2.050/	800	07-23-89	08-01-89		
*190	MATRIX RECOVERY SY	891490	2.050/	800	07-14-89	07-17-89		
*190	MATRIX RECOVERY SY	891453	1.650/	613	06-30-89	07-05-89		
*190	MATRIX RECOVERY SY	891439	1.650/	800	06-16-89	06-19-89		
*190	MATRIX RECOVERY SY	891370	1.650/	400	05-02-89	05-05-89		
*190	MATRIX RECOVERY SY	891261	1.650/	800	05-19-89	05-22-89		
*190	MATRIX RECOVERY SY	891120	1.650/	300	05-05-89	05-09-89		

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5-89

Part Number	Desc	UM	GL	Accounting Value	Last Actual Cost	Avg Actual Cost	-- Deliveries --	
Vendor	PO Nbr	Unit Cost	Quantity	PO Date	First	Last		
*190	MATRIX RECOVERY SY	890951	1.650/	850	04-21-89	04-25-89		
*190	MATRIX RECOVERY SY	890825	1.650/	850	04-07-89	04-10-89		
*190	MATRIX RECOVERY SY	890778	1.650/	300	03-31-89	04-03-89		
*190	MATRIX RECOVERY SY	890654	1.650/	1500	03-20-89	03-20-89		
*190	MATRIX RECOVERY SY	890449	1.650/	300	02-24-89	02-28-89		
*190	MATRIX RECOVERY SY	890313	1.650/	800	02-09-89	02-13-89		
*190	MATRIX RECOVERY SY	890162	1.650/	300	01-20-89	01-23-89		
*190	MATRIX RECOVERY SY	890089	1.650/	800	01-09-89	01-09-89		
*190	MATRIX RECOVERY SY	890030	1.650/	600	01-09-89	01-12-89		
*190	MATRIX RECOVERY SY	85702	1.650/	800	01-09-89	01-09-89		

4-89
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* Part Number 400102		Desc GEL-COAT WHIMSLETON WHITE		UM	LB
Accounting Value 1.040					
Last Actual Cost 1.040					
Avg Actual Cost 1.045					
-- Deliveries --					
*Vendor	PO Nbr	Unit Cost	Quantity	PO Date	First Last
*246	CO-PLAS, INC. 890439	1.050/	10300	02-23-89	
*246	CO-PLAS, INC. 890377	1.050/	10000	02-17-89	02-23-89
*246	CO-PLAS, INC. 890334	1.020/	6575	02-10-89	02-14-89
*246	CO-PLAS, INC. 890213	1.020/	6500	01-27-89	02-01-89
*246	CO-PLAS, INC. 890159	1.020/	4400	01-20-89	01-25-89
*246	CO-PLAS, INC. 890096	1.020/	6476	01-13-89	01-17-89
*246	CO-PLAS, INC. 85787	1.020/	4000	12-19-88	12-21-88
*246	CO-PLAS, INC. 85307	1.020/	10000	12-09-88	01-03-89
*246	CO-PLAS, INC. 85731	1.020/	10000	12-02-88	12-07-88
*246	CO-PLAS, INC. 85445	1.020/	11762	11-17-88	11-22-88

* Part Number 400102		Desc GEL-COAT WHIMSLETON WHITE		UM	LB
Accounting Value 1.040					
Last Actual Cost 1.040					
Avg Actual Cost 1.045					
-- Deliveries --					
*Vendor	PO Nbr	Unit Cost	Quantity	PO Date	First Last
*246	CO-PLAS, INC. 85414	1.020/	10000	11-04-88	11-08-88
*246	CO-PLAS, INC. 85477	1.020/	2786	10-01-88	10-10-88
*246	CO-PLAS, INC. 85379	1.020/	11660	10-24-88	10-27-88
*246	CO-PLAS, INC. 85285	1.020/	10000	10-01-88	10-10-88
*246	CO-PLAS, INC. 85233	1.020/	11040	09-21-88	09-23-88
*246	CO-PLAS, INC. 85135	1.020/	7500	09-01-88	09-01-88
*246	CO-PLAS, INC. 84980	1.020/	10000	08-18-88	08-18-88
*246	CO-PLAS, INC. 84954	1.020/	1200	08-09-88	08-10-88
*246	CO-PLAS, INC. 84707	0.960/	11000	07-15-88	07-19-88
*246	CO-PLAS, INC. 84651	0.960/	11000	06-24-88	06-28-88

* Part Number 400102		Desc GEL-COAT WHIMSLETON WHITE		UM	LB
Accounting Value 1.040					
Last Actual Cost 1.040					
Avg Actual Cost 1.045					
-- Deliveries --					
*Vendor	PO Nbr	Unit Cost	Quantity	PO Date	First Last
*246	CO-PLAS, INC. 84463	0.960/	1000	06-05-88	06-07-88
*246	CO-PLAS, INC. 84390	0.960/	10000	05-19-88	05-23-88

↑
5-88

460,749 ^{lb} / 2700
 x 1/2
~~810,816~~
 x 1/2000
 = 115.2 ty

715,107

* Vendor	PO Nbr	Unit Cost	Quantity	PO Date	First	Last
*190	MATRIX RECOVERY SY 65601	1.650/	900	11-11-88	11-14-88	
*190	MATRIX RECOVERY SY 65395	1.650/	1150	10-29-88	10-31-88	
*190	MATRIX RECOVERY SY 65375A	1.650/	800	10-21-88	10-24-88	
*190	MATRIX RECOVERY SY 65276	1.650/	1000	10-13-88	10-14-88	
*190	MATRIX RECOVERY SY 65250	1.650/	800	09-29-88	09-29-88	
*190	MATRIX RECOVERY SY 65157	1.650/	900	09-15-88	09-19-88	
*190	MATRIX RECOVERY SY 64979	1.650/	900	09-02-88	09-05-88	
*190	MATRIX RECOVERY SY 64971	1.750/	800	08-19-88	08-19-88	
*190	MATRIX RECOVERY SY 64821	1.750/	800	08-05-88	08-09-88	
*190	MATRIX RECOVERY SY 64762	1.750/	600	07-22-88	07-22-88	

* Vendor	PO Nbr	Unit Cost	Quantity	PO Date	First	Last
*190	MATRIX RECOVERY SY 64728	1.750/	500	07-08-88	07-11-88	
*190	MATRIX RECOVERY SY 64650	1.750/	600	06-24-88	06-24-88	
*190	MATRIX RECOVERY SY 64496	1.750/	307	05-18-88	06-11-88	
*190	MATRIX RECOVERY SY 64437	1.750/	800	05-11-88	05-11-88	
*190	MATRIX RECOVERY SY 64330A	1.750/	500	05-11-88	05-11-88	

Accounting Value 2.395
 Last Actual Cost 2.395
 Avg Actual Cost 2.138

↑
 gal @

5-88

$$\begin{aligned}
 & 36717 \text{ gal/2yr} \\
 & \times 1/2 \\
 & \times 6.5 \text{ lb/gal} \\
 & \times 1/2000 \\
 & = 59.7 \text{ tray}
 \end{aligned}$$

Screen For FO.HISTORY Show Purchase History for a Part

Resin Stripper

*Vendor	FO Nbr	Unit Cost	Quantity	PO Date	First	Last
*202	MINI-CRAFT FLORIDA 904336	33.840/		5 12-14-90	12-17-90	
*284	PROGRESS SALES COR 902508	35.000/	1	10 06-29-90	07-18-90	
*284	PROGRESS SALES COR 902508	35.000/		5 06-29-90	07-18-90	
*284	PROGRESS SALES COR 902199	35.000/		10 06-08-90	06-15-90	
*284	PROGRESS SALES COR 901435	35.000/		5 04-17-90	04-30-90	
*284	PROGRESS SALES COR 900871	35.000/	1	10 03-06-90	03-09-90	
*284	PROGRESS SALES COR 900371	35.000/		5 03-06-90	03-09-90	
*284	PROGRESS SALES COR 893163	32.000/		5 12-06-89	12-03-89	
*284	PROGRESS SALES COR 892864	32.000/		5 11-10-89	11-13-89	
*284	PROGRESS SALES COR 892212	32.000/		10 08-25-89	08-29-89	

gallons

-- Deliveries --

4-90



*Vendor	FO Nbr	Unit Cost	Quantity	PO Date	First	Last
*284	PROGRESS SALES COR 891876	26.000/		5 03-14-89	03-15-89	
*284	PROGRESS SALES COR 891493	26.000/		5 07-19-89	07-19-89	
*284	PROGRESS SALES COR 891436	26.000/		10 03-14-89	03-15-89	
*284	PROGRESS SALES COR 890861	26.000/		15 04-14-89	04-15-89	
*284	PROGRESS SALES COR 890281	26.000/		5 02-06-89	02-13-89	
*284	PROGRESS SALES COR 65769	20.500/		30 12-12-88	12-15-88	
*284	PROGRESS SALES COR 65490	26.000/		10 10-28-88	11-03-88	
*284	PROGRESS SALES COR 65200	26.000/		10 09-23-88	09-27-88	
*284	PROGRESS SALES COR 64925	30.000/		10 08-12-88	08-16-88	
*284	PROGRESS SALES COR 64350	26.000/		10 05-18-88	05-19-88	



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4-89



5-88

2500

10.8 lb/gal

$$\begin{aligned}
 &150 \text{ gal} / 2 \times 15 \\
 &\times 10.8 \text{ lb/gal} \\
 &\times 1/2000 \\
 &\times 1/2 \\
 &= 0.40 \text{ try}
 \end{aligned}$$

Screen For FO.HISTORY Show Purchase History for a Part

Foam Gun Cleaner

Spec: FOAM GUN CLEANER

UN 9.

Accounting Value 9.730

Last Actual Cost 9.730

gallons Avg Actual Cost 9.730

Deliveries

*Vendor	PO nbr	Unit Cost	Quantity	PO Date	Cost	Unit
*348 FCI INC.	901151	9.730/	25	03-01-88	243.25	5/90
*348 FCI INC.	64777	5.733/	55	02-14-88	315.315	
*348 FCI INC.	64711	9.730/	10	01-14-88	97.30	
*348 FCI INC.	64351	9.730/	10	01-14-88	97.30	5/89

$$\begin{aligned}
 &100 \text{ gal/yr} \\
 &\times 8.5 \text{ lb/gal} \\
 &= 850 \text{ lb/yr} \\
 &\times 1/2 \text{ cu} \\
 &= 0.42 \text{ ty}
 \end{aligned}$$

Screen For PO.HISTORY Show Purchase History for a Part

*Vendor	PO Nbr	Unit Cost	Quantity	PO Date	First	Last
*125	HORIZON CHEMICALS, 903400	149.000/	149.000/	2 09-30-90	09-30-90	
*125	HORIZON CHEMICALS, 903401	149.000/	149.000/	55 09-30-90	09-30-90	
*125	HORIZON CHEMICALS, 903100	9.420/	9.420/	2 09-30-90	09-30-90	
*125	HORIZON CHEMICALS, 902688	19.950/	19.950/	2 07-05-90	07-05-90	
*125	HORIZON CHEMICALS, 902826	19.950/	19.950/	2 05-13-90	05-13-90	
*125	HORIZON CHEMICALS, 900884	19.950/	19.950/	1 05-13-90	05-13-90	
*125	HORIZON CHEMICALS, 907020	19.950/	19.950/	1 05-13-90	05-13-90	
*125	HORIZON CHEMICALS, 901498	19.950/	19.950/	2 05-13-90	05-13-90	
*125	HORIZON CHEMICALS, 901092	19.950/	19.950/	2 09-30-90	09-30-90	

gallons
 (circled) *Quantity*

8/90

*Vendor	PO Nbr	Unit Cost	Quantity	PO Date	First	Last
*125	HORIZON CHEMICALS, 900821	19.950/	19.950/	2 01-17-90	01-17-90	
*125	HORIZON CHEMICALS, 900601	19.950/	19.950/	2 01-17-90	01-17-90	
*125	HORIZON CHEMICALS, 900602	19.950/	19.950/	1 01-17-90	01-17-90	

1/90

$$\begin{aligned}
 &75 \text{ gal} / 8 \text{ mo} \\
 &= 112.5 \text{ gal/yr} \\
 &\quad \times 6.9 \text{ lb/gal} \\
 &= 776 \text{ lb/yr} \\
 &\quad \times 1/2000 \\
 &= 0.39 \text{ try}
 \end{aligned}$$

21:53:43 12 OCT 1989

Acct Nbr Part 0

Screen For PD.HISTORY Show Purchase History for a Part

*Vendor	PO Nbr	Unit Cost	Quantity	PO date	First	Last
*358	GLS CHEMICAL FIBER 904252	13.500/		55 11-30-90	12-03-90	
*844	GLASSCOAT, INC. 903759	13.350/		61 10-04-90	10-09-90	
*358	GLS CHEMICAL FIBER 903269	13.500/		55 09-29-90	09-31-90	
*358	GLS CHEMICAL FIBER 902208	13.500/		55 09-11-90	09-05-90	
*358	GLS CHEMICAL FIBER 901509	13.500/		55 07-17-90	04-27-90	
*358	GLS CHEMICAL FIBER 1509	13.500/		55 07-17-90	04-27-90	
*391	SPECIALTY PRODUCTS 890909	9.700/		55 03-05-89	08-12-89	
	SPECIALTY PRODUCTS 890946	17.180/		55 01-26-89	02-02-89	
	SPECIALTY PRODUCTS 892976	17.180/		55 11-13-89	11-20-89	
	SPECIALTY PRODUCTS 892951	17.180/		55 10-03-89	10-10-89	

gallons

Quantity

Deliveries

4-90

↓

*Vendor	PO Nbr	Unit Cost	Quantity	PO date	First	Last
*394	SPECIALTY PRODUCTS 892047	17.180/		55 09-22-89	09-06-89	
*394	SPECIALTY PRODUCTS 891625	17.180/		55 06-27-89	07-25-89	
*394	SPECIALTY PRODUCTS 891074	17.180/		55 05-02-89	05-16-89	
*394	SPECIALTY PRODUCTS 890468	17.180/		55 02-27-89	03-02-89	
*394	SPECIALTY PRODUCTS 890083	17.180/		55 01-12-89	02-01-89	
*394	SPECIALTY PRODUCTS 65725	17.200/		57 12-01-88	12-15-88	
*394	SPECIALTY PRODUCTS 65211	17.200/		55 09-25-88	10-10-88	
*394	SPECIALTY PRODUCTS 64968	17.200/		55 08-22-88	09-05-88	
*394	SPECIALTY PRODUCTS 64522	22.490/		45 06-16-88	06-24-88	
*394	SPECIALTY PRODUCTS 64345	22.490/		30 05-17-88	05-20-88	

↑

5-89

4-89

↓

↑

5-88

847
gal @
2.2 lb/gal

PRO-LINE BOATS:

10/15/90 Apx; Saw, Sanding, & Router/shaper Dust

from our woodshop and ^(*)cabinet shop. (*only in operation fully for 6 months) we generate (\pm) 2½ 55 gal drums per day. We have small dust collectors (55gal Vac. type) connected to all but one of our machines

JMKennedy



September 23, 1991

RECEIVED
SEP 25 1991
Division of Air
Resources Management

Mr. C.H. Fancy
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Subject: Pro-Line Boats, Inc.
Citrus County, Florida
Permit Application AC09-180615

Dear Mr. Fancy:

Pro-Line Boats, Inc. (Pro-Line) and its consultant, Dr. J.B. Koogler of Koogler & Associates Environmental Services, have recently reviewed the application that Pro-Line submitted to the Department for the referenced after-the-fact air construction permit. During this review, questions arose regarding the material usage rates reported in the application and in the emission factors used for estimating air pollutant emission rates. Pro-Line and its consultant are reviewing both of these matters and will be providing amended material use rates and air pollutant emission rates to the Department within the next 10 days. It is anticipated that the revisions will result in Pro-Line being classified as a minor emitting facility.

In view of the amended information that will be submitted by Pro-Line, we hereby request that the Department delay any further processing of the subject application until the revised information is received. To assure



P.O. Box 1348, Crystal River, FL 32623-1348



Mr. C.H. Fancy
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400



that the Department has adequate time to review the revised information, Pro-Line is submitting the attached waiver to the 90 day permitting process. The waiver expires November 30, 1991; giving the Department approximately 60 additional days to complete the permitting process.

Pro-Line also wishes to inform the Department that Dr. J.B. Koogler of Koogler & Associates Environmental Services will be our Engineer of Record for the amendments to the subject permit application and for future air permitting matters.

If there are any questions regarding this matter, please do not hesitate to contact either Dr. Koogler (904-377-5822) or myself.

Very truly yours,



Cecil Davis
Executive Vice President
Pro-Line Boats, Inc.

CD/cw
Enc.

c: Mr. John Reynolds, FDER, Tallahassee
Mr. W.C. Thomas, FDER, Tampa
Mr. Ralph DeMeo, Huey, Guilday, Kuersteiner & Tucker, Tallahassee
Dr. J.B. Koogler, Koogler & Associates

**WAIVER OF 90 DAY TIME LIMIT
UNDER SECTIONS 120.60(2) and 403.0876, FLORIDA STATUTES**


License (Permit, Certification) Application No. AC09-180615

Applicant's Name: Pro-Line Boats, Inc.

With regard to the above referenced application, the applicant hereby with full knowlege and understanding of applicant's rights under Sections 120.60 (2) and 403.0876, Florida Statutes, waives the right to have the application approved or denied by the State of Florida Department of Environmental Regulation within the 90 day time period prescribed by law. Said waiver is made freely and voluntarily by the applicant, with full knowledge, and without any pressure or coercion by anyone employed by the State of Florida Department of Environmental Regulation.

This waiver shall expire on the 30TH day of November 19 91.

The undersigned is authorized to make this waiver on behalf of the applicant.



Signature

Cecil Davis, Vice President

Name

Revised April, 1990



Environmental
Science &
Engineering, Inc.

July 5, 1991

Mr. Clair H. Fancy, P.E.
Chief, Bureau of Air Regulations
Florida Dept. of Environmental Regulation
Twin Towers Office Bldg.
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: Proline Boats
ESE Project No. 3901050-0100-3150

Dear Mr. Fancy:

This letter is written in response to your letter dated June 26, 1991 regarding the different hourly resin utilization rate in the resubmitted permit application for the subject facility. A copy of the letter is attached for easy reference.

In the original application, the assumption made was that resin was used throughout the 16-hour workday. However, in actuality, resin usage generally occurs only during the day shift for fabrication processes, and coating during the evening shift. Therefore, the hourly usages were adjusted accordingly in the revised application, but the total yearly usage rate (thus, the production rate) remains the same.

Please feel free to contact Nay Hlaing (Extension 6061) or myself (Extension 6064) if you have any further questions.

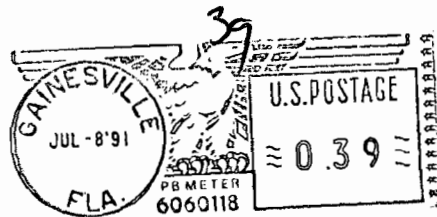
Sincerely,

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.

Michael Dybevic, P.E.

pc: Ken Hall, Proline Boats
William Thomas, DER-SWD
Al Trbovich, ESE
J. Reynolds

RECEIVED
JUL 10 1991
Division of Air
Resources Management



A DILCORP Company

Environmental
Science &
Engineering, Inc.

3901050-0100-3160/NH

P.O. Box 1703, Gainesville, FL 32602-1703

Phone (904) 332-3318 Fax (904) 332-0507

LOCATED 5 MILES WEST OF I-75 ON SR 26 (NEWBERRY ROAD) 32607

Mr. Clair H. Fancy, P.E.
Chief, Bureau of Air Regulations
Florida Department of Environmental Regulation
Twin Towers Office Bldg.
2600 Blair Stone Road
Tallahassee, FL 32399-2400

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Florida Department of Environmental Regulation

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Lawton Chiles, Governor

Carol M. Browner, Secretary

June 26, 1991

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Ken Hall, President/CEO
Pro-Line Boats, Inc.
P. O. Box 1348
Crystal River, Florida 32629

Dear Mr. Hall:

Re: Resubmitted Permit Application for Boat Building Facility

On June 13, 1991, the Department received Pro-Line Boat's resubmitted application for an after-the-fact construction permit. This permit was originally applied for in May of 1990 requesting a resin utilization rate of 340 lbs/hr. The resubmitted application requests a resin utilization rate of 657 lbs/hr, almost double that of the original application. This poses several problems because the purpose of the original application was to obtain an after-the-fact permit for a previously unpermitted facility at the prior resin utilization rate of 340 lbs/hr.

Since the resubmitted application seeks a doubling of the production rate, the objective has become entirely different from the purpose of the original application. The Department must view these two objectives as separate projects which means that separate applications and separate permit fees are required. Please resubmit the original application with revised emission factors and a separate application and fee for the production increase. The new fee should be based on the difference between the previous actual and the new allowable emission rate.

Sincerely,

C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

CHF/JR/plm

c: W. Thomas, SWD
A. Trbovich, E.S.E.
M. Dybevick, P.E.

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.

Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. Show to whom delivered, date, and addressee's address. (Extra charge) 2. Restricted Delivery (Extra charge)

3. Article Addressed to: Mr. Ken Hall, Pres./CEO Pro-Line Boats, Inc. P.O. Box 1348 Crystal River, FL 32629	4. Article Number P 832 539 796
5. Signature - Addressee X	Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
6. Signature - Agent X Tracy Sokol	Always obtain signature of addressee or agent and DATE DELIVERED.
7. Date of Delivery 6/7-2-91	8. Addressee's Address (ONLY if requested and fee paid)

PS Form 3811, Apr. 1989

*U.S.G.P.O. 1989-238-815

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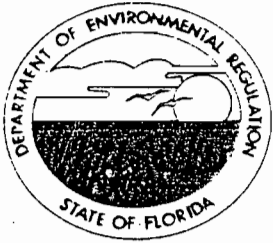


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Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Address of Delivery	
TOTAL Postage & Fees	\$
Postmark or Date	6/28/91

PS Form 3800, June 1990



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

June 26, 1991

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Ken Hall, President/CEO
Pro-Line Boats, Inc.
P. O. Box 1348
Crystal River, Florida 32629

Dear Mr. Hall:

Re: Resubmitted Permit Application for Boat Building Facility

On June 13, 1991, the Department received Pro-Line Boat's resubmitted application for an after-the-fact construction permit. This permit was originally applied for in May of 1990 requesting a resin utilization rate of 340 lbs/hr. The resubmitted application requests a resin utilization rate of 657 lbs/hr, almost double that of the original application. This poses several problems because the purpose of the original application was to obtain an after-the-fact permit for a previously unpermitted facility at the prior resin utilization rate of 340 lbs/hr.

Since the resubmitted application seeks a doubling of the production rate, the objective has become entirely different from the purpose of the original application. The Department must view these two objectives as separate projects which means that separate applications and separate permit fees are required. Please resubmit the original application with revised emission factors and a separate application and fee for the production increase. The new fee should be based on the difference between the previous actual and the new allowable emission rate.

Sincerely,

C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

CHF/JR/plm

c: W. Thomas, SWD
A. Trbovich, E.S.E.
M. Dybevick, P.E.

RECEIVED

JUN 14 1991

Bureau of
Air Regulation

**A CONSTRUCTION PERMIT APPLICATION
AND SUPPORTING DOCUMENTATION
FOR A BOAT MANUFACTURING FACILITY**

Prepared for:

PROLINE BOATS, INC.
Crystal River, Florida

Prepared by:

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
Gainesville, Florida

ESE No. 3901050-0100-3160
May 1991

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FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE

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From (Your Name) Please Print REGIL DAVIS		Your Phone Number (Very Important) 904 795-4111		To (Recipient's Name) Please Print MR. CLAY FANCY		Recipient's Phone Number (Very Important)	
Company OLINE BOATS, INC.		Department/Floor No.		Company FLA DEPT OF ENVIRONMENTAL REGULATION		Department/Floor No.	
Street Address 20 S SUN COAST BLVD				Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes) TWIN TOWERS OFFICE BUILDING			
City MORGANSA		State FL		City TALLHASSEE		State FL	
ZIP Required 32646		ZIP Required 32399-2400					

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1.0 INTRODUCTION

1.1 Background

Proline Boats, Inc., a boat manufacturing facility located in Homosassa, Florida, has been in operation since November, 1971. A map showing the location of the plant is provided as Figure 1-1.

In May 1990, Proline Boats submitted an air pollution construction permit application to the Florida Department of Environmental Regulation (FDER). In response to the agency's comments regarding the referenced application (AC09-180615) and also in an effort to fully comply with all of the applicable regulations, the company retained Environmental Science and Engineering, Inc. (ESE) to conduct further analysis of its air emissions. Consequently, the permit application was amended, and a dispersion modeling assessment was incorporated.

1.2 Regulatory Requirements

FDER defines "major facility" as a facility which emits or has the potential to emit 100 tons per year or more of any pollutant (except lead and acrylonitrile) regulated under Chapter 403, Florida Statutes.

Section 17-2.500(2)(d) states that PSD review applies to new major facilities that have the potential to emit greater than or equal to 250 tons per year of a regulated pollutant or 100 tons per year or more for facilities which belong to any of the facility categories listed in Table 1-1. Modification of existing major facilities are subject to PSD review if (1) the existing facility would be subject to PSD review if it were itself a proposed new facility, *and* (2) the modification would result in a significant net emission increase of any regulated pollutant as listed in Table 1-2.

Because Proline Boats began operations in November, 1971 (prior to January 18, 1972), it is an existing source as defined under Chapter 17-2.100(73), FAC. Potential

VOC emissions from Proline Boats are more than 100 tons per year but less than 250 tons per year after applying California emission factors. Therefore, the facility would be classified as a major existing facility, but would be exempted from the PSD requirements. The reason is that even though the modification may result in a significant net emission increase (greater than 40 tons per year for VOCs'), it would not be subject to PSD review if it were a new facility. In other words, the first of the two required conditions as stated under PSD applicability for modifications of major facilities does not pertain to Proline Boats.

The major VOC of concern for air pollution in polyester resin systems is styrene which has a low odor threshold and is photoreactive. Currently, there are no standards for styrene from such processes in the State of Florida. However, there are FDER guidelines for controlling toxic emissions from stationary sources, called No-threat Levels (NTLs) which are ambient concentrations at which these chemicals will not cause potential health effects. An ample margin of safety is incorporated in the NTLs', making them conservative enough to protect the public from possible additive or synergistic effects from simultaneous exposures to multiple air toxics, and from additional exposures to the same toxics through other environmental pathways. The FDER air toxics policy establishes NTLs by the following formulas:

$$\text{NTL (8-hr)} = \text{TLV} / f$$

$$\text{NTL (24-hr)} = \text{TLV} / (f * t)$$

where TLV = Threshold Limit Values established by American Conference of Governmental Industrial Hygienists (ACGIH), time-weighted average

f = health factor (100 for known or suspected carcinogens, 50 for other air toxic irritants)

t = time exposure factor (168 or total hours in a week divided by 40 hours which is equal to 4.2)

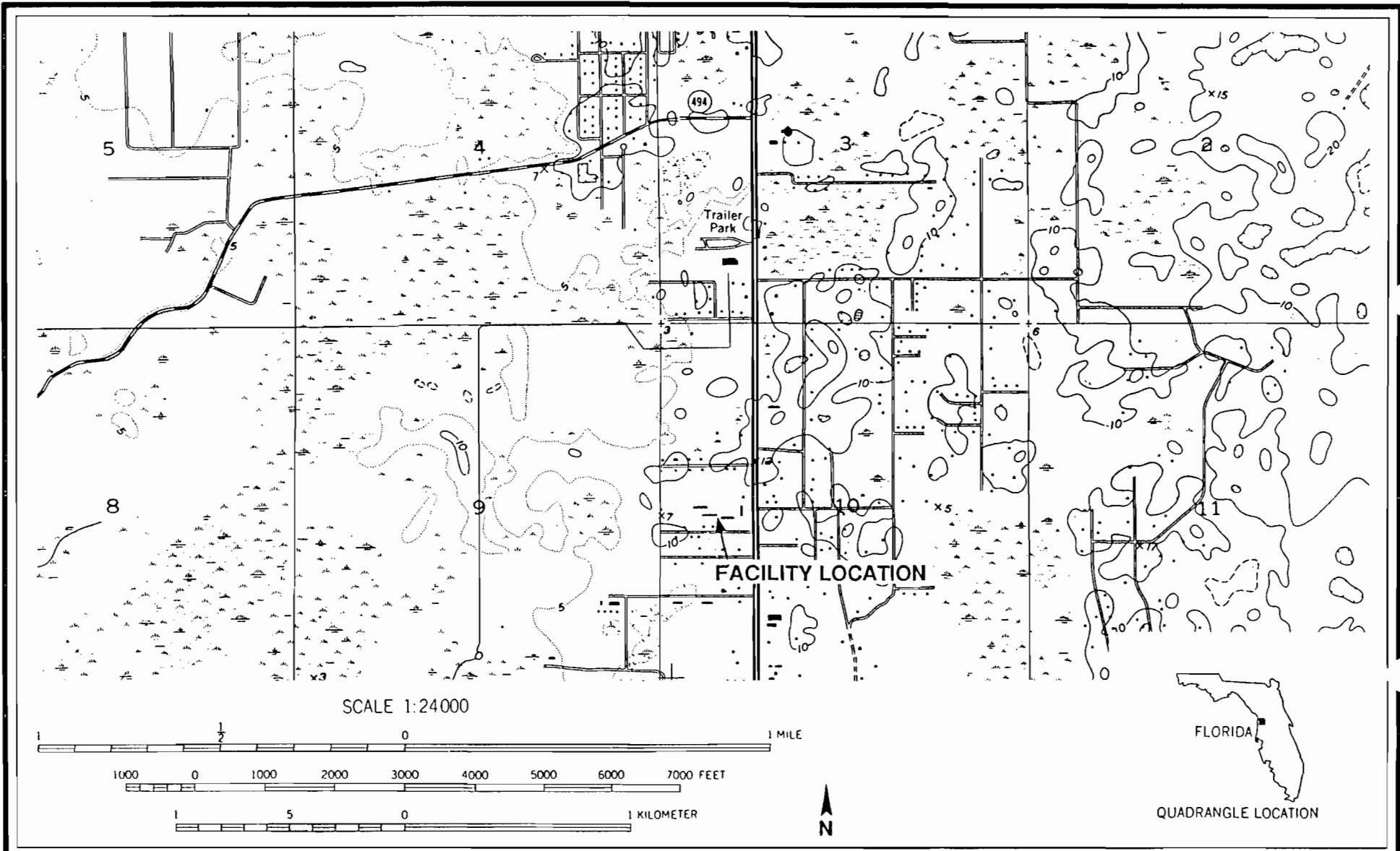


Figure 1-1
LOCATION OF PRO-LINE BOATS
MANUFACTURING FACILITY

SOURCE: USGS, 1988.

ENVIRONMENTAL SCIENCE
& ENGINEERING, INC.

Table 1-1 Major Facility Categories

-
1. Carbon black plants (furnace process)
 2. Charcoal production plants
 3. Chemical process plants
 4. Coke oven batteries
 5. Coal cleaning plants (with thermal dryers)
 6. Fossil fuel boilers (or combination) totaling more than 250 MMBTU/hr heat input
 7. Fossil steam electric plants of more than 250 MMBTU/hr heat input
 8. Fuel conversion plants
 9. Glass fiber processing plants
 10. Hydrofluoric acid plants
 11. Iron and steel mill plants
 12. Kraft pulp mills
 13. Lime plants
 14. Municipal incinerators capable of charging more than 250 tons of refuse per day
 15. Nitric acid plants
 16. Petroleum refineries
 17. Petroleum storage and transfer units with storage capacity exceeding 300,000 barrels
 18. Phosphate rock processing plants
 19. Portland cement plants
 20. Primary aluminum ore reduction plants
 21. Primary copper smelters
 22. Primary lead smelters
 23. Primary zinc smelters
 24. Secondary metal production plants
 25. Sintering plants
 26. Sulfuric acid plants
 27. Sulfur recovery plants
 28. Taconite ore processing plants
-

Source: FDER Chapter 17-2, 1990.

Table 1-2 Significant Emission Rates

Pollutant	Significant Emission Rate	
	tons/year	pounds/year
Carbon monoxide	100	-
Nitrogen oxides	40	-
Sulfur dioxide	40	-
Ozone	40 (VOC)	-
Particulate matter	25	-
PM ¹⁰	15	-
Total reduced sulfur (including H ₂ S)	10	-
Reduced sulfur compounds (including H ₂ S)	10	-
Sulfuric acid mist	7	-
Fluorides	3	-
Vinyl chloride	1	-
Lead	-	1200
Mercury	-	200
Asbestos	-	14
Beryllium	-	0.8

Source: FDER Chapter 17-2, 1990.

2.0 FACILITY DESCRIPTION

2.1 General Description and Layout

Proline Boats builds pleasure boats and components using fiberglass and polyester resin. The manufactured boat components are then coated with gel coat and acrylic paint. Generally, fabrication is conducted during the day shift and coating during the evening shift.

These operations, which release volatile organic compounds (VOCs), are performed in Building No. 1 at the Homosassa plant. Wood and cabinet works, which emit small amounts of particulate matter (PM), are also conducted in Building No. 1. Figure 2-1 displays the facility plot plan showing locations of the buildings.

2.2 Emission Points

Building No. 1 is divided into two large rooms where the fabricating and coating operations take place. Proper ventilation to meet applicable industrial hygiene standards is accomplished by using seven large exhaust fans which draw air from the building (see Figure 2-2). The doors are left open to allow replacement air to flow into the building. The building also has eleven roof vents to aid ventilation, but the effectiveness of these openings without assistance from the fans is questionable. Chemical usages are shown in Table 2-1, and specifications of the exhaust fans are as follows:

Number of Fans - 7
Fan Diameter - 4 feet
Height of discharge above grade - 6 feet
Volume of air moved per fan - 21,925 cubic feet/min
Temperature of air - Ambient
Exit velocity - 29 feet/sec

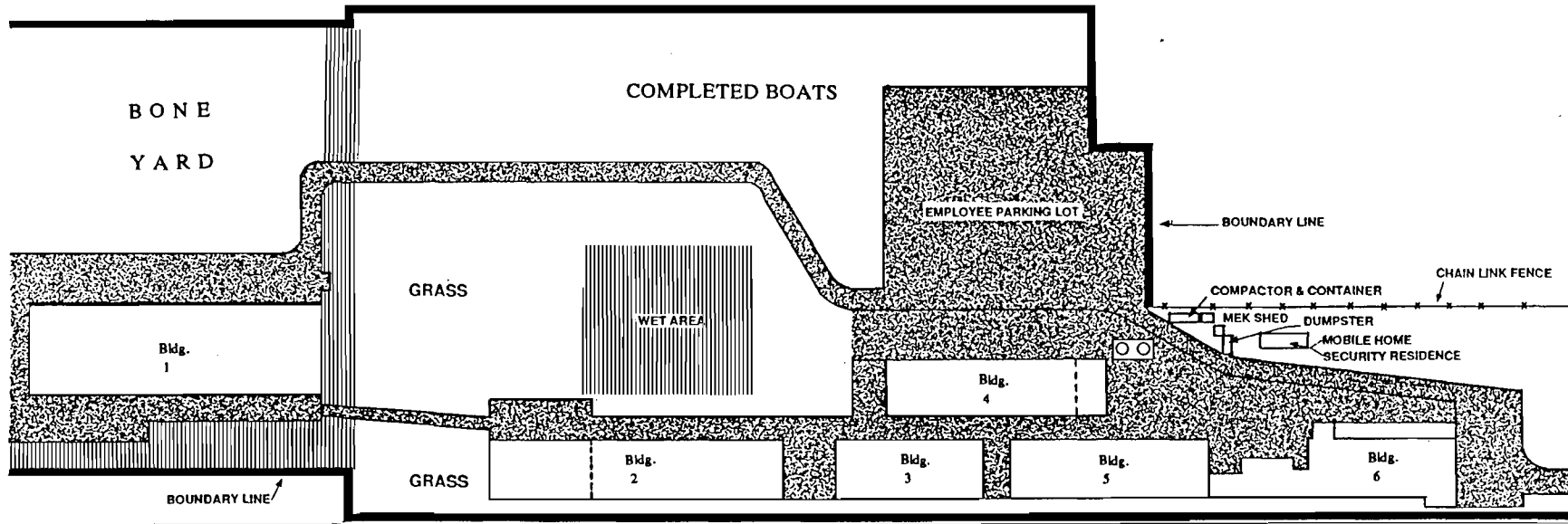
Wood working (cabinet shop) takes place at the northeast corner, and molding repairs are done at the southeast corner of Building No. 1. There are two canister-type dust collectors pulling air from the wood working areas. These collectors use filters which are similar to

the ones used in home vaccum cleaners, and are cleaned or replaced as needed (typically three time a day).

Table 2-1 Material Usage Rates

Description	Contaminants		Utilization Rate lb/hr	Relate to Flow Diagram
	Type	% Wt.		
Polylite Resin	VOC	45	657	Bldg. 1, fans
Gel Coat	VOC	34	105	Bldg. 1, fans
Acetone	VOC	100	19	Bldg. 1, fans
Resin Stripper	VOC	98	0.1	Bldg. 1, fans
Foam Gun Cleaner	VOC	1	0.04	Bldg. 1, fans
Lacquer thinner	VOC	100	0.4	Bldg. 1, fans
Wax, Golden Liquid	VOC	90	0.6	Bldg. 1, fans

Source: Proline Boats, 1990



NO SCALE



KEY

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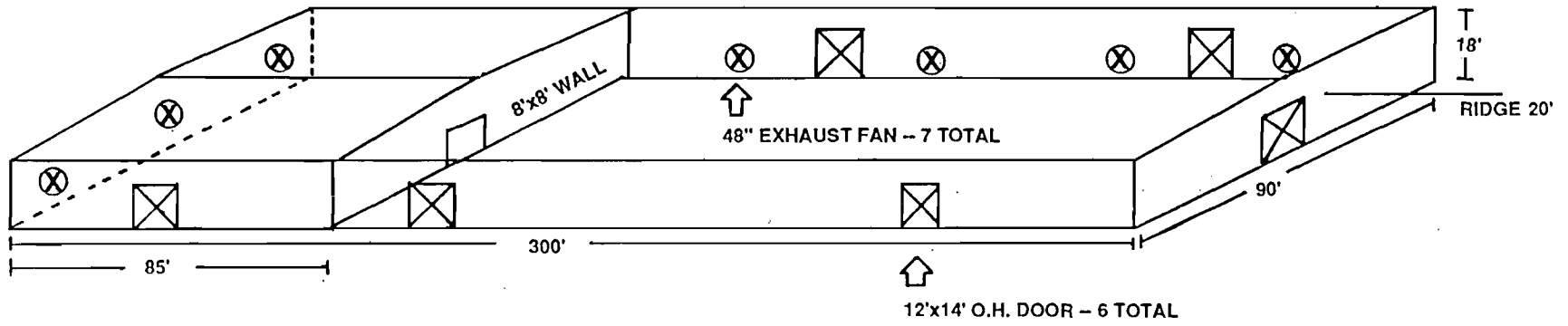
 WET AREA

Figure 2-1
PRO-LINE BOAT MANUFACTURING
FACILITIES PLOT PLAN

SOURCE: PRO-LINE BOATS, 1990.

ENVIRONMENTAL SCIENCE
& ENGINEERING, INC.

2-5



SCALE

0 5' FEET

Figure 2-2
BUILDING NO. 1
VENTILATION ARRANGEMENT

SOURCE: PRO-LINE BOATS, 1990.

ENVIRONMENTAL SCIENCE
& ENGINEERING, INC.

3.0 TECHNICAL APPROACH

In 1982, improved VOC emission factors for fiberglass impregnation and fabrication processes were developed by Science Applications, Inc. for the California Air Resources Board. These revised emission factors (Table 3-1) were based on a statewide survey, literature review, source testing results, and data from previous field and laboratory tests.

A source impact analysis was also performed to demonstrate that ambient air quality guidelines (NTLs) will not be exceeded. Dispersion modeling was performed using the latest available Industrial Source Complex (ISC) model (EPA, 1987). Section 6.0 discusses model inputs and results in detail.

Table 3-1 Emission Factors for Process Combinations
 (Units are 100 x mass monomer emitted/mass monomer input)

Process Combination ^a	Resin Emission Factor		Gel Coat Emission Factor	
	Low	High	Low	High
1	16	35	47	47
1,2	11	19	31	38
1,2,3	1	3	31	38
1,2,5	9	13	31	38
1,2,7	1	3	31	38
1,3	1	3	47	47
1,5	9	13	47	47
1,7	1	3	47	47
1,9	13	13	25	25
2	9	13	26	35
2,3	1	3	26	35
2,5	9	13	26	35
2,5,7	9	13	26	35
2,7	1	3	26	35
2,8	1	3	26	35
3	1	3	31	38
4	6	13	31	38
5	9	13	31	38
6	6	13	31	38
7	1	3	31	38
7,9	1	3	31	38
8	1	3	31	38
9	13	13	25	25

^a Key: 1 = hand layup, 2 = spray layup, 3 = bag molding, 4 = continuous lamination, 5 = filament winding, 6 = pultrusion, 7 = marble casting, 8 = closed molding, 9 = other.

Source: California Air Resources Board, 1982.



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

DER Form # _____
Form Title _____
Effective Date _____
DER Application No. _____ (Filed in by DER)

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Boat Manufacturing Facility [] New¹ [X] Existing¹

APPLICATION TYPE: [X] Construction [] Operation [] Modification

COMPANY NAME: Pro-Line Boats COUNTY: Citrus

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) Bldg. #6 Boat Fabrication

SOURCE LOCATION: Street 1520 South Suncoast Boulevard City Homosassa

UTM: East 346.609 km North 3191.248 km

Latitude 28 ° 50 ' 30 "N Longitude 82 ° 34 ' 20 "W

APPLICANT NAME AND TITLE: Mr. Ken Hall, President and CEO

APPLICANT ADDRESS: P.O. Box 1348, Crystal River, FL 32629

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Pro-Line Boats

I certify that the statements made in this application for a construction permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: Ken Hall

Ken Hall, President and CEO.
Name and Title (Please Type)

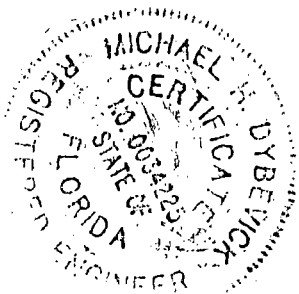
Date: 6-13-91 Telephone No. (904) 795-4111

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that

1 See Florida Administrative Code Rule 17-2.100(57) and (104)

the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.



Signed M.H.Dybevic
Michael H. Dybevic, P.E.
Name (Please Type)
Environmental Science & Engineering, Inc.
Company Name (Please Type)
P.O. Box 1703, Gainesville, FL 32602
Mailing Address (Please Type)

Florida Registration No. PE0034225 Date: 11 June 91 Telephone No. (904) 332-3318

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

See Section 1.0

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction --- Completion of Construction November 1971

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

Warning notice WN90-0004AP09SWD

E. Requested permitted equipment operating time: hrs/day 16 ; days/wk 7 ; wks/yr 52 ;
if power plant, hrs/yr _____; if seasonal, describe: _____

F. If this is a new source or major modification, answer the following questions.
(Yes or No) See Section 1.2

1. Is this source in a non-attainment area for a particular pollutant? No
 - a. If yes, has "offset" been applied? _____
 - b. If yes, has "Lowest Achievable Emission Rate" been applied? _____
 - c. If yes, list non-attainment pollutants. _____
2. Does best available control technology (BACT) apply to this source?
If yes, see Section VI. No
3. Does the State "Prevention of Significant Deterioration" (PSD)
requirement apply to this source? If yes, see Sections VI and VII. No
4. Do "Standards of Performance for New Stationary Sources" (NSPS)
apply to this source? No
5. Do "National Emission Standards for Hazardous Air Pollutants"
(NESHAP) apply to this source? No

- H. Do "Reasonably Available Control Technology" (RACT) requirements apply
to this source? No
- a. If yes, for what pollutants? _____
 - b. If yes, in addition to the information required in this form,
any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any justifi-
cation for any answer of "No" that might be considered questionable.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

See Table 2-1

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): Not Applicable

2. Product Weight (lbs/hr): Not Applicable

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Name of Contaminant	Emission ¹		Allowed Emission Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
VOC	140.39	233.42	N/A	N/A	819,878	233.42	Bldg. 1, fans
	(See section 5.0 for details)						

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

D. Control Devices: (See Section V, Item 4) None

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)

E. Fuels Not Applicable

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____
 Density: _____ lbs/gal Typical Percent Nitrogen: _____
 Heat Capacity: _____ BTU/lb _____ BTU/gal
 Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating. Not Applicable

Annual Average _____ Maximum _____

G. Indicate liquid or solid wastes generated and method of disposal.

Hazardous waste is handled through FDER approved processing procedures. Non-hazardous
 solid waste is handled in compliance with applicable state and local regulations.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: _____ ft. Stack Diameter: _____ ft.
 Gas Flow Rate: _____ ACFM _____ DSCFM Gas Exit Temperature: _____ °F.
 Water Vapor Content: _____ % Velocity: _____ FPS

Exhaust fan data is provided in Section 2.2.

SECTION IV: INCINERATOR INFORMATION

Not Applicable

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq. & Gas By-prbd.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ day/wk _____ wks/yr. _____

Manufacturer _____

Date Constructed _____ Model No. _____

	Volume (ft) ³	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diameter: _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: Cyclone Wet Scrubber Afterburner
 Other (specify) _____

Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)] N/A
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
Section 5.0
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test). Section 3.0
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
Figures 1-1, 2-1
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.
Figure 2-2

9. The appropriate application fee in accordance with Rule 17-4.05. The check should be made payable to the Department of Environmental Regulation.
10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY Not Applicable

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?

Yes No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy)

Yes No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration

D. Describe the existing control and treatment technology (if any).

- | | |
|---------------------------|--------------------------|
| 1. Control Device/System: | 2. Operating Principles: |
| 3. Efficiency:* | 4. Capital Costs: |

*Explain method of determining

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

10. Stack Parameters

a. Height:

ft.

b. Diameter:

ft.

c. Flow Rate:

ACFM

d. Temperature:

°F.

e. Velocity:

FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

a. Control Device:

b. Operating Principles:

c. Efficiency:¹

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

a. Control Device:

b. Operating Principles:

c. Efficiency:¹

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Costs:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

- 1. Control Device:
- 2. Efficiency:¹
- 3. Capital Cost:
- 4. Useful Life:
- 5. Operating Cost:
- 6. Energy:²
- 7. Maintenance Cost:
- 8. Manufacturer:
- 9. Other locations where employed on similar processes:
- a. (1) Company:
- (2) Mailing Address:
- (3) City:
- (4) State:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant

Rate or Concentration

(8) Process Rate:¹

b. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant

Rate or Concentration

(8) Process Rate:¹

10. Reason for selection and description of systems:

¹Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION Not Applicable

A. Company Monitored Data

1. _____ no. sites _____ TSP _____ () SO₂* _____ Wind spd/dir

Period of Monitoring _____ / _____ / _____ to _____ / _____ / _____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

*Specify bubbler (B) or continuous (C).

5.0 EMISSION RATE CALCULATIONS

Potential VOC emission rates from the facility, based on material consumption rates, are estimated using the following general equation:

$$E = \sum_1^{n-1} (U_i \times C_i \times EF_i)$$

where E = VOC emissions, tons/year

U_i = annual usage rate of material i, tons/year

C_i = fraction of VOC in the material i, wt%/100

EF_i = emission factor for process combination

n = number of different materials

Potential emission rates, as defined in the FDER permit application form, represent uncontrolled emissions. In the case of Proline Boats, potential VOC emissions are equal to actual emissions. Details of the emission rates are presented in Table 5-1 and 5-2.

VOC emission factors are based upon the quantity of styrene monomer rather than the amount of resin/gel coat which can have a wide range of volatile monomer content. All of the VOC emissions from the resin and gel coat are treated as styrene which is by far the primary cross-linking agent, although there is a very small amount of methyl methacrylate in gel coat¹. Emission factors for acetone and other solvents are conservatively assumed as 1.0, or 100%.

Particulate emissions are calculated by using the daily sawdust production rate and assuming a control efficiency of 99.99 percent.

Table 5-1 VOC Emission Rates (Potential and Actual)

Material	Annual Usage (ton/yr)	VOC content (wt%/100)	Emission Rates	
			(ton/yr)	(lb/hr)*
Polyester Resin	957.3	0.45	150.7	103.5
Gel Coat	152.2	0.34	24.6	16.9
Acetone	55.2	1.00	55.2	19.0
Resin Stripper	0.3	0.98	0.3	0.1
Foam Gun Cleaner	0.1	0.01	0.0	0.0
Lacquer Thinner	1.1	1.00	1.1	0.4
Wax, Golden Liquid	1.7	0.90	<u>1.5</u>	<u>0.5</u>
Totals			233.4	140.4

* Based on 8 hrs/shift, 2 shifts/day, 7 days/week, 52 weeks/year

Table 5-2 PM Emission Rate

Process	Daily Output (lb/day)	Filter Efficiency(%)	Emission Rate	
			ton/yr	lb/hr+
Wood Shop	177.5	99.99	0.32	0.11

+ Based on 16 hours/day, 7 days/week, 52 weeks/year

6.0 SOURCE IMPACT ANALYSIS

For air quality modeling purposes, the areas within a 3-km radius surrounding Proline Boats, Inc. would be classified as rural and as having "simple" terrain. For a modeling application of this type, Industrial Source Complex (ISC) model is considered appropriate. The ISC model is a steady-state Gaussian plume model that can be used to assess air quality impacts from a wide variety of sources. It is capable of calculating concentrations for averaging times ranging from 1-hour to annual. The latest short-term version of ISC (ISCST) is used for this study for the following reasons:

1. It is an EPA approved model;
2. It is generally the most commonly used model;
3. It is capable of predicting impacts from multiple sources (including stack, area, and volume sources) that are distributed over large areas;
4. It is appropriate in areas of flat or gently rolling terrain;
5. Rural or urban mode can be selected; and
6. Either cartesian or polar receptor coordinate grids can be used.

Meteorological data used in the study is 1986 surface and upper air/mixing height data from Tampa International Airport. This data was obtained from FDER, and would be representative of conditions at Proline Boats. Tampa International Airport is located approximately 55 miles south of Homosassa.

A polar coordinate receptor system is used with its center at southeast corner of Bldg. 6. Radials are placed in 10° increments surrounding the facility. Starting from the property boundary, rings are located at 25-meter increments to 100 meters, then at 50-meter increments to 500 meters, then at 100-meter increments to 1000 meters, and finally at 1000-meter increments to 10,000 meters. Additional receptors are sited along the property boundary (fence line).

All of the vents are treated as point sources, and styrene emissions are analyzed. The regulatory default option, which is recommended by EPA, was turned on. The use of this option automatically selects appropriate wind profile exponents and other model parameters. Downwash effects are included using GEP (Version 1.21), a computer program developed by Bowman Environmental Engineering in Dallas, Texas to evaluate directional downwash.

Results of the dispersion modeling are presented in Table 6-1.

Table 6-1 Summary of Highest Off-site Ambient Styrene Impacts

Averaging Period	Concentration ($\mu\text{g}/\text{m}^3$)	Location (meters, degree)	No-threat Level ($\mu\text{g}/\text{m}^3$)
8-hr	1189	159,310	2150
24-hr	407	159,310	516

Source: ESE, 1991

REFERENCES

1. California State Air Resources Board, 1982. Control Techniques for Organic Gas Emissions from Fiberglass Impregnation and Fabrication Processes, (prepared by Science Applications, Inc., Los Angeles, California).
2. United States Environmental Protection Agency, 1988. Compilation of Air Pollutant Emission Factors, AP-42, 4th Edition, Research Triangle Park, North Carolina.
3. United States Environmental Protection Agency, 1986. Guideline on Air Quality Models, (Revised), Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina.

MATERIAL SAFETY DATA SHEET

CO-PLAS INCORPORATED
 5106 WHEELER AVE.
 FORT SMITH, AR 72901

INFORMATION & EMERGENCY TELEPHONE NO.: 501-646-7865
 CHEMTREC : 800-424-9300

PREPARATION DATE: 02/13/90

REPLACES DATE: NEW MSDS

PREPARER: MGG

=====

SECTION I - PRODUCT IDENTIFICATION

=====

WHITE GEL COAT

WG-30497

=====

SECTION II - HAZARDOUS INGREDIENTS

=====

CHEMICAL NAME	CAS NUMBER	WT. PERCENT IS LESS THAN	OCCUPATIONAL EXPOSURE LIMITS			VAPOR PRESSURE mmHg 20C	KNOWN OR SUSPECTED CARCINOGEN	SEC 313
			(TLV-TWA)	(TLV-STEL)	(PEL)			
METHYL METHACRYLATE MONOMER	80-62-6	5% 410	100 PPM	75 PPM	NO INFO	29.0	NO	NO
STYRENE	100-42-5	30%	50 PPM	100 PPM	100 PPM	4.5	YES	YES
PIGMENT WHITE 6	13463-67-7	15%	10 MG/M3	NO INFO	15 MG/M3	0.0	NO	NO
SILICON DIOXIDE	7631-86-9	5%	10 MG/M3	NO INFO	20 MPPCF	0.0	NO	NO

THIS PRODUCT CONTAINS ONE OR MORE MATERIALS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF THE EMERGENCY PLANNING AND THE COMMUNITY RIGHT-TO-KNOW ACTS OF 1986 AND OF 40 CFR 372.

N.A. - NOT APPLICABLE

=====

SECTION III - PHYSICAL DATA

=====

BOILING RANGE	: 214-295 F	VAPOR DENSITY	: IS HEAVIER THAN AIR
ODOR	: AROMATIC	EVAPORATION RATE:	: IS SLOWER THAN ETHER
APPEARANCE	: WHITE LIQUID		
VOLATILE BY WEIGHT:	34.4%	SOLUBILITY	: INSOLUBLE
VOLATILE BY VOLUME:	51.0%	PRODUCT DENSITY	: 10.9 LBS./GAL. (U.S.)

=====

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

=====

FLAMMABILITY CLASSIFICATION:	FLASH POINT: 82 F	LEL: 1.1 %
	(SETAFLASH CLOSED CUP)	UEL: 12.5 %
OSHA - FLAMMABLE LIQUID - CLASS IC		
DOT - FLAMMABLE LIQUID OR SOLID		

EXTINGUISHING MEDIA: CARBON DIOXIDE DRY CHEMICAL FOAM

=====

=====

SECTION VI - REACTIVITY DATA

=====

STABILITY: THIS PRODUCT IS STABLE UNDER NORMAL STORAGE CONDITIONS.

HAZARDOUS POLYMERIZATION: COULD OCCUR UNDER NORMAL CONDITIONS. CARE MUST BE EXERCISED.

HAZARDOUS DECOMPOSITION PRODUCTS: ON BURNING, EMITS ACRID FUMES, CARBON DIOXIDE AND CARBON MONOXIDE.

CONDITIONS TO AVOID: HEAT AND DIRECT SUNLIGHT

INCOMPATABILITY: STRONG ACIDS, PEROXIDES AND OTHER OXIDIZING AGENTS, ORGANIC METAL SOAP.

=====

SECTION VII - SPILL OR LEAK PROCEDURES

=====

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: KEEP SPECTATORS AWAY. ELIMINATE IGNITION SOURCES. USE SELF-CONTAINED BREATHING APPARATUS (PRESSURE DEMAND, OSHA/NIOSH-APPROVED), IMPERVIOUS CLOTHING AND BOOTS. DIKE AND CONTAIN SPILL WITH SAND OR EARTH. TRANSFER LIQUID TO CONTAINERS FOR RECOVERY OR DISPOSAL AND SOLID DIKING MATERIAL TO SEPERATE CONTAINERS FOR DISPOSAL.

WASTE DISPOSAL METHOD: INCINERATE LIQUID AND CONTAMINATED DIKING MATERIAL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

=====

SECTION VIII - SAFE HANDLING AND USE INFORMATION

=====

RESPIRATORY PROTECTION: NONE NEEDED IF GOOD VENTILATION IS MAINTAINED. OTHERWISE WEAR SELF-CONTAINED BREATHING APPARATUS (PRESSURE DEMAND, OSHA/NIOSH APPROVED OR EQUIVALENT).

VENTILATION: SUFFICIENT VENTILATION, IN VOLUME AND PATTERN, SHOULD BE PROVIDED TO KEEP AIR CONTAMINATION BELOW CURRENT APPLICABLE OSHA PERMISSIBLE EXPOSURE LIMIT OR ACGIH'S TLV LIMIT.

PROTECTIVE GLOVES: RECOMMENDED FOR PROLONGED OR REPEATED CONTACT.

EYE PROTECTION: CHEMICAL GOGGLES WITH SIDE SHIELDS OR FACE SHIELD RECOMMENDED.

OTHER PROTECTIVE EQUIPMENT: USE PROTECTIVE CREAMS WHERE SKIN CONTACT IS LIKELY. REMOVE AND WASH CONTAMINATED CLOTHING BEFORE REUSE. EYEWASH FACILITY, SAFETY SHOWER, IMPERVIOUS CLOTHING

HYGIENIC PRACTICES: WASH HANDS BEFORE EATING OR SMOKING. SMOKE IN DESIGNATED AREAS ONLY.

=====

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: STORE IN A COOL DRY AREA WITH VENTILATION SUITABLE FOR STORING MATERIALS SHOWN IN SECTION II.

OTHER PRECAUTIONS: PROVIDE RESPIRATORY PROTECTION AGAINST FUMES GENERATED DURING BURNING. PROVIDE RESPIRATORY PROTECTION AGAINST DUST CREATED BY SANDING AND/OR GRINDING OF FINISHED PARTS.

SECTION X - HMIS RATINGS

HEALTH: 2

FLAMMABILITY: 3

REACTIVITY: 2

THE INFORMATION CONTAINED HEREIN IS, TO THE BEST OF OUR KNOWLEDGE AND BELIEF, ACCURATE. HOWEVER, SINCE THE CONDITIONS OF HANDLING AND USE ARE BEYOND OUR CONTROL, WE MAKE NO GUARANTEE OF RESULTS, AND ASSUME NO LIABILITY FOR DAMAGES INCURRED BY USE OF THIS MATERIAL. IT IS THE RESPONSIBILITY OF THE USER TO COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS.

REICHOLD

MATERIAL SAFETY DATA SHEET

REICHOLD CHEMICALS, INC.
Reactive Polymers Division
800 Capitola Drive
Research Triangle Park
Durham, NC 27713

Information Telephone No. 919-544-9225

ALL CHEMICAL EMERGENCIES
1-800-424-9300

FEB 19 1986

Safety/Environmental Manager
WAL-LINE BOATS, INC.
1725 SOUTH TUMICAST BLVD

WOMODSSA, FL 32686

Dear Customer

To ensure safe use of our products and to comply with OSHA Hazard Communication Standards, we are pleased to send you the latest Material Safety Data Sheet(s) for the following Reichhold product code(s):

33-234

This information is being forwarded to you through our computer-aided program, which automatically generates and mails a revised or updated MSDS to all purchasers of the product at the time of the final shipment.

To be sure that the enclosed MSDS(s) serves its purpose, please pass it along to all personnel who handle or use the product and to the appropriate product safety personnel.

Sincerely,

Customer Service



MATERIAL SAFETY DATA SHEET

REICHOLD CHEMICALS, INC.
 Reactive Polymers Division
 800 Capitola Drive
 Research Triangle Park
 Durham, NC 27713

Information Telephone No. 919-544-9225

ALL CHEMICAL EMERGENCIES
 1-800-424-9300

Issue Date: 02/05/77

Page: 1

SECTION I - PRODUCT IDENTIFICATION

Product Code: 33-234-00
 Trade Name: Polyville(R) 33-234-00
 Product Class: Unsaturated Polyester
 C.A.S. Number: Mixture

SECTION II - INGREDIENTS

Ingredients	CAS #	Weight max. %	Exposure Limits
Polyester resin	Proprietary	65.0	None assigned
Styrene Monomer	100-42-5	45.0	50.0 ppm

SECTION III - PHYSICAL DATA

Boiling Point: 295 Deg. F. Vapor Density: Heavier than Air.
 Volatile %: 35 - 45 Specific Grav: 1.10
 Evap. Rate: Slower than n-Butyl Acetate.
 Appearance: Purple opaque liquid. Pungent odor.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flammability Class: 1.1 Flash Point: 59 Deg. F. LEL: 1.1

-EXTINGUISHING MEDIA:

Water spray, foam, dry chemical, carbon dioxide or any Class B extinguishing agent.

-SPECIAL FIREFIGHTING PROCEDURES:

Firefighters and others exposed to vapors or products of combustion should wear self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

-UNUSUAL FIRE & EXPLOSION HAZARDS:

At elevated temperatures, such as in a fire, polymerization may take place. If polymerization takes place in a closed container, there is the possibility of violent rupture of the container. Product vapors may form an explosive mixture in air.

SECTION V - HEALTH HAZARD DATA

-PERMISSIBLE EXPOSURE LEVEL

OSHA PEL and ACGIH TLV for styrene see both 50 ppm for an 8-hour time weighted average (TWA). The OSHA and ACGIH Short Term Exposure Limit (STEL) are 100 ppm for a 15-minute period. Exposure to styrene may irritate the eyes during a 15-minute period at any of the above exposures. However the average for 8 hours is 50 ppm.

This information is furnished without warranty, representation, inducement or license of any kind, except that it is accurate to the best of Reichhold Chemicals, Inc.'s knowledge or obtained from sources believed by Reichhold Chemicals, Inc. to be accurate, and Reichhold Chemicals, Inc. does not assume any legal responsibility for use or reliance upon same. Customers are encouraged to conduct their own tests. Before using any product, read its label.

REICHHOLD

REICHHOLD CHEMICALS, INC.
 Reactive Polymers Division
 800 Capitola Drive
 Research Triangle Park
 Durham, NC 27713

Information Telephone No. 919-544-9225

MATERIAL SAFETY DATA SHEET

ALL CHEMICAL EMERGENCIES
 1-800-424-9300

Product Code: 33-236-00

Issue Date: 08/05/90

Page 2

SECTION V - HEALTH HAZARD DATA (cont.)

-PERMISSIBLE EXPOSURE LEVEL (cont.)

a single STEL period must not exceed 100 ppm.

-EFFECTS OF OVEREXPOSURE:

SKIN: Prolonged or frequent contact may cause defatting and dryness of the skin with resultant irritation and possible dermatitis. Styrene may be absorbed through the skin in toxic amounts.

EYES: May cause irritation. Liquid splashes may result in more serious injuries. May cause lachrymation (tears).

INHALATION: Vapors may cause mucous membrane irritation and upper respiratory tract discomfort. High concentrations may result in headache, nausea, insensibility and other central nervous system effects. Repeated exposure to high concentrations may cause liver and kidney damage.

INGESTION: May cause gastrointestinal disturbances, pain and discomfort.

-FIRST AID:

SKIN: Wash with soap and water.

EYES: Flush with copious amounts of water for 15 minutes.

Seek immediate medical aid.

INHALATION: Remove victim from exposure. If victim is unconscious, administer artificial respiration and/or oxygen as needed. Seek medical aid.

INGESTION: DO NOT INDUCE VOMITING (aspiration hazard). Seek immediate medical aid.

-PRIMARY ROUTE(S) OF ENTRY:

Inhalation and Skin Absorption

-CARCINOGENICITY:

The International Agency for Research on Cancer (IARC) has classified styrene as possibly carcinogenic to humans (class. 2B). The IARC 2B classification is not based on significant new evidence that styrene might be a carcinogen, but on a revised IARC classification scheme and new data on styrene oxide.

SECTION VI - REACTIVITY DATA

STABILITY: [] Unstable [x] Stable

HAZARDOUS POLYMERIZATION: [x] May occur [] Will not occur

-INCOMPATIBILITY:

Strong acids and oxidizing agents.

-CONDITIONS TO AVOID:

Heat and direct sunlight



MATERIAL SAFETY DATA SHEET

REICHOLD CHEMICALS, INC.
Reactive Polymers Division
800 Capitola Drive
Research Triangle Park
Durham, NC 27713

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1-800-424-9300

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Issue Date: 02/05/90

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SECTION VI - REACTIVITY DATA (cont.)

-HAZARDOUS DECOMPOSITION PRODUCTS:

Heating of this material to decomposition may cause the emission of irritating, acrid fumes.

SECTION VII - SPILL OR LEAK PROCEDURES

-STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Remove all sources of ignition. Ventilate area. Absorb spill with an absorbent material such as sawdust, vermiculite or sand and place in a closed container. If large spill, dike the area to prevent this material from entering water systems or sewers.

-WASTE DISPOSAL METHOD

This material has been tested and found to have a flash point below 140 F. If discarded, this material and containers should be treated as hazardous wastes based on the characteristic of ignitability as defined under the federal RCRA regulations (40 CFR 261). Disposal of this material and its container, requires compliance with applicable labeling, packaging, and record keeping standards. Extreme care should be taken to ensure that it is disposed of only in a facility permitted for disposal of hazardous wastes.

For further information, contact your state or local solid waste agency or the United States Environmental Protection Agency's RCRA hotline (1-800-424-9346 or 202-382-3000).

SECTION VIII - SPECIAL PROTECTION INFORMATION

-RESPIRATORY PROTECTION:

A canister-type respirator must be worn to prevent the inhalation of vapors or spray mists when the TLV or PEL is exceeded.

-VENTILATION:

General ventilation is required during normal use. Local ventilation may be required during certain operations to keep exposure levels below the TLV listed in Section II of this data sheet.

-PROTECTIVE GLOVES:

Wear appropriate impervious gloves to prevent skin contact

-EYE PROTECTION:

Wear face shield or chemical goggles

REICHOLD**MATERIAL SAFETY DATA SHEET**

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 Reactive Polymers Division
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 Research Triangle Park
 Durham, NC 27713

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 1-800-424-9300

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Page 4

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SECTION VIII - SPECIAL PROTECTION INFORMATION (cont.)

-OTHER PROTECTIVE EQUIPMENT:

Wear protective clothing to prevent skin contact.
 Eye wash station and safety shower should be available.

=====

SECTION IX - SPECIAL PRECAUTIONS

-PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

Avoid storage above 100 Deg. F. Avoid prolonged or repeated skin contact. Avoid inhalation of heated vapors or spray mists.

-OTHER PRECAUTIONS:

Avoid improper addition of promoter and/or catalyst. A promoter and catalyst used with this product should always be mixed separately with the product and must never be mixed together.

=====

SECTION X - SUPPLEMENTAL INFORMATION

-REGULATORY INFORMATION:

SCAQMD Rule 110B establishes specific process, control, housekeeping, and recordkeeping requirements for fabrication operations using polyester resin materials. It is the responsibility of the fabricator to ensure compliance with these requirements.

-SARA STATUS:

One or more of the chemical substances listed in section II of this MSDS is subject to the reporting requirements of section 313 of the Superfund Amendments and Reauthorization Act (SARA) of 1980 and 40 CFR 372.

This material has been categorized as having the following hazard(s) as defined by SARA Title III regulations (40 CFR 370):
 acute, chronic, fire, reactive

-DOT PROPER SHIPPING NAME:

Resin Solution

-UN NUMBER:

UN1865

-DOT HAZARD CLASS:

Flammable liquid



October 16, 1990

Mr. Alan M. Trbovich, CCM
Senior Scientist
ES&E, Inc.
P.O. Box 1703
Gainesville, FL 32602-1703

RE: Application for Permit No. AC 09-180615

Dear Alan:

In respect to the application referenced above, I have gathered the enclosed information on use/purchase amounts of solvents, etc. not used in the original application. I have tested these amounts for 1989 and 1990 (thus far) and believe them to be correct.

Thanks.

Sincerely,

PRO-LINE BOATS, INC.

A handwritten signature in cursive script that reads "Sid Kennedy".

Sid Kennedy
Facilities Coordinator

Enclosures

cc: K. Hall, Pro-Line
C. Davis, Pro-Line

Screen For PO.HISTORY Show Purchase History for a Part

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*
*
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*                               Accounting Value 1.930
*                               Last Actual Cost 1.910
*                               Avg Actual Cost 1.919
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*723 FRP SUPPLY      903821      2.043/ 1000 10-02-90 10-05-90
*723 FRP SUPPLY      903612      1.910/ 1000 09-13-90 09-17-90
*723 FRP SUPPLY      903314      1.910/ 1200 08-24-90 08-28-90
*723 FRP SUPPLY      902888      1.911/ 1200 08-01-90 08-03-90
*999 MISCELLANEDUS    902528      1.910/ 1000 07-11-90 07-16-90
*999 MISCELLANEDUS    902443      1.911/ 900 06-15-90 06-18-90
*999 MISCELLANEDUS    902101      1.911/ 1200 05-29-90 05-30-90
*801 WHITAKER         901616      2.057/ 1000 05-04-90 05-07-90
*801 WHITAKER         901276      2.057/ 1000 04-11-90 04-16-90
*801 WHITAKER         901049      2.057/ 1000 03-21-90 03-26-90
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*
*
* Part Number 400111          Desc ACETONE          UM GL
*
*                               Accounting Value 1.930
*                               Last Actual Cost 1.910
*                               Avg Actual Cost 1.919
*                               -- Deliveries --
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*
*801 WHITAKER         900831      2.057/ 1000 02-28-90 03-02-90
*801 WHITAKER         900443      1.930/ 1100 02-02-90 02-05-90
*801 WHITAKER         900126      1.930/ 1000 01-10-90 01-15-90
*801 WHITAKER         893141      1.930/ 1000 12-01-89 12-05-89
*801 WHITAKER         892844      1.930/ 1000 11-03-89 11-13-89
*801 WHITAKER         892526      1.930/ 1347 10-13-89 11-23-89
*801 WHITAKER         892322      1.930/ 1100 09-28-89 09-29-89
*999 MISCELLANEDUS    892273      1.930/ 1000 09-11-89 09-13-89
*190 MATRIX RECOVERY SY 892234      2.050/ 850 08-28-89 08-29-89
*190 MATRIX RECOVERY SY 891853      2.050/ 850 08-11-89 08-15-89
*****
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20,747 gals

12,600 gals 1990 (9 mos) = 1400 gal./mo



MATERIAL SAFETY DATA SHEET

24-HOUR EMERGENCY TELEPHONE (606) 324-1133

009478

ACETONE

PAGE: 1

ACCEPTED BY O.S.H.A. AS ESSENTIALLY SIMILAR TO O.S.H.A. FORM 20

ASHLAND PRODUCT NAME: ACETONE
CAS NUMBER: 67 64 1

HORIZON CHEMICALS & PAINTERS SUPPLY INC
14805 49TH STREET
CLEARWATER FL 33828

OS 50 097 431320-
DATA SHEET NO: 0004335-004
LATEST REVISION DATE: 04/88-85092
PRODUCT: 3010000
INVOICE: 273881
INVOICE DATE: 03/30/88

ATTN: PLANT MGR./SAFETY DIR.

SECTION I-PRODUCT IDENTIFICATION

GENERAL OR GENERIC ID: KETONE
HAZARD CLASSIFICATION: (03) FLAMMABLE LIQUID (173.118)

SECTION II-HAZARDOUS COMPONENTS

Table with 5 columns: INGREDIENT, PERCENT, PEL, TLV, and a blank column. Row 1: ACETONE, 99.5, 1000, 750 PPM.

SECTION III-PHYSICAL DATA

Table with 3 columns: PROPERTY, REFINEMENT, MEASUREMENT. Rows include INITIAL BOILING POINT, VAPOR PRESSURE, VAPOR DENSITY, SPECIFIC GRAVITY, PERCENT VOLATILES, and EVAPORATION RATE.

SECTION IV-FIRE AND EXPLOSION DATA

FLASH POINT(TCO) (-4.00 DEG F, -20.00 DEG O)
EXPLOSIVE LIMIT (PRODUCT) LOWER - 2.6%
EXTINGUISHING MEDIA: ALCOHOL FOAM OR CARBON DIOXIDE OR DRY CHEMICAL
HAZARDOUS DECOMPOSITION PRODUCTS: MAY FORM TOXIC MATERIALS: CARBON DIOXIDE AND CARBON MONOXIDE, VARIOUS HYDROCARBONS, ETC.
SPECIAL FIREFIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE WHEN FIGHTING FIRES.
UNUSUAL FIRE & EXPLOSION HAZARDS: MATERIAL IS HIGHLY VOLATILE AND READILY GIVES OFF VAPORS WHICH MAY TRAVEL ALONG THE GROUND OR BE MOVED BY VENTILATION AND IGNITED BY PILOT LIGHTS, OTHER FLAMES, SPARKS, HEATERS, SMOKING, ELECTRIC MOTORS, STATIC DISCHARGE, OR OTHER IGNITION SOURCES AT LOCATIONS DISTANT FROM MATERIAL HANDLING POINT.
NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIVELY.

SECTION V-HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LEVEL 1000 PPM
THRESHOLD LIMIT VALUE 750 PPM

SEE SECTION II

EFFECTS OF OVEREXPOSURE: FOR PRODUCT

EYES - CAUSES IRRITATION, REDNESS, TEARING.
SKIN - CAN CAUSE SLIGHT IRRITATION.
BREATHING - EXCESSIVE INHALATION OF VAPORS CAN CAUSE NASAL IRRITATION, DIZZINESS, WEAKNESS, FATIGUE, NAUSEA, HEADACHE, POSSIBLE UNCONSCIOUSNESS, AND EVEN ASPHYXIATION.
SWALLOWING - CAN CAUSE GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING, AND DIARRHEA.

FIRST AID:

**MATERIAL SAFETY
DATA SHEET**

24-HOUR EMERGENCY TELEPHONE (606) 324-1133

009478

BEST AVAILABLE COPY

ACETONE

PAGE: 2

SECTION V-HEALTH HAZARD DATA (CONTINUED)

IF ON SKIN, THOROUGHLY WASH EXPOSED AREA WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING. LAUNDRY-CONTAMINATED CLOTHING BEFORE RE-USE.

IF IN EYES, FLUSH WITH LARGE AMOUNTS OF WATER, LIFTING UPPER AND LOWER LIDS OCCASIONALLY, GET MEDICAL ATTENTION.

IF SWALLOWED, IMMEDIATELY DRINK TWO GLASSES OF WATER AND INDUCE VOMITING BY EITHER GIVING IPECAC SYRUP OR BY PLACING FINGER AT BACK OF THROAT. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. GET MEDICAL ATTENTION IMMEDIATELY.

IF BREATHED, IF AFFECTED, REMOVE INDIVIDUAL TO FRESH AIR. IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN. IF BREATHING HAS STOPPED GIVE ARTIFICIAL RESPIRATION. KEEP PERSON WARM, QUIET AND GET MEDICAL ATTENTION.

SECTION VI-REACTIVITY DATA

HAZARDOUS POLYMERIZATION: CANNOT OCCUR

STABILITY: STABLE

INCOMPATIBILITY: AVOID CONTACT WITH, STRONG OXIDIZING AGENTS, STRONG ALKALIES, STRONG MINERAL ACIDS.

SECTION VII-SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

SMALL SPILL: ABSORB LIQUID ON PAPER, VERMICULITE, FLOOR ABSORBENT, OR OTHER ABSORBENT MATERIAL AND TRANSFER TO HOOD.

LARGE SPILL: ELIMINATE ALL IGNITION SOURCES (FLARES, FLAMES INCLUDING PILOT LIGHTS, ELECTRICAL SPARKS). PERSONS NOT WEARING PROTECTIVE EQUIPMENT SHOULD BE EXCLUDED FROM AREA OF SPILL UNTIL CLEAN-UP HAS BEEN COMPLETED. STOP SPILL AT SOURCE, DIKE AREA OF SPILL TO PREVENT SPREADING, PUMP LIQUID TO SALVAGE TANK. REMAINING LIQUID MAY BE TAKEN UP ON SAND, CLAY, EARTH, FLOOR ABSORBENT, OR OTHER ABSORBENT MATERIAL AND SHOVELED INTO CONTAINERS.

WASTE DISPOSAL METHOD:

SMALL SPILL: ALLOW VOLATILE PORTION TO EVAPORATE IN HOOD. ALLOW SUFFICIENT TIME FOR VAPORS TO COMPLETELY CLEAR HOOD DUCT WORK. DISPOSE OF REMAINING MATERIAL IN ACCORDANCE WITH APPLICABLE REGULATIONS.

LARGE SPILL: DESTROY BY LIQUID INCINERATION. CONTAMINATED ABSORBENT MAY BE DEPOSITED IN A LANDFILL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

SECTION VIII-PROTECTIVE EQUIPMENT TO BE USED

RESPIRATORY PROTECTION: IF TLV OF THE PRODUCT OR ANY COMPONENT IS EXCEEDED, A NIOSH/MSHA JOINTLY APPROVED AIR SUPPLIED RESPIRATOR IS ADVISED IN ABSENCE OF PROPER ENVIRONMENTAL CONTROL. OSHA REGULATIONS ALSO PERMIT OTHER NIOSH/MSHA RESPIRATORS UNDER SPECIFIED CONDITIONS. (SEE YOUR SAFETY EQUIPMENT SUPPLIER). ENGINEERING OR ADMINISTRATIVE CONTROLS SHOULD BE IMPLEMENTED TO REDUCE EXPOSURE.

VENTILATION: PROVIDE SUFFICIENT MECHANICAL (GENERAL AND/OR LOCAL EXHAUST) VENTILATION TO MAINTAIN EXPOSURE BELOW TLV(S).

PROTECTIVE GLOVES: WEAR RESISTANT GLOVES SUCH AS, NATURAL RUBBER, NEOPRENE, NITRILE RUBBER

EYE PROTECTION: CHEMICAL SPLASH GOGGLES IN COMPLIANCE WITH OSHA REGULATIONS ARE ADVISED, HOWEVER, OSHA REGULATIONS ALSO PERMIT OTHER TYPE SAFETY GLASSES. (CONSULT YOUR SAFETY EQUIPMENT SUPPLIER)

OTHER PROTECTIVE EQUIPMENT: TO PREVENT REPEATED OR PROLONGED SKIN CONTACT, WEAR IMPERVIOUS CLOTHING AND BOOTS.

SECTION IX-SPECIAL PRECAUTIONS OR OTHER COMMENTS

CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUES (VAPOR, LIQUID, AND/OR SOLID), ALL HAZARD PRECAUTIONS GIVEN IN THE DATA SHEET MUST BE OBSERVED.

OVEREXPOSURE TO MATERIAL HAS APPARENTLY BEEN FOUND TO CAUSE THE FOLLOWING EFFECTS IN LABORATORY ANIMALS: KIDNEY DAMAGE, EYE DAMAGE

THE INFORMATION ACCUMULATED HEREIN IS BELIEVED TO BE ACCURATE BUT IS NOT WARRANTED TO BE WHETHER ORIGINATING WITH ASHLAND OR NOT. RECIPIENTS ARE ADVISED TO CONFIRM IN ADVANCE OF NEED THAT THE INFORMATION IS CURRENT, APPLICABLE, AND SUITABLE TO THEIR CIRCUMSTANCES.

Screen For FD.HISTORY Show Purchase History for a Part

* * *

* Part Number 400141 Desc RESIN STRIPPER UM GL *

* * *

Accounting Value 32.000 *

Last Actual Cost 35.000 *

Avg Actual Cost 35.000 *

-- Deliveries -- *

*Vendor PO Nbr Unit Cost Quantity PO Date First Last *

* * *

*284 PROGRESS SALES COR 902508 1 35.000/ 10 06-29-90 07-18-90 *

*284 PROGRESS SALES COR 902508 35.000/ 5 06-29-90 07-18-90 *

*284 PROGRESS SALES COR 902199 35.000/ 10 06-08-90 06-15-90 *

*284 PROGRESS SALES COR 901465 35.000/ 5 04-17-90 04-30-90 *

*284 PROGRESS SALES COR 900871 1 35.000/ 10 03-06-90 03-09-90 *

*284 PROGRESS SALES COR 900871 35.000/ 5 03-06-90 03-09-90 *

*284 PROGRESS SALES COR 893163 32.000/ 5 12-06-89 12-08-89 *

*284 PROGRESS SALES COR 892864 32.000/ 5 11-10-89 11-13-89 *

*284 PROGRESS SALES COR 892212 32.000/ 10 08-25-89 08-29-89 *

*284 PROGRESS SALES COR 891855 32.000/ 5 08-14-89 08-15-89 *

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* * *

45 gal.

25 gal.

70 gals

(±) 4 gal/mo.

M A T E R I A L S A F E T Y D A T A S H E E T

CHARLES A. CROSBIE LABS., INC. 1821 Randolph St. L.A., CA 90001 213/582-1000

TRADE NAME: . CC-2000 & CC-2001DT **COATINGS REMOVERS**

Eff. 3-12-86

Resin Stripper

1. PHYSICAL DATA:

BOILING POINT: 145°F SP. GRAVITY: 1.3
VAP PRESS: 300 mm % VOLATILE by VOLUME: 98%
VAP DENSITY: Greater than 1 EVAPORATION RATE(ether=1): Less than 1
SOL. IN WATER: Slight ODOR: Ethereal
APPEARANCE: Gelatinous, Flocculent Liquid White to Light Yellow

2. INGREDIENTS:

Over 80% Methylene Chloride, Technical. Inasmuch as the other ingredients do not modify the information applying to Methylene Chloride, Technical, we are using the following Material Safety Data Sheet for Methylene Chloride, Technical, provided by DOW Chemical, effective 10/04/85 as the MSDS for Crosbie CC-2000 & CC-2001 DT Coatings Removers.

M A T E R I A L S A F E T Y D A T A S H E E T

DOW CHEMICAL U.S.A. Midland, MI 48674 Emergency Phone: 517-636-4400

MSD: 000009

Page: 1

PRODUCT NAME: METHYLENE CHLORIDE, TECHNICAL

Effective Date: 10/04/85

Date Printed: 10/16/85

Product Code: 55590

1. INGREDIENTS:

Methylene Chloride CAS# 000075-09-2 99.9

2. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT: NONE

FLAMMABLE LIMITS

METHOD USED: TOC, TCC, COC

LFL: 13% @ 25C

EXTINGUISHING MEDIA: WATER FOG

UFL: 23% @ 25C

FIRE & EXPLOSION HAZARDS: Forms flammable vapor-air mixtures at temperatures above ambient. Lower temperatures increase the difficulty of getting it to ignite. Avoid open flames & welding arcs. (see reactivity data).

FIRE FIGHTING EQUIPMENT: Wear positive pressure self-contained respiratory equipment.

3. REACTIVITY DATA:

STABILITY: (CONDITIONS TO AVOID) Hydrolysis producing small amounts of hydrochloric acid possible with gross water contamination.

3. REACTIVITY DATA: (CONTINUED)

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) Aluminum, possibly Sodium, Potassium, Magnesium, Chromic Anhydride, Lead Perchlorate and Perchloric Acid.

HAZARDOUS DECOMPOSITION PRODUCTS: Open flames and welding arcs can cause thermal degradation with the evolution of hydrogen chloride and very small amounts of phosgene and chlorine.

HAZARDOUS POLYMERIZATION: Will not occur.

4. ENVIRONMENTAL AND DISPOSAL INFORMATION:

ACTION TO TAKE FOR SPILLS/LEAKS: Small spills: Mop up, wipe up or soak up immediately. Remove to out of doors. Large spills: Evacuate area. Contain liquid; transfer to closed metal containers. Keep out of water supply.

DISPOSAL METHOD: When disposing of the unused contents, the preferred options are to send to licensed reclaimer, permitted incinerators, or to evaporate very small quantities in compliance with local, state, and federal regulations including Subtitle C of the Resource Conservation and Recovery Act. Dumping into sewers, on the ground, or with any body of water is strongly discouraged, and may be illegal. Consult The Dow Chemical Company for further information.

5. HEALTH HAZARD DATA:

EYE: May cause moderate eye irritation and slight corneal injury. Vapors may irritate eyes. In animals, irritation and corneal injury healed primarily within 8 days.

SKIN CONTACT: Prolonged or repeated exposure may cause skin irritation, even a burn. Repeated contact may cause drying or flaking of skin.

SKIN ABSORPTION: A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. The dermal LD50 has not been determined.

INGESTION: Single dose oral toxicity is low. The oral LD50 for rats is in the range of 1500-2500 mg/kg. If aspirated (liquid enters the lung), may be rapidly absorbed through the lungs and result in injury to other body systems.

INHALATION: Minimal anesthetic or narcotic effects may be seen in the range of 500-1000 ppm methylene chloride. Progressively higher levels over 1000 ppm can cause dizziness, drunkenness; concentrations as low as 10,000 ppm can cause unconsciousness and death. These high levels may also cause cardiac arrhythmias (irregular heartbeats).

Excessive exposure may cause irritation to upper respiratory tract. In confined or poorly ventilated areas, vapors can readily accumulate and can cause unconsciousness and death.

SYSTEMIC & OTHER EFFECTS: Excessive exposure may cause carboxy-hemoglobinemia, thereby impairing the blood's ability to transport oxygen.

5. HEALTH HAZARD DATA: (CONTINUED)

Excessive exposure may cause central nervous system, liver or kidney effects. Methylene Chloride has been shown to increase the rate of spontaneously occurring malignant tumors in one strain of laboratory mouse and benign tumors in laboratory rats. Other animal studies, as well as several human epidemiology studies, failed to show a tumorigenic response relatable to methylene chloride. Methylene Chloride is not believed to pose a measurable carcinogenic risk to man when handled as recommended. Birth defects are unlikely. Exposures having no effect on the mother should have no effect on the fetus. Did not cause birth defects in animals; other effects were seen in the fetus only at doses which caused toxic effects to the mother. In animal studies, has been shown not to interfere with reproduction. Negative or equivocal results have been obtained in mutagenicity test using mammalian cells or animals. This is consistent with the lack of interaction with DNA in rats and hamsters. Although results of Ames bacterial tests have generally been positive, overall the data suggest that genotoxic potential does not appear to be a significant factor in the toxicity of Methylene Chloride.

6. FIRST AID:

EYES: Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel.

SKIN: Wash off in flowing water or shower. Remove contaminated clothing and wash before reuse.

INGESTION: Do not induce vomiting. Call a physician and/or transport to emergency facility immediately.

INHALATION: Remove to fresh air. If not breathing, give mouth-to-mouth resuscitation. If breathing is difficult, give oxygen. Call a physician.

NOTE TO PHYSICIAN: Because rapid absorption may occur through lungs if aspirated and cause systemic effects, the decision of whether to induce vomiting or not should be made by a physician. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. Exposure may increase "myocardial irritability." Do not administer sympathomimetic drugs unless absolutely necessary. If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

7. HANDLING PRECAUTIONS:

EXPOSURE GUIDELINE (S): ACGIH TLV is 100 ppm. OSHA PEL is 500 ppm; ACC is 1000 ppm; MAC is 2000 ppm.

VENTILATION: Controlling airborne concentrations below the ACGIH TLV exposure guideline is recommended. Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations. Lethal concentrations may exist in areas with poor ventilation.

7. HANDLING PRECAUTIONS: (CONTINUED)

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use an approved air-purifying respirator. For emergency and other conditions where the exposure guideline may be greatly exceeded, use an approved positive pressure self-contained breathing apparatus. In confined or poorly ventilated areas, use an approved positive pressure self-contained breathing apparatus.

SKIN PROTECTION: For brief contact, no precautions other than clean body-covering clothing should be needed. When prolonged or frequently repeated contact could occur, use protective clothing impervious to this material. Selection of specific items such as gloves, boots, apron or full-body suit will depend on operation.

EYE PROTECTION: Use safety glasses. Where contact with liquid is likely, chemical goggles are recommended because eye contact with this material may cause pain, even though it is unlikely to cause injury.

8. ADDITIONAL INFORMATION:

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Exercise reasonable care and caution. Avoid breathing vapors. Store in cool place. Concentrated vapors of this product are heavier than air and will collect in low areas such as pits, degreasers, storage tanks, and other confined areas. Do not enter these areas where vapors of this product are suspected unless special breathing apparatus is used and observer is present for assistance. Do not pressure product out of vessel or transport container with air.

MSDS STATUS: Revised 1, 3, 5, 6, 7, 8, and 9.

The Information Herein Is Given In Good Faith, No Warranty, Expressed Or Implied, Is Made. Consult The Dow Chemical Company For Further Information.

**PROGRESS SALES
CORPORATION**

Binks/Poly-Craft Systems
1792 Northgate Blvd.
SARASOTA, FLORIDA 34234
Phone (813) 355-6627

All information, recommendations and suggestions appearing herein concerning our product are based upon tests and data believed to be reliable. However, it is the user's responsibility to determine the safety, toxicity, and suitability for his own use of the product described herein. Since the actual use by others is beyond our control, no guarantee, expressed or implied, is made by Charles A. Crosbie Labs., Inc. as to the effects of such use, the results to be obtained, or the safety and toxicity of the product nor does Charles A. Crosbie Labs., Inc. assume any liability arising out of use, by others, of the product referred to herein. The information herein is not to be construed as absolutely complete since additional information may be necessary or desirable when particular or exceptional conditions or circumstances exist or because of applicable laws or government regulations.

08:30:02 09 OCT 1990

Acct MSH Port 16

Screen For PD.HISTORY Show Purchase History for a Part

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*****
*
*
* Part Number 400155      Desc  FOAM GUN CLEANER      UM  GL  *
*
*                               Accounting Value  5.733  *
*                               Last Actual Cost  9.730  *
*                               Avg Actual Cost   9.730  *
*                               -- Deliveries --  *
*Vendor      PD Nbr    Unit Cost Quantity  PD Date  First  Last  *
*
*348  FCI INC.      901151      9.730/      25 03-29-90 04-02-90 *
*348  FCI INC.      64777      5.733/      55 07-26-88 08-02-88 *
*348  FCI INC.      64711      9.732/      10 07-15-88 07-18-88 *
*348  FCI INC.      64351      9.730/      10 05-18-88 05-19-88 *
*
*                               100 gals
*
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*****

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88 & 89

25 gals thus far 1990 = 2 1/2 gal/mo.

**MATERIAL SAFETY
DATA SHEET**
Ashland Chemical Company

DIVISION OF ASHLAND OIL, INC.

P. O. BOX 2218, COLUMBUS, OHIO 43218 • (614) 889-3333

24-HOUR EMERGENCY TELEPHONE 1-800-324-1133



Page: 1

004018

DIPROPYLENE GLYCOL

THIS MSDS COMPLIES WITH 29 CFR 1910.1200 (THE HAZARD COMMUNICATION STANDARD)

 Product Name: DIPROPYLENE GLYCOL
 CAS NUMBER: 25265-71-8

05 50 093 3331750-

 FOAM CRAFT, INC.
 6235 S. MCINTOSH ROAD
 SARASOTA FL 33583

 PRODUCT: 3300000
 INVOICE: 347448
 INVOICE DATE: 06/02/89
 TO: SAME

 Data Sheet No: 0003556-002
 Prepared: 03/04/86
 Supersedes: 03/06/85

ATTN: PLANT MGR./SAFETY DIR.

SECTION I - PRODUCT IDENTIFICATION

General or Generic ID: GLYCOL

DOT Hazard Classification: NOT APPLICABLE

SECTION II - COMPONENTS

 IF PRESENT, IARC, NTP AND OSHA CARCINOGENS AND CHEMICALS SUBJECT TO THE REPORT-
 ING REQUIREMENTS OF SARA TITLE III SECTION 313 ARE IDENTIFIED IN THIS SECTION.
 SEE DEFINITION PAGE FOR CLARIFICATION

INGREDIENT	% (by WT)	PEL	TLV	Note
DIPROPYLENE GLYCOL CAS #: 25265-71-8	100			(1)

Notes:

(1) PEL/TLV NOT ESTABLISHED FOR THIS MATERIAL

SECTION III - PHYSICAL DATA

Boiling Point	for PRODUCT	432.00 - 457.00 Deg F 222.22 - 236.11 Deg C 760.00 mm Hg
Vapor Pressure	for PRODUCT	< 0.01 mm Hg 70.00 Deg F 21.11 Deg C
Specific Vapor Density	AIR = 1	4.6
Specific Gravity		1.016 - 1.022 77.00 Deg F 25.00 Deg C
Percent Volatiles		<1%
Evaporation Rate	(N-BUTYL ACETATE = 1)	< .01

SECTION IV - FIRE AND EXPLOSION INFORMATION

FLASH POINT (PMCC) 250.0 Deg F (121.1 Deg C)

EXPLOSIVE LIMIT (PRODUCT) LOWER - 2.2%

EXTINGUISHING MEDIA: ALCOHOL FOAM OR WATER FOG OR CARBON DIOXIDE OR DRY CHEMICAL

HAZARDOUS DECOMPOSITION PRODUCTS: MAY FORM TOXIC MATERIALS:, CARBON DIOXIDE AND CARBON MONOXIDE, ETC.

FIRE FIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN THE POSITIVE PRESSURE DEMAND MODE WHEN FIGHTING FIRES:

SPECIAL FIRE & EXPLOSION HAZARDS: NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIVELY.

NFPA CODES: HEALTH- 0 FLAMMABILITY- 1 REACTIVITY- 0

SECTION V - HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LEVEL: NOT ESTABLISHED.

EFFECTS OF ACUTE OVEREXPOSURE: FOR PRODUCT

EYES - CAN CAUSE MODERATE IRRITATION, REDNESS, TEARING.
 SKIN - MAY CAUSE IRRITATION.
 BREATHING - OF MIST CAN CAUSE IRRITATION OF NASAL AND RESPIRATORY PASSAGES.
 SWALLOWING - CAN CAUSE GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING, AND DIARRHEA.

FIRST AID:

IF ON SKIN: THOROUGHLY WASH EXPOSED AREA WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING. LAUNDRER CONTAMINATED CLOTHING BEFORE RE-USE.

IF IN EYES: FLUSH WITH LARGE AMOUNTS OF WATER, LIFTING UPPER AND LOWER LIDS OCCASIONALLY, GET MEDICAL ATTENTION.

IF SWALLOWED: IMMEDIATELY DRINK TWO GLASSES OF WATER AND INDUCE VOMITING BY EITHER GIVING IPECAC SYRUP OR BY PLACING FINGER AT BACK OF THROAT. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. GET MEDICAL ATTENTION IMMEDIATELY.


**MATERIAL SAFETY
DATA SHEET**

24-HOUR EMERGENCY TELEPHONE (606) 324-1133

004018

DIPROPYLENE GLYCOL

Page: 2

SECTION V - HEALTH HAZARD DATA (Continued)

IF BREATHED: IF AFFECTED, REMOVE INDIVIDUAL TO FRESH AIR. IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN. IF BREATHING HAS STOPPED GIVE ARTIFICIAL RESPIRATION. KEEP PERSON WARM, QUIET AND GET MEDICAL ATTENTION.

EFFECTS OF CHRONIC OVEREXPOSURE: FOR PRODUCT

OVEREXPOSURE TO THIS MATERIAL (OR ITS COMPONENTS) HAS APPARENTLY BEEN FOUND TO CAUSE THE FOLLOWING EFFECTS IN LABORATORY ANIMALS: LIVER ABNORMALITIES, KIDNEY DAMAGE

SECTION VI - REACTIVITY DATA

HAZARDOUS POLYMERIZATION: CANNOT OCCUR

STABILITY: STABLE

INCOMPATIBILITY: AVOID CONTACT WITH: STRONG OXIDIZING AGENTS.

SECTION VII - SPILL OR LEAK PROCEDURES
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

SMALL SPILL: ABSORB LIQUID ON PAPER, VERMICULITE, FLOOR ABSORBENT, OR OTHER ABSORBENT MATERIAL AND TRANSFER TO HOOD.

LARGE SPILL: PREVENT RUN-OFF TO SEWERS, STREAMS OR OTHER BODIES OF WATER. IF RUN-OFF OCCURS, NOTIFY PROPER AUTHORITIES AS REQUIRED, THAT A SPILL HAS OCCURRED.

PERSONS NOT WEARING PROTECTIVE EQUIPMENT SHOULD BE EXCLUDED FROM AREA OF SPILL UNTIL CLEAN-UP HAS BEEN COMPLETED. STOP SPILL AT SOURCE, DIKE AREA OF SPILL TO PREVENT SPREADING, PUMP LIQUID TO SALVAGE TANK. REMAINING LIQUID MAY BE TAKEN UP ON SAND, CLAY, EARTH, FLOOR ABSORBENT, OR OTHER ABSORBENT MATERIAL AND SHOVELED INTO CONTAINERS.

WASTE DISPOSAL METHOD:

SMALL SPILL: DISPOSE OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

LARGE SPILL: CONTAMINATED ABSORBENT MAY BE DEPOSITED IN A LANDFILL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

DISPOSE OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

SECTION VIII - PROTECTIVE EQUIPMENT TO BE USED

RESPIRATORY PROTECTION: IF OVEREXPOSURE HAS BEEN DETERMINED OR DOCUMENTED, A NIOSH/MSHA JOINTLY APPROVED AIR SUPPLIED RESPIRATOR IS ADVISED IN ABSENCE OF PROPER ENVIRONMENTAL CONTROL. OSHA REGULATIONS ALSO PERMIT OTHER NIOSH/MSHA RESPIRATORS UNDER SPECIFIED CONDITIONS. (SEE YOUR SAFETY EQUIPMENT SUPPLIER). ENGINEERING OR ADMINISTRATIVE CONTROLS SHOULD BE IMPLEMENTED TO REDUCE EXPOSURE.

VENTILATION: PROVIDE SUFFICIENT MECHANICAL (GENERAL AND/OR LOCAL EXHAUST) VENTILATION TO MAINTAIN EXPOSURE BELOW LEVEL OF OVEREXPOSURE (FROM KNOWN, SUSPECTED OR APPARENT ADVERSE EFFECTS).

PROTECTIVE GLOVES: WEAR RESISTANT GLOVES (CONSULT YOUR SAFETY EQUIPMENT SUPPLIER).

EYE PROTECTION: CHEMICAL SPLASH GOGGLES IN COMPLIANCE WITH OSHA REGULATIONS ARE ADVISED; HOWEVER, OSHA REGULATIONS ALSO PERMIT OTHER TYPE SAFETY GLASSES. (CONSULT YOUR SAFETY EQUIPMENT SUPPLIER)

OTHER PROTECTIVE EQUIPMENT: TO PREVENT REPEATED OR PROLONGED SKIN CONTACT, WEAR IMPERVIOUS CLOTHING AND BOOTS.

SECTION IX - SPECIAL PRECAUTIONS OR OTHER COMMENTS

CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED. SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUES (VAPOR, LIQUID, AND/OR SOLID), ALL HAZARD PRECAUTIONS GIVEN IN THE DATA SHEET MUST BE OBSERVED.

THE INFORMATION ACCUMULATED HEREIN IS BELIEVED TO BE ACCURATE BUT IS NOT WARRANTED TO BE WHETHER ORIGINATING WITH THE COMPANY OR NOT. RECIPIENTS ARE ADVISED TO CONFIRM IN ADVANCE OF NEED THAT THE INFORMATION IS CURRENT, APPLICABLE, AND SUITABLE TO THEIR CIRCUMSTANCES.

Screen For PO.HISTORY Show Purchase History for a Part

*
 *
 * Part Number 400186 Desc LACQUER THINNER UM CT *
 *
 * Accounting Value 19.950 *
 * Last Actual Cost 8.430 *
 * Avg Actual Cost 135.740 *
 * -- Deliveries -- *

*Vendor	PO Nbr	Unit Cost	Quantity	PO Date	First	Last
*125	HORIZON CHEMICALS, 900821	19.950/		2 02-27-90	02-27-90	
*125	HORIZON CHEMICALS, 900601	19.950/		2 02-07-90	02-08-90	
*125	HORIZON CHEMICALS, 900152	19.950/		1 01-16-90	01-17-90	

5

*
 * Accounting Value 19.950 *
 * Last Actual Cost 8.430 *
 * Avg Actual Cost 135.740 *
 * -- Deliveries -- *

*Vendor	PO Nbr	Unit Cost	Quantity	PO Date	First	Last
*125	HORIZON CHEMICALS, 903400	8.430/		2 08-30-90	08-30-90	
*125	HORIZON CHEMICALS, 903401	149.000/		55 08-30-90	08-30-90	
*125	HORIZON CHEMICALS, 903100	8.430/		2 08-30-90	08-30-90	
*125	HORIZON CHEMICALS, 902633	19.950/		2 07-05-90	07-05-90	
*125	HORIZON CHEMICALS, 902426	19.950/		2 06-12-90	06-12-90	
*125	HORIZON CHEMICALS, 902051	19.950/		1 05-21-90	05-21-90	
*125	HORIZON CHEMICALS, 902033	19.950/		1 05-17-90	05-17-90	
*125	HORIZON CHEMICALS, 909020	19.950/		1 05-17-90	05-17-90	
*125	HORIZON CHEMICALS, 901498	19.950/		2 05-01-90	05-01-90	
*125	HORIZON CHEMICALS, 901092	19.950/		2 03-28-90	03-26-90	

6 mos 75 gals

20 - 5's = 100 gals

1 - 55 = 55

155 gals - 6 mos. use = ± 26 gals/month.

#3622 ALL PURPOSE LACQUER THINNER

MATERIAL SAFETY DATA SHEET

ACCEPTED BY O.S.H.A. AS ESSENTIALLY SIMILAR TO O.S.H.A. FORM 20

DATE: May 23, 1989

PREPARER'S SIGNATURE

MANUFACTURER'S NAME: HORIZON CHEMICALS, INC.

EMERGENCY PHONE #813-535-6474

14805 49TH ST. NO., CLEARWATER, FL 34622

SECTION I PRODUCT IDENTIFICATION

PRODUCT CODE: 3622 GENERAL OR GENERIC: Solvent Blend HAZARDOUS CLASSIFICATION: Flammable liquid N1263

SECTION II - HAZARDOUS COMPONENTS

INGREDIENT	CAS#	PERCENT	TLV	LEL	VAPOUR PRESSURE MM HG
Toluol	100-88-3	63.9	100	200	23
Acetone	67-64-1	18.8	750	1000	186
Isopropyl Alcohol	67-63-0	3.7	400	400	33
Methyl-2 Pentanone	100-10-1	4.2	50	100	16
Xylene	1330-20-7	8.2	100	100	5.1
Ethoxyethyl Acetate	111-15-9	1.2	5	100	2

SECTION III - PHYSICAL DATA

PROPERTY

BOILING POINT (estimated) (°F) 133 PERCENT VOLATILE BY VOLUME (%) 100 SPECIFIC GRAVITY (420=1) .83
 EVAPORATION RATE FASTER SLOWER X THAN ETHER VAPOUR DENSITY HEAVIER X LIGHTER , THAN AIR

SECTION IV - FIRE AND EXPLOSION DATA

FLASH POINT (TCC) Less than 20°F FLAMMABLE LIMITS See Sec. II EXTINGUISHING MEDIA: Alcohol foam or carbon dioxide or dry chemical

SPECIAL FIRE FIGHTING PROCEDURES: Self contained breathing apparatus with a full face piece operated in pressure - demand or other positive pressure mode.

UNUSUAL FIRE & EXPLOSION HAZARDS: Vapors are heavier than air and may travel along the ground or may be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electric motors, or other ignition sources at locations distant from material handling point. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT: See Section II

EFFECTS OF OVEREXPOSURE:

SKIN: Prolonged or repeated contact can cause moderate irritation, defatting, dermatitis.

BREATHING: Excessive inhalation of vapors can cause nasal and respiratory irritation, dizziness, weariness, fatigue, nausea, headache, possible unconsciousness, and even asphyxiation.

SWALLOWING: Can cause gastrointestinal irritation, nausea, vomiting, and diarrhea. Aspiration of materials into the lungs can cause chemical pneumonitis which can be fatal.

EMERGENCY AND FIRST AID PROCEDURES:

IF ON SKIN: Thoroughly wash exposed area with soap and water. Remove contaminated clothing. Launder contaminated clothing before re-use.

IF IN EYES: Flush with large amounts of water, lifting upper and lower lids occasionally, get medical attention.

IF SWALLOWED: Do not induce vomiting. Call physician or transport to an emergency facility.

IF BREATHED: If affected, remove individual to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped give artificial respiration. Keep person warm, quiet and get medical attention.

SECTION IX - SPECIAL PRECAUTIONS OR OTHER COMMENTS

03522

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED. SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUES (VAPOUR, LIQUID, AND/OR SOLID), ALL HAZARD PRECAUTIONS GIVEN IN THIS DATA SHEET MUST BE OBSERVED.

THE INFORMATION ACCUMULATED HEREIN IS BELIEVED TO BE ACCURATE BUT IS NOT WARRANTED TO BE WHETHER ORIGINATING WITH HORIZON OR NOT. RECIPIENTS ARE ADVISED TO CONFIRM IN ADVANCE OF NEED THAT THE INFORMATION IS CURRENT, APPLICABLE, AND SUITABLE TO THEIR CIRCUMSTANCES.

SECTION X - TOXIC CHEMICALS SARA TITLE III

THIS PRODUCT CONTAINS THE FOLLOWING TOXIC CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF THE EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW ACT OF 1986 AND OF 40 CFR 372

CHEMICAL	CAS NUMBER	WEIGHT %
Toluol	108-88-3	63.9
Acetone	67-64-1	18.8
Isopropyl Alcohol	67-63-0	3.7
Methyl-2 Pentanone	108-10-1	4.2
Xylene	1330-20-7	8.2

PRO-LINE BOATS:

10/15/90 Apx; Saw, Sanding, & Router/shaper Dust

From our woodshop and ^(*)cabinet shop. ^{*}(only in operation fully for 6 months) we generate (±) 2½ 55 gal drums per day. We have small dust collectors (55gal Vac. type) connected to all but one of our machines

JMKennedy

Screen For PO.HISTORY Show Purchase History for a Part

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*****
*
*
* Part Number 400142      Desc WAX, GOLDEN LIQUID      UM GL
*
* Accounting Value 17.180
* Last Actual Cost 13.500
* Avg Actual Cost 13.014
* -- Deliveries --
*Vendor      PO Nbr      Unit Cost Quantity PO Date  First  Last
*
*#344  GLASSCOAT, INC.  903759      13.350/      55 10-04-90 10-09-90
*#358  GLS CHEMICAL FIBER 903269      13.500/      55 08-29-90 08-31-90
*#358  GLS CHEMICAL FIBER 902208      13.500/      55 06-01-90 06-05-90
*#358  GLS CHEMICAL FIBER 901509      13.500/      55 04-19-90 04-27-90
*#358  GLS CHEMICAL FIBER 1509      13.500/      55 04-20-90 04-20-90
*#384  SPECIALTY PRODUCTS 900909      9.770/      55 03-05-90 03-12-90
*#384  SPECIALTY PRODUCTS 900346      17.180/      55 01-26-90 02-02-90
*#384  SPECIALTY PRODUCTS 892976      17.180/      55 11-13-89 11-20-89
*#384  SPECIALTY PRODUCTS 892351      17.180/      55 10-03-89 10-10-89
*#384  SPECIALTY PRODUCTS 892047      17.180/      55 08-22-89 09-06-89
*
*
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385-1990

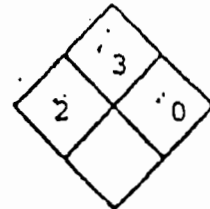
165-89

550 gals

(±) 38½ gals/mo.



MATERIAL SAFETY DATA SHEET



Revised August 1986

MANUFACTURER'S NAME

SPECIALTY PRODUCTS COMPANY

STREET ADDRESS

P.O. Box 306,

CITY, STATE, AND ZIP CODE

Jersey City, NJ 07303

PHONE:

(201) 434-4700

EMERGENCY TELEPHONE NO.

Transportation Emergencies call CHEMTREC (800) 424-9300

PRODUCT:

Golden Wax Liquid

WARNING STATEMENT:

Warning: Flammable

DO NOT induce vomiting if swallowed.

For industrial use only.

COMMON NAME:

Mixture

ERIC NAME:

NA

CHEMICAL NAME:

Not Applicable

CHEMICAL FAMILY:

Aromatic and Aliphatic
Hydrocarbon Mixture.

DOT PROPER SHIPPING NAME:

Not Applicable

Section I - INGREDIENTS

	C.A.S. NUMBER	TLV*	TL
Toluene	108883 Y	200A	
Xylene	1330-20-7 Y	100A	
Stoddard Solvent	8052413 N	500A	
Nonane	111842 N	200B	
Naphthalene	91203 Y	10A	
Trimethyl Benzenes		25B	
Paraffins, Cycloparaffins & Aromatics		NE*	
Isopropanol	67630 Y	400	

*Threshold Limit Value

A. OSHA

B. ACGIH

C. See Section III

D. Other

*Not Established

EMERGENCY: Have a physician call LOS ANGELES POISON CONTROL CENTER (24 hrs.) 213/664-2121

Eye Contact	If this product comes in contact with the eyes, flush with large quantities of water for at least 15 minutes and seek immediate medical attention.
Skin Contact	If this product comes in contact with the skin, wash with soap and large quantities of water and seek medical attention if irritation from contact persists.
Inhalation	If breathing difficulties, dizziness; or lightheadedness occur when working in areas with high vapor concentrations, victim should seek air free of vapors. If victim experiences continued breathing difficulties, administer oxygen until medical assistance can be rendered. If breathing stops, begin artificial respiration and seek immediate medical attention.
Ingestion	If this product is swallowed, DO NOT induce vomiting. Seek immediate medical advice and/or attention.

Section III - PHYSIOLOGICAL EFFECTS AND HEALTH INFORMATION

Eye Effects	This product may be an eye irritant.
Skin Effects	This product may cause skin irritation upon prolonged or repeated contact.
Systemic Effects	<p>Various studies have shown a possible association with exposure to this product and the following:</p> <ul style="list-style-type: none"> Respiratory tract irritation Central nervous system depression in high concentrations Liver and kidney damage Brain cell damage may result from long term inhalation of toluene vapor (6/1/82)

Section VII - STORAGE AND SPECIAL PRECAUTIONS

Precautions	Keep product containers cool, dry and away from sources of ignition. Use and store this product with adequate ventilation (see Section IV).
Other Precautions	Personnel should avoid inhalation of vapors (see Sections I, II, III, V, VI).

Section VIII - FIRE AND EXPLOSION HAZARD DATA

DOT Flammability Classification	Flammable Liquid	Flash Point Range: <input type="checkbox"/> Below 20° F, <input checked="" type="checkbox"/> 20° F - 100° F <input type="checkbox"/> 100° F - 200° F <input type="checkbox"/> Over 200° F <input type="checkbox"/> None to boiling
Extinguishing Media	Use foam, CO ₂ or dry chemical fire fighting apparatus.	
Unusual Fire and Explosion Hazards	Keep work areas free of hot metal surfaces and other sources of ignition.	
Fire Fighting Procedures	The use of self-contained breathing apparatus is recommended for fire fighters. Water may be unsuitable as an extinguishing media, but helpful in keep adjacent containers cool. Avoid spreading burning liquid with water used for cooling purposes.	

Section IX - PHYSICAL DATA

Approximate Boiling Range, ° F	231 - 310	Vapor Density: <input checked="" type="checkbox"/> Heavier Than Air <input type="checkbox"/> Lighter
Evaporation Rate: <input type="checkbox"/> Faster Than Ether <input checked="" type="checkbox"/> Slower		Percent Volatile: 90 Solubility in Water: Negligible
Specific Gravity: <input checked="" type="checkbox"/> Lighter Than Water <input type="checkbox"/> Heavier		Weight per Gallon: 7.2

Appearance and Odor:

This product is light yellow and has a characteristic odor.

Section X - DOCUMENTARY INFORMATION

Golden Wax Liquid

Issue Date 5-12-86

The above information is believed to be correct as of the date hereof. However, no warranty of merchantability, fitness for any use, or any other warranty is expressed or is to be implied regarding the accuracy of these data, the results to be obtained from the use of the material, or the hazards connected with such use. Since the information contained herein may be applied under conditions beyond our control and with which we may be unfamiliar, and since data made available subsequent to the date hereof may suggest modification of the information, we do not assume responsibility for the results of its use. This information is furnished the condition that the person receiving it shall make his own determination as to the suitability of the material for his particular purpose and on the condition that he assume the risk of his use thereof.

Wax Liquid Section IV - SPECIAL PROTECTION INFORMATION

Respiratory Protection (see page)	The use of respiratory protection depends on vapor concentration above the time-weighted TLV; use a NIOSH approved cartridge respirator or gas mask.		
Ventilation	General mechanical ventilation may be sufficient to keep product vapor concentrations within specified time-weighted TLV ranges. If general ventilation proves inadequate to maintain safe vapor concentrations, supplemental local exhaust may be required. Other special precautions such as respiratory masks or environmental containment devices may be required in extreme cases.		
Protective Gloves	The use of impermeable gloves is advised to prevent skin irritation in sensitive individuals.	Eye Protection	Safety glasses; chemical goggles and/or face shields are recommended to safeguard against potential eye contact, irritation, or injury.
Other Protective Equipment	Impermeable aprons are advised when working with this product. The availability of eye washes and safety showers in work areas is recommended.		

Section V - REACTIVITY DATA

Stability	Unstable	X	Conditions to Avoid:
	Stable		
Incompatibility (Materials to Avoid)	This product is incompatible with strong oxidizing agents, strong acids or bases, and selected amines.		
Hazardous Decomposition Products	Thermal decomposition in the presence of air may yield carbon monoxide and/or carbon dioxide.		
Hazardous Polymerization	May Occur	X	Conditions to Avoid:
	Will Not Occur		

Section VI - SPILL OR LEAK PROCEDURES

HIGHWAY OR RAILWAY SPILLS - CALL CHEMTREC 800/424-9300

Precautions in Case of Release or Spill	Keep sources of ignition and hot metal surfaces isolated from the spill. Flush spilled material into suitable retaining areas or containers with large quantities of water. Small amounts of spilled material may be absorbed into an appropriate absorbant. *
Reportable Quantity	Notify Coast Guard National Response Center; Phone No. 800-424-8802, if Spill is Greater Than 1000 lb (Kilograms)
Waste Disposal Method	Dispose of product in accordance with applicable local, county, state and federal regulations.

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)	ISW(1) = 1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)	ISW(2) = 4
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)	ISW(3) = 2
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)	ISW(4) = 0
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)	ISW(5) = 0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)	ISW(6) = 1
COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)	
WITH THE FOLLOWING TIME PERIODS:	
HOURLY (YES=1,NO=0)	ISW(7) = 0
2-HOUR (YES=1,NO=0)	ISW(8) = 0
3-HOUR (YES=1,NO=0)	ISW(9) = 0
4-HOUR (YES=1,NO=0)	ISW(10) = 0
6-HOUR (YES=1,NO=0)	ISW(11) = 0
8-HOUR (YES=1,NO=0)	ISW(12) = 1
12-HOUR (YES=1,NO=0)	ISW(13) = 0
24-HOUR (YES=1,NO=0)	ISW(14) = 1
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)	ISW(15) = 1
PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE	
SPECIFIED BY ISW(7) THROUGH ISW(14):	
DAILY TABLES (YES=1,NO=0)	ISW(16) = 0
HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)	ISW(17) = 1
MAXIMUM 50 TABLES (YES=1,NO=0)	ISW(18) = 1
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)	ISW(19) = 1
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3)	ISW(20) = 0
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)	ISW(21) = 1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)	ISW(22) = 1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)	ISW(23) = 0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)	ISW(24) = 1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)	ISW(25) = 2
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)	ISW(26) = 1
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)	ISW(27) = 1
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)	ISW(28) = 1
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)	ISW(29) = 2
DEBUG OPTION CHOSEN (YES=1,NO=2)	ISW(30) = 1
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)	ISW(31) = 0
NUMBER OF INPUT SOURCES	NSOURC = 7
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)	NGROUP = 0
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)	IPERD = 0
NUMBER OF X (RANGE) GRID VALUES	NXPNTS = 26
NUMBER OF Y (THETA) GRID VALUES	NYPNTS = 36
NUMBER OF DISCRETE RECEPTORS	NXWYPT = 36
SOURCE EMISSION RATE UNITS CONVERSION FACTOR	TK = .10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED	ZR = 10.00 METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA	IMET = 9
DECAY COEFFICIENT FOR PHYSICAL OR CHEMICAL DEPLETION	DECAY = 0.000000E+00
SURFACE STATION NO.	ISS = 12842
YEAR OF SURFACE DATA	ISY = 86
UPPER AIR STATION NO.	IUS = 12842
YEAR OF UPPER AIR DATA	IUY = 86
ALLOCATED DATA STORAGE	LIMIT = 500000 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN	MIMIT = 15181 WORDS

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

*** RANGES OF POLAR GRID SYSTEM ***
(METERS)

25.0,	50.0,	75.0,	100.0,	150.0,	200.0,	250.0,	300.0,	350.0,	400.0,
450.0,	500.0,	600.0,	700.0,	800.0,	900.0,	1000.0,	2000.0,	3000.0,	4000.0,
5000.0,	6000.0,	7000.0,	8000.0,	9000.0,	10000.0,				

*** RADIAL ANGLES OF POLAR GRID SYSTEM ***
(DEGREES)

10.0,	20.0,	30.0,	40.0,	50.0,	60.0,	70.0,	80.0,	90.0,	100.0,
110.0,	120.0,	130.0,	140.0,	150.0,	160.0,	170.0,	180.0,	190.0,	200.0,
210.0,	220.0,	230.0,	240.0,	250.0,	260.0,	270.0,	280.0,	290.0,	300.0,
310.0,	320.0,	330.0,	340.0,	350.0,	360.0,				

*** RANGE, THETA COORDINATES OF DISCRETE RECEPTORS ***
(METERS, DEGREES)

(119.0,	10.0),	(124.0,	20.0),	(135.0,	30.0),	(152.0,	40.0),	(180.0,	50.0),
(230.0,	60.0),	(255.0,	70.0),	(263.0,	80.0),	(393.0,	90.0),	(186.0,	100.0),
(94.0,	110.0),	(62.0,	120.0),	(49.0,	130.0),	(41.0,	140.0),	(37.0,	150.0),
(33.0,	160.0),	(24.0,	170.0),	(23.0,	180.0),	(24.0,	190.0),	(25.0,	200.0),
(27.0,	210.0),	(31.0,	220.0),	(37.0,	230.0),	(47.0,	240.0),	(66.0,	250.0),
(126.0,	260.0),	(122.0,	270.0),	(125.0,	280.0),	(130.0,	290.0),	(140.0,	300.0),
(159.0,	310.0),	(170.0,	320.0),	(150.0,	330.0),	(138.0,	340.0),	(132.0,	350.0),
(129.0,	360.0),	(

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

*** SOURCE DATA ***

SOURCE NUMBER	P E	K E	PART. CATS.	EMISSION RATE TYPE=0,1 (GRAMS/SEC) TYPE=2 *PER METER**2	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	HEIGHT (METERS)	TEMP.	EXIT VEL.	BLDG. HEIGHT TYPE=0 (METERS)	BLDG. LENGTH TYPE=0 (METERS)	BLDG. WIDTH TYPE=0 (METERS)	
									TYPE=0 (DEG.K); VERT.DIM TYPE=1 (METERS)	TYPE=0 (M/SEC); HORZ.DIM TYPE=1,2 (METERS)				DIAMETER TYPE=0 (METERS)
1	0	0	0	0.21300E+01	-300.0	10.0	0.0	1.83	298.00	8.84	6.00	-5.49	277.60	277.60
2	0	0	0	0.21300E+01	-300.0	45.0	0.0	1.83	298.00	8.84	6.00	-5.49	277.60	227.60
3	0	0	0	0.21300E+01	-300.0	75.0	0.0	1.83	298.00	8.84	6.00	-5.49	277.60	277.60
4	0	0	0	0.21300E+01	-185.0	90.0	0.0	1.83	298.00	8.84	6.00	-5.49	277.60	277.60
5	0	0	0	0.21300E+01	-135.0	90.0	0.0	1.83	298.00	8.84	6.00	-5.49	277.60	277.60
6	0	0	0	0.21300E+01	-85.0	90.0	0.0	1.83	298.00	8.84	6.00	-5.49	277.60	277.60
7	0	0	0	0.21300E+01	-45.0	90.0	0.0	1.83	298.00	8.84	6.00	-5.49	277.60	277.60

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE 1

IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW
1	5.5	311.1	2	5.5	312.7	3	5.5	304.8	4	5.5	287.7	5	5.5	261.8	6	5.5	227.9
7	5.5	187.2	8	5.5	140.7	9	5.5	90.0	10	5.5	140.7	11	5.5	187.2	12	5.5	227.9
13	5.5	261.8	14	5.5	287.7	15	5.5	304.8	16	5.5	312.7	17	5.5	311.1	18	5.5	300.0
19	5.5	311.1	20	5.5	312.7	21	5.5	304.8	22	5.5	287.7	23	5.5	261.8	24	5.5	227.9
25	5.5	187.2	26	5.5	140.7	27	5.5	90.0	28	5.5	140.7	29	5.5	187.2	30	5.5	227.9
31	5.5	261.8	32	5.5	287.7	33	5.5	304.8	34	5.5	312.7	35	5.5	311.1	36	5.5	300.0

SOURCE 2

IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW
1	5.5	311.1	2	5.5	312.7	3	5.5	304.8	4	5.5	287.7	5	5.5	261.8	6	5.5	227.9
7	5.5	187.2	8	5.5	140.7	9	5.5	90.0	10	5.5	140.7	11	5.5	187.2	12	5.5	227.9
13	5.5	261.8	14	5.5	287.7	15	5.5	304.8	16	5.5	312.7	17	5.5	311.1	18	5.5	300.0
19	5.5	311.1	20	5.5	312.7	21	5.5	304.8	22	5.5	287.7	23	5.5	261.8	24	5.5	227.9
25	5.5	187.2	26	5.5	140.7	27	5.5	90.0	28	5.5	140.7	29	5.5	187.2	30	5.5	227.9
31	5.5	261.8	32	5.5	287.7	33	5.5	304.8	34	5.5	312.7	35	5.5	311.1	36	5.5	300.0

SOURCE 3

IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW
1	5.5	311.1	2	5.5	312.7	3	5.5	304.8	4	5.5	287.7	5	5.5	261.8	6	5.5	227.9
7	5.5	187.2	8	5.5	140.7	9	5.5	90.0	10	5.5	140.7	11	5.5	187.2	12	5.5	227.9
13	5.5	261.8	14	5.5	287.7	15	5.5	304.8	16	5.5	312.7	17	5.5	311.1	18	5.5	300.0
19	5.5	311.1	20	5.5	312.7	21	5.5	304.8	22	5.5	287.7	23	5.5	261.8	24	5.5	227.9
25	5.5	187.2	26	5.5	140.7	27	5.5	90.0	28	5.5	140.7	29	5.5	187.2	30	5.5	227.9
31	5.5	261.8	32	5.5	287.7	33	5.5	304.8	34	5.5	312.7	35	5.5	311.1	36	5.5	300.0

SOURCE 4

IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW
1	5.5	311.1	2	5.5	312.7	3	5.5	304.8	4	5.5	287.7	5	5.5	261.8	6	5.5	227.9
7	5.5	187.2	8	5.5	140.7	9	5.5	90.0	10	5.5	140.7	11	5.5	187.2	12	5.5	227.9
13	5.5	261.8	14	5.5	287.7	15	5.5	304.8	16	5.5	312.7	17	5.5	311.1	18	5.5	300.0
19	5.5	311.1	20	5.5	312.7	21	5.5	304.8	22	5.5	287.7	23	5.5	261.8	24	5.5	227.9
25	5.5	187.2	26	5.5	140.7	27	5.5	90.0	28	5.5	140.7	29	5.5	187.2	30	5.5	227.9
31	5.5	261.8	32	5.5	287.7	33	5.5	304.8	34	5.5	312.7	35	5.5	311.1	36	5.5	300.0

SOURCE 5

IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW
1	5.5	311.1	2	5.5	312.7	3	5.5	304.8	4	5.5	287.7	5	5.5	261.8	6	5.5	227.9
7	5.5	187.2	8	5.5	140.7	9	5.5	90.0	10	5.5	140.7	11	5.5	187.2	12	5.5	227.9
13	5.5	261.8	14	5.5	287.7	15	5.5	304.8	16	5.5	312.7	17	5.5	311.1	18	5.5	300.0
19	5.5	311.1	20	5.5	312.7	21	5.5	304.8	22	5.5	287.7	23	5.5	261.8	24	5.5	227.9
25	5.5	187.2	26	5.5	140.7	27	5.5	90.0	28	5.5	140.7	29	5.5	187.2	30	5.5	227.9
31	5.5	261.8	32	5.5	287.7	33	5.5	304.8	34	5.5	312.7	35	5.5	311.1	36	5.5	300.0

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE 6

IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW
1	5.5	311.1,	2	5.5	312.7,	3	5.5	304.8,	4	5.5	287.7,	5	5.5	261.8,	6	5.5	227.9,
7	5.5	187.2,	8	5.5	140.7,	9	5.5	90.0,	10	5.5	140.7,	11	5.5	187.2,	12	5.5	227.9,
13	5.5	261.8,	14	5.5	287.7,	15	5.5	304.8,	16	5.5	312.7,	17	5.5	311.1,	18	5.5	300.0,
19	5.5	311.1,	20	5.5	312.7,	21	5.5	304.8,	22	5.5	287.7,	23	5.5	261.8,	24	5.5	227.9,
25	5.5	187.2,	26	5.5	140.7,	27	5.5	90.0,	28	5.5	140.7,	29	5.5	187.2,	30	5.5	227.9,
31	5.5	261.8,	32	5.5	287.7,	33	5.5	304.8,	34	5.5	312.7,	35	5.5	311.1,	36	5.5	300.0,

SOURCE 7

IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW	IFV	BH	BW
1	5.5	311.1,	2	5.5	312.7,	3	5.5	304.8,	4	5.5	287.7,	5	5.5	261.8,	6	5.5	227.9,
7	5.5	187.2,	8	5.5	140.7,	9	5.5	90.0,	10	5.5	140.7,	11	5.5	187.2,	12	5.5	227.9,
13	5.5	261.8,	14	5.5	287.7,	15	5.5	304.8,	16	5.5	312.7,	17	5.5	311.1,	18	5.5	300.0,
19	5.5	311.1,	20	5.5	312.7,	21	5.5	304.8,	22	5.5	287.7,	23	5.5	261.8,	24	5.5	227.9,
25	5.5	187.2,	26	5.5	140.7,	27	5.5	90.0,	28	5.5	140.7,	29	5.5	187.2,	30	5.5	227.9,
31	5.5	261.8,	32	5.5	287.7,	33	5.5	304.8,	34	5.5	312.7,	35	5.5	311.1,	36	5.5	300.0,

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* 365-DAY AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *

* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 17.30232 AND OCCURRED AT (100.0, 320.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)									
	25.0	50.0	75.0	100.0	150.0	200.0	250.0	300.0	350.0	
360.0 /	9.35877	11.70417	12.14199	10.15013	7.73302	6.55325	5.90164	5.52390	5.31723	
350.0 /	9.39648	11.63853	13.51178	10.07327	7.37042	5.91659	5.27092	5.01156	4.97045	
340.0 /	9.50003	10.95150	16.56629	9.14520	6.59035	5.27164	4.63214	4.49304	4.64577	
330.0 /	9.57707	11.18017	13.06314	10.56646	6.94036	4.79309	4.20704	4.16920	4.36732	
320.0 /	9.41987	10.20883	12.13001	17.30232	6.75866	5.01083	4.34748	4.37222	4.77917	
310.0 /	8.98264	9.27674	10.38330	13.33819	7.92809	4.96862	4.35437	4.94823	5.71084	
300.0 /	8.48192	8.71077	9.72052	10.65470	7.87231	5.25949	4.45281	4.99304	5.46712	
290.0 /	8.08411	8.49978	8.43587	8.81959	9.90230	8.25291	5.33034	5.51880	5.18270	
280.0 /	7.79921	8.20187	7.51971	7.96911	8.31359	7.76925	7.40094	6.49953	5.91624	
270.0 /	7.58265	7.71346	6.98391	7.19427	7.04183	6.70318	8.49445	5.73471	7.10411	
260.0 /	7.40016	7.23153	6.54410	6.20805	5.41911	5.31896	6.33648	5.41102	5.75204	
250.0 /	7.23607	6.84916	6.11178	5.51352	4.37235	4.09370	4.37143	4.13511	4.46393	
240.0 /	7.09799	6.57053	5.71873	5.03006	3.80977	3.45968	3.36060	3.25927	3.48819	
230.0 /	6.98595	6.36760	5.42249	4.71800	3.49486	3.17424	2.87553	2.74807	2.83338	
220.0 /	6.91149	6.20619	5.25006	4.49259	3.38361	3.09331	2.74708	2.58067	2.56754	
210.0 /	6.88057	6.07905	5.18392	4.43015	3.36329	3.10470	2.88449	2.64403	2.55630	
200.0 /	6.90088	5.99333	5.24067	4.46170	3.48047	3.20787	3.12289	2.92109	2.76750	
190.0 /	6.96214	5.98777	5.26060	4.62223	3.69429	3.34866	3.33760	3.27433	3.08294	
180.0 /	7.04591	6.09724	5.38576	4.82785	3.97121	3.55049	3.47361	3.47957	3.41781	
170.0 /	7.12806	6.28163	5.61666	5.08308	4.31555	3.86913	3.69051	3.61824	3.56630	
160.0 /	7.20130	6.44585	5.82524	5.38653	4.70998	4.28320	4.06426	3.93731	3.83043	
150.0 /	7.27756	6.58488	6.03490	5.65156	5.10092	4.72978	4.51345	4.36812	4.25547	
140.0 /	7.37574	6.77611	6.32652	5.98248	5.51421	5.20533	5.00525	4.83473	4.68366	
130.0 /	7.50617	7.04057	6.68738	6.39331	5.94646	5.63180	5.41611	5.23973	5.08345	
120.0 /	7.66589	7.36512	7.11834	6.87492	6.46676	6.17434	5.96186	5.77713	5.60611	
110.0 /	7.84911	7.74724	7.60181	7.43242	7.20918	7.05251	6.90579	6.73385	6.52846	
100.0 /	8.05286	8.16066	8.11938	8.11997	8.22034	8.22965	8.13569	7.94775	7.66679	
90.0 /	8.27372	8.56616	8.70367	8.95827	9.35129	9.47339	9.45157	9.32456	9.06016	
80.0 /	8.50216	8.95359	9.35388	9.84325	10.43427	10.76989	10.83601	10.69673	10.31980	
70.0 /	8.72693	9.32838	10.02013	10.63186	11.48981	11.82890	11.59156	11.01055	10.26383	
60.0 /	8.93717	9.69018	10.61593	11.29748	12.19686	11.95399	11.10222	10.24882	9.50240	
50.0 /	9.12220	10.02348	11.06794	11.84998	12.17524	11.18267	10.28633	9.56668	8.95643	
40.0 /	9.26941	10.31479	11.38558	12.09480	11.44555	10.29886	9.47718	8.80573	8.21261	
30.0 /	9.36084	10.55299	11.60276	11.93632	10.56142	9.36735	8.52488	7.83121	7.24774	
20.0 /	9.39155	10.77525	11.73713	11.41711	9.61178	8.33851	7.44986	6.81409	6.31504	
10.0 /	9.37438	11.10652	11.85145	10.72521	8.65587	7.30722	6.55789	6.04362	5.69943	

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* 365-DAY AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *

* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 17.30232 AND OCCURRED AT (100.0, 320.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)								
	400.0	450.0	500.0	600.0	700.0	800.0	900.0	1000.0	2000.0
360.0 /	5.21029	5.23882	5.19433	4.93409	4.50271	4.03831	3.71234	3.50434	1.94196
350.0 /	5.03390	5.12732	5.04964	4.67224	4.46479	4.19835	3.89421	3.59419	2.23441
340.0 /	4.71581	4.71079	4.77278	4.61669	4.30153	4.17352	4.02162	3.80295	2.37553
330.0 /	4.55453	4.68124	4.72589	4.85698	4.72153	4.57261	4.44594	4.37024	3.20268
320.0 /	5.02599	5.13606	5.24987	5.36115	5.53412	5.61073	5.58118	5.47376	3.63033
310.0 /	5.93019	6.18610	6.68575	7.49750	7.90749	8.02489	7.95684	7.82586	5.49726
300.0 /	6.00685	6.65746	7.34440	8.72518	9.79230	10.32715	10.46311	10.36542	7.38758
290.0 /	6.15556	7.24095	8.10503	9.01400	9.51818	9.67384	9.64089	9.50450	6.63325
280.0 /	6.72782	7.68980	8.36861	9.09989	9.53518	9.64508	9.57752	9.41839	6.47995
270.0 /	7.29652	7.67670	8.03979	8.52508	8.78866	8.75778	8.62338	8.46869	6.29349
260.0 /	7.25798	8.28781	8.84354	9.39948	9.47889	9.18643	8.76775	8.36385	6.01845
250.0 /	5.12007	6.05990	6.94101	8.23228	8.98107	9.35582	9.53834	9.54603	7.47222
240.0 /	3.80635	4.26236	4.73472	5.60935	6.23067	6.63559	6.88451	6.98790	5.54513
230.0 /	2.96454	3.11194	3.29844	3.70361	4.01436	4.25266	4.38564	4.50916	4.46325
220.0 /	2.64608	2.72047	2.72290	2.79558	2.84156	2.86624	2.86288	2.81665	2.22183
210.0 /	2.58603	2.62713	2.61220	2.59496	2.48748	2.46341	2.38741	2.29664	1.60191
200.0 /	2.67530	2.61763	2.64505	2.57116	2.47265	2.43153	2.31948	2.17157	1.45070
190.0 /	2.93154	2.83113	2.72479	2.55247	2.52282	2.43611	2.29819	2.15960	1.47294
180.0 /	3.26261	3.07369	2.92769	2.73176	2.53023	2.33530	2.17386	2.05733	1.36299
170.0 /	3.49785	3.39853	3.26144	2.92204	2.63785	2.44006	2.27124	2.09903	1.15402
160.0 /	3.73162	3.63084	3.52018	3.28285	3.06411	2.84074	2.61033	2.39419	1.33690
150.0 /	4.15199	4.04303	3.93016	3.72026	3.52833	3.32512	3.10262	2.89783	1.76043
140.0 /	4.55354	4.44166	4.34242	4.16146	3.97502	3.77291	3.56134	3.35809	2.24059
130.0 /	4.94398	4.81366	4.68921	4.45513	4.23661	4.02591	3.82162	3.63079	2.43958
120.0 /	5.44497	5.28996	5.14062	4.85660	4.59428	4.34070	4.09863	3.86817	2.43205
110.0 /	6.30246	6.06504	5.82648	5.36524	4.94387	4.56038	4.21816	3.91018	2.19767
100.0 /	7.33452	6.98150	6.62891	5.96275	5.37246	4.85376	4.40513	4.01296	1.97812
90.0 /	8.70344	8.29619	7.87260	7.04692	6.29850	5.63492	5.06064	4.56429	2.12479
80.0 /	9.78127	9.16906	8.54491	7.38286	6.40587	5.60684	4.96138	4.43247	2.03248
70.0 /	9.46874	8.70672	8.01015	6.84319	5.94544	5.24920	4.70732	4.27516	2.21947
60.0 /	8.83196	8.23364	7.69288	6.75876	6.00196	5.39820	4.91466	4.51353	2.45123
50.0 /	8.36993	7.82714	7.33694	6.50493	5.83172	5.27533	4.80520	4.40157	2.33720
40.0 /	7.67455	7.16579	6.69523	5.89371	5.27902	4.79981	4.41189	4.09866	2.42020
30.0 /	6.73059	6.25020	5.82129	5.15803	4.70880	4.35059	3.99010	3.64645	2.24120
20.0 /	5.93074	5.62645	5.37007	4.89284	4.49791	4.24977	4.04006	3.80178	1.99000
10.0 /	5.47106	5.28815	5.12283	4.90915	4.57914	4.23653	3.93060	3.62916	1.92351

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* 365-DAY AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *

* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 17.30232 AND OCCURRED AT (100.0, 320.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)							
	3000.0	4000.0	5000.0	6000.0	7000.0	8000.0	9000.0	10000.0
360.0 /	1.27314	0.95898	0.76433	0.63123	0.53399	0.45982	0.40163	0.35492
350.0 /	1.53460	1.15017	0.91264	0.74776	0.62687	0.53531	0.46433	0.40805
340.0 /	1.67754	1.24475	0.96659	0.77824	0.64430	0.54556	0.47028	0.41126
330.0 /	2.25535	1.67584	1.30933	1.06009	0.88163	0.74936	0.64808	0.56840
320.0 /	2.35258	1.69100	1.30217	1.04721	0.86791	0.73612	0.63569	0.55692
310.0 /	3.76211	2.73589	2.11442	1.70464	1.41582	1.20328	1.04101	0.91343
300.0 /	5.33405	3.99607	3.13289	2.54404	2.12121	1.80670	1.56517	1.37453
290.0 /	4.63978	3.43421	2.67859	2.16955	1.80622	1.53677	1.33030	1.16758
280.0 /	4.50626	3.32579	2.58945	2.09459	1.74192	1.48064	1.28064	1.12320
270.0 /	4.63030	3.52065	2.79118	2.28608	1.91907	1.64289	1.42920	1.25963
260.0 /	4.47913	3.41360	2.70785	2.21868	1.86334	1.59579	1.38883	1.22462
250.0 /	5.68380	4.31553	3.39637	2.76319	2.30791	1.96853	1.70799	1.50249
240.0 /	4.58508	3.72515	3.05696	2.55235	2.16758	1.86877	1.63326	1.44409
230.0 /	3.63751	2.97548	2.46152	2.06787	1.76455	1.52654	1.33793	1.18585
220.0 /	1.85835	1.57327	1.32977	1.13336	0.97726	0.85211	0.75135	0.66908
210.0 /	1.16552	0.90445	0.73202	0.61166	0.52281	0.45430	0.40011	0.35625
200.0 /	1.01566	0.77214	0.61959	0.51269	0.43342	0.37242	0.32470	0.28660
190.0 /	1.08527	0.88632	0.74973	0.64624	0.56420	0.49701	0.44201	0.39639
180.0 /	0.99188	0.80507	0.67261	0.57017	0.48994	0.42609	0.37502	0.33352
170.0 /	0.81004	0.62986	0.50883	0.42196	0.35740	0.30790	0.26917	0.23821
160.0 /	0.89551	0.65737	0.51727	0.42458	0.35826	0.30828	0.26951	0.23866
150.0 /	1.20968	0.90199	0.71185	0.58362	0.49155	0.42223	0.36866	0.32619
140.0 /	1.61079	1.21641	0.97027	0.80335	0.68239	0.59055	0.51881	0.46135
130.0 /	1.76787	1.35515	1.08879	0.90331	0.76704	0.66283	0.58133	0.51613
120.0 /	1.71181	1.29045	1.02297	0.83932	0.70617	0.60571	0.52783	0.46601
110.0 /	1.46845	1.07640	0.83752	0.67806	0.56481	0.48083	0.41646	0.36581
100.0 /	1.23177	0.86488	0.65364	0.51821	0.42501	0.35757	0.30690	0.26771
90.0 /	1.30675	0.91666	0.69420	0.55220	0.45468	0.38419	0.33118	0.29006
80.0 /	1.23143	0.84738	0.63036	0.49379	0.40142	0.33565	0.28678	0.24928
70.0 /	1.37441	0.95296	0.71431	0.56378	0.46155	0.38843	0.33373	0.29146
60.0 /	1.62470	1.18971	0.92692	0.75153	0.62698	0.53479	0.46407	0.40831
50.0 /	1.57241	1.15922	0.90925	0.74388	0.62696	0.54019	0.47331	0.42022
40.0 /	1.40794	0.94275	0.70961	0.56970	0.47507	0.40639	0.35405	0.31280
30.0 /	1.48753	1.02353	0.76319	0.60335	0.49571	0.41832	0.36005	0.31466
20.0 /	1.23058	0.83730	0.61178	0.47168	0.37874	0.31363	0.26598	0.22983
10.0 /	1.34918	0.98468	0.75652	0.60718	0.50363	0.42825	0.37114	0.32646

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* 365-DAY AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *

* FROM ALL SOURCES *
 * FOR THE DISCRETE RECEPTOR POINTS *

- RNG -	- DIR -	CON.	- RNG -	- DIR -	CON.	- RNG -	- DIR -	CON.
119.0	10.0	9.88121	124.0	20.0	10.53169	135.0	30.0	11.01943
152.0	40.0	11.39373	180.0	50.0	11.60641	230.0	60.0	11.46770
255.0	70.0	11.54490	263.0	80.0	10.81749	393.0	90.0	8.75728
186.0	100.0	8.23777	94.0	110.0	7.46887	62.0	120.0	7.24853
49.0	130.0	7.05633	41.0	140.0	6.96851	37.0	150.0	6.91498
33.0	160.0	6.93064	24.0	170.0	7.16751	23.0	180.0	7.13606
24.0	190.0	7.01173	25.0	200.0	6.90088	27.0	210.0	6.78778
31.0	220.0	6.69953	37.0	230.0	6.72289	47.0	240.0	6.69764
66.0	250.0	6.22849	126.0	260.0	5.66475	122.0	270.0	6.64774
125.0	280.0	7.96494	130.0	290.0	9.07537	140.0	300.0	13.20372
159.0	310.0	7.58399	170.0	320.0	5.81251	150.0	330.0	6.94036
138.0	340.0	7.19607	132.0	350.0	8.05984	129.0	360.0	8.69619

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* HIGHEST 8-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 2602.99400 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	25.0	50.0	RANGE (METERS) 75.0	100.0	150.0
360.0 /	261.79860 (60, 2)	830.20750 (60, 2)	969.91710 (27, 2)	297.73780 (184, 2)	264.52100 (58, 2)
350.0 /	329.20350 (60, 2)	915.17100 (60, 2)	1694.27800 (27, 2)	390.65180 (208, 2)	314.92880 (58, 2)
340.0 /	433.15690 (60, 2)	441.11910 (27, 2)	2602.99400 (60, 2)	394.12840 (184, 2)	244.94450 (58, 2)
330.0 /	498.08730 (60, 2)	555.74970 (5, 2)	969.20960 (5, 2)	1105.99100 (27, 2)	288.82430 (58, 2)
320.0 /	464.49740 (60, 2)	709.21660 (60, 2)	992.35580 (60, 2)	1989.08100 (27, 2)	348.98210 (58, 2)
310.0 /	348.53920 (60, 2)	360.23610 (60, 2)	399.81080 (27, 2)	1123.65500 (5, 2)	521.61880 (208, 2)
300.0 /	234.86440 (5, 2)	244.94030 (27, 2)	541.69200 (5, 2)	535.58960 (60, 2)	459.95450 (27, 2)
290.0 /	223.22490 (80, 2)	288.32970 (60, 2)	467.05870 (60, 2)	255.00030 (60, 2)	725.90390 (60, 2)
280.0 /	233.23460 (80, 2)	323.46390 (60, 2)	194.69000 (80, 2)	265.97740 (60, 2)	227.47000 (11, 1)
270.0 /	228.70900 (80, 2)	288.10940 (5, 2)	205.97250 (80, 2)	288.03520 (5, 2)	288.03370 (5, 2)
260.0 /	218.21240 (80, 2)	253.96350 (5, 2)	183.06510 (60, 2)	211.46590 (5, 2)	213.72030 (27, 2)
250.0 /	206.91910 (80, 2)	224.29460 (5, 2)	170.71640 (60, 2)	156.89350 (5, 2)	124.80910 (112, 2)
240.0 /	197.40780 (80, 2)	204.70790 (5, 2)	141.72100 (80, 2)	135.11610 (80, 2)	136.76000 (112, 2)
230.0 /	187.65600 (80, 2)	186.46110 (5, 2)	131.93570 (80, 2)	123.64250 (80, 2)	136.05280 (112, 2)
220.0 /	178.76870 (80, 2)	165.34860 (5, 2)	127.77390 (80, 2)	117.54700 (65, 2)	129.38480 (112, 2)
210.0 /	170.17040 (80, 2)	143.89670 (80, 2)	124.70180 (80, 2)	121.13230 (112, 2)	123.88380 (112, 2)
200.0 /	180.87750 (5, 2)	133.55970 (80, 2)	122.25330 (80, 2)	123.45310 (112, 2)	122.77310 (112, 2)
190.0 /	203.23940 (5, 2)	129.32320 (60, 2)	115.68640 (80, 2)	122.69810 (112, 2)	127.19050 (112, 2)
180.0 /	206.86000 (5, 2)	129.27670 (60, 2)	117.62830 (112, 2)	121.81800 (112, 2)	134.05170 (112, 2)
170.0 /	184.65650 (5, 2)	142.79750 (5, 2)	121.08170 (112, 2)	122.25930 (112, 2)	134.56300 (112, 2)
160.0 /	159.90900 (112, 2)	142.04980 (112, 2)	128.58720 (112, 2)	124.30650 (112, 2)	130.01160 (112, 2)
150.0 /	181.33850 (60, 2)	153.44410 (112, 2)	142.53540 (112, 2)	134.50630 (112, 2)	128.92400 (112, 2)
140.0 /	204.41470 (60, 2)	160.10510 (112, 2)	154.60810 (112, 2)	148.33110 (112, 2)	137.65570 (112, 2)
130.0 /	219.28040 (60, 2)	166.17370 (112, 2)	165.56440 (112, 2)	160.20740 (112, 2)	143.43100 (112, 2)
120.0 /	220.98970 (60, 2)	174.76970 (112, 2)	171.14610 (112, 2)	158.63300 (112, 2)	140.00820 (65, 2)
110.0 /	213.43560 (60, 2)	189.81590 (60, 2)	172.09670 (60, 2)	147.65780 (112, 2)	154.64120 (65, 2)
100.0 /	207.10250 (60, 2)	229.51830 (60, 2)	165.47950 (27, 2)	169.61780 (65, 2)	181.61340 (65, 2)
90.0 /	211.92200 (60, 2)	239.66120 (60, 2)	199.65490 (27, 2)	194.74880 (65, 2)	195.72710 (106, 2)
80.0 /	230.39260 (60, 2)	213.35370 (27, 2)	239.48900 (27, 2)	211.77530 (27, 2)	211.22700 (19, 2)
70.0 /	258.86130 (60, 2)	250.43370 (27, 2)	280.72140 (27, 2)	237.89290 (19, 2)	226.09770 (19, 2)
60.0 /	290.34440 (60, 2)	296.62300 (27, 2)	314.37860 (27, 2)	269.05250 (19, 2)	311.69060 (184, 2)
50.0 /	317.62680 (60, 2)	349.01170 (27, 2)	341.64200 (27, 2)	347.31950 (27, 2)	363.64910 (184, 2)
40.0 /	333.09760 (60, 2)	406.28150 (27, 2)	397.49070 (27, 2)	340.52010 (184, 2)	218.39920 (184, 2)
30.0 /	328.15080 (60, 2)	465.26060 (27, 2)	504.19740 (27, 2)	449.01910 (184, 2)	194.64340 (192, 2)
20.0 /	298.84190 (60, 2)	513.57960 (27, 2)	644.74070 (27, 2)	454.33390 (184, 2)	204.12850 (58, 2)
10.0 /	262.02960 (60, 2)	524.37870 (27, 2)	796.76900 (27, 2)	363.97190 (184, 2)	327.01350 (58, 2)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* HIGHEST 8-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 2602.99400 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	200.0	250.0	300.0	350.0	400.0
360.0 /	248.18770 (58, 2)	168.56240 (58, 2)	101.95630 (79, 2)	95.83265 (79, 2)	91.51348 (79, 2)
350.0 /	226.51660 (58, 2)	126.75340 (79, 2)	107.10100 (79, 2)	106.25780 (79, 2)	104.30130 (79, 2)
340.0 /	222.11110 (58, 2)	114.16700 (79, 2)	91.23466 (79, 2)	97.35930 (78, 2)	98.23174 (210, 2)
330.0 /	232.40030 (58, 2)	99.51912 (73, 2)	119.52930 (78, 2)	98.80344 (78, 2)	122.63500 (79, 2)
320.0 /	235.33250 (73, 2)	128.89160 (72, 2)	145.36650 (72, 2)	149.95010 (78, 2)	106.16170 (79, 2)
310.0 /	218.67740 (58, 2)	129.74680 (72, 2)	162.38390 (72, 2)	147.52930 (79, 2)	154.29530 (72, 2)
300.0 /	148.97110 (58, 2)	204.07370 (58, 2)	177.38390 (78, 2)	123.33120 (68, 2)	129.78360 (68, 2)
290.0 /	793.30640 (11, 1)	279.77540 (154, 2)	422.18720 (78, 2)	136.01710C(244, 3)	145.79630 (72, 2)
280.0 /	333.30220 (8, 2)	700.46440 (27, 2)	577.79720 (80, 2)	241.64940 (318, 2)	215.48540 (318, 2)
270.0 /	413.76150 (27, 2)	734.00830 (27, 2)	206.42690 (80, 1)	429.46230 (8, 2)	232.80890 (318, 2)
260.0 /	260.27660 (60, 2)	679.57950 (60, 2)	213.23000 (11, 1)	175.48520 (8, 2)	287.15780 (8, 2)
250.0 /	194.15530 (60, 2)	221.15550 (80, 2)	132.26320 (80, 2)	126.33090 (11, 1)	134.04040 (340, 2)
240.0 /	159.05120 (60, 2)	134.50860 (80, 2)	95.67581 (317, 3)	100.47840 (290, 2)	108.30720 (317, 3)
230.0 /	122.65500 (60, 2)	97.74564 (80, 2)	115.31660 (5, 2)	75.40804 (87, 2)	87.56219 (290, 2)
220.0 /	106.45520 (112, 2)	80.38080 (80, 2)	104.12590 (5, 2)	59.01408 (46, 2)	63.80115 (87, 2)
210.0 /	101.85220 (112, 2)	70.93475 (80, 2)	60.63285 (319, 2)	81.33456 (5, 2)	64.48605 (11, 2)
200.0 /	98.67555 (112, 2)	85.17983 (112, 2)	72.30603 (46, 2)	67.89987 (319, 2)	89.27420 (5, 2)
190.0 /	99.89925 (112, 2)	90.85093 (112, 2)	80.34959 (337, 2)	82.22020 (46, 2)	71.31915 (319, 2)
180.0 /	109.93600 (112, 2)	88.69033 (112, 2)	84.55457 (112, 2)	81.45300 (337, 2)	84.26559 (46, 2)
170.0 /	126.57200 (112, 2)	99.59311 (112, 2)	84.18124 (46, 2)	80.08458 (46, 2)	75.47641 (46, 2)
160.0 /	134.41110 (112, 2)	122.79160 (112, 2)	101.26070 (112, 2)	81.98647 (112, 2)	69.68324 (112, 2)
150.0 /	131.20770 (112, 2)	131.09520 (112, 2)	123.26770 (112, 2)	110.49220 (112, 2)	96.37548 (112, 2)
140.0 /	131.07690 (112, 2)	127.26340 (112, 2)	121.96690 (112, 2)	114.45880 (112, 2)	105.69570 (112, 2)
130.0 /	133.94730 (65, 2)	120.77020 (65, 2)	103.91710 (112, 2)	93.88581 (112, 2)	91.53261 (200, 3)
120.0 /	147.88200 (65, 2)	151.15590 (65, 2)	149.91550 (65, 2)	144.89380 (65, 2)	137.47180 (65, 2)
110.0 /	162.65680 (65, 2)	163.69060 (65, 2)	161.34550 (65, 2)	156.28620 (65, 2)	150.00920 (65, 2)
100.0 /	178.32140 (65, 2)	174.31920 (65, 2)	166.67080 (65, 2)	152.28000 (65, 2)	134.12950 (65, 2)
90.0 /	175.68710 (106, 2)	169.25070 (19, 2)	165.10400 (19, 2)	159.97870 (19, 2)	160.38990 (358, 2)
80.0 /	201.69140 (19, 2)	200.93880 (99, 1)	196.89110 (99, 1)	196.16510 (184, 2)	198.16410 (184, 2)
70.0 /	259.83000 (184, 2)	284.05950 (184, 2)	255.43860 (184, 2)	207.28800 (184, 2)	164.55710 (62, 2)
60.0 /	310.51600 (184, 2)	194.01020 (62, 2)	159.39320 (62, 2)	136.49350 (192, 2)	129.65690 (192, 2)
50.0 /	182.03810 (98, 2)	174.09270 (192, 2)	157.72590 (192, 2)	132.18740 (115, 2)	123.29450 (58, 2)
40.0 /	189.12400 (192, 2)	155.05540 (115, 2)	186.32680 (58, 2)	205.10720 (58, 2)	212.31750 (58, 2)
30.0 /	207.63820 (58, 2)	247.01060 (58, 2)	250.58410 (58, 2)	229.76420 (58, 2)	195.46610 (58, 2)
20.0 /	295.24820 (58, 2)	261.68520 (58, 2)	209.68560 (58, 2)	158.53470 (58, 2)	112.11220 (58, 2)
10.0 /	278.90300 (58, 2)	215.57550 (58, 2)	148.05650 (58, 2)	88.45246 (58, 2)	88.19265 (35, 2)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* HIGHEST 8-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 2602.99400 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	450.0	500.0	600.0	700.0	800.0
360.0 /	96.05589 (79, 2)	100.28150 (79, 2)	105.29170 (79, 2)	98.63767 (79, 2)	85.42078 (79, 2)
350.0 /	112.61810 (79, 2)	116.30870 (79, 2)	111.53010 (79, 2)	96.94276 (37, 2)	81.61640 (345, 2)
340.0 /	112.02750 (79, 2)	123.51620 (79, 2)	80.17091 (75, 2)	87.60834 (334, 2)	78.52106 (232, 3)
330.0 /	107.24100 (79, 2)	83.92004 (75, 2)	82.72942 (75, 2)	85.57594 (73, 1)	84.25201 (73, 1)
320.0 /	79.84401 (148, 2)	80.94706 (72, 2)	96.48383 (72, 2)	94.22305 (73, 1)	82.40976 (215, 1)
310.0 /	178.47500 (72, 2)	143.54060 (72, 2)	139.77310 (72, 1)	142.09640 (72, 1)	136.53070 (72, 1)
300.0 /	131.73420 (68, 2)	136.20360 (68, 2)	137.57340 (68, 2)	142.24950 (328, 2)	135.73970 (328, 2)
290.0 /	158.21420 (147, 2)	168.15970 (147, 2)	157.84600 (147, 2)	135.93290 (147, 2)	110.90970 (147, 2)
280.0 /	198.43250 (314, 2)	194.49080 (314, 2)	167.35950 (314, 2)	167.83270 (94, 3)	162.76990 (94, 3)
270.0 /	244.60790 (318, 2)	243.33350 (318, 2)	215.51850 (318, 2)	182.80860 (318, 2)	169.54160 (314, 2)
260.0 /	239.19140 (340, 2)	209.28660 (130, 2)	163.70680 (89, 2)	140.92150 (258, 2)	133.44420 (356, 3)
250.0 /	160.00070 (317, 3)	198.82030 (340, 2)	214.57270 (340, 2)	224.63810 (318, 1)	216.27380 (318, 1)
240.0 /	116.24630 (317, 3)	128.35810 (290, 2)	159.31610 (290, 2)	154.88880 (317, 3)	148.42860 (340, 2)
230.0 /	95.68681 (290, 2)	100.12200 (290, 2)	111.29300 (301, 2)	140.04090 (301, 2)	139.67150 (301, 2)
220.0 /	69.60345 (87, 2)	72.74197 (11, 2)	81.65134 (301, 2)	92.18533 (301, 2)	99.12752 (301, 2)
210.0 /	63.70059 (11, 2)	59.70481 (11, 2)	70.33123 (11, 2)	75.81072 (11, 2)	64.74770 (11, 2)
200.0 /	72.29071 (5, 2)	69.50856 (11, 2)	64.94099 (11, 2)	58.55653 (11, 2)	58.07943 (11, 2)
190.0 /	75.48105 (5, 2)	92.94138 (5, 2)	68.09253 (5, 2)	54.44212C(103, 3)	60.98485C(150, 3)
180.0 /	81.78275 (46, 2)	73.02814C(127, 3)	78.70113 (5, 2)	90.08131 (5, 2)	78.91692 (5, 2)
170.0 /	78.87802 (337, 2)	79.83757 (5, 2)	78.34121 (5, 2)	76.94688C(127, 3)	76.26482 (5, 2)
160.0 /	65.96863 (46, 2)	61.82749 (13, 2)	64.05393 (337, 2)	62.10598 (337, 2)	57.34191 (5, 2)
150.0 /	83.29427 (112, 2)	72.29274 (112, 2)	60.96636 (103, 2)	64.67288C(227, 3)	64.72588C(284, 3)
140.0 /	96.50711 (112, 2)	87.49656 (112, 2)	75.41513 (103, 2)	77.50204C(278, 3)	76.54042C(278, 3)
130.0 /	93.12605 (200, 3)	91.53719 (200, 3)	85.74613 (200, 3)	86.98016C(141, 3)	90.24913C(141, 3)
120.0 /	128.81970 (65, 2)	119.78750 (65, 2)	106.86880C(229, 3)	106.61610C(229, 3)	106.04580 (200, 3)
110.0 /	143.28920 (65, 2)	136.46190 (65, 2)	123.42890C(229, 3)	133.96970C(229, 3)	139.88260C(229, 3)
100.0 /	120.89450 (229, 2)	113.95660 (229, 2)	112.52830C(160, 3)	110.61640C(160, 3)	109.53510C(226, 3)
90.0 /	163.82560 (358, 2)	163.29170 (358, 2)	153.84900 (358, 2)	138.65630 (358, 2)	122.27400 (358, 2)
80.0 /	192.72100 (184, 2)	182.29690 (184, 2)	155.00810 (184, 2)	127.64400 (184, 2)	104.14920 (184, 2)
70.0 /	146.35680 (62, 2)	127.01170 (62, 2)	136.04780 (183, 1)	132.58640 (183, 1)	120.50030 (183, 1)
60.0 /	118.15820 (192, 2)	126.09570 (184, 1)	153.68340 (184, 1)	166.83440 (184, 1)	170.69370 (184, 1)
50.0 /	135.63300 (58, 2)	143.02990 (58, 2)	144.41930 (58, 2)	134.75890 (58, 2)	121.73610 (58, 2)
40.0 /	206.03850 (58, 2)	191.79790 (58, 2)	155.62540 (58, 2)	121.10890 (58, 2)	95.66986 (321, 3)
30.0 /	159.02670 (58, 2)	125.86390 (58, 2)	75.58253 (58, 2)	78.18176C(324, 3)	80.16616C(324, 3)
20.0 /	87.25268 (63, 2)	86.47449 (63, 2)	72.97225 (63, 2)	87.34008 (203, 1)	106.72120 (203, 1)
10.0 /	91.08692 (35, 2)	88.12215 (35, 2)	96.87102 (210, 3)	106.70270 (210, 3)	92.06796 (210, 3)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* HIGHEST 8-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 2602.99400 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	900.0	1000.0	RANGE (METERS) 2000.0	3000.0	4000.0
360.0 /	74.72575 (10, 3)	75.67863 (330, 3)	52.98735 (159, 3)	49.17126 (110, 3)	39.57549 (110, 3)
350.0 /	77.33337 (345, 2)	71.65424 (185, 3)	56.60619 (159, 3)	47.18876C(204, 3)	48.16026C(204, 3)
340.0 /	89.75096 (232, 3)	98.37396 (232, 3)	110.68050 (232, 3)	91.44633 (232, 3)	70.96223C(180, 1)
330.0 /	90.39701 (73, 1)	113.35780 (232, 3)	115.24410C(164, 1)	78.84008 (151, 1)	75.94732 (151, 1)
320.0 /	98.14356 (215, 1)	107.31470 (215, 1)	87.78739 (215, 1)	81.00508 (139, 1)	67.15086 (139, 1)
310.0 /	132.39730 (72, 1)	131.02930 (72, 1)	119.52120C(241, 1)	90.79753C(241, 1)	65.89067 (160, 1)
300.0 /	122.97350 (77, 3)	120.28470 (169, 3)	139.37790 (272, 3)	136.78310 (272, 3)	116.05490 (272, 3)
290.0 /	121.09980 (333, 1)	130.62100 (333, 1)	184.63900C(257, 1)	167.46210C(257, 1)	139.36180C(257, 1)
280.0 /	148.64410 (94, 3)	146.46730 (311, 3)	124.13280 (271, 3)	113.89780 (187, 1)	93.91939 (187, 1)
270.0 /	166.53660 (314, 2)	155.83240 (314, 2)	89.83363C(251, 3)	80.28448 (312, 1)	66.94091 (312, 1)
260.0 /	139.12090 (356, 3)	136.69460 (356, 3)	204.01840 (242, 3)	203.80720 (242, 3)	158.63990 (242, 3)
250.0 /	191.25630 (318, 1)	163.05430 (318, 1)	176.34550 (259, 1)	164.57860 (261, 3)	146.96870 (263, 1)
240.0 /	141.24640 (340, 2)	125.16300 (340, 2)	121.76790 (156, 1)	105.26180 (156, 1)	79.31081 (156, 1)
230.0 /	119.61790 (301, 2)	106.62440 (339, 2)	114.93110C(247, 1)	63.76619 (279, 3)	66.95425 (261, 1)
220.0 /	105.64520 (301, 2)	111.34470 (301, 2)	57.33707 (301, 2)	55.16039 (290, 3)	65.23892 (290, 3)
210.0 /	56.50639 (306, 2)	62.45598 (306, 2)	54.22020C(276, 3)	51.66529C(254, 3)	43.90739C(254, 3)
200.0 /	58.34358 (11, 2)	56.65963 (11, 2)	50.66875 (294, 3)	39.53628 (294, 3)	28.41522C(213, 3)
190.0 /	68.34311C(150, 3)	65.57456C(150, 3)	72.05035 (331, 3)	50.93455 (331, 3)	43.10300 (331, 3)
180.0 /	60.57211 (5, 2)	54.06236C(103, 3)	45.43045C(323, 3)	41.58775C(195, 3)	36.30534C(195, 3)
170.0 /	78.52825 (5, 2)	79.85038 (5, 2)	54.92005 (279, 3)	51.75228 (279, 3)	44.46990 (279, 3)
160.0 /	57.80491C(127, 3)	59.37978C(127, 3)	42.27518 (5, 2)	41.02429C(284, 3)	41.08396C(284, 3)
150.0 /	64.64324C(127, 3)	65.69833C(127, 3)	61.35101C(127, 3)	50.12560C(127, 3)	45.72620C(255, 3)
140.0 /	79.56230C(284, 3)	84.44707C(284, 3)	104.15170C(284, 3)	86.68448C(284, 3)	67.95139C(284, 3)
130.0 /	93.04232C(141, 3)	95.46288C(141, 3)	102.94750C(141, 3)	89.12946C(141, 3)	73.46628C(141, 3)
120.0 /	106.47440 (200, 3)	104.07300 (200, 3)	78.50517 (201, 1)	70.24855 (201, 1)	58.52370 (201, 1)
110.0 /	142.05060C(229, 3)	141.47570C(229, 3)	105.59560C(229, 3)	87.77733C(228, 1)	70.89468C(228, 1)
100.0 /	115.43580C(226, 3)	118.35950C(226, 3)	87.57686C(226, 3)	62.93793 (112, 1)	58.74291 (112, 1)
90.0 /	106.89060 (358, 2)	93.40758 (358, 2)	75.63696 (202, 1)	59.02479C(213, 1)	54.37437C(213, 1)
80.0 /	85.21421 (184, 2)	80.38486 (212, 1)	83.62796C(282, 3)	67.73370 (183, 1)	55.58124 (183, 1)
70.0 /	109.96950 (183, 1)	103.63820 (183, 1)	94.47199 (184, 1)	76.44528C(228, 1)	64.49637C(228, 1)
60.0 /	168.01930 (184, 1)	159.20920 (184, 1)	131.45970 (192, 1)	117.83660 (192, 1)	93.63077 (192, 1)
50.0 /	108.41980 (58, 2)	112.85380 (322, 1)	110.65690 (190, 3)	104.36340 (190, 3)	73.68916 (190, 3)
40.0 /	93.92584 (321, 3)	86.77008 (321, 3)	89.15606C(324, 3)	68.31136C(231, 1)	78.01041C(231, 1)
30.0 /	86.94115C(159, 1)	96.84313C(159, 1)	112.60090 (203, 1)	62.91274 (323, 1)	48.51109 (58, 1)
20.0 /	115.36050 (203, 1)	113.13340 (210, 3)	56.45958 (225, 3)	42.18087 (42, 1)	32.43447 (42, 1)
10.0 /	76.51321 (10, 3)	74.63033 (10, 3)	58.92157 (41, 3)	60.38298C(343, 3)	54.64881C(343, 3)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* HIGHEST 8-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 2602.99400 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	5000.0	6000.0	RANGE (METERS) 7000.0	8000.0	9000.0
360.0 /	32.49669 (36, 3)	29.93072 (36, 3)	26.99005 (36, 3)	24.15431 (36, 3)	21.61967 (36, 3)
350.0 /	45.14583C(164, 1)	40.71994C(164, 1)	35.61629C(164, 1)	30.85630C(164, 1)	26.72920C(164, 1)
340.0 /	65.06676C(180, 1)	56.61763C(180, 1)	48.24359C(180, 1)	41.04910C(180, 1)	35.09459C(180, 1)
330.0 /	68.29530 (151, 1)	59.14692 (151, 1)	50.64303 (151, 1)	43.52000 (151, 1)	37.66640 (151, 1)
320.0 /	55.76704 (139, 1)	47.25238 (139, 1)	40.74179 (139, 1)	35.70496 (139, 1)	31.67389 (139, 1)
310.0 /	58.30840 (160, 1)	53.09182 (71, 1)	49.24302 (71, 1)	45.39198 (71, 1)	41.83918 (71, 1)
300.0 /	96.65835 (272, 3)	81.16402 (272, 3)	69.06661 (272, 3)	59.64428 (272, 3)	52.18633 (272, 3)
290.0 /	116.29340C(257, 1)	98.43462C(257, 1)	84.55644C(257, 1)	73.72339C(257, 1)	65.09481C(257, 1)
280.0 /	81.26410C(288, 1)	70.68530C(288, 1)	61.92953C(288, 1)	54.79052C(288, 1)	48.92990C(288, 1)
270.0 /	55.08365 (312, 1)	47.21067C(286, 1)	41.28737C(286, 1)	36.48267C(286, 1)	32.55370C(286, 1)
260.0 /	122.04760 (242, 3)	95.97134 (242, 3)	77.36629 (242, 3)	63.89341 (242, 3)	53.82801 (242, 3)
250.0 /	128.88430 (263, 1)	111.57320 (263, 1)	96.85932 (263, 1)	84.85606 (263, 1)	75.04162 (263, 1)
240.0 /	74.37932 (251, 1)	67.73177 (251, 1)	60.34937 (251, 1)	53.57221 (251, 1)	47.66785 (251, 1)
230.0 /	61.45590 (261, 1)	53.95491 (261, 1)	46.95562 (261, 1)	41.03095 (261, 1)	36.14058 (261, 1)
220.0 /	64.21162 (290, 3)	58.41423 (290, 3)	51.56495 (290, 3)	45.08633 (290, 3)	39.47812 (290, 3)
210.0 /	33.10025C(176, 1)	32.59848C(176, 1)	30.80003C(176, 1)	28.53398C(176, 1)	26.19454C(176, 1)
200.0 /	27.04908 (266, 1)	24.54758 (266, 1)	21.52108 (266, 1)	18.66145 (266, 1)	16.16026 (266, 1)
190.0 /	36.73921C(157, 1)	33.13203C(157, 1)	30.21446C(157, 1)	27.74555C(157, 1)	25.60379C(157, 1)
180.0 /	32.77802C(284, 3)	31.64190C(284, 3)	29.70626C(284, 3)	27.49433C(284, 3)	25.26647C(284, 3)
170.0 /	38.99139 (279, 3)	34.53435 (279, 3)	30.69422 (279, 3)	27.39165 (279, 3)	24.54371 (279, 3)
160.0 /	37.85656C(284, 3)	33.24174C(284, 3)	28.65998C(277, 3)	25.90891C(277, 3)	23.39993C(277, 3)
150.0 /	39.78933C(255, 3)	33.72956C(255, 3)	28.47561C(255, 3)	24.20724C(255, 3)	20.76232C(255, 3)
140.0 /	54.63039C(284, 3)	45.10404C(284, 3)	38.05346C(284, 3)	32.70969C(284, 3)	28.52758C(284, 3)
130.0 /	60.87887C(141, 3)	51.12669C(141, 3)	43.56980C(141, 3)	37.65949C(141, 3)	32.96636C(141, 3)
120.0 /	48.90626 (201, 1)	41.41478 (201, 1)	35.58342 (201, 1)	31.02586 (201, 1)	27.37457 (201, 1)
110.0 /	58.21157C(228, 1)	49.65993C(351, 3)	43.94412C(351, 3)	39.13152C(351, 3)	35.12663C(351, 3)
100.0 /	53.33346 (112, 1)	48.07658 (112, 1)	43.34800 (112, 1)	39.21064 (112, 1)	35.67238 (112, 1)
90.0 /	48.34432C(213, 1)	42.70691C(213, 1)	37.84835C(213, 1)	33.79706C(213, 1)	30.40223C(213, 1)
80.0 /	45.94845 (183, 1)	38.56197 (183, 1)	32.88926 (183, 1)	28.50000 (183, 1)	25.01620 (183, 1)
70.0 /	51.90648C(228, 1)	41.84955C(228, 1)	34.22151C(228, 1)	28.48158C(228, 1)	24.83149 (183, 1)
60.0 /	74.14155 (192, 1)	59.69341 (192, 1)	49.02909 (192, 1)	43.47122 (183, 1)	39.37545 (183, 1)
50.0 /	52.05542 (190, 3)	42.40465C(191, 1)	38.62984C(191, 1)	34.88299C(191, 1)	31.44965C(191, 1)
40.0 /	76.60862C(231, 1)	70.76472C(231, 1)	63.85052C(231, 1)	57.28344C(231, 1)	51.41852C(231, 1)
30.0 /	37.74716 (58, 1)	34.71918 (37, 3)	32.11829 (37, 3)	29.25142 (37, 3)	26.51254 (37, 3)
20.0 /	25.08985 (42, 1)	20.65672 (102, 3)	17.55310 (102, 3)	15.01142 (102, 3)	12.95362 (102, 3)
10.0 /	41.49598C(343, 3)	30.77076C(354, 1)	28.39377C(354, 1)	25.92863C(354, 1)	23.60210C(354, 1)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* HIGHEST 8-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 2602.99400 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / RANGE (METERS)
(DEGREES) / 10000.0

360.0 /	19.41455 (36, 3)
350.0 /	23.25165C(164, 1)
340.0 /	30.22823C(180, 1)
330.0 /	32.87133 (151, 1)
320.0 /	28.37041 (139, 1)
310.0 /	38.64079 (71, 1)
300.0 /	46.73853C(198, 1)
290.0 /	58.07995C(257, 1)
280.0 /	44.05365C(288, 1)
270.0 /	29.29663C(286, 1)
260.0 /	46.09419 (242, 3)
250.0 /	66.94363 (263, 1)
240.0 /	42.61499 (251, 1)
230.0 /	32.10335 (261, 1)
220.0 /	34.74243 (290, 3)
210.0 /	24.09526 (361, 3)
200.0 /	14.04433 (266, 1)
190.0 /	23.71457C(157, 1)
180.0 /	23.16112C(284, 3)
170.0 /	22.09290 (279, 3)
160.0 /	21.17322C(277, 3)
150.0 /	17.98091C(255, 3)
140.0 /	25.18017C(284, 3)
130.0 /	29.17800C(141, 3)
120.0 /	24.39827 (201, 1)
110.0 /	31.76091C(351, 3)
100.0 /	32.63395 (112, 1)
90.0 /	27.53981C(213, 1)
80.0 /	22.20702 (183, 1)
70.0 /	22.03548 (183, 1)
60.0 /	35.76374 (183, 1)
50.0 /	28.40962C(191, 1)
40.0 /	46.31129C(231, 1)
30.0 /	24.02634 (37, 3)
20.0 /	11.85834 (4, 3)
10.0 /	21.48773C(354, 1)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* HIGHEST 8-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE DISCRETE RECEPTOR POINTS *

- RNG -	- DIR -	CON.	(DAY,PER.)	- RNG -	- DIR -	CON.	(DAY,PER.)
119.0	10.0	229.96720	(208, 2)	124.0	20.0	194.83640	(208, 2)
135.0	30.0	193.72950	(230, 2)	152.0	40.0	207.63500	(98, 2)
180.0	50.0	229.34740	(184, 2)	230.0	60.0	238.08930	(184, 2)
255.0	70.0	283.12980	(184, 2)	263.0	80.0	200.35460	(99, 1)
393.0	90.0	159.55030	(358, 2)	186.0	100.0	179.26510	(65, 2)
94.0	110.0	150.79900	(112, 2)	62.0	120.0	174.86370	(112, 2)
49.0	130.0	166.09110	(112, 2)	41.0	140.0	165.43820	(60, 2)
37.0	150.0	158.87140	(112, 2)	33.0	160.0	154.75240	(112, 2)
24.0	170.0	185.85790	(5, 2)	23.0	180.0	212.12640	(5, 2)
24.0	190.0	208.48620	(5, 2)	25.0	200.0	180.87750	(5, 2)
27.0	210.0	167.96300	(80, 2)	31.0	220.0	176.44640	(60, 2)
37.0	230.0	177.19860	(60, 2)	47.0	240.0	213.89700	(5, 2)
66.0	250.0	177.38030	(80, 2)	126.0	260.0	182.93670	(27, 2)
122.0	270.0	202.32630	(80, 2)	125.0	280.0	333.66580	(60, 2)
130.0	290.0	350.41960	(5, 2)	140.0	300.0	876.93700	(27, 3)
159.0	310.0	1189.17500	(58, 2)	170.0	320.0	251.68550	(58, 2)
150.0	330.0	288.82430	(58, 2)	138.0	340.0	315.28430	(58, 2)
132.0	350.0	256.77150	(58, 2)	129.0	360.0	405.14900	(58, 2)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* SECOND HIGHEST 8-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 1451.65600 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	25.0	50.0	75.0	100.0	150.0
360.0 /	253.05780 (27, 2)	494.82790 (27, 3)	492.56110 (19, 2)	219.85770 (208, 2)	148.39600C(197, 2)
350.0 /	246.41220 (27, 2)	470.78080 (27, 2)	504.28450 (26, 2)	309.77840 (346, 2)	161.97320 (78, 2)
340.0 /	236.58250 (27, 2)	348.99110 (60, 2)	1451.65600 (27, 3)	231.06170 (336, 2)	131.37860C(197, 2)
330.0 /	270.11520 (5, 2)	430.08160 (60, 2)	945.29440 (27, 2)	529.36180 (99, 1)	250.40630 (78, 2)
320.0 /	367.99480 (5, 2)	309.50650 (27, 3)	704.58780 (27, 3)	803.69650 (26, 3)	165.64310C(244, 3)
310.0 /	334.19170 (5, 2)	273.42940 (27, 2)	368.45850 (60, 2)	618.74740 (27, 2)	435.57440 (346, 2)
300.0 /	229.74140 (60, 2)	241.79320 (80, 2)	292.72230 (27, 2)	431.63390 (27, 3)	245.77560 (19, 2)
290.0 /	191.60320 (27, 2)	230.26380 (56, 2)	215.08060 (27, 2)	249.42820 (27, 2)	516.91100 (27, 3)
280.0 /	176.13460 (27, 2)	280.01600 (5, 2)	172.12720 (60, 2)	193.31660 (5, 2)	222.47380 (8, 2)
270.0 /	162.76440 (60, 2)	253.74020 (60, 2)	147.50300 (11, 1)	241.20980 (60, 2)	215.76100 (27, 2)
260.0 /	175.34260 (60, 2)	178.52210 (56, 2)	177.33830 (80, 2)	144.47230 (80, 2)	169.78800 (5, 2)
250.0 /	181.09270 (60, 2)	165.20560 (56, 2)	156.86140 (80, 2)	143.00930 (80, 2)	120.68900 (27, 2)
240.0 /	179.54350 (60, 2)	161.90120 (56, 2)	141.42990 (60, 2)	131.78860 (5, 2)	94.73279 (27, 2)
230.0 /	173.11410 (60, 2)	159.09990 (56, 2)	122.23320 (106, 2)	123.61290 (65, 2)	86.55089 (60, 2)
220.0 /	164.13570 (60, 2)	152.36690 (80, 2)	116.66190 (106, 2)	115.59280 (112, 2)	73.89424 (60, 2)
210.0 /	154.21110 (60, 2)	137.45410 (5, 2)	114.34990 (65, 2)	110.41480 (65, 2)	68.78990 (46, 2)
200.0 /	161.34070 (80, 2)	126.39260 (60, 2)	113.29610 (5, 2)	105.92580 (65, 2)	72.02862 (46, 2)
190.0 /	153.06610 (80, 2)	123.83920 (80, 2)	112.99450 (112, 2)	104.88420 (65, 2)	79.01490 (46, 2)
180.0 /	148.63090 (112, 2)	127.72050 (5, 2)	112.08130 (106, 2)	106.12140 (65, 2)	81.76625 (107, 2)
170.0 /	154.93810 (112, 2)	130.34810 (112, 2)	114.96160 (106, 2)	109.37750 (65, 2)	86.20332 (107, 2)
160.0 /	158.24770 (60, 2)	121.75160 (60, 2)	117.28500 (106, 2)	114.62570 (65, 2)	87.66615 (65, 2)
150.0 /	162.41710 (112, 2)	129.53660 (60, 2)	120.77940 (65, 2)	121.56310 (65, 2)	104.63200 (65, 2)
140.0 /	162.72040 (112, 2)	149.10750 (60, 2)	123.10570 (65, 2)	128.10460 (65, 2)	123.27570 (65, 2)
130.0 /	162.60210 (112, 2)	162.16320 (60, 2)	130.71010 (60, 2)	129.98690 (65, 2)	137.28770 (65, 2)
120.0 /	164.12370 (112, 2)	166.36730 (60, 2)	150.98020 (60, 2)	133.60860 (60, 2)	134.85940 (112, 2)
110.0 /	167.94620 (112, 2)	178.11920 (112, 2)	162.45820 (112, 2)	140.51510 (65, 2)	137.63130 (106, 2)
100.0 /	172.82790 (112, 2)	171.18550 (112, 2)	153.91210 (65, 2)	163.60490 (27, 2)	167.44670 (106, 2)
90.0 /	181.14430 (27, 2)	187.52420 (27, 2)	180.36140 (65, 2)	193.98190 (27, 2)	181.71020 (65, 2)
80.0 /	192.55700 (27, 2)	205.51330 (60, 2)	199.46700 (65, 2)	207.18530 (106, 2)	192.08130 (129, 2)
70.0 /	203.87910 (27, 2)	182.61710 (65, 2)	204.44030 (106, 2)	213.44580 (106, 2)	221.88010 (98, 2)
60.0 /	214.94260 (27, 2)	189.43890 (65, 2)	236.12150 (19, 2)	259.68710 (27, 2)	257.71770 (98, 2)
50.0 /	225.68410 (27, 2)	191.79430 (65, 2)	285.23050 (19, 2)	269.78780 (19, 2)	257.46920 (98, 2)
40.0 /	235.77290 (27, 2)	204.46030 (19, 2)	322.11550 (19, 2)	333.76910 (27, 2)	212.37250 (98, 2)
30.0 /	244.66730 (27, 2)	220.95380 (19, 2)	343.58470 (19, 2)	296.13790 (98, 2)	164.10800 (208, 2)
20.0 /	251.36520 (27, 2)	233.01700 (19, 2)	363.73090 (19, 2)	278.30860 (98, 2)	177.71500 (192, 2)
10.0 /	254.59330 (27, 2)	316.15990 (60, 2)	406.47170 (19, 2)	242.77260 (98, 2)	163.11270C(197, 2)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* SECOND HIGHEST 8-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 1451.65600 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	200.0	250.0	300.0	350.0	400.0
360.0 /	106.66030C(197, 2)	106.95860 (79, 2)	89.19784 (58, 2)	83.31182 (78, 2)	85.42971 (35, 2)
350.0 /	122.40990 (73, 2)	123.87990 (58, 2)	88.53434 (210, 2)	90.32145 (210, 2)	91.46895 (210, 2)
340.0 /	115.85320 (73, 2)	98.69138 (58, 2)	90.23117 (73, 2)	96.94573 (79, 2)	93.67168 (79, 2)
330.0 /	96.54346 (78, 2)	91.33136 (58, 2)	75.50270 (79, 2)	92.72347 (210, 2)	112.66990 (78, 2)
320.0 /	218.52730 (58, 2)	113.81370 (78, 2)	128.84650 (78, 2)	133.11560 (79, 2)	101.95220 (78, 2)
310.0 /	115.31290 (73, 2)	124.29800 (58, 2)	148.26080 (78, 2)	120.99980 (72, 2)	123.94970 (77, 2)
300.0 /	93.85071 (9, 2)	175.99630 (72, 2)	137.97490 (79, 2)	116.98560 (147, 2)	120.07820C(244, 3)
290.0 /	322.44810 (11, 2)	274.65610 (9, 2)	198.34410 (79, 2)	132.98760 (94, 2)	139.36690 (125, 2)
280.0 /	310.37840 (27, 2)	252.63380 (8, 2)	302.99880 (5, 2)	216.28330 (9, 2)	206.33870 (9, 2)
270.0 /	164.06580 (317, 3)	717.47810 (60, 2)	164.83940 (56, 2)	420.44700 (8, 3)	212.90690 (130, 2)
260.0 /	193.89930 (27, 2)	319.47080 (27, 3)	177.52180 (80, 2)	164.18110 (317, 3)	220.29710 (317, 3)
250.0 /	164.31260 (112, 2)	187.24000 (5, 2)	110.06460 (317, 3)	117.67670 (88, 2)	128.42190 (88, 2)
240.0 /	130.01600 (112, 2)	124.37700 (5, 2)	89.74977 (290, 2)	95.90080 (317, 3)	107.44180 (290, 2)
230.0 /	113.29240 (112, 2)	68.09184 (100, 2)	65.84890 (87, 2)	74.59755 (290, 2)	86.47500 (87, 2)
220.0 /	95.31450 (60, 2)	59.84323 (100, 2)	54.80017 (80, 2)	57.71708 (87, 2)	51.67558 (319, 2)
210.0 /	82.74020 (60, 2)	68.25477 (112, 2)	58.60429 (80, 2)	55.89330 (319, 2)	58.46707 (46, 2)
200.0 /	74.72617 (60, 2)	68.33156 (46, 2)	70.63252 (319, 2)	59.04755 (80, 2)	61.79031 (319, 2)
190.0 /	75.77136 (46, 2)	71.72492 (46, 2)	79.32795 (46, 2)	78.08649 (337, 2)	67.90307 (46, 2)
180.0 /	84.47485 (46, 2)	81.62530 (46, 2)	78.12278 (46, 2)	80.22842 (46, 2)	83.66167 (337, 2)
170.0 /	78.40244 (46, 2)	84.48209 (46, 2)	81.16399 (112, 2)	75.44764 (112, 2)	74.28951 (5, 2)
160.0 /	80.07758 (107, 2)	70.54289 (107, 2)	71.90701 (103, 2)	70.93553 (103, 2)	69.05370 (46, 2)
150.0 /	81.39867 (107, 2)	76.45004 (107, 2)	77.17500 (103, 2)	78.39093 (103, 2)	77.32953 (103, 2)
140.0 /	102.10550 (65, 2)	81.97039 (106, 2)	85.18221 (103, 2)	86.24866 (103, 2)	85.69022 (103, 2)
130.0 /	127.15290 (112, 2)	114.69120 (112, 2)	103.16220 (65, 2)	86.21602 (65, 2)	84.91725 (112, 2)
120.0 /	118.34200 (112, 2)	106.17860 (112, 2)	100.97860 (20, 2)	103.47010 (20, 2)	104.23060 (20, 2)
110.0 /	136.19850 (106, 2)	133.56710 (106, 2)	129.33940 (106, 2)	123.25590 (106, 2)	115.97040 (106, 2)
100.0 /	170.83570 (106, 2)	163.30400 (106, 2)	151.02620 (106, 2)	135.67690 (106, 2)	127.15420 (229, 2)
90.0 /	175.43430 (19, 2)	160.27630 (129, 2)	155.17800 (99, 1)	158.87660 (99, 1)	157.58420 (99, 1)
80.0 /	194.27540 (99, 1)	179.12180 (98, 2)	185.35030 (184, 2)	187.22690 (99, 1)	171.39620 (99, 1)
70.0 /	221.50540 (98, 2)	200.59910 (98, 2)	177.78620 (98, 2)	177.09210 (62, 2)	159.26290 (184, 2)
60.0 /	224.82460 (98, 2)	191.76020 (184, 2)	145.26060 (98, 2)	119.23330 (62, 2)	104.47750 (183, 2)
50.0 /	178.54810 (62, 2)	136.33020 (115, 2)	141.77180 (115, 2)	130.39590 (192, 2)	122.39710 (184, 1)
40.0 /	158.37360 (115, 2)	154.12950 (58, 2)	126.37420 (115, 2)	109.91670 (202, 2)	92.29690 (171, 2)
30.0 /	161.31030 (115, 2)	126.82630C(197, 2)	102.98800 (202, 2)	98.90216 (324, 2)	101.20540 (58, 3)
20.0 /	143.52870C(197, 2)	109.46110C(197, 2)	102.13410 (324, 2)	95.04576 (324, 2)	87.43816 (324, 2)
10.0 /	124.58970C(197, 2)	103.47690 (324, 2)	92.59657 (324, 2)	81.47657 (324, 2)	86.31140 (63, 2)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* SECOND HIGHEST 8-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 1451.65600 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	450.0	500.0	600.0	700.0	800.0
360.0 /	88.23249 (36, 2)	92.32389 (37, 2)	84.03709 (37, 2)	82.27782 (10, 3)	80.72604 (10, 3)
350.0 /	97.27700 (210, 2)	98.15469 (210, 2)	96.81939 (37, 2)	96.86958 (79, 2)	77.60783 (37, 2)
340.0 /	96.81492 (210, 2)	109.76640 (37, 2)	79.85699 (37, 2)	81.92959 (75, 2)	76.92624 (345, 2)
330.0 /	92.21277 (78, 2)	80.46546 (334, 2)	79.01440 (73, 1)	69.00322 (75, 2)	62.91080 (232, 3)
320.0 /	72.13745 (75, 2)	79.00578 (126, 2)	76.92768 (329, 2)	77.32449 (329, 2)	77.31436 (299, 1)
310.0 /	120.46250 (77, 2)	118.72130 (328, 2)	120.86270 (328, 2)	121.01670 (329, 2)	114.33100 (77, 3)
300.0 /	124.24180 (223, 2)	123.48360 (223, 2)	128.14900 (328, 2)	127.03080 (68, 2)	131.62410 (72, 1)
290.0 /	149.89940 (125, 2)	145.63560 (125, 2)	125.40040 (68, 2)	117.43220 (68, 2)	105.82120 (333, 1)
280.0 /	186.66550 (9, 2)	175.86460 (9, 2)	154.91860 (9, 2)	138.45170 (314, 2)	120.17130 (327, 2)
270.0 /	165.81630 (124, 2)	165.28480 (258, 2)	158.50270 (258, 2)	156.91450 (314, 2)	151.33850 (318, 2)
260.0 /	221.16740 (8, 2)	199.56100 (356, 2)	160.43800 (356, 2)	138.43130 (260, 2)	131.42510 (260, 2)
250.0 /	159.81450 (88, 2)	182.27590 (317, 3)	194.08440 (318, 1)	188.82930 (340, 2)	159.80700 (356, 2)
240.0 /	115.09720 (290, 2)	119.64730 (317, 3)	137.25510 (317, 3)	134.39830 (340, 2)	144.68700 (317, 3)
230.0 /	89.78790 (87, 2)	92.57996 (301, 2)	106.95570 (290, 2)	112.69320 (290, 2)	114.88560 (290, 2)
220.0 /	56.26521 (301, 2)	72.60861 (87, 2)	68.84796 (87, 2)	64.04086 (325, 2)	70.83257 (303, 2)
210.0 /	57.26531 (319, 2)	54.36072 (319, 2)	54.28165 (338, 2)	49.66704 (289, 2)	51.24390 (86, 2)
200.0 /	62.60809 (11, 2)	57.04025 (319, 2)	58.23074C(150, 3)	56.64541 (11, 1)	55.00552 (156, 3)
190.0 /	64.51460 (319, 2)	58.44515 (319, 2)	53.18805C(103, 3)	52.22741C(150, 3)	51.24895C(103, 3)
180.0 /	76.43330 (337, 2)	71.88968 (46, 2)	54.52048 (80, 2)	57.01927 (316, 3)	52.62747 (316, 3)
170.0 /	78.24120 (5, 2)	79.69859 (337, 2)	71.36406 (337, 2)	75.96878 (5, 2)	61.40296C(127, 3)
160.0 /	63.85514 (13, 2)	61.60280 (337, 2)	58.48762 (13, 2)	58.30067 (5, 2)	57.27602 (337, 2)
150.0 /	74.42030 (103, 2)	70.32888 (103, 2)	56.74843 (112, 2)	60.09813C(284, 3)	62.46523C(127, 3)
140.0 /	84.01983 (103, 2)	81.59081 (103, 2)	71.81091C(278, 3)	74.55169C(197, 3)	73.94231C(284, 3)
130.0 /	79.08678 (20, 2)	79.29626C(141, 3)	83.56261C(141, 3)	81.53763 (200, 3)	83.05391C(230, 3)
120.0 /	103.70240 (20, 2)	102.20550 (20, 2)	102.55140 (65, 2)	102.19540 (200, 3)	102.77740C(229, 3)
110.0 /	108.13120 (106, 2)	107.20700C(229, 3)	123.09140 (65, 2)	110.88210 (65, 2)	99.95956 (65, 2)
100.0 /	115.56580 (65, 2)	109.10000C(160, 3)	102.75490 (182, 3)	105.80160 (182, 3)	105.27240C(160, 3)
90.0 /	153.36540 (99, 1)	147.58470 (99, 1)	134.11800 (99, 1)	120.64390 (99, 1)	107.95500 (99, 1)
80.0 /	152.57560 (99, 1)	133.71810 (99, 1)	101.59580 (99, 1)	88.29414 (62, 2)	85.72501 (212, 1)
70.0 /	120.15110 (184, 2)	118.71020 (183, 1)	103.11140C(282, 3)	95.50830C(282, 3)	91.88689C(309, 3)
60.0 /	106.21750 (184, 1)	104.96880 (192, 2)	123.50480 (98, 3)	134.54080 (98, 3)	138.64840 (98, 3)
50.0 /	117.90440 (184, 1)	105.02430 (184, 1)	104.51610 (192, 1)	117.87290 (192, 1)	114.69860 (192, 1)
40.0 /	100.43300 (58, 3)	110.65530 (58, 3)	111.37300 (58, 3)	104.65340 (322, 1)	93.19395 (58, 2)
30.0 /	97.84595 (58, 3)	88.50438 (58, 3)	73.39033 (63, 2)	71.70117 (203, 1)	76.80548 (203, 1)
20.0 /	80.49210 (324, 2)	75.65500 (35, 2)	72.26373 (35, 2)	83.91438 (210, 3)	97.78212 (210, 3)
10.0 /	79.53431 (63, 2)	73.22122 (41, 2)	84.20718 (10, 2)	92.80605 (10, 2)	86.68398 (10, 2)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* SECOND HIGHEST 8-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 1451.65600 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	900.0	1000.0	2000.0	3000.0	4000.0
360.0 /	73.92136 (79, 2)	69.09251 (37, 2)	46.73924 (110, 3)	36.72424 (206, 1)	33.87926 (36, 3)
350.0 /	71.54643 (159, 3)	70.52394 (345, 2)	50.17703 (122, 1)	45.18490C(164, 1)	47.01226C(164, 1)
340.0 /	77.16410 (345, 2)	77.82375 (73, 1)	69.95386C(180, 1)	71.87112C(180, 1)	62.83229 (232, 3)
330.0 /	85.64014 (232, 3)	95.92293 (73, 1)	93.74126 (215, 1)	74.65470C(193, 1)	68.57495C(193, 1)
320.0 /	84.20441 (299, 1)	87.69630 (299, 1)	84.96635 (139, 1)	65.94044 (345, 1)	58.76444C(163, 1)
310.0 /	117.80810 (77, 3)	119.75870 (77, 3)	87.83034 (147, 1)	77.22830 (147, 1)	63.30485C(241, 1)
300.0 /	119.79310 (328, 2)	113.16870 (216, 1)	125.67610 (218, 1)	115.65040C(198, 1)	100.94140C(198, 1)
290.0 /	114.10030 (224, 1)	121.88270 (224, 1)	165.04260C(267, 1)	157.93640C(267, 1)	132.03450C(267, 1)
280.0 /	133.54870 (311, 3)	132.36750 (94, 3)	122.50430 (187, 1)	106.41350C(174, 1)	93.56149C(288, 1)
270.0 /	124.19660 (318, 2)	114.45360 (252, 1)	89.32082C(190, 1)	78.20499C(275, 1)	63.83675 (311, 1)
260.0 /	131.53240 (258, 1)	135.96460 (258, 1)	156.14440C(179, 1)	137.50960C(179, 1)	103.20260C(179, 1)
250.0 /	147.77990 (356, 2)	142.65870 (262, 3)	150.11690C(250, 3)	156.21530 (263, 1)	144.21030 (261, 3)
240.0 /	116.04130 (317, 3)	114.63910 (340, 3)	112.06030 (154, 3)	85.92885 (154, 3)	76.67953 (251, 1)
230.0 /	110.90490 (339, 2)	98.72147 (290, 2)	81.73769 (137, 3)	62.53102 (261, 1)	58.27202 (131, 1)
220.0 /	80.24892 (303, 2)	85.46326 (303, 2)	56.76719C(238, 1)	48.10741 (292, 1)	48.15611 (292, 1)
210.0 /	50.42748 (86, 2)	47.21558 (339, 3)	47.09438 (306, 2)	33.58273C(276, 3)	31.20153C(176, 1)
200.0 /	50.50175 (156, 3)	46.49224C(150, 3)	48.06019 (289, 1)	35.41116 (289, 1)	27.73402 (266, 1)
190.0 /	50.85971C(103, 3)	51.33253 (303, 1)	44.00927C(150, 3)	46.01374C(157, 1)	41.31946C(157, 1)
180.0 /	53.42549C(103, 3)	44.92389 (5, 2)	41.70259 (303, 1)	35.22855 (303, 1)	32.59916C(284, 3)
170.0 /	50.81856 (316, 3)	57.52952 (316, 3)	41.18938 (316, 3)	31.24031C(205, 3)	26.46599C(205, 3)
160.0 /	56.20025 (5, 2)	57.16416C(255, 3)	39.75562C(276, 3)	36.86921C(277, 3)	36.03423C(277, 3)
150.0 /	61.71561 (196, 3)	62.43843 (196, 3)	49.58783C(255, 3)	49.78494C(281, 3)	43.70667C(281, 3)
140.0 /	71.58638C(278, 3)	70.45677C(197, 3)	92.10240C(227, 3)	71.64206 (196, 3)	56.86517C(197, 3)
130.0 /	81.75957C(230, 3)	79.94023 (200, 3)	85.87692 (200, 3)	66.93961 (200, 3)	51.69408 (200, 3)
120.0 /	97.93857C(229, 3)	93.16457C(229, 3)	72.56297C(230, 3)	61.47207C(230, 3)	51.58415C(230, 3)
110.0 /	90.59119 (65, 2)	85.20552C(228, 1)	105.33770C(228, 1)	74.61070C(229, 3)	64.27187C(351, 3)
100.0 /	102.59390C(230, 1)	99.23706C(230, 1)	64.89043C(163, 3)	55.78863C(226, 3)	38.23612C(226, 3)
90.0 /	97.47974 (122, 3)	90.50542 (122, 3)	67.71588C(297, 3)	51.76918 (202, 1)	36.29440 (202, 1)
80.0 /	84.16949 (212, 1)	77.62019 (185, 1)	78.48512 (183, 1)	66.01222C(282, 3)	50.87283C(282, 3)
70.0 /	89.29930 (322, 3)	92.90004 (322, 3)	86.93758 (183, 1)	66.90522 (183, 1)	54.11639 (183, 1)
60.0 /	136.11040 (98, 3)	129.17040 (325, 1)	120.13240C(191, 1)	101.65320C(191, 1)	78.16124C(191, 1)
50.0 /	103.00620 (211, 3)	102.15500 (211, 3)	104.85310 (321, 3)	85.94260 (321, 3)	64.62651 (321, 3)
40.0 /	85.60258 (190, 3)	84.20489C(324, 3)	82.48232C(70, 3)	53.79353C(159, 1)	39.04831 (209, 3)
30.0 /	79.78384 (203, 1)	85.47166 (203, 1)	95.24220C(159, 1)	58.38479 (58, 1)	35.24185 (210, 3)
20.0 /	108.81450 (210, 3)	105.24180 (203, 1)	55.31429 (42, 1)	37.27456C(333, 3)	29.58158 (35, 3)
10.0 /	72.06122 (10, 2)	67.46201 (42, 1)	58.36488 (330, 3)	53.49480 (41, 3)	39.63556 (49, 3)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* SECOND HIGHEST 8-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 1451.65600 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	5000.0	6000.0	RANGE (METERS) 7000.0	8000.0	9000.0
360.0 /	30.28592 (110, 3)	24.36621 (330, 3)	21.86070 (330, 3)	19.58893 (330, 3)	17.81785 (171, 1)
350.0 /	41.88181C(204, 3)	33.76947C(204, 3)	28.61099C(227, 1)	24.61479C(227, 1)	21.22153 (37, 1)
340.0 /	43.84404 (232, 3)	32.66498 (79, 1)	28.49437 (79, 1)	24.77251 (79, 1)	21.60975 (79, 1)
330.0 /	53.96753C(193, 1)	40.83496C(193, 1)	36.44244C(205, 1)	33.35579C(205, 1)	30.71029C(205, 1)
320.0 /	51.04538C(163, 1)	43.43060C(163, 1)	36.93673C(163, 1)	31.76562 (345, 1)	27.99005 (345, 1)
310.0 /	56.44187 (71, 1)	51.38222 (160, 1)	45.37894 (160, 1)	40.36665 (160, 1)	36.16758 (160, 1)
300.0 /	87.17809C(198, 1)	75.58308C(198, 1)	66.05125C(198, 1)	58.32582C(198, 1)	51.99625C(198, 1)
290.0 /	109.73760C(267, 1)	92.37706C(267, 1)	78.91827C(267, 1)	68.45821C(267, 1)	60.16136C(267, 1)
280.0 /	77.43781 (187, 1)	64.84000 (187, 1)	55.18439 (187, 1)	47.73704 (187, 1)	41.86128 (187, 1)
270.0 /	54.42649 (311, 1)	46.53304 (311, 1)	40.23178C(137, 1)	35.46062C(137, 1)	31.55936C(137, 1)
260.0 /	78.96565C(245, 1)	66.38069C(245, 1)	56.84747C(245, 1)	49.47189C(245, 1)	43.62656C(245, 1)
250.0 /	117.70780 (261, 3)	95.77317 (261, 3)	78.92702 (261, 3)	66.22144 (261, 3)	56.45670 (261, 3)
240.0 /	59.01815 (156, 1)	49.68686 (261, 1)	46.06596 (261, 1)	42.33071 (261, 1)	38.81185 (261, 1)
230.0 /	49.59203 (303, 3)	45.12827 (303, 3)	40.41239 (303, 3)	36.04430 (303, 3)	32.21008 (303, 3)
220.0 /	43.88878 (292, 1)	38.42041 (292, 1)	33.18790 (292, 1)	29.37907 (291, 1)	26.43521 (291, 1)
210.0 /	31.34356C(254, 3)	28.76894 (361, 3)	28.23105 (361, 3)	27.01614 (361, 3)	25.57872 (361, 3)
200.0 /	22.34804C(213, 3)	18.50416 (338, 1)	16.33951 (338, 1)	14.42397 (338, 1)	13.19977 (363, 1)
190.0 /	36.68366 (331, 3)	30.89698 (331, 3)	27.91304 (12, 1)	25.03263 (12, 1)	22.43648 (12, 1)
180.0 /	27.05264C(235, 3)	23.89573C(235, 3)	20.75829 (307, 3)	18.75197 (307, 3)	17.13237 (307, 3)
170.0 /	24.85277C(349, 3)	23.86242C(349, 3)	21.97308C(349, 3)	19.79747C(349, 3)	17.73005C(349, 3)
160.0 /	34.19478C(277, 3)	31.55522C(277, 3)	28.64777C(284, 3)	24.63537C(284, 3)	21.26655C(284, 3)
150.0 /	34.42136C(281, 3)	28.85289C(127, 3)	24.92165C(127, 3)	21.84629C(127, 3)	19.37412C(127, 3)
140.0 /	48.04025C(197, 3)	40.83102C(197, 3)	35.24676C(121, 3)	31.26060C(121, 3)	27.91639C(121, 3)
130.0 /	41.55737 (200, 3)	34.49149 (200, 3)	29.31731 (200, 3)	25.85033C(64, 1)	24.80156C(64, 1)
120.0 /	43.71582C(230, 3)	37.49747C(230, 3)	32.57159C(230, 3)	28.67127C(230, 3)	25.50439C(230, 3)
110.0 /	56.43242C(351, 3)	48.72329C(228, 1)	41.51160C(228, 1)	35.97187C(228, 1)	31.57900C(228, 1)
100.0 /	30.90154C(213, 1)	26.73191C(213, 1)	23.35815C(213, 1)	20.65242C(213, 1)	18.43302C(213, 1)
90.0 /	31.18203 (201, 1)	27.14234 (201, 1)	23.81900 (201, 1)	21.12777 (201, 1)	18.90743 (201, 1)
80.0 /	40.22973C(282, 3)	32.65927C(282, 3)	27.12760C(282, 3)	22.96831C(282, 3)	21.03525C(309, 3)
70.0 /	44.98211 (183, 1)	37.99718 (183, 1)	32.54572 (183, 1)	28.26448 (183, 1)	24.08317C(228, 1)
60.0 /	60.63065C(191, 1)	52.72858 (183, 1)	47.99833 (183, 1)	41.11222 (192, 1)	35.04888 (192, 1)
50.0 /	47.48245 (321, 3)	38.64861 (190, 3)	30.14631 (190, 3)	25.65650 (334, 3)	23.10143 (334, 3)
40.0 /	31.92298 (209, 3)	27.22897 (323, 1)	23.78414C(159, 1)	21.72668C(159, 1)	20.02752C(159, 1)
30.0 /	36.22817 (37, 3)	30.61032 (191, 3)	29.04983 (191, 3)	27.15617 (191, 3)	25.19576 (191, 3)
20.0 /	24.27123 (102, 3)	19.37227 (42, 1)	15.18161 (4, 3)	13.94561 (4, 3)	12.84063 (4, 3)
10.0 /	34.44510 (49, 3)	30.16678C(343, 3)	23.36326 (49, 3)	19.40090C(29, 3)	17.20447C(29, 3)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* SECOND HIGHEST 8-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 1451.65600 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / RANGE (METERS)
(DEGREES) / 10000.0

360.0 /	16.24803 (171, 1)
350.0 /	18.98178 (37, 1)
340.0 /	18.96421 (79, 1)
330.0 /	28.39567C(205, 1)
320.0 /	24.87557 (345, 1)
310.0 /	32.62479 (160, 1)
300.0 /	46.16954 (272, 3)
290.0 /	53.44186C(267, 1)
280.0 /	37.12387 (187, 1)
270.0 /	28.33016C(137, 1)
260.0 /	38.89200C(245, 1)
250.0 /	48.80130 (261, 3)
240.0 /	35.61662 (261, 1)
230.0 /	30.36709 (89, 1)
220.0 /	23.82738 (291, 1)
210.0 /	23.96917C(176, 1)
200.0 /	12.18651 (363, 1)
190.0 /	20.16814 (12, 1)
180.0 /	15.78684 (307, 3)
170.0 /	15.87036C(349, 3)
160.0 /	18.47920C(284, 3)
150.0 /	17.35319C(127, 3)
140.0 /	25.10490C(121, 3)
130.0 /	23.71901C(64, 1)
120.0 /	22.89537C(230, 3)
110.0 /	28.02655C(228, 1)
100.0 /	16.58952C(213, 1)
90.0 /	17.05682 (201, 1)
80.0 /	19.33748C(309, 3)
70.0 /	20.65133C(228, 1)
60.0 /	30.30579 (192, 1)
50.0 /	20.86751 (334, 3)
40.0 /	18.55502C(159, 1)
30.0 /	23.31289 (191, 3)
20.0 /	11.28475 (102, 3)
10.0 /	15.31300C(29, 3)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* SECOND HIGHEST 8-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE DISCRETE RECEPTOR POINTS *

- RNG -	- DIR -	CON.	(DAY,PER.)	- RNG -	- DIR -	CON.	(DAY,PER.)
119.0	10.0	173.93940	(192, 2)	124.0	20.0	182.36150	(192, 2)
135.0	30.0	193.52310	(98, 2)	152.0	40.0	207.00450	(184, 2)
180.0	50.0	210.81330	(98, 2)	230.0	60.0	200.96090	(62, 2)
255.0	70.0	198.29910	(98, 2)	263.0	80.0	176.23120	(98, 2)
393.0	90.0	157.98160	(99, 1)	186.0	100.0	170.99260	(106, 2)
94.0	110.0	138.67700	(65, 2)	62.0	120.0	157.48650	(60, 2)
49.0	130.0	163.86370	(60, 2)	41.0	140.0	161.51340	(112, 2)
37.0	150.0	150.39310	(60, 2)	33.0	160.0	139.25320	(60, 2)
24.0	170.0	155.93580	(112, 2)	23.0	180.0	151.46480	(112, 2)
24.0	190.0	153.26050	(80, 2)	25.0	200.0	161.34070	(80, 2)
27.0	210.0	159.07790	(60, 2)	31.0	220.0	167.46590	(80, 2)
37.0	230.0	159.25120	(80, 2)	47.0	240.0	174.20580	(56, 2)
66.0	250.0	146.14110	(60, 2)	126.0	260.0	143.59790	(80, 2)
122.0	270.0	155.77350	(27, 2)	125.0	280.0	264.00710	(8, 2)
130.0	290.0	328.53800	(317, 3)	140.0	300.0	827.12700	(60, 2)
159.0	310.0	341.79580	(73, 2)	170.0	320.0	166.69350	(78, 2)
150.0	330.0	250.40630	(78, 2)	138.0	340.0	141.33780	(208, 2)
132.0	350.0	147.12440C	(197, 2)	129.0	360.0	165.94280	(208, 2)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* 50 MAXIMUM 8-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *

* FROM ALL SOURCES *

RANK	CON.	PER. DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)	RANK	CON.	PER. DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)
1	2602.99400	2 60	75.0	340.0	26	700.46440	2 27	250.0	280.0
2	1989.08100	2 27	100.0	320.0	27	683.24080	2 27	75.0	340.0
3	1694.27800	2 27	75.0	350.0	28	679.57950	2 60	250.0	260.0
4	1451.65600	3 27	75.0	340.0	29	671.23500	3 27	100.0	320.0
5	1189.17500	2 58	159.0	310.0	30	653.69140	2 8	100.0	320.0
6	1123.65500	2 5	100.0	310.0	31	648.28500	3 99	140.0	300.0
7	1105.99100	2 27	100.0	330.0	32	644.74070	2 27	75.0	20.0
8	992.35580	2 60	75.0	320.0	33	618.74740	2 27	100.0	310.0
9	969.91710	2 27	75.0	360.0	34	615.76750	2 60	100.0	320.0
10	969.20960	2 5	75.0	330.0	35	588.51960	3 8	100.0	320.0
11	945.29440	2 27	75.0	330.0	36	577.79720	2 80	300.0	280.0
12	915.17100	2 60	50.0	350.0	37	555.74970	2 5	50.0	330.0
13	876.93700	3 27	140.0	300.0	38	543.56400	2 8	100.0	310.0
14	830.20750	2 60	50.0	360.0	39	541.69200	2 5	75.0	300.0
15	827.12700	2 60	140.0	300.0	40	535.58960	2 60	100.0	300.0
16	803.69650	3 26	100.0	320.0	41	532.75190	3 60	75.0	340.0
17	796.76900	2 27	75.0	10.0	42	529.36180	1 99	100.0	330.0
18	793.30640	1 11	200.0	290.0	43	526.57240	2 26	75.0	340.0
19	746.49320	3 60	100.0	320.0	44	524.37870	2 27	50.0	10.0
20	746.16470	2 80	140.0	300.0	45	521.61880	2 208	150.0	310.0
21	734.00830	2 27	250.0	270.0	46	518.64730	2 80	75.0	330.0
22	725.90390	2 60	150.0	290.0	47	516.91100	3 27	150.0	290.0
23	717.47810	2 60	250.0	270.0	48	513.57960	2 27	50.0	20.0
24	709.21660	2 60	50.0	320.0	49	511.80130	2 26	140.0	300.0
25	704.58780	3 27	75.0	320.0	50	504.28450	2 26	75.0	350.0

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 1096.80700 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	25.0	50.0	75.0	100.0	150.0
360.0 /	160.51520 (27, 1)	393.99100C(60, 1)	323.33370 (27, 1)	106.15570 (184, 1)	101.28850 (58, 1)
350.0 /	173.18640C(60, 1)	362.21400C(60, 1)	579.77260 (27, 1)	166.17160C(208, 1)	115.63460 (58, 1)
340.0 /	225.57580C(60, 1)	265.23160 (27, 1)	1096.80700C(60, 1)	137.55290 (184, 1)	91.68733 (58, 1)
330.0 /	248.95130C(60, 1)	284.83440C(60, 1)	337.11670C(5, 1)	368.66380 (27, 1)	107.03030 (58, 1)
320.0 /	217.80020C(60, 1)	302.49160C(60, 1)	484.18450C(60, 1)	898.99970 (27, 1)	128.76800 (58, 1)
310.0 /	156.13890C(60, 1)	152.85240 (27, 1)	235.14450 (27, 1)	390.83680C(5, 1)	221.55210C(208, 1)
300.0 /	110.39970 (27, 1)	139.54380 (27, 1)	188.44150C(5, 1)	292.44160C(60, 1)	153.31880 (27, 1)
290.0 /	105.21630 (27, 1)	164.75340C(60, 1)	197.98680C(60, 1)	146.50650 (27, 1)	358.91170C(60, 1)
280.0 /	100.90230 (27, 1)	164.37240C(60, 1)	95.00266 (27, 1)	157.79680C(60, 1)	137.43110 (8, 1)
270.0 /	95.63881 (27, 1)	121.67290C(60, 1)	84.06200 (80, 1)	108.69230C(60, 1)	100.65590C(5, 1)
260.0 /	89.64846 (27, 1)	88.81583C(5, 1)	87.10078C(60, 1)	73.95281C(5, 1)	77.96758 (27, 1)
250.0 /	91.01266C(60, 1)	84.28123 (80, 1)	77.16084C(60, 1)	70.31793 (106, 1)	55.66710 (27, 1)
240.0 /	89.27043C(60, 1)	80.37466 (80, 1)	67.87856 (106, 1)	63.03893 (80, 1)	50.56740 (112, 1)
230.0 /	85.50366C(60, 1)	76.00949 (80, 1)	63.86698 (106, 1)	58.13415 (80, 1)	51.17476 (112, 1)
220.0 /	80.91345C(60, 1)	69.71191 (80, 1)	59.50323 (106, 1)	52.34707C(65, 1)	49.53157 (112, 1)
210.0 /	76.41329C(60, 1)	64.15757 (106, 1)	56.47327 (106, 1)	49.15989C(65, 1)	48.00952 (112, 1)
200.0 /	72.85573C(60, 1)	63.65690 (106, 1)	55.54121 (106, 1)	47.15563C(65, 1)	47.94684 (112, 1)
190.0 /	71.18027C(60, 1)	63.47392 (106, 1)	55.90991 (106, 1)	46.69901C(65, 1)	49.95593 (112, 1)
180.0 /	72.24082C(60, 1)	63.65905 (106, 1)	57.15790 (106, 1)	47.28369C(65, 1)	52.09468 (112, 1)
170.0 /	76.36521C(60, 1)	64.28461 (106, 1)	59.18000 (106, 1)	50.68626 (106, 1)	51.51707 (112, 1)
160.0 /	82.99774C(60, 1)	65.34820 (106, 1)	61.59990 (106, 1)	55.30879 (106, 1)	49.51059 (112, 1)
150.0 /	90.69971C(60, 1)	66.76982 (106, 1)	64.28725 (106, 1)	59.87503 (106, 1)	49.75458 (112, 1)
140.0 /	97.33738C(60, 1)	70.47454C(60, 1)	67.23180 (106, 1)	64.61657 (106, 1)	56.73939 (106, 1)
130.0 /	101.07200C(60, 1)	73.78073C(60, 1)	70.56427 (106, 1)	69.60117 (106, 1)	64.75208 (106, 1)
120.0 /	100.92250C(60, 1)	76.21700 (27, 1)	74.12296 (106, 1)	74.51261 (106, 1)	72.91890 (106, 1)
110.0 /	98.25378C(60, 1)	85.77502C(60, 1)	79.27073C(60, 1)	79.84496 (106, 1)	82.32530 (106, 1)
100.0 /	100.53730 (27, 1)	102.83390C(60, 1)	84.23757 (27, 1)	88.15308 (106, 1)	95.89798 (106, 1)
90.0 /	106.28510 (27, 1)	111.43340C(60, 1)	92.05019 (106, 1)	101.63910 (106, 1)	110.00330 (106, 1)
80.0 /	112.28760 (27, 1)	114.66080 (27, 1)	104.07100 (106, 1)	117.79260 (106, 1)	115.11390 (106, 1)
70.0 /	118.72910 (27, 1)	124.77430 (27, 1)	118.65400 (106, 1)	130.99900 (106, 1)	103.05320 (99, 1)
60.0 /	128.71590C(60, 1)	135.35730 (27, 1)	131.45020 (106, 1)	132.16020 (106, 1)	129.71430 (99, 1)
50.0 /	139.46390C(60, 1)	148.50280 (27, 1)	139.40920 (106, 1)	120.00940 (99, 1)	130.54480 (184, 1)
40.0 /	145.76970C(60, 1)	166.86540 (27, 1)	141.74570 (106, 1)	149.57520 (99, 1)	97.68470C(98, 1)
30.0 /	144.64510C(60, 1)	193.09580 (27, 1)	168.06680 (27, 1)	158.48050 (99, 1)	84.58554 (183, 1)
20.0 /	149.22150 (27, 1)	231.38270 (27, 1)	214.91390 (27, 1)	158.27820 (184, 1)	86.22231 (58, 1)
10.0 /	154.35140 (27, 1)	287.59700 (27, 1)	265.59050 (27, 1)	128.28670 (184, 1)	124.60400 (58, 1)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 1096.80700 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	200.0	250.0	300.0	350.0	400.0
360.0 /	96.72876 (58, 1)	73.90568 (58, 1)	45.04906 (58, 1)	42.27923C(210, 1)	45.24821C(210, 1)
350.0 /	87.58661 (58, 1)	53.45198 (58, 1)	44.28166C(210, 1)	47.85200C(210, 1)	56.28898C(210, 1)
340.0 /	83.72975 (58, 1)	40.52083 (58, 1)	44.45848C(73, 1)	47.06926C(210, 1)	51.86349C(210, 1)
330.0 /	84.93115 (58, 1)	47.34285C(73, 1)	44.08304 (78, 1)	49.12881C(210, 1)	46.53465C(210, 1)
320.0 /	85.00636C(73, 1)	64.16031 (72, 1)	87.08916 (72, 1)	57.01026 (78, 1)	44.09472 (78, 1)
310.0 /	78.78274 (58, 1)	57.92223 (72, 1)	100.42790 (72, 1)	71.55200 (72, 1)	93.19203 (72, 1)
300.0 /	55.89991 (58, 1)	75.07832 (72, 1)	85.66998 (72, 1)	49.54307 (72, 1)	47.72318 (147, 1)
290.0 /	371.91820 (11, 1)	114.86880C(154, 1)	141.35290 (78, 1)	79.79694C(94, 1)	71.47741C(94, 1)
280.0 /	205.70760 (8, 1)	260.43310 (27, 1)	219.76440 (80, 1)	80.99782 (318, 1)	71.97119 (9, 1)
270.0 /	167.24050 (27, 1)	406.68850 (27, 1)	111.70150 (80, 1)	283.49330 (8, 1)	107.70530 (8, 1)
260.0 /	121.96140C(60, 1)	299.77340C(60, 1)	109.63520 (80, 1)	76.75388 (8, 1)	143.65330 (8, 1)
250.0 /	92.59915C(60, 1)	92.86266 (80, 1)	54.31966 (80, 1)	75.12770 (11, 1)	64.08878 (340, 1)
240.0 /	71.28063C(60, 1)	59.79257 (80, 1)	34.75454C(87, 1)	41.73378C(87, 1)	46.50785C(87, 1)
230.0 /	51.35748C(60, 1)	43.31869 (80, 1)	40.23454C(5, 1)	33.91011C(87, 1)	39.12732C(87, 1)
220.0 /	40.07978 (99, 1)	33.41136 (80, 1)	36.43072C(5, 1)	26.23695C(87, 1)	28.69900C(87, 1)
210.0 /	38.35031 (112, 1)	35.85346 (99, 1)	27.36256 (80, 1)	28.50623C(5, 1)	30.15563 (11, 1)
200.0 /	38.85006 (112, 1)	37.61973 (99, 1)	26.58503 (80, 1)	27.94502 (80, 1)	31.29459C(5, 1)
190.0 /	41.65246 (112, 1)	35.40218 (112, 1)	33.70094 (99, 1)	28.01230 (80, 1)	28.75415 (80, 1)
180.0 /	46.96906 (112, 1)	38.39615 (112, 1)	34.74935 (112, 1)	31.51585 (99, 1)	30.34316 (337, 1)
170.0 /	53.22501 (112, 1)	45.20663 (112, 1)	37.67940 (112, 1)	34.63136 (112, 1)	32.12717 (112, 1)
160.0 /	54.85658 (112, 1)	54.57487 (112, 1)	48.27019 (112, 1)	40.99364 (112, 1)	36.03817 (112, 1)
150.0 /	52.37174 (112, 1)	55.65125 (112, 1)	56.06599 (112, 1)	53.49350 (112, 1)	49.03601 (112, 1)
140.0 /	52.83423 (112, 1)	53.46905 (112, 1)	53.74269 (112, 1)	53.05679 (112, 1)	51.54136 (112, 1)
130.0 /	59.92569C(65, 1)	54.01579C(65, 1)	51.10088C(200, 1)	52.92022C(200, 1)	53.55497C(200, 1)
120.0 /	69.41241 (106, 1)	67.66911C(65, 1)	67.06962C(65, 1)	64.76753C(65, 1)	61.38746C(65, 1)
110.0 /	83.68547 (106, 1)	83.19193 (106, 1)	80.95202 (106, 1)	77.33861 (106, 1)	73.02989 (106, 1)
100.0 /	98.77336 (106, 1)	97.13004 (106, 1)	93.18900 (106, 1)	87.55829 (106, 1)	81.21947 (106, 1)
90.0 /	104.31910 (106, 1)	94.71655 (106, 1)	83.31056 (106, 1)	76.21177 (201, 1)	73.23032 (201, 1)
80.0 /	89.28622 (99, 1)	96.86491 (99, 1)	101.64850 (99, 1)	101.97900 (99, 1)	96.67644 (99, 1)
70.0 /	117.06630 (99, 1)	105.49510 (184, 1)	99.05145 (184, 1)	84.21897 (184, 1)	67.89520 (184, 1)
60.0 /	114.74540 (184, 1)	83.24339C(157, 1)	81.02644 (183, 1)	86.43893 (183, 1)	87.85009 (183, 1)
50.0 /	87.17157C(98, 1)	89.34328 (183, 1)	89.84077 (183, 1)	86.59633 (183, 1)	81.80949 (202, 1)
40.0 /	89.18295 (183, 1)	83.28111 (202, 1)	83.43385 (202, 1)	89.67752 (58, 1)	101.20110 (58, 1)
30.0 /	85.41509 (58, 1)	98.91951 (58, 1)	107.76760 (58, 1)	111.17910 (58, 1)	105.92360 (58, 1)
20.0 /	112.20070 (58, 1)	107.66050 (58, 1)	98.83730 (58, 1)	84.47408 (58, 1)	66.96396 (58, 1)
10.0 /	106.78160 (58, 1)	93.82699 (58, 1)	72.99004 (58, 1)	50.15607 (58, 1)	37.80025C(210, 1)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 1096.80700 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	450.0	500.0	RANGE (METERS) 600.0	700.0	800.0
360.0 /	54.06712C(210, 1)	60.63840C(210, 1)	51.37878 (10, 1)	44.95182 (10, 1)	38.49048 (10, 1)
350.0 /	56.41025C(210, 1)	53.57919C(210, 1)	43.70470C(210, 1)	42.95083 (37, 1)	37.98063 (37, 1)
340.0 /	51.33394C(210, 1)	44.79900 (79, 1)	35.31822 (330, 1)	45.41435 (334, 1)	43.21167 (334, 1)
330.0 /	43.94534 (78, 1)	36.64621C(73, 1)	37.74178 (298, 1)	37.92103 (298, 1)	37.45634 (298, 1)
320.0 /	51.58458 (72, 1)	47.92699 (72, 1)	51.38985 (72, 1)	44.96248 (72, 1)	43.54110 (78, 1)
310.0 /	95.21170 (72, 1)	88.92955 (72, 1)	83.44131 (72, 1)	85.68716 (72, 1)	85.35271 (72, 1)
300.0 /	47.08927 (147, 1)	49.04115 (147, 1)	55.80262 (147, 1)	69.45486 (72, 1)	71.25816 (72, 1)
290.0 /	70.63527 (72, 1)	78.12607 (147, 1)	79.01365 (147, 1)	76.47919 (147, 1)	72.34166 (147, 1)
280.0 /	83.26796 (314, 1)	101.60910C(94, 1)	114.30010C(94, 1)	113.14000C(94, 1)	102.87110C(94, 1)
270.0 /	93.38097 (318, 1)	87.59508 (124, 1)	73.11523 (124, 1)	75.88695 (314, 1)	83.29321 (314, 1)
260.0 /	106.91760 (8, 1)	111.10250 (318, 1)	98.69351 (318, 1)	83.50971 (318, 1)	88.26755 (260, 1)
250.0 /	77.80495 (340, 1)	95.50909 (340, 1)	107.50930 (340, 1)	116.91240 (318, 1)	123.67240 (318, 1)
240.0 /	49.75412C(87, 1)	52.54014C(87, 1)	64.56443 (290, 1)	72.52192 (340, 1)	83.86503 (340, 1)
230.0 /	42.01304C(87, 1)	39.85125C(87, 1)	48.36080C(301, 1)	61.37875C(301, 1)	64.15652C(301, 1)
220.0 /	31.08248C(87, 1)	32.98137C(87, 1)	32.45815C(87, 1)	34.49295C(301, 1)	37.72174C(301, 1)
210.0 /	33.29065 (11, 1)	34.19912 (11, 1)	35.39951 (11, 1)	36.42770 (11, 1)	33.39857 (11, 1)
200.0 /	32.29626 (11, 1)	36.34624 (11, 1)	40.06257 (11, 1)	38.86799 (11, 1)	36.01556 (11, 1)
190.0 /	31.56837 (80, 1)	32.87749C(5, 1)	27.94343 (11, 1)	29.81265 (11, 1)	29.63128 (11, 1)
180.0 /	29.72891C(127, 1)	28.73249C(127, 1)	28.42222 (80, 1)	32.05463C(5, 1)	28.36591C(5, 1)
170.0 /	29.86329C(13, 1)	29.83296 (337, 1)	29.37936C(5, 1)	29.07349C(5, 1)	29.08323C(5, 1)
160.0 /	33.58764 (112, 1)	32.14365 (112, 1)	28.19494 (112, 1)	25.65866 (337, 1)	25.39687 (337, 1)
150.0 /	43.98437 (112, 1)	39.26540 (112, 1)	32.44081 (112, 1)	28.73769 (112, 1)	26.63014 (99, 1)
140.0 /	49.39392 (112, 1)	46.84591 (112, 1)	41.34934 (112, 1)	37.80636C(200, 1)	35.91115C(200, 1)
130.0 /	52.62005C(200, 1)	50.57187C(200, 1)	45.96350C(200, 1)	42.64037C(200, 1)	40.69417C(200, 1)
120.0 /	57.46297C(65, 1)	56.04391C(229, 1)	53.86902C(229, 1)	50.86424C(229, 1)	50.39519C(200, 1)
110.0 /	68.53209 (106, 1)	64.14832 (106, 1)	63.78282C(229, 1)	63.49302C(229, 1)	62.37754C(229, 1)
100.0 /	74.79864 (106, 1)	68.63540 (106, 1)	71.48515C(230, 1)	72.00630C(230, 1)	70.32515C(230, 1)
90.0 /	69.87463 (201, 1)	67.87448 (99, 1)	65.83967C(358, 1)	61.40009C(358, 1)	55.95192C(358, 1)
80.0 /	87.98473 (99, 1)	78.23888 (99, 1)	65.04036 (184, 1)	55.86421 (212, 1)	52.11075 (212, 1)
70.0 /	67.89353 (183, 1)	72.29303 (183, 1)	76.41169 (183, 1)	74.08235 (183, 1)	68.86256 (183, 1)
60.0 /	87.65524 (183, 1)	86.96759 (183, 1)	84.34773 (183, 1)	79.74623 (183, 1)	73.55667 (183, 1)
50.0 /	79.73376 (202, 1)	75.86922 (202, 1)	72.46654 (58, 1)	75.35536 (58, 1)	74.77840 (58, 1)
40.0 /	107.22670 (58, 1)	108.03200 (58, 1)	99.41231 (58, 1)	84.84024 (58, 1)	70.10715 (58, 1)
30.0 /	94.53567 (58, 1)	81.03546 (58, 1)	57.08438 (58, 1)	45.77354C(231, 1)	46.96325C(231, 1)
20.0 /	51.04205 (58, 1)	42.59006C(324, 1)	45.77486C(209, 1)	47.63840C(209, 1)	45.57782C(210, 1)
10.0 /	44.35326C(209, 1)	47.00290C(209, 1)	55.44799C(210, 1)	59.63251C(210, 1)	53.09571 (10, 1)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 1096.80700 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	900.0	1000.0	2000.0	3000.0	4000.0
360.0 /	36.61635 (37, 1)	36.06090 (37, 1)	18.73407 (334, 1)	17.10278C(206, 1)	14.42082 (36, 1)
350.0 /	36.44680 (334, 1)	38.30415 (334, 1)	26.64411 (36, 1)	22.43289C(204, 1)	21.08372C(204, 1)
340.0 /	45.37636 (232, 1)	49.43783 (232, 1)	43.28243 (232, 1)	33.21637 (232, 1)	22.56218 (232, 1)
330.0 /	43.30244 (232, 1)	50.91906 (232, 1)	37.20195C(164, 1)	26.29375 (151, 1)	25.32257 (151, 1)
320.0 /	42.98678C(215, 1)	46.35138C(215, 1)	45.76694 (344, 1)	36.23524 (344, 1)	25.62825 (344, 1)
310.0 /	83.33675 (72, 1)	78.70350 (72, 1)	42.25375 (147, 1)	34.23341 (147, 1)	26.36123 (147, 1)
300.0 /	68.72027 (147, 1)	66.82846 (147, 1)	62.26844 (272, 1)	57.00359 (272, 1)	46.19469 (272, 1)
290.0 /	68.57132 (147, 1)	64.88527 (147, 1)	69.38724C(270, 1)	57.21114C(270, 1)	44.50636C(270, 1)
280.0 /	90.05482C(94, 1)	78.97784 (311, 1)	65.71433 (223, 1)	51.63223 (223, 1)	39.70130 (223, 1)
270.0 /	84.95834 (314, 1)	83.87221 (314, 1)	53.12797 (312, 1)	42.57682 (312, 1)	33.54087C(286, 1)
260.0 /	90.01772 (260, 1)	88.20986 (260, 1)	108.15250 (242, 1)	105.75600 (242, 1)	83.53078 (242, 1)
250.0 /	120.59410 (318, 1)	112.00640 (318, 1)	76.16666 (263, 1)	84.25564 (263, 1)	75.18056 (263, 1)
240.0 /	86.20618 (340, 1)	83.55119 (340, 1)	70.21806C(247, 1)	50.72606C(247, 1)	32.28939 (156, 1)
230.0 /	59.41446C(301, 1)	54.13777C(301, 1)	41.37862C(300, 1)	30.64578C(86, 1)	25.98354 (261, 1)
220.0 /	40.93847C(301, 1)	43.87719C(301, 1)	35.50037C(300, 1)	36.36239 (290, 1)	36.74950 (290, 1)
210.0 /	29.18308 (11, 1)	26.29860 (306, 1)	22.75884 (306, 1)	14.76151C(254, 1)	12.70992 (294, 1)
200.0 /	34.46714 (11, 1)	33.03654 (11, 1)	24.35823 (289, 1)	17.10821 (289, 1)	12.59307 (338, 1)
190.0 /	28.63724 (11, 1)	29.32497 (303, 1)	24.01678 (331, 1)	19.05163 (289, 1)	14.80480 (289, 1)
180.0 /	22.52584C(5, 1)	20.22204C(279, 1)	22.82035 (303, 1)	19.77725 (303, 1)	15.55323 (303, 1)
170.0 /	29.65362C(5, 1)	29.98922C(5, 1)	25.18699C(279, 1)	23.41547C(279, 1)	20.01831C(279, 1)
160.0 /	24.68280 (337, 1)	23.46250 (337, 1)	15.87474C(5, 1)	15.95389C(284, 1)	15.97709C(284, 1)
150.0 /	25.87964 (99, 1)	24.55212 (99, 1)	19.52913C(127, 1)	17.61631C(279, 1)	15.02600C(279, 1)
140.0 /	32.96657C(200, 1)	32.84053C(284, 1)	40.50346C(284, 1)	33.71063C(284, 1)	26.42554C(284, 1)
130.0 /	39.68800C(200, 1)	39.37526C(200, 1)	39.40801C(200, 1)	30.34783C(200, 1)	23.32224C(200, 1)
120.0 /	49.85330C(200, 1)	48.25994C(200, 1)	27.02460 (201, 1)	23.84298 (201, 1)	19.81065 (201, 1)
110.0 /	61.95983C(228, 1)	63.37251C(228, 1)	62.28146C(228, 1)	50.48531C(228, 1)	40.51117C(228, 1)
100.0 /	67.06208C(230, 1)	62.81835C(230, 1)	28.68296C(226, 1)	20.97971 (112, 1)	19.58109 (112, 1)
90.0 /	52.22232 (201, 1)	49.92215 (201, 1)	39.01356 (201, 1)	31.21343 (201, 1)	25.02611 (201, 1)
80.0 /	47.94839 (212, 1)	43.74034 (212, 1)	30.28579 (183, 1)	24.85474 (183, 1)	20.00058 (183, 1)
70.0 /	64.01941 (183, 1)	60.48685 (183, 1)	43.91005 (183, 1)	36.33151C(228, 1)	28.25652C(228, 1)
60.0 /	66.34809 (183, 1)	58.97587 (183, 1)	62.01583C(191, 1)	48.06953C(191, 1)	33.69196C(191, 1)
50.0 /	75.87411 (322, 1)	77.79342 (322, 1)	47.16360C(190, 1)	44.23790C(190, 1)	31.22744C(190, 1)
40.0 /	58.97572C(211, 1)	57.07120C(211, 1)	33.58063C(211, 1)	28.48526C(231, 1)	28.06784C(231, 1)
30.0 /	48.00634C(231, 1)	48.86936C(231, 1)	43.52037C(203, 1)	29.91228C(210, 1)	21.75392C(210, 1)
20.0 /	50.62342C(210, 1)	53.93781C(210, 1)	29.14734 (185, 1)	17.03525C(52, 1)	12.34587C(102, 1)
10.0 /	49.52481 (10, 1)	43.82710 (10, 1)	27.07136 (41, 1)	23.13508 (42, 1)	17.27863 (42, 1)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 1096.80700 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	5000.0	6000.0	RANGE (METERS) 7000.0	8000.0	9000.0
360.0 /	13.38300 (36, 1)	12.20103 (36, 1)	11.00860 (36, 1)	9.90723 (36, 1)	8.93830 (36, 1)
350.0 /	17.72058C(204, 1)	14.73301C(164, 1)	12.98524C(164, 1)	11.36038C(164, 1)	9.94648C(164, 1)
340.0 /	18.64838C(180, 1)	16.22520C(180, 1)	13.82616C(180, 1)	11.76554C(180, 1)	10.06019C(180, 1)
330.0 /	22.76920 (151, 1)	19.71854 (151, 1)	16.88324 (151, 1)	14.50846 (151, 1)	12.55693 (151, 1)
320.0 /	18.80619C(163, 1)	16.00075C(163, 1)	13.60827C(163, 1)	11.90180 (139, 1)	10.55807 (139, 1)
310.0 /	22.62529C(160, 1)	19.91348C(160, 1)	17.57625C(160, 1)	15.62954C(160, 1)	14.23563 (71, 1)
300.0 /	37.38470 (272, 1)	30.79880 (272, 1)	25.85752 (272, 1)	22.10885 (272, 1)	19.19760 (272, 1)
290.0 /	35.46956C(270, 1)	29.04392C(270, 1)	24.32530C(270, 1)	20.78985C(270, 1)	18.09492C(257, 1)
280.0 /	31.54007 (223, 1)	25.80126 (223, 1)	21.59960 (223, 1)	18.44393 (223, 1)	16.30997C(288, 1)
270.0 /	29.43556C(286, 1)	25.73243C(286, 1)	22.60297C(286, 1)	20.02615C(286, 1)	17.89972C(286, 1)
260.0 /	65.40060 (242, 1)	52.24693 (242, 1)	42.69967 (242, 1)	35.69012 (242, 1)	30.38629 (242, 1)
250.0 /	64.56295 (263, 1)	55.38125 (263, 1)	47.88313 (263, 1)	41.88542 (263, 1)	37.03041 (263, 1)
240.0 /	27.59871C(251, 1)	25.12329C(251, 1)	22.39858C(251, 1)	19.89966C(251, 1)	17.72143C(251, 1)
230.0 /	23.17685 (261, 1)	20.03840 (261, 1)	17.27206 (261, 1)	14.99132 (261, 1)	13.30624C(21, 1)
220.0 /	33.82378 (290, 1)	29.81189 (290, 1)	25.89429 (290, 1)	22.45201 (290, 1)	19.56754 (290, 1)
210.0 /	12.87232C(176, 1)	12.67718C(176, 1)	11.97779C(176, 1)	11.09655C(176, 1)	10.18676C(176, 1)
200.0 /	11.01725 (338, 1)	9.49438 (338, 1)	8.19158 (338, 1)	7.11814 (338, 1)	6.24041 (338, 1)
190.0 /	12.22789 (331, 1)	10.66806C(12, 1)	9.71082C(12, 1)	8.70858C(12, 1)	8.24063C(113, 1)
180.0 /	12.74701C(284, 1)	12.30518C(284, 1)	11.55244C(284, 1)	10.69224C(284, 1)	9.82585C(284, 1)
170.0 /	17.50027C(279, 1)	15.47148C(279, 1)	13.73585C(279, 1)	12.25046C(279, 1)	10.97386C(279, 1)
160.0 /	14.72200C(284, 1)	12.92734C(284, 1)	11.14080C(284, 1)	9.58042C(284, 1)	8.27033C(284, 1)
150.0 /	12.56505C(255, 1)	10.65144C(255, 1)	8.99230C(255, 1)	8.11954C(60, 1)	7.47845C(60, 1)
140.0 /	21.24515C(284, 1)	17.54046C(284, 1)	14.79857C(284, 1)	12.72044C(284, 1)	11.09406C(284, 1)
130.0 /	18.69559C(200, 1)	15.48832C(200, 1)	13.14963C(200, 1)	11.39127C(200, 1)	10.03485C(13, 1)
120.0 /	16.54453 (201, 1)	14.00908 (201, 1)	12.03838 (201, 1)	10.49907 (201, 1)	9.26629 (201, 1)
110.0 /	33.18615C(228, 1)	27.75541C(228, 1)	23.64658C(228, 1)	20.49571C(228, 1)	18.00220C(228, 1)
100.0 /	17.77787 (112, 1)	16.02555 (112, 1)	14.44934 (112, 1)	13.07022 (112, 1)	11.89080 (112, 1)
90.0 /	20.51846 (201, 1)	17.18871 (201, 1)	14.67470 (201, 1)	12.75217 (201, 1)	11.23042 (201, 1)
80.0 /	16.35915 (183, 1)	13.63688 (183, 1)	11.57537 (183, 1)	9.99369 (183, 1)	8.74636 (183, 1)
70.0 /	21.92930C(228, 1)	17.34402C(228, 1)	14.52579 (183, 1)	12.53264 (183, 1)	10.95696 (183, 1)
60.0 /	24.92172 (192, 1)	20.61434 (183, 1)	18.33224 (183, 1)	16.34795 (183, 1)	14.64557 (183, 1)
50.0 /	22.07131C(190, 1)	16.39802C(190, 1)	12.79916C(190, 1)	10.65186C(191, 1)	9.58785C(191, 1)
40.0 /	26.14777C(231, 1)	23.59479C(231, 1)	21.03493C(231, 1)	18.73985C(231, 1)	16.74857C(231, 1)
30.0 /	15.23806C(210, 1)	12.33149 (37, 1)	11.67213C(191, 1)	10.90451C(191, 1)	10.11398C(191, 1)
20.0 /	10.64933C(102, 1)	9.02899C(102, 1)	7.66643C(102, 1)	6.56117C(102, 1)	5.66995C(102, 1)
10.0 /	13.27250C(49, 1)	11.04887C(354, 1)	9.75670C(354, 1)	8.66848C(354, 1)	7.74804C(354, 1)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 1096.80700 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / RANGE (METERS)
(DEGREES) / 10000.0

360.0 / 8.09830 (36, 1)
350.0 / 8.74734C(164, 1)
340.0 / 8.66646C(180, 1)
330.0 / 10.95833 (151, 1)
320.0 / 9.45688 (139, 1)
310.0 / 13.13442 (71, 1)
300.0 / 16.88254 (272, 1)
290.0 / 16.12116C(257, 1)
280.0 / 14.68455C(288, 1)
270.0 / 16.12630C(286, 1)
260.0 / 26.26448 (242, 1)
250.0 / 33.04530 (263, 1)
240.0 / 15.85553C(251, 1)
230.0 / 12.26403C(21, 1)
220.0 / 17.17602 (290, 1)
210.0 / 9.32134C(176, 1)
200.0 / 5.52013 (338, 1)
190.0 / 8.02922C(113, 1)
180.0 / 9.00710C(284, 1)
170.0 / 9.87753C(279, 1)
160.0 / 7.18636C(284, 1)
150.0 / 6.89685C(60, 1)
140.0 / 9.79229C(284, 1)
130.0 / 9.14690C(13, 1)
120.0 / 8.30441 (66, 1)
110.0 / 15.98931C(228, 1)
100.0 / 10.87799 (112, 1)
90.0 / 10.00138 (201, 1)
80.0 / 7.74544 (183, 1)
70.0 / 9.68824 (183, 1)
60.0 / 13.19335 (183, 1)
50.0 / 8.65262C(191, 1)
40.0 / 15.04351C(231, 1)
30.0 / 9.35642C(191, 1)
20.0 / 4.94816C(102, 1)
10.0 / 6.96452C(354, 1)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE DISCRETE RECEPTOR POINTS *

- RNG -	- DIR -	CON.	(DAY,PER.)	- RNG -	- DIR -	CON.	(DAY,PER.)
119.0	10.0	98.50470C	(208, 1)	124.0	20.0	83.97906C	(98, 1)
135.0	30.0	91.41723C	(98, 1)	152.0	40.0	96.16335C	(98, 1)
180.0	50.0	95.76904C	(98, 1)	230.0	60.0	91.98473	(184, 1)
255.0	70.0	105.55580	(184, 1)	263.0	80.0	98.36617	(99, 1)
393.0	90.0	73.67988	(201, 1)	186.0	100.0	98.27154	(106, 1)
94.0	110.0	79.40721	(106, 1)	62.0	120.0	73.81577	(106, 1)
49.0	130.0	74.55091C	(60, 1)	41.0	140.0	78.40448C	(60, 1)
37.0	150.0	76.51970C	(60, 1)	33.0	160.0	74.15807C	(60, 1)
24.0	170.0	77.53738C	(60, 1)	23.0	180.0	73.93343C	(60, 1)
24.0	190.0	72.52547C	(5, 1)	25.0	200.0	72.85573C	(60, 1)
27.0	210.0	77.99339C	(60, 1)	31.0	220.0	86.08252C	(60, 1)
37.0	230.0	88.62416C	(60, 1)	47.0	240.0	81.45205	(80, 1)
66.0	250.0	71.68142	(80, 1)	126.0	260.0	75.31845	(106, 1)
122.0	270.0	79.13853	(99, 1)	125.0	280.0	139.16450	(8, 1)
130.0	290.0	161.95310	(27, 1)	140.0	300.0	401.11890	(27, 1)
159.0	310.0	406.72430	(58, 1)	170.0	320.0	93.09900	(58, 1)
150.0	330.0	107.03030	(58, 1)	138.0	340.0	117.16970	(58, 1)
132.0	350.0	100.17140	(58, 1)	129.0	360.0	151.12930	(58, 1)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* SECOND HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 719.53980 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	25.0	50.0	75.0	100.0	150.0
360.0 /	134.57320C(60, 1)	334.67270 (27, 1)	165.97170 (19, 1)	95.52961C(98, 1)	65.29780 (202, 1)
350.0 /	164.02930 (27, 1)	300.91440 (27, 1)	228.86400C(26, 1)	107.22030 (184, 1)	59.44160 (202, 1)
340.0 /	159.15620 (27, 1)	186.00480C(60, 1)	719.53980 (27, 1)	115.87800 (99, 1)	54.69551 (202, 1)
330.0 /	146.90830 (27, 1)	225.03970 (27, 1)	332.65210 (27, 1)	242.14650 (99, 1)	83.75543 (78, 1)
320.0 /	132.40050 (27, 1)	203.55560 (27, 1)	380.16930 (27, 1)	475.39780C(60, 1)	67.61625C(208, 1)
310.0 /	119.33690 (27, 1)	145.16070C(60, 1)	165.21090C(60, 1)	339.88430 (8, 1)	145.26680 (346, 1)
300.0 /	104.59620C(60, 1)	115.38200 (80, 1)	180.25160C(60, 1)	262.61790 (27, 1)	82.37714 (19, 1)
290.0 /	90.62199 (99, 1)	125.69840 (27, 1)	140.49350 (27, 1)	117.84930 (99, 1)	243.86340 (27, 1)
280.0 /	87.26501 (99, 1)	103.34670 (27, 1)	91.83031 (99, 1)	102.69200 (27, 1)	103.64980 (11, 1)
270.0 /	84.15506C(60, 1)	100.79540C(5, 1)	81.31317 (27, 1)	100.65660C(5, 1)	81.44376 (8, 1)
260.0 /	89.40504C(60, 1)	88.47339 (80, 1)	75.95915 (80, 1)	73.54680 (106, 1)	69.10679 (106, 1)
250.0 /	83.83374 (27, 1)	78.40068C(5, 1)	69.69309 (106, 1)	67.25927 (80, 1)	52.90045C(65, 1)
240.0 /	78.84614 (27, 1)	71.48026C(5, 1)	62.53745C(60, 1)	60.28763 (106, 1)	50.45304 (27, 1)
230.0 /	74.85840 (27, 1)	65.24155 (106, 1)	56.81564 (80, 1)	55.06542C(65, 1)	45.89806C(60, 1)
220.0 /	71.81093 (27, 1)	64.74031 (106, 1)	55.13221 (80, 1)	52.00759 (80, 1)	40.69536C(60, 1)
210.0 /	69.57426 (27, 1)	61.92289C(60, 1)	54.04594 (80, 1)	47.18502 (80, 1)	34.13466C(60, 1)
200.0 /	68.02011 (27, 1)	62.81488C(60, 1)	51.73582 (80, 1)	44.56351 (112, 1)	31.95765 (80, 1)
190.0 /	70.70104C(5, 1)	62.67131C(60, 1)	49.97233C(65, 1)	44.53502 (112, 1)	32.00929C(142, 1)
180.0 /	71.95879C(5, 1)	62.01283C(60, 1)	49.74895C(65, 1)	46.14838 (106, 1)	32.28195C(142, 1)
170.0 /	67.71355 (27, 1)	62.35142C(60, 1)	51.00648C(60, 1)	48.80155C(65, 1)	34.02199 (99, 1)
160.0 /	69.80139 (27, 1)	63.81932C(60, 1)	54.21312C(60, 1)	51.22070C(65, 1)	40.24082 (106, 1)
150.0 /	73.37712 (27, 1)	66.22728C(60, 1)	54.41896 (99, 1)	54.37492C(65, 1)	48.56338 (106, 1)
140.0 /	78.14925 (27, 1)	68.51257 (106, 1)	61.43978 (99, 1)	57.34761C(65, 1)	55.12294C(65, 1)
130.0 /	83.74867 (27, 1)	72.05479 (99, 1)	62.70444 (112, 1)	61.54371 (112, 1)	61.44987C(65, 1)
120.0 /	89.48018 (27, 1)	76.02563C(60, 1)	68.63324C(60, 1)	61.33116C(60, 1)	62.85564C(65, 1)
110.0 /	95.04883 (27, 1)	85.03487 (27, 1)	78.04118 (106, 1)	66.81873 (27, 1)	70.14560C(65, 1)
100.0 /	96.35104C(60, 1)	94.76888 (27, 1)	83.49915 (106, 1)	79.45921C(65, 1)	84.66556C(65, 1)
90.0 /	98.47140C(60, 1)	104.64730 (27, 1)	87.48146 (27, 1)	93.16783C(65, 1)	88.97282C(65, 1)
80.0 /	105.56730C(60, 1)	103.78250C(60, 1)	95.92014C(65, 1)	93.43391C(65, 1)	85.87591 (201, 1)
70.0 /	116.48490C(60, 1)	96.75397 (106, 1)	96.24895 (27, 1)	91.38713 (19, 1)	94.64236 (106, 1)
60.0 /	125.53390 (27, 1)	104.10390 (106, 1)	105.26360 (27, 1)	99.58034 (19, 1)	110.75320 (184, 1)
50.0 /	132.42410 (27, 1)	110.95900 (106, 1)	113.93990 (27, 1)	115.77320 (27, 1)	112.55190C(98, 1)
40.0 /	138.88560 (27, 1)	115.92470 (106, 1)	132.50360 (27, 1)	122.74510C(98, 1)	91.68885C(157, 1)
30.0 /	144.45520 (27, 1)	118.28560 (106, 1)	140.13980 (106, 1)	155.98860 (184, 1)	78.48171C(98, 1)
20.0 /	135.52200C(60, 1)	128.78340C(26, 1)	139.15700 (106, 1)	132.00320 (99, 1)	78.30811 (183, 1)
10.0 /	126.17280C(60, 1)	202.35760C(60, 1)	143.61050 (106, 1)	107.63980C(98, 1)	70.62192 (202, 1)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* SECOND HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 719.53980 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	200.0	250.0	300.0	350.0	400.0
360.0 /	51.02231 (202, 1)	38.29701C(210, 1)	42.20992C(210, 1)	36.56527C(73, 1)	39.47389C(73, 1)
350.0 /	44.21288C(73, 1)	43.11464 (79, 1)	38.70864 (79, 1)	41.12925 (79, 1)	39.38641 (79, 1)
340.0 /	45.96363C(73, 1)	39.46838 (79, 1)	43.94990C(210, 1)	40.58421 (78, 1)	43.21608C(73, 1)
330.0 /	39.65473C(210, 1)	36.99622 (72, 1)	40.72772C(73, 1)	46.66038 (72, 1)	44.89453 (78, 1)
320.0 /	78.56303 (58, 1)	41.08823C(73, 1)	46.42460 (78, 1)	56.75366C(210, 1)	41.96007 (72, 1)
310.0 /	63.44645C(73, 1)	43.08707 (58, 1)	60.08239C(210, 1)	49.71258 (79, 1)	50.35739 (77, 1)
300.0 /	48.03680C(94, 1)	68.86058 (58, 1)	77.77141C(210, 1)	48.56104 (147, 1)	44.17057 (68, 1)
290.0 /	125.65310 (80, 1)	91.82955 (9, 1)	89.47321C(94, 1)	54.08117C(244, 1)	71.38814 (72, 1)
280.0 /	120.65280 (11, 1)	167.18480 (8, 1)	148.95420 (11, 1)	75.21378 (9, 1)	71.83095 (318, 1)
270.0 /	78.67211C(26, 1)	337.32210C(60, 1)	84.69849 (8, 1)	93.95483 (318, 1)	99.46335 (318, 1)
260.0 /	112.46940 (27, 1)	114.28470 (27, 1)	92.09731 (11, 1)	68.78607 (340, 1)	94.62291 (340, 1)
250.0 /	62.69073 (27, 1)	68.67086C(56, 1)	53.22654 (11, 1)	59.82956 (88, 1)	54.80120C(87, 1)
240.0 /	47.70083 (112, 1)	43.46095C(5, 1)	34.24488 (317, 1)	37.01650 (317, 1)	43.49645 (88, 1)
230.0 /	45.80642 (99, 1)	26.30528C(87, 1)	29.83929C(87, 1)	27.00815 (290, 1)	32.08173 (290, 1)
220.0 /	39.39852 (112, 1)	29.75808 (99, 1)	28.45846 (80, 1)	24.56506 (11, 1)	24.77457 (11, 1)
210.0 /	35.10266C(60, 1)	28.43890C(142, 1)	24.24775 (11, 1)	25.04107 (11, 1)	22.17537 (289, 1)
200.0 /	34.01992C(60, 1)	32.31682C(142, 1)	25.40811C(142, 1)	23.78622 (11, 1)	28.43263 (80, 1)
190.0 /	33.81005C(142, 1)	33.34337C(142, 1)	31.17493C(142, 1)	27.88720 (46, 1)	23.81593 (319, 1)
180.0 /	34.74318C(142, 1)	33.97554C(103, 1)	33.32381C(103, 1)	29.80400C(142, 1)	29.41334 (80, 1)
170.0 /	35.30120C(142, 1)	35.28149C(142, 1)	32.46376C(142, 1)	29.85379C(13, 1)	30.51528C(13, 1)
160.0 /	35.58482C(142, 1)	37.25025C(142, 1)	36.68466C(142, 1)	34.16964C(142, 1)	31.42355C(13, 1)
150.0 /	39.98406C(200, 1)	38.67139C(142, 1)	39.17042C(142, 1)	38.76114C(142, 1)	37.64011C(142, 1)
140.0 /	48.67710 (106, 1)	47.13921C(200, 1)	44.71459C(200, 1)	41.19548C(200, 1)	39.33782C(92, 1)
130.0 /	58.46374 (106, 1)	52.56203 (106, 1)	48.65496C(229, 1)	48.35157C(229, 1)	47.59856C(92, 1)
120.0 /	66.25246C(65, 1)	65.36070 (106, 1)	61.41327 (106, 1)	57.94365 (106, 1)	56.72030C(229, 1)
110.0 /	73.24146C(65, 1)	73.44805C(65, 1)	72.29350C(65, 1)	70.00988C(65, 1)	67.22652C(65, 1)
100.0 /	82.97047C(65, 1)	80.92168C(65, 1)	77.25648C(65, 1)	70.62311C(65, 1)	62.71479C(230, 1)
90.0 /	76.52454 (201, 1)	78.37243 (201, 1)	78.18564 (201, 1)	73.02174C(230, 1)	70.95931 (99, 1)
80.0 /	88.87946 (201, 1)	87.54782 (201, 1)	86.21194 (201, 1)	84.17738 (201, 1)	81.38742 (201, 1)
70.0 /	96.35094C(230, 1)	105.34980 (99, 1)	83.70374 (99, 1)	74.14926C(157, 1)	64.45119C(157, 1)
60.0 /	98.40400C(98, 1)	83.01506C(98, 1)	73.40334C(98, 1)	69.67275C(98, 1)	68.43465C(98, 1)
50.0 /	80.55283C(157, 1)	75.01122C(98, 1)	75.17978 (202, 1)	81.08382 (202, 1)	80.52186 (183, 1)
40.0 /	72.94868C(115, 1)	81.04175 (183, 1)	77.92001 (58, 1)	78.09178 (202, 1)	68.90846 (202, 1)
30.0 /	82.10942 (202, 1)	78.30517 (202, 1)	66.97611 (202, 1)	55.50323 (202, 1)	50.38824 (322, 1)
20.0 /	74.96851 (202, 1)	61.65591 (202, 1)	48.50714 (202, 1)	40.04842C(324, 1)	40.40400C(324, 1)
10.0 /	63.05267 (202, 1)	46.57291 (202, 1)	38.27728C(324, 1)	37.57120C(324, 1)	37.52515C(209, 1)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* SECOND HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 719.53980 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	450.0	500.0	600.0	700.0	800.0
360.0 /	39.88904 (79, 1)	43.47137 (78, 1)	51.34159C(210, 1)	39.56542C(210, 1)	34.87142 (79, 1)
350.0 /	47.51480 (185, 1)	44.34865 (185, 1)	41.36686 (79, 1)	40.36323 (330, 1)	37.56974 (330, 1)
340.0 /	44.50534C(73, 1)	43.10254 (37, 1)	35.26249 (37, 1)	34.24907 (345, 1)	39.62507 (232, 1)
330.0 /	38.37079 (79, 1)	35.95618 (334, 1)	37.01709 (334, 1)	33.92652 (334, 1)	37.31779 (232, 1)
320.0 /	30.78562C(329, 1)	34.42311C(329, 1)	38.78061 (78, 1)	41.32072 (78, 1)	40.66958C(329, 1)
310.0 /	52.98652 (77, 1)	57.88839 (77, 1)	60.73763 (77, 1)	68.09739C(329, 1)	72.32145C(329, 1)
300.0 /	46.28721 (223, 1)	47.24685 (223, 1)	55.35303 (328, 1)	63.61354 (328, 1)	67.01102 (77, 1)
290.0 /	70.31599 (147, 1)	63.92490 (125, 1)	64.28992 (223, 1)	64.97557 (223, 1)	59.63832 (223, 1)
280.0 /	82.67281C(94, 1)	85.38046 (314, 1)	80.81271 (314, 1)	85.00786 (312, 1)	85.04813 (312, 1)
270.0 /	86.01833 (124, 1)	85.01369 (318, 1)	72.93326 (318, 1)	63.29838 (84, 1)	59.88905 (84, 1)
260.0 /	105.54430 (318, 1)	89.61740 (310, 1)	79.12802 (356, 1)	82.45677 (258, 1)	86.41717 (263, 1)
250.0 /	58.14117 (290, 1)	65.53369 (317, 1)	94.54567 (318, 1)	103.83300 (340, 1)	86.82934 (340, 1)
240.0 /	46.69353 (290, 1)	51.33621 (290, 1)	56.42812 (340, 1)	60.90090 (317, 1)	58.94038 (317, 1)
230.0 /	35.65839 (290, 1)	39.54329 (290, 1)	44.68325 (290, 1)	46.22610 (290, 1)	49.35135 (290, 1)
220.0 /	25.52747 (11, 1)	29.97310 (11, 1)	30.74436C(301, 1)	30.15310 (294, 1)	35.94752 (303, 1)
210.0 /	22.67586 (289, 1)	22.95220 (289, 1)	26.88258 (303, 1)	26.78811 (289, 1)	25.36470 (303, 1)
200.0 /	25.49864C(5, 1)	20.46433 (289, 1)	25.03701C(288, 1)	24.90434C(288, 1)	28.95531 (303, 1)
190.0 /	26.79365C(5, 1)	31.50190 (80, 1)	24.77840 (80, 1)	21.15931 (80, 1)	23.54394 (303, 1)
180.0 /	28.37981 (80, 1)	27.54121 (80, 1)	28.30058C(5, 1)	26.74960 (80, 1)	22.51986 (80, 1)
170.0 /	28.51207 (337, 1)	28.83783C(5, 1)	28.83820 (337, 1)	28.81815C(127, 1)	23.55267C(127, 1)
160.0 /	29.44394C(13, 1)	28.24377C(13, 1)	26.82920C(13, 1)	24.51086C(13, 1)	24.13101 (80, 1)
150.0 /	35.94464C(142, 1)	33.91073C(142, 1)	29.90589C(142, 1)	26.74830 (99, 1)	26.29497 (112, 1)
140.0 /	37.75791C(200, 1)	37.51914C(200, 1)	38.06529C(200, 1)	36.15584 (112, 1)	31.69042 (112, 1)
130.0 /	47.04282C(92, 1)	46.24791C(92, 1)	44.01166C(92, 1)	41.22535C(92, 1)	39.34916C(229, 1)
120.0 /	56.59436C(229, 1)	53.38289C(65, 1)	48.30763 (106, 1)	49.73018C(200, 1)	47.35573C(229, 1)
110.0 /	64.26254C(65, 1)	62.98886C(229, 1)	56.22710 (106, 1)	58.01255C(228, 1)	60.16314C(228, 1)
100.0 /	65.79380C(230, 1)	68.33689C(230, 1)	57.67759 (106, 1)	50.57091C(160, 1)	47.35843C(160, 1)
90.0 /	69.60933 (99, 1)	67.68990C(358, 1)	63.61266 (99, 1)	58.89890 (99, 1)	54.93388 (201, 1)
80.0 /	77.46248 (201, 1)	73.30820 (184, 1)	60.56924 (99, 1)	55.41222 (184, 1)	46.44993 (184, 1)
70.0 /	57.15091 (212, 1)	51.59733C(98, 1)	46.74346C(98, 1)	44.88143C(98, 1)	44.50684 (202, 1)
60.0 /	67.81144C(98, 1)	68.98022 (202, 1)	67.29109 (202, 1)	65.70551C(98, 1)	64.39472C(98, 1)
50.0 /	73.59950 (183, 1)	67.06644 (183, 1)	65.34381 (202, 1)	60.61926 (322, 1)	70.72719 (322, 1)
40.0 /	59.19291 (202, 1)	62.20479 (322, 1)	68.13964 (322, 1)	65.11064 (322, 1)	58.38039C(211, 1)
30.0 /	50.26272 (322, 1)	48.50861C(231, 1)	46.41578C(231, 1)	43.06976C(324, 1)	41.68890C(324, 1)
20.0 /	42.14120C(324, 1)	39.67484C(53, 1)	38.27571C(231, 1)	39.86645C(210, 1)	44.49347C(203, 1)
10.0 /	41.57462C(210, 1)	45.42489C(210, 1)	44.69487C(209, 1)	51.77843 (10, 1)	51.43279 (185, 1)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* SECOND HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 719.53980 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	RANGE (METERS)				
	900.0	1000.0	2000.0	3000.0	4000.0
360.0 /	34.15971 (10, 1)	33.84635 (41, 1)	18.46747C(159, 1)	16.39445 (110, 1)	13.19278 (110, 1)
350.0 /	36.25163 (345, 1)	35.32309 (345, 1)	23.79379 (345, 1)	18.60895 (36, 1)	16.99852C(164, 1)
340.0 /	39.06405 (345, 1)	36.64989 (345, 1)	32.89234C(164, 1)	22.54997C(160, 1)	20.35019C(180, 1)
330.0 /	35.28422C(164, 1)	35.86435C(73, 1)	35.51266C(215, 1)	25.15155C(215, 1)	21.65525C(193, 1)
320.0 /	42.87027 (78, 1)	42.10009 (344, 1)	39.34251C(225, 1)	30.56939C(225, 1)	23.18013C(225, 1)
310.0 /	68.72265C(329, 1)	66.06940 (77, 1)	41.67589C(329, 1)	29.55405C(241, 1)	25.64808C(160, 1)
300.0 /	64.30588 (328, 1)	61.19481 (328, 1)	50.57657C(145, 1)	35.79374C(198, 1)	31.05167C(198, 1)
290.0 /	58.88040 (268, 1)	62.33820 (268, 1)	55.25244C(257, 1)	48.19970C(257, 1)	39.52771C(257, 1)
280.0 /	81.10045 (312, 1)	77.88911C(94, 1)	54.11491C(271, 1)	43.26630C(271, 1)	33.75679C(271, 1)
270.0 /	59.90368C(104, 1)	60.68585C(104, 1)	51.42094 (314, 1)	36.93828C(286, 1)	33.05469 (312, 1)
260.0 /	83.04744 (258, 1)	79.04313 (258, 1)	54.69713C(244, 1)	53.13867C(244, 1)	40.80306C(244, 1)
250.0 /	87.40178 (262, 1)	93.90535 (262, 1)	73.99799 (259, 1)	60.25662 (260, 1)	52.08717 (260, 1)
240.0 /	62.44724 (8, 1)	64.52452 (8, 1)	46.70126C(154, 1)	40.04205 (156, 1)	31.90228C(247, 1)
230.0 /	50.44366 (290, 1)	50.36685C(300, 1)	37.82580 (292, 1)	28.35527C(279, 1)	25.23890C(86, 1)
220.0 /	38.43692 (303, 1)	37.46745 (303, 1)	32.23294 (290, 1)	31.48522C(300, 1)	24.13216C(300, 1)
210.0 /	24.73010 (289, 1)	25.39702 (289, 1)	20.79844 (303, 1)	13.90881 (306, 1)	12.54497C(254, 1)
200.0 /	26.46206 (303, 1)	26.67083 (289, 1)	18.44091 (294, 1)	13.75555 (294, 1)	9.98903 (303, 1)
190.0 /	26.46098 (303, 1)	26.79915 (11, 1)	19.10061 (303, 1)	16.97818 (331, 1)	14.36767 (331, 1)
180.0 /	18.90644 (11, 1)	18.62514 (11, 1)	12.39012C(323, 1)	13.86277C(195, 1)	12.67745C(284, 1)
170.0 /	20.45927 (302, 1)	20.01027C(316, 1)	17.07006C(5, 1)	11.15060 (302, 1)	8.95574 (302, 1)
160.0 /	23.14628 (80, 1)	22.00000C(5, 1)	14.72191C(284, 1)	12.28974C(277, 1)	12.01141C(277, 1)
150.0 /	23.80482 (112, 1)	23.78607C(196, 1)	18.86204 (337, 1)	15.95257C(127, 1)	14.43985C(255, 1)
140.0 /	30.94090C(284, 1)	29.45070C(200, 1)	31.29257C(196, 1)	27.29221C(196, 1)	21.58050C(196, 1)
130.0 /	38.01251C(229, 1)	36.92453C(229, 1)	29.94861C(141, 1)	25.68679C(141, 1)	21.10865C(141, 1)
120.0 /	43.99715C(229, 1)	40.99636C(229, 1)	26.65856C(157, 1)	22.71071C(157, 1)	18.79057C(157, 1)
110.0 /	60.60804C(229, 1)	58.40054C(229, 1)	38.12346C(229, 1)	25.95507C(229, 1)	18.96369C(229, 1)
100.0 /	43.74682C(160, 1)	41.19275C(226, 1)	28.37200C(230, 1)	18.03808C(226, 1)	12.43031C(213, 1)
90.0 /	50.42387C(358, 1)	45.25410C(358, 1)	25.39693 (202, 1)	21.31321C(213, 1)	19.34191C(213, 1)
80.0 /	38.83551 (184, 1)	32.59793 (184, 1)	26.22523 (182, 1)	19.46375C(282, 1)	14.93178C(282, 1)
70.0 /	47.27501 (202, 1)	48.61763 (202, 1)	41.30099C(228, 1)	32.15928 (183, 1)	25.20472 (183, 1)
60.0 /	61.49820C(98, 1)	57.16493 (184, 1)	45.39187 (192, 1)	39.85824 (192, 1)	31.51754 (192, 1)
50.0 /	72.09496 (58, 1)	68.47379 (58, 1)	45.83684 (322, 1)	31.90332C(211, 1)	22.42371C(211, 1)
40.0 /	57.47982 (58, 1)	47.70805 (58, 1)	31.71973C(324, 1)	20.42555C(358, 1)	16.21271C(209, 1)
30.0 /	42.62579C(209, 1)	43.02567C(209, 1)	33.58418C(210, 1)	22.91632C(323, 1)	16.17309 (58, 1)
20.0 /	46.64913C(203, 1)	44.92360 (185, 1)	24.37687C(52, 1)	14.19911 (42, 1)	12.15800C(52, 1)
10.0 /	47.59854 (185, 1)	37.67393 (185, 1)	26.32944 (37, 1)	21.55065 (41, 1)	15.55775C(343, 1)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* SECOND HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 719.53980 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / (DEGREES) /	5000.0	6000.0	RANGE (METERS) 7000.0	8000.0	9000.0
360.0 /	10.09562 (110, 1)	8.69032C(171, 1)	8.08563C(171, 1)	7.43074C(171, 1)	6.78775C(171, 1)
350.0 /	16.27398C(164, 1)	14.15590C(204, 1)	11.19616C(204, 1)	9.41609C(161, 1)	8.84086C(161, 1)
340.0 /	15.71350 (232, 1)	11.63432 (232, 1)	9.50207 (79, 1)	8.26016 (79, 1)	7.56434C(160, 1)
330.0 /	17.04238C(193, 1)	14.85481C(205, 1)	13.45743C(205, 1)	12.30980C(205, 1)	11.32910C(205, 1)
320.0 /	18.58963 (139, 1)	15.75113 (139, 1)	13.58081 (139, 1)	11.67475C(163, 1)	10.30631C(215, 1)
310.0 /	20.90465 (147, 1)	18.21601 (71, 1)	16.82174 (71, 1)	15.46798 (71, 1)	14.00111C(160, 1)
300.0 /	26.74263C(198, 1)	23.15248C(198, 1)	20.21931C(198, 1)	17.85019C(198, 1)	15.91251C(198, 1)
290.0 /	32.72961C(257, 1)	27.57041C(257, 1)	23.60570C(257, 1)	20.53170C(257, 1)	18.05484C(270, 1)
280.0 /	27.08803C(288, 1)	23.56177C(288, 1)	20.64318C(288, 1)	18.26351C(288, 1)	16.00242 (223, 1)
270.0 /	26.25860 (312, 1)	21.40794 (312, 1)	17.84631 (312, 1)	15.16825 (312, 1)	13.10263 (312, 1)
260.0 /	31.01489C(244, 1)	24.12687C(244, 1)	20.00718 (305, 1)	17.61331 (305, 1)	15.67732 (305, 1)
250.0 /	42.09459 (260, 1)	33.95322 (260, 1)	27.77320 (260, 1)	23.14218 (260, 1)	19.61123 (260, 1)
240.0 /	25.74519 (156, 1)	21.86591C(264, 1)	19.35542C(264, 1)	17.12611C(264, 1)	15.21456C(264, 1)
230.0 /	20.58598C(86, 1)	17.10458C(86, 1)	15.64759C(21, 1)	14.45239C(21, 1)	13.13755 (261, 1)
220.0 /	20.37920C(293, 1)	17.77836C(293, 1)	15.52146C(293, 1)	13.63658C(293, 1)	12.11943C(293, 1)
210.0 /	11.71089 (294, 1)	10.73410 (361, 1)	10.27525 (361, 1)	9.68317 (361, 1)	9.07257 (361, 1)
200.0 /	9.40838C(266, 1)	8.53829C(266, 1)	7.48559C(266, 1)	6.49094C(266, 1)	5.69146C(44, 1)
190.0 /	12.01395 (289, 1)	10.29900 (331, 1)	8.64321 (331, 1)	8.37712C(113, 1)	7.80532C(12, 1)
180.0 /	12.14936 (303, 1)	9.63715 (303, 1)	7.79968 (303, 1)	6.43646 (303, 1)	5.81348C(301, 1)
170.0 /	7.29073 (302, 1)	6.81783C(349, 1)	6.27802C(349, 1)	5.65642C(349, 1)	5.06573C(349, 1)
160.0 /	11.39826C(277, 1)	10.51841C(277, 1)	9.55333C(277, 1)	8.63630C(277, 1)	7.79998C(277, 1)
150.0 /	11.71345C(279, 1)	9.47550C(60, 1)	8.80856C(60, 1)	7.64439C(255, 1)	6.69216C(115, 1)
140.0 /	17.30558C(196, 1)	14.72427C(121, 1)	12.98565C(121, 1)	11.51706C(121, 1)	10.28499C(121, 1)
130.0 /	17.46700C(141, 1)	14.65788C(141, 1)	12.48660C(141, 1)	11.09019C(13, 1)	10.01527C(200, 1)
120.0 /	15.73028C(157, 1)	13.36134C(157, 1)	11.51653C(157, 1)	10.07137C(157, 1)	8.93119 (66, 1)
110.0 /	16.12464C(351, 1)	14.18916C(351, 1)	12.55585C(351, 1)	11.18070C(351, 1)	10.03637C(351, 1)
100.0 /	10.64705C(213, 1)	9.19781C(213, 1)	8.03307C(213, 1)	7.10178C(213, 1)	6.33919C(213, 1)
90.0 /	17.07188C(213, 1)	15.02157C(213, 1)	13.28275C(213, 1)	11.84395C(213, 1)	10.64366C(213, 1)
80.0 /	11.77360C(282, 1)	9.53835C(282, 1)	7.91038C(282, 1)	6.89054C(309, 1)	6.31647C(309, 1)
70.0 /	20.52740 (183, 1)	17.11108 (183, 1)	14.02699C(228, 1)	11.59408C(228, 1)	9.76133C(228, 1)
60.0 /	24.40735C(191, 1)	20.05916 (192, 1)	16.47724 (192, 1)	13.82006 (192, 1)	11.78561 (192, 1)
50.0 /	16.28531C(211, 1)	13.04860C(191, 1)	11.82870C(191, 1)	10.41548C(190, 1)	8.73973C(190, 1)
40.0 /	13.04863C(209, 1)	10.81248C(323, 1)	9.04872C(158, 1)	8.21255C(158, 1)	7.42767C(158, 1)
30.0 /	13.12061 (37, 1)	12.31404C(191, 1)	11.28081 (37, 1)	10.20107 (37, 1)	9.20057 (37, 1)
20.0 /	8.97422C(52, 1)	6.86499C(70, 1)	6.08160C(70, 1)	5.41305C(70, 1)	4.84733C(70, 1)
10.0 /	12.85434 (42, 1)	10.92547C(49, 1)	8.97692C(49, 1)	7.46249C(49, 1)	6.30597C(49, 1)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* SECOND HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 719.53980 AND OCCURRED AT (75.0, 340.0) *

DIRECTION / RANGE (METERS)
(DEGREES) / 10000.0

360.0 /	6.18972C(171, 1)
350.0 /	8.27981C(161, 1)
340.0 /	7.01974C(160, 1)
330.0 /	10.47262C(205, 1)
320.0 /	9.28000C(215, 1)
310.0 /	12.62858C(160, 1)
300.0 /	14.30414C(198, 1)
290.0 /	15.88070C(270, 1)
280.0 /	14.06295 (223, 1)
270.0 /	11.47018 (312, 1)
260.0 /	14.08401 (305, 1)
250.0 /	16.86267 (260, 1)
240.0 /	13.59222C(264, 1)
230.0 /	11.62320 (261, 1)
220.0 /	10.88644C(293, 1)
210.0 /	8.48211 (361, 1)
200.0 /	5.22969C(44, 1)
190.0 /	7.01614C(12, 1)
180.0 /	5.33853C(301, 1)
170.0 /	4.70804C(117, 1)
160.0 /	7.05774C(277, 1)
150.0 /	6.25573C(115, 1)
140.0 /	9.24917C(121, 1)
130.0 /	8.97008C(20, 1)
120.0 /	8.26159 (201, 1)
110.0 /	9.07469C(351, 1)
100.0 /	5.70632C(213, 1)
90.0 /	9.63448C(213, 1)
80.0 /	5.80592C(309, 1)
70.0 /	8.34859C(228, 1)
60.0 /	10.19430 (192, 1)
50.0 /	7.50654C(190, 1)
40.0 /	6.72197C(158, 1)
30.0 /	8.30790 (37, 1)
20.0 /	4.39797 (4, 1)
10.0 /	5.41458C(49, 1)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* SECOND HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE DISCRETE RECEPTOR POINTS *

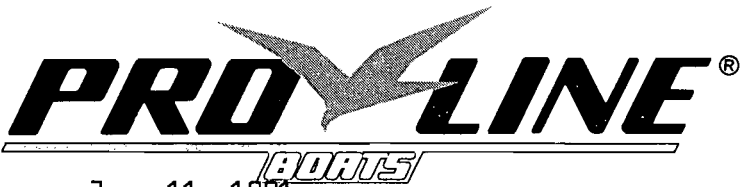
- RNG -	- DIR -	CON.	(DAY,PER.)	- RNG -	- DIR -	CON.	(DAY,PER.)
119.0	10.0	73.81389C	(98, 1)	124.0	20.0	83.18713C	(208, 1)
135.0	30.0	86.10204C	(230, 1)	152.0	40.0	89.75676C	(157, 1)
180.0	50.0	93.10375C	(157, 1)	230.0	60.0	90.02760C	(157, 1)
255.0	70.0	103.28770	(99, 1)	263.0	80.0	87.18422	(201, 1)
393.0	90.0	71.10699	(99, 1)	186.0	100.0	83.46056C	(65, 1)
94.0	110.0	69.20432	(27, 1)	62.0	120.0	71.77209C	(60, 1)
49.0	130.0	72.43548	(99, 1)	41.0	140.0	71.19056	(99, 1)
37.0	150.0	67.38258	(106, 1)	33.0	160.0	66.51790	(106, 1)
24.0	170.0	68.65429	(27, 1)	23.0	180.0	73.78973C	(5, 1)
24.0	190.0	71.45602C	(60, 1)	25.0	200.0	68.02011	(27, 1)
27.0	210.0	67.71964	(27, 1)	31.0	220.0	65.98233	(27, 1)
37.0	230.0	69.24760	(80, 1)	47.0	240.0	74.62266C	(5, 1)
66.0	250.0	67.91823	(106, 1)	126.0	260.0	66.02031	(27, 1)
122.0	270.0	76.81425	(80, 1)	125.0	280.0	130.48410C	(60, 1)
130.0	290.0	123.92210C	(60, 1)	140.0	300.0	350.27840C	(60, 1)
159.0	310.0	118.96130C	(73, 1)	170.0	320.0	69.05114	(72, 1)
150.0	330.0	83.75543	(78, 1)	138.0	340.0	62.29738C	(208, 1)
132.0	350.0	65.55605	(72, 1)	129.0	360.0	72.64821C	(208, 1)

*** PROLINE BOATS - AIR TOXICS ANALYSIS - 1986 TAMPA MET DATA ***

* 50 MAXIMUM 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *

* FROM ALL SOURCES *

RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)	RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)
1	1096.80700C	1	60	75.0	340.0	26	323.33370	1	27	75.0	360.0
2	898.99970	1	27	100.0	320.0	27	302.49160C	1	60	50.0	320.0
3	719.53980	1	27	75.0	340.0	28	300.91440	1	27	50.0	350.0
4	579.77260	1	27	75.0	350.0	29	299.77340C	1	60	250.0	260.0
5	484.18450C	1	60	75.0	320.0	30	299.24730	1	99	140.0	300.0
6	475.39780C	1	60	100.0	320.0	31	292.44160C	1	60	100.0	300.0
7	414.07040	1	8	100.0	320.0	32	287.59700	1	27	50.0	10.0
8	411.58290C	1	26	100.0	320.0	33	284.83440C	1	60	50.0	330.0
9	406.72430	1	58	159.0	310.0	34	283.49330	1	8	350.0	270.0
10	406.68850	1	27	250.0	270.0	35	265.59050	1	27	75.0	10.0
11	401.11890	1	27	140.0	300.0	36	265.23160	1	27	50.0	340.0
12	393.99100C	1	60	50.0	360.0	37	262.61790	1	27	100.0	300.0
13	390.83680C	1	5	100.0	310.0	38	260.43310	1	27	250.0	280.0
14	380.16930	1	27	75.0	320.0	39	259.55630	1	80	140.0	300.0
15	371.91820	1	11	200.0	290.0	40	248.95130C	1	60	25.0	330.0
16	368.66380	1	27	100.0	330.0	41	243.86340	1	27	150.0	290.0
17	362.21400C	1	60	50.0	350.0	42	242.14650	1	99	100.0	330.0
18	358.91170C	1	60	150.0	290.0	43	240.87530	1	80	100.0	310.0
19	355.70880C	1	26	75.0	340.0	44	239.61200	1	80	75.0	330.0
20	350.27840C	1	60	140.0	300.0	45	235.14450	1	27	75.0	310.0
21	339.88430	1	8	100.0	310.0	46	231.38270	1	27	50.0	20.0
22	337.32210C	1	60	250.0	270.0	47	230.65120	1	8	100.0	300.0
23	337.11670C	1	5	75.0	330.0	48	228.86400C	1	26	75.0	350.0
24	334.67270	1	27	50.0	360.0	49	225.57580C	1	60	25.0	340.0
25	332.65210	1	27	75.0	330.0	50	225.03970	1	27	50.0	330.0



June 11, 1991

Mr. C. H. Fancy, P.E., Chief
Bureau of Air Regulation
Twin Towers Office Bldg.
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RECEIVED

JUN 13 1991

Division of Air
Resources Management

RE: Application for Permit No. AC 09-180615

Dear Chief Fancy:

We are in receipt of your letter dated June 4, 1991 in regard to the above permit application. Please be advised that Cecil Davis, Vice President, and Bob Brewster, Safety Director, have been in contact with Alan Trbovich, E.S.E. on a regular basis. When we received an unscheduled visit from two individuals from the Tampa Air Compliance Center last week, they became annoyed that we were not in compliance with the department's request. Since I and most of the staff were involved in a boat show in Maryland, we could not accommodate the gentlemen at that time.

On the other hand, E.S.E. has assured us that they have been communicating on a regular basis with Tallahassee, and that since the permit was being handled through Tallahassee, they did not see a need to communicate with the Tampa division. E.S.E. said they had to re-calculate the information we had given them as the original method of calculation they received from the Tampa office was incorrect for our company.

We have been cooperative and supplied information to the proper departments, and have paid out numerous sums of money in the process, and are doing our part to hasten the procedure. We now understand that E.S.E. will have 6 copies sent out on Thursday of this week; two will go to DER, Tampa, two will be sent to DER, Tallahassee and two copies will be for our office.

Since we are not familiar with the permitting process, we are dependent upon your department and E.S.E. to assist us in obtaining the application. If this procedure is incorrect, we apologize. However, we presently have been assured by E.S.E. that everything was and is being taken care of.

Please call my office if I can be of further assistance.

Sincerely,

PRO-LINE BOATS, INC.

A handwritten signature in cursive script that reads "Ken Hall".

Ken Hall
President & CEO

cc: A. Trbovich, E.S.E.
W. Thomas, SW District
C. Davis, V.P.
B. Brewster, Safety Director

A handwritten signature in cursive script that reads "J. Reynolds". Below the signature, the letters "LHFB" are written in a bold, blocky font.

P.O. Box 1348 • Crystal River, Florida 32623-1348 • 904/795-4111 • FAX 904/795-4374



P.O. Box 1348, Crystal River, FL 32623-1348

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of the return address

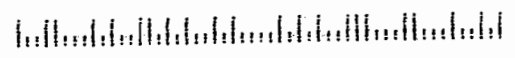
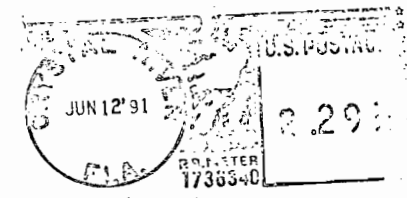
CERTIFIED

P 410 704 282

MAIL

RETURN RECEIPT REQUESTED

Mr. C. H. Fancy, P.E., Chief
Bureau of Air Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400



SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. Show to whom delivered, date, and addressee's address. 2. Restricted Delivery (Extra charge)

3. Article Addressed to: Mr. Ken Hall Pres. Pro-Line Boats, Inc. P.O. Box 1348 Crystal River, FL 32629	4. Article Number P 832 539 784
Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise	
Always obtain signature of addressee or agent and DATE DELIVERED.	
5. Signature - Addressee X	6. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent X <i>Flora Sobel</i>	
7. Date of Delivery	

PS Form 3811, Apr. 1989

*U.S.G.P.O. 1989-298-815

DOMESTIC RETURN RECEIPT

P 832 539 784

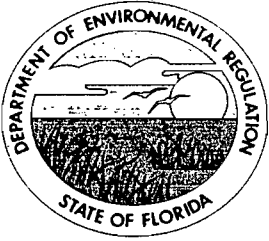


Certified Mail Receipt

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

Sent to	<i>Ken Hall</i>
Street & No.	<i>Pro-Line Boats</i>
P.O., State & ZIP Code	<i>Crystal R., FL</i>
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Address of Delivery	
TOTAL Postage & Fees	\$
Postmark or Date	<i>6-7-91 AC 09-180615</i>

PS Form 3800, June 1990



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

June 4, 1991

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Ken Hall, President/CEO
Pro-Line Boats, Inc.
P. O. Box 1348
Crystal River, Florida 32629

Dear Mr. Hall:

Re: Application for Permit No. AC 09-180615

The Department has not received the additional information required for review of the above permit application. We requested this information by certified mail on June 12, 1990.

Unless you provide this additional information within 30 days of receipt of this letter, we will deny the permit application.

If you have any questions, please contact John Reynolds at 904-488-1344.

Sincerely,

C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

CHF/JR/plm

c: W. Thomas, SW District
A. Trbovich, E.S.E.



Environmental
Science &
Engineering, Inc.

RECEIVED

OCT 15 1990

DER-BAQM

Certified Mail - Return Receipt Requested

October 11, 1990
3901050-0100-3160

Mr. C. H. Fancy, P.E.
Chief, Bureau of Air Regulation
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: Application for Permit No. AC 09-180615

Dear Mr. Fancy:

Please be advised that Pro-Line Boats, Inc., intends to submit to the Bureau of Air Regulation the information requested in your letter of June 12, 1990. Pro-Line Boats, Inc. intends to continue with this application and requests that Application for Permit No. AC 09-180615 not be removed from further consideration.

Sincerely,

Alan M. Trbovich, CCM
Senior Scientist

AMT:kjh

cc: Mr. Ken Hall, Pro-Line
Mr. Sid Kennedy, Pro-Line
Mr. W. Thomas, SW District, FDER

W-MODPERAR.2/AMT1011.LET
October 11, 1990



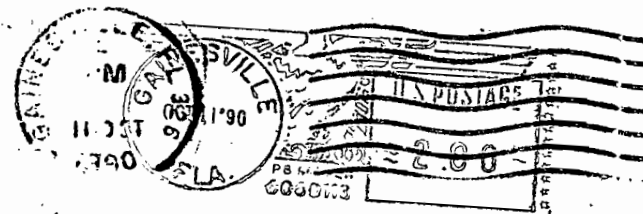
Environmental
Science &
Engineering, Inc.

Fold at line over top of envelope to the right
of the return address

CERTIFIED

P 275 650 106

MAIL



RET
REQUESTED

Mr. C.H. Fancy, P.E.
Chief, Bureau of Air Regulation
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

CERTIFIED MAIL

AMT/3901050-0100-3160

P.O. Box 1703
Gainesville, FL 32602-1703



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1. Show to whom delivered, date, and addressee's address. (Extra charge) 2. Restricted Delivery (Extra charge)

3. Article Addressed to: Ken Hall, Pres. Pro-Line Boats, Inc P.O. Box 1348 Crystal River, FL 32629	4. Article Number P256395217 Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise Always obtain signature of addressee or agent and DATE DELIVERED.
5. Signature - Addressee X	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent X R Brewster	
7. Date of Delivery 10/9/90	

PS Form 3811, Apr 1989

P 256 395 217

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

* U.S.G.P.O. 1989-234-555

Sent to	Ken Hall
Street and No.	P.O. Box 1348
P.O., State and ZIP Code	Pro-Line Boats Crystal River, FL
Postage	
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date	10-4-90 AC 09-100615

PS-Form 3800, June 1985



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

October 2, 1990

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Ken Hall, President CEO
Pro-Line Boats, Inc.
P. O. Box 1348
Crystal River, Florida 32629

Dear Mr. Hall:

Re: Application for Permit No. AC 09-180615

The Department has not received a reply to our June 12, 1990, letter concerning additional information required for review of the above permit application.

Unless you notify us in writing within 10 days of receipt of this letter, we will assume you do not intend to continue with this application. The Department will then remove this application from further consideration.

If you have any questions, please contact John Reynolds at (904) 488-1344.

Sincerely,

C. H. Fancy, P.E.

Chief

Bureau of Air Regulation

CHF/JR/plm

c: W. Thomas, SW District
T. Davis, P.E.

● **SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 3 and 4. Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. Show to whom delivered, date, and addressee's address. (Extra charge) 2. Restricted Delivery (Extra charge)

<p>3. Article Addressed to:</p> <p>Mr. Ken Hall President and CEO Pro-Line Boats, Inc. P. O. Box 1348 Crystal River, FL 32629</p>	<p>4. Article Number</p> <p>P 423 104 511</p> <p>Type of Service:</p> <p><input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise</p> <p>Always obtain signature of addressee or agent and DATE DELIVERED.</p>
<p>5. Signature - Addressee</p> <p>X <i>Ken Hall</i></p>	<p>6. Addressee's Address (ONLY if requested and fee paid)</p>
<p>6. Signature - Agent</p> <p>X</p>	
<p>7. Date of Delivery</p> <p>6-13-90</p>	

PS Form 3811, Apr. 1989

*U.S.G.P.O. 1989-238-815

DOMESTIC RETURN RECEIPT

P 423 104 511

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

*U.S.G.P.O. 1989-234-555

Sent to	
Mr. Ken Hall, Pro-Line Boats	
Street and No.	
P. O. Box 1348	
P.O. State and ZIP Code	
Crystal River, FL 32629	
Postage	S
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	S
Postmark or Date	
Mailed: 6-12-90	
Permit: AC 09-180615	

PS Form 3800, June 1985



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

June 12, 1990

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Ken Hall, President and CEO
Pro-Line Boats, Inc.
P. O. Box 1348
Crystal River, Florida 32629

Dear Mr. Hall:

Re: Permit Application AC 09-180615
Boat Fabrication - Building #6

This is to provide notice that the following additional information is required for preliminary review of the above application:

- 1) Data verifying that when the facility began operation in November 1971, capacity was such that VOC emissions were within 40 tons per year of current levels (otherwise PSD review is required along with an additional \$2,500 application fee).
- 2) Utilization rates and emission factors for other VOC compounds used at the facility including but not limited to the following:
 - a) acetone and other solvents
 - b) paints
- 3) Particulate emission rates from sawing, grinding or other operations at the facility.

If you have any questions, please call John Reynolds at (904)488-1344 or write to me at the above address.

Sincerely,

fr C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

CHF/JR/plm

c: B. Thomas SW District
T. Davis, P.E.

APPLICATION TRA
 APPL NO:180615
 APPL RECVD:05/14/90 TYPE CODE:AC S
 DER OFFICE RECVD:TPA DER OFFICE TRAN
 DER PROCESSOR:AIR
 APPL STATUS:AC DATE:05/14/90 (ACTIVE
 RELIEF: (SSAC/E
 (Y/N) N MANUAL TRACKING
 (Y/N) DNR REVIEW REQD?
 (Y/N) N PUBLIC NOTICE REQD?
 (Y/N) N GOV BODY LOCAL APPROVAL REQD
 (Y/N) Y LETTER OF INTENT REQD? (I

TO: BAQM
 FROM: STACY MDDAUGH-
 TAMPA DISTRICT
 Suncom 552-7612

ext. 364
RECEIVED
 MAY 21 1990
 DER-BAQM

PROJECT SOURCE NAME:BUILDING #6-BOAT
 STREET:1520 SOUTH SUNCO
 STATE:FL ZIP:
 APPLICATION NAME:PRO-LINE BOATS
 STREET:P.O. BOX 1348
 STATE:FL ZIP:3262
 AGENT NAME:ENVIRONMENTAL S
 STREET:P.O. BOX 1703
 STATE:FL ZIP:3260
 FEE #1 DATE PAID:05/14/90 AMOUNT

B DATE APPLICANT INFORMED OF NEED FOR
 C DATE DER SENT DNR APPLICATION/SENT
 D DATE DER REQ. COMMENTS FROM GOV. B
 E DATE #1 ADDITIONAL INFO REQ--REC F

STATE OF FLORIDA
 DEPARTMENT OF ENVIRONMENTAL REGULATION

№ 155014

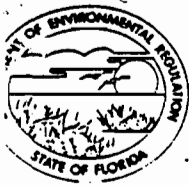
RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from Pro-Line Boat Date 5/14/90
 Address PO Box 1348 / Crystal River, FL 32629 Dollars \$ 2500
 Applicant Name & Address Same
 Source of Revenue Building #6 Boat Fabrication
 Revenue Code 001031 Application Number AC09-180615
ck # 4903 By Stacy Mddaugh

RECEIVED

MAY 21 1990

DER-BAQM



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

ACO9-180615

DER Form 17-1.202(1) D.E.R. Form Title Effective Date MAY 14 1990 DER Application No. (Filed in by DER)

SOUTHWEST DISTRICT TAMPA

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Boat Manufacturing Facility [] New [X] Existing
APPLICATION TYPE: [X] Construction [] Operation [] Modification
COMPANY NAME: Pro-Line Boats COUNTY: Citrus
Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) Building #6 - Boat Fabrication
SOURCE LOCATION: Street 1520 South Suncoast Boulevard City Homosassa
UTM: East North
Latitude 28° 50' 30"N Longitude 82° 34' 20"W
APPLICANT NAME AND TITLE: Mr. Ken Hall, President and CEO, Pro-Line Boats
APPLICANT ADDRESS: P.O. Box 1348, Crystal River, Florida 32629

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Pro-Line Boats

I certify that the statements made in this application for a Construction permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: Ken Hall
Ken Hall, President and CEO
Name and Title (Please Type)
Date: 5/11/90 Telephone No. (904)795-4111

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that

1 See Florida Administrative Code Rule 17-2.100(57) and (104)

the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.



Signed Thomas W. Davis

Thomas W. Davis
Name (Please Type)

Environmental Science and Engineering
Company Name (Please Type)

P.O. Box 1703, Gainesville, Florida 32602
Mailing Address (Please Type)

Florida Registration No. 36777 Date: 5/7/90 Telephone No. (904) 332-3318

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

See Attachment A

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction --- Completion of Construction November 1971

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

None

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

Warning Notice WN90-0004AP09SWD

E. Requested permitted equipment operating time: hrs/day 16; days/wk 7; wks/yr 52; if power plant, hrs/yr _____; if seasonal, describe: _____

F. If this is a new source or major modification, answer the following questions. (Yes or No)

See Attachment B

1. Is this source in a non-attainment area for a particular pollutant? No
 - a. If yes, has "offset" been applied? _____
 - b. If yes, has "Lowest Achievable Emission Rate" been applied? _____
 - c. If yes, list non-attainment pollutants. _____
 2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. No
 3. Does the State "Prevention of Significant Deterioration" (PSD) requirement apply to this source? If yes, see Sections VI and VII. No
 4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? No
 5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? No
- H. Do "Reasonably Available Control Technology" (RACT) requirements apply to this source? No
- a. If yes, for what pollutants? _____
 - b. If yes, in addition to the information required in this form, any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
Polylite Resin	VOC	45%	340 lb/hr*	Building No. 6, Fans
Gel Coat	VOC	34.4%	62 lb/hr*	Building No. 6, Fans
	*Assumes 16 hr/day, 7 day/week, 52 week/year operation			
	MSDS's are included as Attachment C			

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): Not Applicable
2. Product Weight (lbs/hr): Not Applicable

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Name of Contaminant	Emission ¹		Allowed Emission Rate per Rule 17-2	Allowable Emission lbs/hr ³	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
VOC	174.3	507.6	N/A	N/A	1,015,200	507.6	Building No. 6, Fans

¹See Section V, Item 2. See Attachment D for calculations

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

Attachment D

VOC Emission Calculations

(1) Basic Equation For VOC Emission Calculation

$$E = \sum_{i=1}^{n=i} U_i \times V_i \times 112 \text{ hrs/week} \times 52 \text{ weeks/year}$$

Where: U_i = Utilization rate of material i
 V_i = Percent VOC of material by weight
 N = The number of different materials

(2) Calculations

Substance i = 1, PolyLite Resin

$$\begin{aligned} E_1 &= 340 \text{ lb/hr} \times 0.45 \times 112 \text{ hrs/week} \times 52 \text{ weeks/year} \\ &= 891,072 \text{ lb/year} \\ &= 445.5 \text{ tons/year} \end{aligned}$$

Substance i = 2, Gel Coat

$$\begin{aligned} E_2 &= 62 \text{ lb/hr} \times 0.344 \times 112 \text{ hrs/week} \times 52 \text{ weeks/year} \\ &= 124,214 \text{ lb/year} \\ &= 62.1 \text{ tons/year} \end{aligned}$$

$$\begin{aligned} E &= E_1 + E_2 \\ &= 445.5 \text{ tons/year} + 62.1 \text{ tons/year} \\ &= 507.6 \text{ tons/year} \\ &= 1,015,200 \text{ lb/year} \\ &= 174.3 \text{ lb/operating hour} \end{aligned}$$

Attachment E

Building No. 6, Fan Data

Number of fans - 7

Fan diameter - 4 feet

Height of fan discharge above grade - 2 feet

Volume of air moved per fan - 21,925 ft³/min

Total volume of air moved - 153,475 ft³/min

Temperature of air moved - Ambient

Velocity of air through fan - 29 ft/sec

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
None				

E. Fuels Not Applicable

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average Not Applicable Maximum _____

G. Indicate liquid or solid wastes generated and method of disposal.

Hazardous waste is handled through Pro-Line Boats' FDER approved processing procedures.

Non-hazardous solid waste is handled in compliance with the applicable state and local regulations.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: _____ ft. Stack Diameter: _____ ft.

Gas Flow Rate: _____ ACFM _____ DSCFM Gas Exit Temperature: _____ °F.

Water Vapor Content: _____ % Velocity: _____ FPS

Stacks are not present. Fan data is provided in Attachment D.

SECTION IV: INCINERATOR INFORMATION

Not Applicable

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq. & Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ day/wk _____ wks/yr. _____

Manufacturer _____

Date Constructed _____ Model No. _____

	Volume (ft) ³	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diameter: _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: Cyclone Wet Scrubber Afterburner

Other (specify) _____

Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

9. The appropriate application fee in accordance with Rule 17-4.05. The check should be made payable to the Department of Environmental Regulation.
10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

Not Applicable

- A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?

Yes No

Contaminant	Rate or Concentration

- B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy)

Yes No

Contaminant	Rate or Concentration

- C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration

- D. Describe the existing control and treatment technology (if any).

- | | |
|---------------------------|--------------------------|
| 1. Control Device/System: | 2. Operating Principles: |
| 3. Efficiency:* | 4. Capital Costs: |

*Explain method of determining

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant	Rate or Concentration

10. Stack Parameters

- a. Height: ft. b. Diameter: ft.
- c. Flow Rate: ACFM d. Temperature: °F.
- e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

- a. Control Device: b. Operating Principles:
- c. Efficiency:¹ d. Capital Cost:
- e. Useful Life: f. Operating Cost:
- g. Energy:² h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

- a. Control Device: b. Operating Principles:
- c. Efficiency:¹ d. Capital Cost:
- e. Useful Life: f. Operating Cost:
- g. Energy:² h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

a. Control Device:

b. Operating Principles:

c. Efficiency:¹

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

a. Control Device:

b. Operating Principles:

c. Efficiency:¹

d. Capital Costs:

e. Useful Life:

f. Operating Cost:

g. Energy:²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

1. Control Device:

2. Efficiency:¹

3. Capital Cost:

4. Useful Life:

5. Operating Cost:

6. Energy:²

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

s. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant

Rate or Concentration

(8) Process Rate:¹

b. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant

Rate or Concentration

(8) Process Rate:¹

10. Reason for selection and description of systems:

¹Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

Not Applicable

A. Company Monitored Data

1. _____ no. sites _____ TSP _____ () SO₂* _____ Wind spd/dir

Period of Monitoring _____ / _____ / _____ to _____ / _____ / _____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

*Specify bubbler (B) or continuous (C).

2. Instrumentation, Field and Laboratory

- a. Was instrumentation EPA referenced or its equivalent? Yes No
- b. Was instrumentation calibrated in accordance with Department procedures?
 Yes No Unknown

B. Meteorological Data Used for Air Quality Modeling

- 1. _____ Year(s) of data from _____ / _____ / _____ to _____ / _____ / _____
month day year month day year
- 2. Surface data obtained from (location) _____
- 3. Upper air (mixing height) data obtained from (location) _____
- 4. Stability wind rose (STAR) data obtained from (location) _____

C. Computer Models Used

- 1. _____ Modified? If yes, attach description.
- 2. _____ Modified? If yes, attach description.
- 3. _____ Modified? If yes, attach description.
- 4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
TSP	_____ grams/sec
SO ²	_____ grams/sec

E. Emission Data Used in Modeling

Attach list of emission sources. Emission data required is source name, description of point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

Attachment A

Nature and Extent of Project

Pro-Line Boats has been manufacturing pleasure boats at the company's Homosassa, Florida, facility since November, 1971. A map giving the plant location is provided as Figure 1. As part of the manufacturing operation, Pro-Line builds boats and boat components utilizing fiberglass and polyester resin. Pro-Line coats the manufactured components with acrylic paint. These operations, which release volatile organic compounds (VOC), are conducted in Building No. 6 at Pro-Line's Homosassa plant. The location of Building No. 6 may be seen on the facility plot plan provided as Figure 2.

Building No. 6 consists principally of two large open rooms that contain the fabricating and coating operations. Fabricating is conducted during the day shift, while coating is performed during the second shift. Building ventilation to meet applicable industrial hygiene standards is accomplished by using seven large exhaust fans to draw air from the building (see Figure 3). Building doors are left open to allow replacement air to flow into the building. The building also has 11 large roof vents to aid building ventilation, but the effectiveness of these openings to maintain adequate indoor VOC levels without assistance from the fans is questionable.

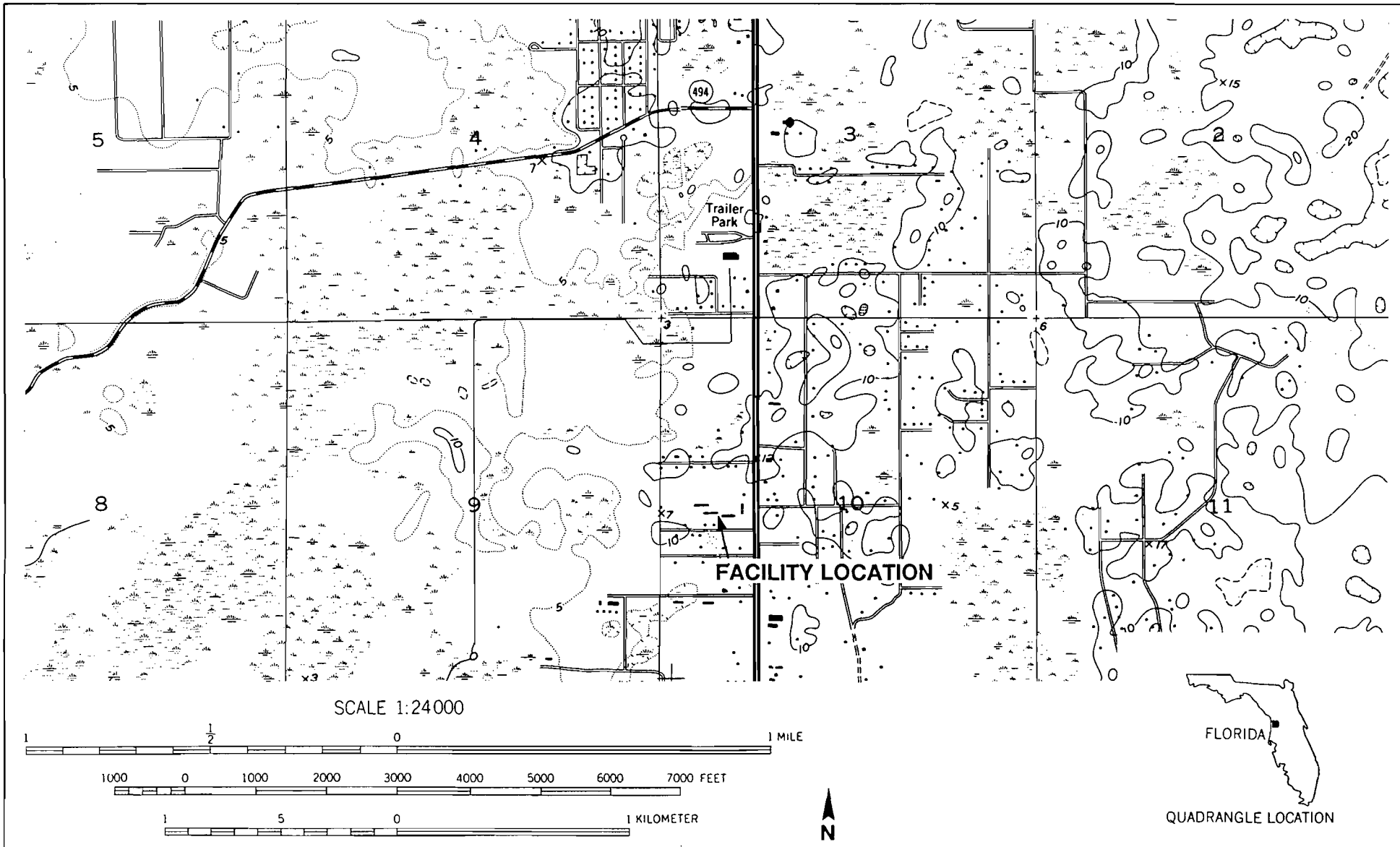
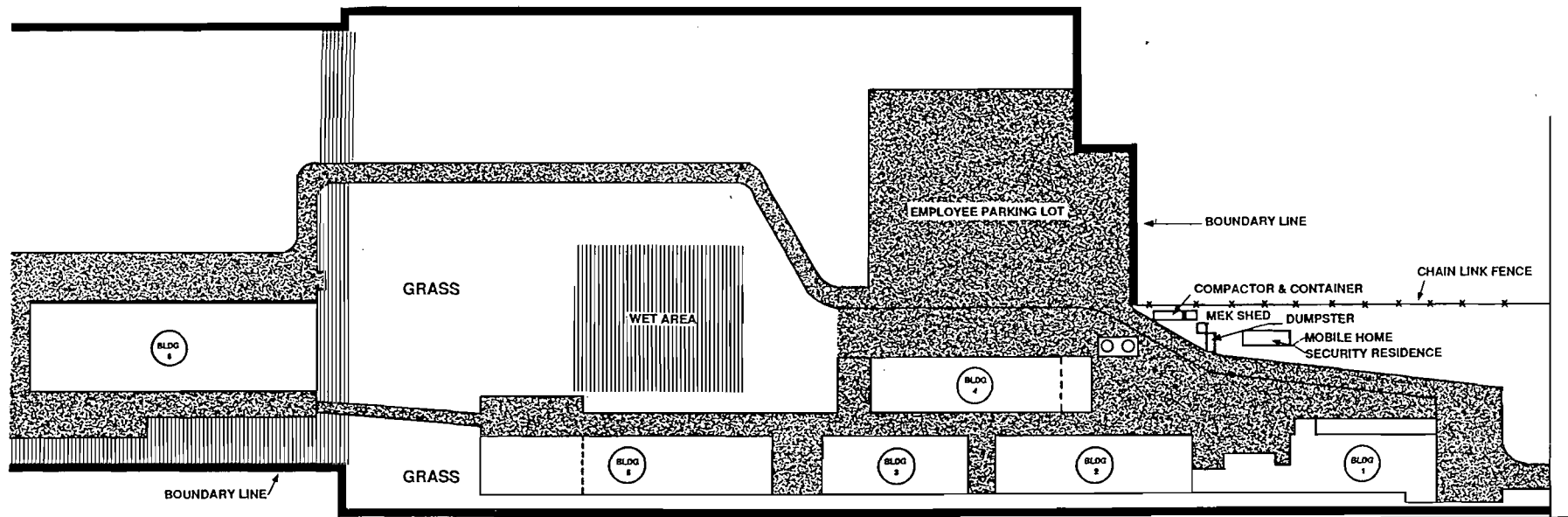


Figure 1
LOCATION OF PRO-LINE BOATS
MANUFACTURING FACILITY

SOURCE: USGS, 1988.

ENVIRONMENTAL SCIENCE
& ENGINEERING, INC.



NO SCALE



KEY

-  PAVED
-  WET AREA

Figure 2
PRO-LINE BOAT MANUFACTURING
FACILITIES PLOT PLAN

SOURCE: PRO-LINE BOATS, 1990.

ENVIRONMENTAL SCIENCE
& ENGINEERING, INC.

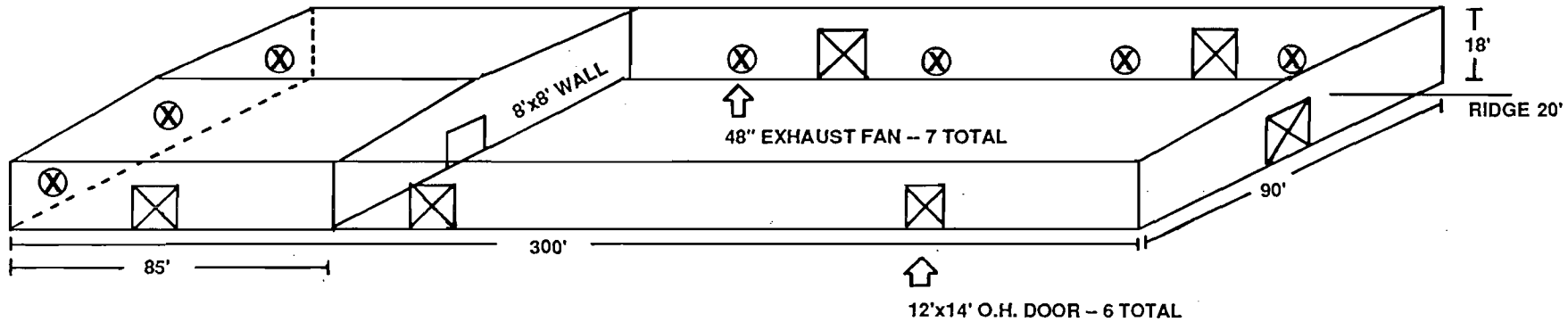


Figure 3
BUILDING NO. 6
VENTILATION ARRANGEMENT

SOURCE: PRO-LINE BOATS, 1990.

ENVIRONMENTAL SCIENCE
& ENGINEERING, INC.

Attachment B

Explanation of Section II, Item F.3

The Pro-Line Boat facility at Homosassa began operations in November, 1971, prior to January 18, 1972. Therefore, the facility is defined as an existing source under Chapter 17-2.100 (68) and Prevention of Significant Deterioration requirements do not apply.

Attachment C
Material Safety Data Sheets

MATERIAL SAFETY DATA SHEET

CO-PLAS INCORPORATED
5106 WHEELER AVE.
FORT SMITH, AR 72901

INFORMATION & EMERGENCY TELEPHONE NO.: 501-646-7865
CHEMTREC : 800-424-9300

PREPARATION DATE: 02/13/90

REPLACES DATE: NEW MSDS

PREPARER: MGG

SECTION I - PRODUCT IDENTIFICATION

WHITE GEL COAT

WG-30497

SECTION II - HAZARDOUS INGREDIENTS

CHEMICAL NAME	CAS NUMBER	WT. PERCENT IS LESS THAN	OCCUPATIONAL EXPOSURE LIMITS			VAPOR PRESSURE mmHg 20C	KNOWN OR SUSPECTED CARCINOGEN	SEC 313
			(TLV-TWA)	(TLV-STEL)	(PEL)			
METHYL METHACRYLATE MONOMER	80-62-6	5%	100 PPM	75 PPM	NO INFO	29.0	NO	NO
STYRENE	100-42-5	30%	50 PPM	100 PPM	100 PPM	4.5	YES	YES
PIGMENT WHITE 6	13463-67-7	15%	10 MG/M3	NO INFO	15 MG/M3	0.0	NO	NO
SILICON DIOXIDE	7631-86-9	5%	10 MG/M3	NO INFO	20 MPPCF	0.0	NO	NO

THIS PRODUCT CONTAINS ONE OR MORE MATERIALS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF THE EMERGENCY PLANNING AND THE COMMUNITY RIGHT-TO-KNOW ACTS OF 1986 AND OF 40 CFR 372.

N.A. - NOT APPLICABLE

SECTION III - PHYSICAL DATA

BOILING RANGE : 214-295 F
ODOR : AROMATIC
APPEARANCE : WHITE LIQUID
VOLATILE BY WEIGHT: 34.4%
VOLATILE BY VOLUME: 51.0%

VAPOR DENSITY : IS HEAVIER THAN AIR
EVAPORATION RATE: IS SLOWER THAN ETHER
SOLUBILITY : INSOLUBLE
PRODUCT DENSITY : 10.8 LBS./GAL. (U.S.)

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY CLASSIFICATION: FLASH POINT: 82 F LEL: 1.1 %
(SETAFLASH CLOSED CUP) UEL: 12.5 %

OSHA - FLAMMABLE LIQUID - CLASS IC
DOT - FLAMMABLE LIQUID OR SOLID

EXTINGUISHING MEDIA: CARBON DIOXIDE DRY CHEMICAL FOAM

=====
SECTION VI - REACTIVITY DATA
=====

STABILITY: THIS PRODUCT IS STABLE UNDER NORMAL STORAGE CONDITIONS.

HAZARDOUS POLYMERIZATION: COULD OCCUR UNDER NORMAL CONDITIONS. CARE MUST BE EXERCISED.

HAZARDOUS DECOMPOSITION PRODUCTS: ON BURNING, EMITS ACRID FUMES, CARBON DIOXIDE AND CARBON MONOXIDE.

CONDITIONS TO AVOID: HEAT AND DIRECT SUNLIGHT

INCOMPATABILITY: STRONG ACIDS, PEROXIDES AND OTHER OXIDIZING AGENTS, ORGANIC METAL SOAP.

=====
SECTION VII - SPILL OR LEAK PROCEDURES
=====

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: KEEP SPECTATORS AWAY. ELIMINATE IGNITION SOURCES. USE SELF-CONTAINED BREATHING APPARATUS (PRESSURE DEMAND, OSHA/NIOSH-APPROVED), IMPERVIOUS CLOTHING AND BOOTS. DIKE AND CONTAIN SPILL WITH SAND OR EARTH. TRANSFER LIQUID TO CONTAINERS FOR RECOVERY OR DISPOSAL AND SOLID DIKING MATERIAL TO SEPERATE CONTAINERS FOR DISPOSAL.

WASTE DISPOSAL METHOD: INCINERATE LIQUID AND CONTAMINATED DIKING MATERIAL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

=====
SECTION VIII - SAFE HANDLING AND USE INFORMATION
=====

RESPIRATORY PROTECTION: NONE NEEDED IF GOOD VENTILATION IS MAINTAINED. OTHERWISE WEAR SELF-CONTAINED BREATHING APPARATUS (PRESSURE DEMAND, OSHA/NIOSH APPROVED OR EQUIVALENT).

VENTILATION: SUFFICIENT VENTILATION, IN VOLUME AND PATTERN, SHOULD BE PROVIDED TO KEEP AIR CONTAMINATION BELOW CURRENT APPLICABLE OSHA PERMISSIBLE EXPOSURE LIMIT OR ACGIH'S TLV LIMIT.

PROTECTIVE GLOVES: RECOMMENDED FOR PROLONGED OR REPEATED CONTACT.

EYE PROTECTION: CHEMICAL GOGGLES WITH SIDE SHIELDS OR FACE SHIELD RECOMMENDED.

OTHER PROTECTIVE EQUIPMENT: USE PROTECTIVE CREAMS WHERE SKIN CONTACT IS LIKELY. REMOVE AND WASH CONTAMINATED CLOTHING BEFORE REUSE. EYEWASH FACILITY, SAFETY SHOWER, IMPERVIOUS CLOTHING

HYGIENIC PRACTICES: WASH HANDS BEFORE EATING OR SMOKING. SMOKE IN DESIGNATED AREAS ONLY.

=====

=====
SECTION IX - SPECIAL PRECAUTIONS
=====

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: STORE IN A COOL DRY AREA WITH VENTILATION SUITABLE FOR STORING MATERIALS SHOWN IN SECTION II.

OTHER PRECAUTIONS: PROVIDE RESPIRATORY PROTECTION AGAINST FUMES GENERATED DURING BURNING. PROVIDE RESPIRATORY PROTECTION AGAINST DUST CREATED BY SANDING AND/OR GRINDING OF FINISHED PARTS.

=====
SECTION X - HMIS RATINGS
=====

HEALTH: 2

FLAMMABILITY: 3

REACTIVITY: 2
=====

THE INFORMATION CONTAINED HEREIN IS, TO THE BEST OF OUR KNOWLEDGE AND BELIEF, ACCURATE. HOWEVER, SINCE THE CONDITIONS OF HANDLING AND USE ARE BEYOND OUR CONTROL, WE MAKE NO GUARANTEE OF RESULTS, AND ASSUME NO LIABILITY FOR DAMAGES INCURRED BY USE OF THIS MATERIAL. IT IS THE RESPONSIBILITY OF THE USER TO COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS.

REICHHOLD**MATERIAL SAFETY DATA SHEET**

REICHHOLD CHEMICALS, INC.
 Reactive Polymers Division
 800 Capitola Drive
 Research Triangle Park
 Durham, NC 27713

Information Telephone No. 919-544-9225

ALL CHEMICAL EMERGENCIES
 1-800-424-9300

Feb 19 1990

Safety/Environmental Manager
 PRO-LINE BOATS, INC
 1325 SOUTH SUNCOAST BLVD

HOMOSASSA, FL 32946

Dear Customer:

To ensure safe use of our products and to comply with OSHA Hazard Communication Standards, we are pleased to send you the latest Material Safety Data Sheet(s) for the following Reichhold product code(s)

33-238

This information is being forwarded to you through our computer-aided program, which automatically generates and mails a revised or updated MSDS to all purchasers of the product at the time of the first shipment.

To be sure that the enclosed MSDS(s) serves its purpose, please pass it along to all personnel who handle or use the product and to the appropriate product safety personnel.

Sincerely,

Customer Service

REICHHOLD**MATERIAL SAFETY DATA SHEET**

REICHHOLD CHEMICALS, INC.
 Reactive Polymers Division
 800 Capitola Drive
 Research Triangle Park
 Durham, NC 27713

Information Telephone No. 919-544-9225

ALL CHEMICAL EMERGENCIES
 1-800-424-9300

Issue Date: 02/05/90

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SECTION I - PRODUCT IDENTIFICATION

Product Code: 33-236-00
 Trade Name: Polylyre(R) 33-236-00
 Product Class: Unsaturated Polyester
 C.A.S. Number: Mixture

SECTION II - INGREDIENTS

Ingredients	CAS #	Weight max. %	Exposure Limits
Polyester resin	Proprietary	65.0	None assigned
Styrene Monomer	100-42-5	45.0	50.0 ppm

SECTION III - PHYSICAL DATA

Boiling Point: 295 Deg. F. Vapor Density: Heavier than Air.
 Volatile X: 35 - 45 Specific Grav: 1.10
 Evap. Rate: Slower than n-Butyl Acetate.
 Appearance: Purple opaque liquid. Pungent odor.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flammability Class: 1C Flash Point: 89 Deg. F. LEL: 1.1

-EXTINGUISHING MEDIA:

Water spray, foam, dry chemical, carbon dioxide or any Class B extinguishing agent.

-SPECIAL FIREFIGHTING PROCEDURES:

Firefighters and others exposed to vapors or products of combustion should wear self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

-UNUSUAL FIRE & EXPLOSION HAZARDS:

At elevated temperatures, such as in a fire, polymerization may take place. If polymerization takes place in a closed container, there is the possibility of violent rupture of the container. Product vapors may form an explosive mixture in air.

SECTION V - HEALTH HAZARD DATA

-PERMISSIBLE EXPOSURE LEVEL:

OSHA PEL and ACGIH TLV for styrene are both 50 ppm for an 8-hour time weighted average (TWA). The OSHA and ACGIH Short Term Exposure Level (STEL) are 100 ppm for a 15-minute period. Exposure to styrene may exceed the STEL during a 15-minute period (as resulting from brief exposures), however the average for 15 min.

REICHOLD**MATERIAL SAFETY DATA SHEET**

REICHOLD CHEMICALS, INC.
 Reactive Polymers Division
 800 Capitola Drive
 Research Triangle Park
 Durham, NC 27713

Information Telephone No. 919-544-9225

ALL CHEMICAL EMERGENCIES
1-800-424-9300

Product Code 33-236-00

Issue Date: 08/08/90

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SECTION V - HEALTH HAZARD DATA (cont.)

-PERMISSIBLE EXPOSURE LEVEL (cont.)

a single STEL period must not exceed 100 ppm.

-EFFECTS OF OVEREXPOSURE:

SKIN: Prolonged or frequent contact may cause defatting and dryness of the skin with resultant irritation and possible dermatitis. Styrene may be absorbed through the skin in toxic amounts.

EYES: May cause irritation. Liquid splashes may result in more serious injuries. May cause lachrymation (tears).

INHALATION: Vapors may cause mucous membrane irritation and upper respiratory tract discomfort. High concentrations may result in headache, nausea, insensibility and other central nervous system effects. Repeated exposure to high concentrations may cause liver and kidney damage.

INGESTION: May cause gastrointestinal disturbances, pain and discomfort.

-FIRST AID:

SKIN: Wash with soap and water.

EYES: Flush with copious amounts of water for 15 minutes. Seek immediate medical aid.

INHALATION: Remove victim from exposure. If victim is unconscious, administer artificial respiration and/or oxygen as needed. Seek medical aid.

INGESTION: DO NOT INDUCE VOMITING (aspiration hazard). Seek immediate medical aid.

-PRIMARY ROUTE(S) OF ENTRY:

Inhalation and Skin Absorption

-CARCINOGENICITY:

The International Agency for Research on Cancer (IARC) has classified styrene as possibly carcinogenic to humans (class 2B). The IARC 2B classification is not based on significant new evidence that styrene might be a carcinogen, but on a revised IARC classification scheme and new data on styrene oxide.

SECTION VI - REACTIVITY DATA

STABILITY: [] Unstable [x] Stable

HAZARDOUS POLYMERIZATION: [x] May occur [] Will not occur

-INCOMPATIBILITY:

Strong acids and oxidizing agents.

-CONDITIONS TO AVOID:

Heat and direct sunlight

MATERIAL SAFETY DATA SHEET

REICHOLD CHEMICALS, INC.
Reactive Polymers Division
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Research Triangle Park
Durham, NC 27713

Information Telephone No. 919-544-9225

ALL CHEMICAL EMERGENCIES
1-800-424-9300

Product Code: 33-236-00

Issue Date: 02/05/90

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SECTION VI - REACTIVITY DATA (cont.)

-HAZARDOUS DECOMPOSITION PRODUCTS:

Heating of this material to decomposition may cause the emission of irritating, acrid fumes.

=====

SECTION VII - SPILL OR LEAK PROCEDURES

-STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Remove all sources of ignition. Ventilate area. Absorb spill with an absorbent material such as sawdust, vermiculite or sand and place in a closed container. If large spill, dike the area to prevent this material from entering water systems or sewers.

-WASTE DISPOSAL METHOD:

This material has been tested and found to have a flash point below 140 F. If discarded, this material and containers should be treated as hazardous wastes based on the characteristic of ignitability as defined under the federal RCRA regulations (40 CFR 261). Disposal of this material and its containers, requires compliance with applicable labeling, packaging, and record keeping standards. Extreme care should be taken to ensure that it is disposed of only in a facility permitted for disposal of hazardous wastes.

For further information, contact your state or local solid waste agency or the United States Environmental Protection Agency's RCRA hotline (1-800-424-9346 or 202-382-3000).

=====

SECTION VIII - SPECIAL PROTECTION INFORMATION

-RESPIRATORY PROTECTION:

A canister-type respirator must be worn to prevent the inhalation of vapors or spray mists when the TLV or PEL is exceeded.

-VENTILATION:

General ventilation is required during normal use. Local ventilation may be required during certain operations to keep exposure levels below the TLV listed in Section II of this data sheet.

-PROTECTIVE GLOVES:

Wear appropriate impervious gloves to prevent skin contact.

-EYE PROTECTION:

Wear face shield or chemical goggles.

REICHOLD

MATERIAL SAFETY DATA SHEET

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Reactive Polymers Division
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Research Triangle Park
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Information Telephone No. 919-544-9225

ALL CHEMICAL EMERGENCIES
1-800-424-9300

Product Code: 33-236-00

Issue Date: 02/05/90

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SECTION VIII - SPECIAL PROTECTION INFORMATION (cont.)

-OTHER PROTECTIVE EQUIPMENT:

Wear protective clothing to prevent skin contact.
Eye wash station and safety shower should be available.

SECTION IX - SPECIAL PRECAUTIONS

-PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

Avoid storage above 100 Deg. F. Avoid prolonged or repeated skin contact. Avoid inhalation of heated vapors or spray mists.

-OTHER PRECAUTIONS:

Avoid improper addition of promoter and/or catalyst. A promoter and catalyst used with this product should always be mixed separately with the product and must never be mixed together.

SECTION X - SUPPLEMENTAL INFORMATION

-REGULATORY INFORMATION

SCAQMD Rule 1162 establishes specific process, control, housekeeping, and recordkeeping requirements for fabrication operations using polyester resin materials. It is the responsibility of the fabricator to ensure compliance with these requirements.

-SARA STATUS:

One or more of the chemical substances listed in section II of this MSDS is subject to the reporting requirements of section 313 of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR 372.

This material has been categorized as having the following hazard(s) as defined by SARA Title III regulations (40 CFR 370):
acute, chronic, fire, reactive

-DOT PROPER SHIPPING NAME:

Resin Solution

-UN NUMBER:

UN1966

-DOT HAZARD CLASS:

Flammable liquid