

Check Sheet

Company Name: LUHRS CORPORATION  
Permit Number: AC 55-158508  
PSD Number: \_\_\_\_\_  
Permit Engineer: \_\_\_\_\_

**Application:**

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

**Cross References:**

- 
- 
- 

**Intent:**

- Intent to Issue
- Notice of Intent to Issue
- Technical Evaluation
- BACT 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 Determination
- Other

**Post Permit Correspondence:**

- Extensions/Amendments/Modifications
- Other

**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. Charles Spires, President Luhrs Corporation P. O. Drawer 1750 St. Augustine, Florida 32805	4. Article Number P 274 010 398
	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 <u>DATE DELIVERED.</u>	
5. Signature - Address <b>X</b>	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent <b>X</b> <i>Deanna Sue Padgett</i>	
7. Date of Delivery APR 12 1989	

PS Form 3811, Mar. 1988      \* U.S.G.P.O. 1988-212-865      DOMESTIC RETURN RECEIPT

P 274 010 398

**RECEIPT FOR CERTIFIED MAIL**

NO INSURANCE COVERAGE PROVIDED  
 NOT FOR INTERNATIONAL MAIL  
 (See Reverse)

PS Form 3800, June 1985

\* U.S.G.P.O. 1985-480-794

Sent to	Mr. Charles Spires, Luhrs Corp.
Street and No.	P. O. Drawer 1750
P.O., State and ZIP Code	St. Augustine, FL 32805
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	Mailed: 4-11-89 Permit: AC 55-158568



# Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtman, Secretary

John Shearer, Assistant Secretary

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION  
NOTICE OF PERMIT

Mr. Charles Spires, President  
Luhrs Corporation  
P. O. Drawer 1750  
St. Augustine, Florida 32805

April 10, 1989

Enclosed is construction permit No. AC 55-158568 to increase the production rate of your boat manufacturing facility in St. Johns County, Florida. This permit is issued pursuant to Section 403, Florida Statutes.

Any party to this 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 permit is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION

C. H. Fancy, P.E.  
Deputy Chief  
Bureau of Air Quality Management

Copy furnished to:

S. L. Neck, P.E.  
W. Stewart, NE District

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF PERMIT and all copies were mailed before the close of business on 4-11-89.

FILING AND ACKNOWLEDGEMENT  
FILED, on this date, pursuant to  
§120.52(9), Florida Statutes, with  
the designated Department Clerk,  
receipt of which is hereby  
acknowledged.

Martha J. Wise  
Clerk

4-11-89  
Date

Final Determination

Luhrs Corporation  
St. Johns County  
St. Augustine, Florida

Boat Plant Production Increase  
Permit No. AC 55-158568

Florida Department of Environmental Regulation  
Division of Air Resources Management  
Bureau of Air Quality Management  
Central Air Permitting

April 7, 1989

## Final Determination

The construction permit application has been reviewed by the Department. Public notice of the Department's Intent to Issue was published in The St. Augustine Record on March 22, 1989. The Technical Evaluation and Preliminary Determination were available for public inspection at the DER's Northeast District office in Jacksonville and the DER's Bureau of Air Quality Management office in Tallahassee.

No comments were received during the public notice period. Therefore, the final action of the Department will be to issue the construction permit as drafted.



# 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

**PERMITTEE:**

Luhrs Corporation  
P. O. Drawer 1750  
St. Augustine, FL 32805

Permit Number: AC 55-158568  
Expiration Date: August 31, 1989  
County: St. Johns  
Latitude/Longitude: 29°52'44"N  
81°19'10"W  
Project: Boat Plant Production  
Increase

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule(s) 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 drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the modification of a facility to increase the production rate of fiberglass boats. This project is located at 1 Diesel Road, St. Augustine, Florida. The UTM coordinates of this site are Zone 17, 467.3 km E and 3,305.3 km N.

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

**Attachment:**

1. Application to Operate/Construct Air Pollution Sources, DER Form 17-202(1), received on December 21, 1988.

PERMITTEE:  
Luhrs Corporation

Permit No. AC 55-158568  
Expiration Date: August 31, 1989

**GENERAL CONDITIONS:**

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

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. Nor 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 does not constitute 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, plant or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, 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:  
Luhrs Corporation

Permit No. AC 55-158568  
Expiration Date: August 31, 1989

GENERAL CONDITIONS:

6. The permittee shall at all times 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, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring 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 notify and provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including exact 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:  
Luhrs Corporation

Permit No. AC 55-158568  
Expiration Date: August 31, 1989

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 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 arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

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 17-4.12 and 17-30.30, 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 is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- ( ) Determination of Best Available Control Technology (BACT)
- ( ) Determination of Prevention of Significant Deterioration (PSD)
- ( ) Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

PERMITTEE:  
Luhrs Corporation

Permit No. AC 55-158568  
Expiration Date: August 31, 1989

**GENERAL CONDITIONS:**

- b. The permittee shall retain 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), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be 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 date(s) analyses were performed;
  - the person responsible for performing the analyses;
  - the analytical techniques or methods used; and
  - the results of such analyses.

15. 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 submitted or 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 5,400 hours per year.
3. Visible emissions from the dust collectors 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.

PERMITTEE:  
Luhrs Corporation

Permit No. AC 55-158568  
Expiration Date: August 31, 1989

SPECIFIC CONDITIONS:

4. Hydrocarbon emissions (VOC) shall not exceed the following calculated values and total VOC emissions from the facility shall not exceed 45.4 lbs/hr, 874 lbs/day (30 day average), and 122.6 tons/year. Compliance shall be demonstrated by applying the following raw material utilization rates and emission factors:

	Utilization Rate lbs/hr	Emission Factor	Emissions lbs/hr
Acetone	26.8	0.85	22.78
Resin	476.0	0.036	17.14
MEK Peroxide	9.04	0.03	0.27
Gel Coat	93.6	0.015	1.40
Polyurethane	0.15	0.5	0.075
Epoxy Resin	1.15	0.02	0.023
Clear Coat	0.66	0.69	0.46
Vinyl Sealer	0.62	0.83	0.52
Lacquer Thinner	2.73	1.00	2.73

5. No air pollutants shall be discharged which cause or contribute to an objectionable odor.

6. The compliance test shall be conducted within 30 days after operation begins and the results reported to the Department's Northeast District office before this construction permit expires. The Department shall be notified at least 15 days in advance of the test and at least 5 days prior to the plant being placed in operation.

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

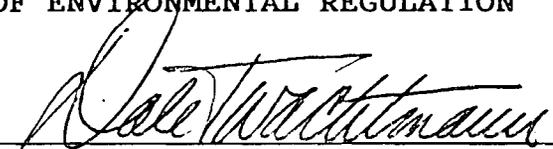
8. An application for an operation permit must be submitted to the Northeast District office at least 90 days prior to the expiration date of this construction permit or within 45 days after completion of compliance testing, whichever occurs first. To properly apply for an operation permit, the applicant 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. 17-4.220).

PERMITTEE:  
Luhrs Corporation

Permit No. AC 55-158568  
Expiration Date: August 31, 1989

Issued this 7 day  
of April, 1989

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION

  
Dale Twachtmann, Secretary



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: Dale Twachtmann

*JR* FROM: Steve Smallwood *SA Smallwood*

DATE: April 7, 1989

SUBJ: Approval of Construction Permit No. AC 55-158568  
Luhr's Corporation

Attached for your approval and signature is a permit prepared by Central Air Permitting for the above mentioned company to increase the production rate of their boat manufacturing facility in St. Augustine, St. Johns County, Florida.

No comments were received during the public notice period.

Day 90, after which this permit will be issued by default, is April 24, 1989.

I recommend your approval and signature.

SS/JR/s

attachments

RECEIVED

APR 7 1989

Office of the Secretary

File Copy



RECEIVED  
MAR 27 1989  
DER-BA

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

March 23, 1989

RE: Application for Permit  
Luhrs Corporation  
P. O. Drawer 1750  
St. Augustine, FL 32085  
DER File No. AC 55-158568

Mr. C. H. Fancy, P.E.  
Deputy Chief - Bureau of Air Quality Management  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, FL 32399-2400

Dear Mr. Fancy,

Enclosed please find proof of publication of our NOTICE OF INTENT TO ISSUE, which was published in the St. Augustine Record on Wednesday, March 22, 1989.

Should you have any questions, please contact me.

Sincerely,

*Charles Spires*  
Charles Spires, President

Enclosure

cc: B. Stewart, NE Dist. }  
F. Reynolds. } 3-29-89 RAM



RETURN RECEIPT  
REQUESTED

FLORIDA DEPT OF ENVIRONMENTAL REG  
C. H. FANCY DEP CHIEF  
BUREAU OF AIR QUALITY MANAGEMENT  
TWIN TOWERS OFFICE BLDG  
2600 BLAIR STONE RD  
TALLAHASSEE FL 32399-2400



CERTIFIED  
P 208



# The St. Augustine Record

PUBLISHED EVERY AFTERNOON MONDAY THROUGH FRIDAY, SATURDAY AND SUNDAY MORNING  
ST. AUGUSTINE AND ST. JOHNS COUNTY, FLORIDA

STATE OF FLORIDA,  
COUNTY OF ST. JOHNS

Before the undersigned authority personally appeared \_\_\_\_\_

Kristi Robertson \_\_\_\_\_ who on oath says that she is

Accounting Clerk \_\_\_\_\_ of the St. Augustine Record, a

daily newspaper published at St. Augustine in St. Johns County, Florida: that

the attached copy of advertisement, being a \_\_\_\_\_  
Notice of Intent \_\_\_\_\_

\_\_\_\_\_ in the matter of \_\_\_\_\_

RE: Department of Environmental Regulations \_\_\_\_\_

\_\_\_\_\_ in the \_\_\_\_\_ Court,

was published in said newspaper in the issues of \_\_\_\_\_  
March 22, 1989 \_\_\_\_\_

Affiant further says that the St. Augustine Record is a newspaper published at St. Augustine, in said St. Johns County, Florida, and that the said newspaper has heretofore been continuously published in said St. Johns County, Florida, each day and has been entered as second class mail matter at the post office in the City of St. Augustine, in said St. Johns County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing the advertisement for publication in the said newspaper.

Sworn to and subscribed before me Kristi Robertson

this 22nd day of March

A.D. 19 89

Troy Fain  
(SEAL) Notary Public

Notary Public, State of Florida  
My Commission Expires Aug. 4, 1989

Bonded Through Troy Fain - Injurance, Inc.

## COPY OF ADVERTISEMENT

State of Florida  
Department of  
Environmental Regulation  
Notice of Intent  
to Issue

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

Department of Environmental  
Regulation  
Northeast District  
3426 Bills Road  
Jacksonville, FL 32207

The Department of Environmental Regulation hereby gives notice of intent to issue a permit to Luhrs Corporation, P.O. Drawer 1750, St. Augustine, Florida 32805, to increase the production rate of their boat manufacturing facility located in St. Augustine, Florida. A determination of Best Available Control Technology (BACT) was not required. 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 fourteen (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:

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

L504 Mar. 22, 1989

**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. Charles Spires, President  
 Luhrs Corporation  
 P. O. Drawer 1750  
 St. Augustine, FL 32805

4. Article Number  
 P 274 007 601

Type of Service:  
 Registered  Insured  
 Certified  COD  
 Express Mail  Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Address  
 X

6. Signature - Agent  
 X *BSnaw*

7. Date of Delivery

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

PS Form 3811, Mar. 1988 \* U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT

P 274 007 601

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED  
 NOT FOR INTERNATIONAL MAIL  
 (See Reverse)

PS Form 3800, June 1985

\* U.S.G.P.O. 1985-480-794

Sent to	Mr. Charles Spires, Luhrs Corp
Street and No.	P.O. Drawer 1750
P.O., State and ZIP Code	St. Augustine, FL 32805
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	Mailed: 3-7-89 Permit: AC 55-158658



# 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

March 7, 1989

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. Charles Spires, President  
Luhrs Corporation  
P. O. Drawer 1750  
St. Augustine, FL 32805

Dear Mr. Spires:

Attached is one copy of the Technical Evaluation and Preliminary Determination and proposed permit for Luhrs Corporation to increase the production rate of their boat manufacturing facility in St. Augustine, Florida.

Please submit any written comments you wish to have considered concerning the Department's proposed action to Mr. Bill Thomas of the Bureau of Air Quality Management.

Sincerely,

C. H. Fancy, P.E.  
Deputy Chief  
Bureau of Air Quality  
Management

CHF/JR/s

Attachments

cc: S. L. Neck, P.E.  
W. Stewart, NE District

BEFORE THE STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of  
Application for Permit by:

Luhrs Corporation  
P. O. Drawer 1750  
St. Augustine, FL 32805

DER File No. AC 55-158568

---

INTENT TO ISSUE

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

The applicant, Luhrs Corporation, applied on December 21, 1988, to the Department of Environmental Regulation for a permit to increase the production rate of their boat manufacturing facility in St. Augustine, Florida.

The Department has permitting jurisdiction under Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-2 and 17-4. The project is not exempt from permitting procedures. The Department has determined that an air construction permit is required for the proposed work.

Pursuant to Section 403.815, F.S. and DER 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, at the address specified 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 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;

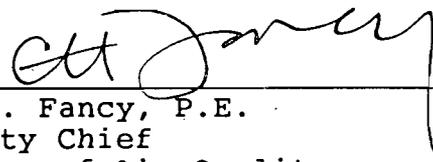
- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) 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 notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the applicant 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 in 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.

Executed in Tallahassee, Florida

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION



---

C. H. Fancy, P.E.  
Deputy Chief  
Bureau of Air Quality  
Management

Copies furnished to:

S. L. Neck, P.E.  
W. Stewart, NE District

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF PERMIT and all copies were mailed before the close of business on 3-8-89.

FILING AND ACKNOWLEDGEMENT  
FILED, on this date, pursuant to  
§120.52(9), Florida Statutes, with  
the designated Department Clerk,  
receipt of which is hereby  
acknowledged.

Martha J. Wise  
Clerk

3-7-89  
Date

State of Florida  
Department of Environmental Regulation  
Notice of Intent to Issue

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit to Luhrs Corporation, P. O. Drawer 1750, St. Augustine, Florida 32805, to increase the production rate of their boat manufacturing facility located in St. Augustine, Florida. A determination of Best Available Control Technology (BACT) was not required. 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 fourteen (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 Quality Management  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Dept. of Environmental Regulation  
Northeast District  
3426 Bills Road  
Jacksonville, FL 32207

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

Technical Evaluation  
and  
Preliminary Determination

Luhrs Corporation  
St. Johns County  
St. Augustine, Florida

Boat Plant Production Increase  
Permit No. AC 55-158568

Florida Department of Environmental Regulation  
Bureau of Air Quality Management  
Central Air Permitting

March 3, 1989

## I. Application Information

### A. Applicant

Luhrs Corporation  
P. O. Drawer 1750  
St. Augustine, Florida 32805

### B. Request

The Department received an application on December 21, 1989, for a permit to increase the production rate of a boat plant at the applicant's site in St. Augustine, Florida. The application was deemed complete on January 19, 1989.

### C. Location/Classification

The applicant's boat manufacturing facility (SIC Code 3732) is located at No. 1 Diesel Road in St. Augustine. Latitude and longitude are 29° 52' 44" N and 81° 19' 19" W, respectively. The UTM coordinates of the site are: Zone 17, 467.3 km E and 3,305.3 km N.

## II. Project Description/Emissions

Fiberglass boats will be manufactured 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.

The applicant proposes to increase the production rate by approximately 93 percent as well as adding some additional raw materials for finishing procedures used in boat interiors.

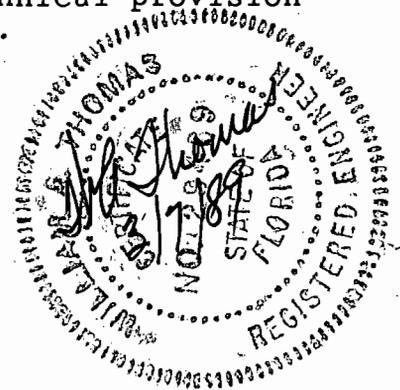
Fiberglass boat manufacturing generates particulate emissions (sawdust from wood working and fiberglass from grinding) as well as hydrocarbon (VOC) emissions from the molding operation. The applicant will use a high efficiency dust collection system to collect and recover essentially all of the particulate emissions. The VOC emissions are impractical to collect and treat and will be vented from the lamination building by exhaust fans. The increase in VOC emissions from this modification will be 59.23 tons per year resulting in total VOC emissions of 122.6 tons per year.

### III. Rule Applicability

The construction permit application is subject to review under Chapter 403, Florida Statutes, and Florida Administrative Code (F.A.C.) Rules 17-2 and 17-4. The facility is located in an area classified as attainment for regulated air pollutants. Since the facility is currently classified as minor, it is not subject to the new source review requirements of Rule 17-2.500 because of this modification. However, any future increases in VOC emissions will be classified as a modification of a major facility since the total VOC emissions after this modification will exceed 100 tons per year. 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.

### IV. Conclusion

Based on the information provided by the applicant, the Department has reasonable assurance that the proposed increase in production rate of their boat manufacturing facility as described in this evaluation, and subject to the conditions proposed herein, will not cause or contribute to a violation of any air quality standard, PSD increment, or any other technical provision of Chapter 17-2 of the Florida Administrative Code.





# Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtman, Secretary

John Shearer, Assistant Secretary

## PERMITTEE:

Luhrs Corporation  
P. O. Drawer 1750  
St. Augustine, FL 32805

Permit Number: AC 55-158568  
Expiration Date: 08/31/89  
County: St. Johns  
Latitude/Longitude: 29°52'44"N  
81°19'10"W  
Project: Boat Plant Production  
Increase

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule(s) 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 drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the modification of a facility to increase the production rate of fiberglass boats. This project is located at 1 Diesel Road, St. Augustine, Florida. The UTM coordinates of this site are Zone 17, 467.3 km E and 3,305.3 km N.

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

## Attachment:

1. Application to Operate/Construct Air Pollution Sources, DER Form 17-202(1), received on December 21, 1988.

PERMITTEE:  
Luhrs Corporation

Permit No. AC 55-158568  
Expiration Date: 8/31/89

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

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. Nor 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 does not constitute 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, plant or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, 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:  
Luhrs Corporation

Permit No. AC 55-158568  
Expiration Date: 8/31/89

GENERAL CONDITIONS:

6. The permittee shall at all times 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, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring 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 notify and provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including exact 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:  
Luhrs Corporation

Permit No. AC 55-158568  
Expiration Date: 8/31/89

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 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 arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

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 17-4.12 and 17-30.30, 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 is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- ( ) Determination of Best Available Control Technology (BACT)
- ( ) Determination of Prevention of Significant Deterioration (PSD)
- ( ) Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

**PERMITTEE:**  
Luhrs Corporation

Permit No. AC 55-158568  
Expiration Date: 8/31/89

**GENERAL CONDITIONS:**

- b. The permittee shall retain 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), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be 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 date(s) analyses were performed;
  - the person responsible for performing the analyses;
  - the analytical techniques or methods used; and
  - the results of such analyses.

15. 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 submitted or 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 5,400 hours per year.
3. Visible emissions from the dust collectors 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.

PERMITTEE:  
Luhrs Corporation

Permit No. AC 55-158568  
Expiration Date: 8/31/89

SPECIFIC CONDITIONS:

4. Hydrocarbon emissions (VOC) shall not exceed the following calculated values and total VOC emissions from the facility shall not exceed 45.4 lbs/hr, 874 lbs/day (30 day average), and 122.6 tons/year. Compliance shall be demonstrated by applying the following raw material utilization rates and emission factors:

	Utilization Rate lbs/hr	Emission Factor	Emissions lbs/hr
Acetone	26.8	0.85	22.78
Resin	476.0	0.036	17.14
MEK Peroxide	9.04	0.03	0.27
Gel Coat	93.6	0.015	1.40
Polyurethane	0.15	0.5	0.075
Epoxy Resin	1.15	0.02	0.023
Clear Coat	0.66	0.69	0.46
Vinyl Sealer	0.62	0.83	0.52
Lacquer Thinner	2.73	1.00	2.73

5. No air pollutants shall be discharged which cause or contribute to an objectionable odor.

6. The compliance test shall be conducted within 30 days after operation begins and the results reported to the Department's Northeast District office before this construction permit expires. The Department shall be notified at least 15 days in advance of the test and at least 5 days prior to the plant being placed in operation.

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

8. An application for an operation permit must be submitted to the Northeast District office at least 90 days prior to the expiration date of this construction permit or within 45 days after completion of compliance testing, whichever occurs first. 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. 17-4.220).

PERMITTEE:  
Luhrs Corporation

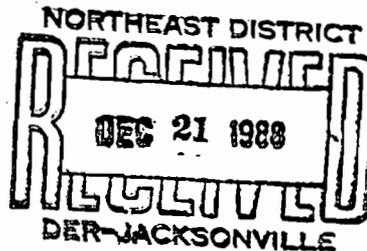
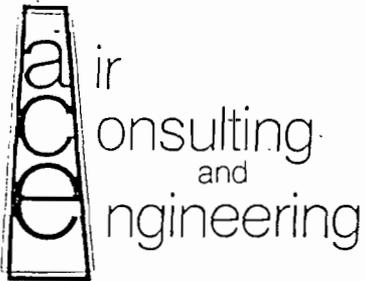
Permit No. AC 55-158568  
Expiration Date: 8/31/89

Issued this \_\_\_\_\_ day  
of \_\_\_\_\_, 1989

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION

---

Dale Twachtmann, Secretary



December 7, 1988

Mr. W.P. Stewart, P.E.  
Florida Department of Environmental Regulation  
Northeast District  
3426 Bills Road  
Jacksonville, Florida 32207

Re: Luhrs Corporation  
Fiberglass Boat Facility  
Request for Permit Modification  
A005-153124

Dear Mr. Stewart: <sup>3\*</sup>

Enclosed are ~~four~~ (4) copies of the above referenced application requesting a modification of an existing permit. Also enclosed is the application fee of \$1000.00.

Please call Bruno Ferraro at (407) 298-2282 or me at (904) 335-1889 should you have any questions.

Respectfully,

A handwritten signature in cursive script that reads "Stephen L. Neck".

Stephen L. Neck, P.E.  
Air Consulting & Engineering

cc: Charles Spires  
Bruno Ferraro

SLN:BAF:syp  
03-044.01

\* 12/22 kept one copy.

DEPARTMENT OF ENVIRONMENTAL REGULATION

**ROUTING AND TRANSMITTAL SLIP**

ACTION NO
ACTION DUE DATE

RECEIVED  
 DEC 23 1988  
 DER - BAQM

1. TO: (NAME, OFFICE, LOCATION)	Initial
Bill Thomas, DARM, BAQM, CAPS	Date
	Initial
	Date
3.	Initial
	Date
4.	Initial
	Date

REMARKS:  
 Note this application is a mod. to increase VOC from 63.37 TPY to 122.6 TPY. The fee is for an ACP. Also in a O<sub>3</sub> SIP call county.

INFORMATION	
<input type="checkbox"/>	Review & Return
<input type="checkbox"/>	Review & File
<input type="checkbox"/>	Initial & Forward
DISPOSITION	
<input type="checkbox"/>	Review & Respond
<input type="checkbox"/>	Prepare Response
<input type="checkbox"/>	For My Signature
<input type="checkbox"/>	For Your Signature
<input type="checkbox"/>	Let's Discuss
<input type="checkbox"/>	Set Up Meeting
<input type="checkbox"/>	Investigate & Report
<input type="checkbox"/>	Initial & Forward
<input type="checkbox"/>	Distribute
<input type="checkbox"/>	Concurrence
<input type="checkbox"/>	For Processing
<input type="checkbox"/>	Initial & Return

FROM:  
 Johnny Cole

DATE  
 12-22-88  
 PHONE

BEST AVAILABLE COPY

LUHRS CORPORATION

PHONE 904-829-0500

P.O. DRAWER 1750

ST. AUGUSTINE FL 32085

100025

63-2

FIRST UNION

First Union National Bank of Florida  
St. Augustine, Florida 32084

CHECK NO.

DATE

AMOUNT

X\_FL604

12/09/88

\*\*\$1000.00\*\*

PAY

One Thousand Dollars and 00/00

TO THE ORDER OF

Florida Dept. of Environmental Regulation

04-87

*Charles Spirez*

[Redacted Signature]

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

Nº 128640

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from Luhra Corporation Date Dec 21, 1988

Address P.O. Drawer 1750 St. Aug, FL 32085 Dollars \$ 1000.00

Applicant Name & Address Charles Spirez

Source of Revenue Luhra Corp - Fiberglass boat fee.

Revenue Code 001032 ct 100025 Application Number A055-158568

By Lynn Donaldson

AC 55-158568

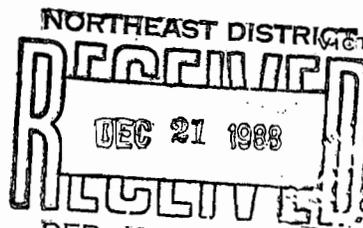
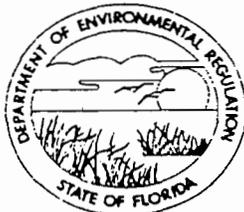
#1000 pbl  
12-21-88

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT

3426 BILLS ROAD  
JACKSONVILLE, FLORIDA 32207



BOB GRAHAM  
GOVERNOR

VICTORIA J. TSCHINKEL  
SECRETARY

G. DOUG DUTTON  
DISTRICT MANAGER

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCE<sup>1</sup>

SOURCE TYPE: Fiberglass Boat Facility [ ] New<sup>1</sup> [XX] Existing<sup>1</sup>

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

COMPANY NAME: Luhrs Corporation COUNTY: St. Johns

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) Misc. Boat Construction

SOURCE LOCATION: Street 1 Diesel Road City St. Augustine

UTM: East 17-467.25 km North 3305.25 km

Latitude 29° 52' 44.5"N Longitude 81° 19' 18.7"W

APPLICANT NAME AND TITLE: Charles Spires, President

APPLICANT ADDRESS: P.O. Drawer 1750, St. Augustine, Florida 32805

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative\* of Luhrs Corporation

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: Charles Spires

Charles Spires, President  
Name and Title (Please Type)

Date: \_\_\_\_\_ Telephone No. 904-829-0500

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 ~~examined~~/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

<sup>1</sup> 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 Stephen L. Neck

Stephen L. Neck, P.E.  
Name (Please Type)

Air Consulting and Engineering  
Company Name (Please Type)

2106 N.W. 67th Place, Suite 4, Gainesville, FL 32606  
Mailing Address (Please Type)

Florida Registration No. 20020 Date: 12-18-88 Telephone No. 904-335-1889

**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.

To modify an existing operation permit to allow for a proposed increase in production rate at this boat manufacturing facility. This modification involves an increase in material usage and operating schedule and will result in full compliance with 17-2 FAC.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction N/A Completion of Construction N/A

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.)

N/A

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

A055-153124 issued November 28, 1988, Expires December 15, 1993

E. Requested permitted equipment operating time: hrs/day 18 ; days/wk 6 ; wks/yr 50 ;  
if power plant, hrs/yr \_\_\_\_\_ ; if seasonal, describe: 5400 hours/yr

F. If this is a new source or major modification, answer the following questions.  
(Yes or No)

1. Is this source in a non-attainment area for a particular pollutant? No
    - a. If yes, has "offset" been applied? N/A
    - b. If yes, has "Lowest Achievable Emission Rate" been applied? N/A
    - c. If yes, list non-attainment pollutants. \_\_\_\_\_ N/A
  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? \_\_\_\_\_ N/A
  - 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:**

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
Acetone	VOC	100	26.8	
Resin	VOC	3.6	476	
MEK Peroxide	VOC	3.0	9.04	
Gel Coat	VOC	1.5	93.6	
Polyurethane	VOC/Partic.	50/25	0.15	

**B. Process Rate, if applicable: (See Section V, Item 1)**

- Total Process Input Rate (lbs/hr): N/A
- Product Weight (lbs/hr): 65 Boats per month

**C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)**

Name of Contaminant	Emission <sup>1</sup>		Allowed Emission Rate per Rule 17-2	Allowable <sup>3</sup> Emission lbs/hr	Potential <sup>4</sup> Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
VOC	45.40	122.6	620 (1)	45.40	45.40	122.6	
Particulates	0.022	0.057	610(2)	5% Opacity	2	3	

<sup>1</sup>See Section V, Item 2.

<sup>2</sup>Reference 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)

<sup>3</sup>Calculated from operating rate and applicable standard.

<sup>4</sup>Emission, if source operated without control (See Section V, Item 3).



D. Control Devices: (See Section V, Item 4) N/A - No Change

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 N/A

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 N/A Maximum N/A

G. Indicate liquid or solid wastes generated and method of disposal.

Solid and liquid hazardous waste is disposed of by a licensed hazardous hauler at an approved disposal site. Permittee has the appropriate FLD identification number and documentation.

Non-hazardous solid waste is disposed of at a local landfill.

N/A - No Change

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

SECTION IV: INCINERATOR INFORMATION

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) <sup>3</sup>	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 N/A**

- 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:

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:<sup>1</sup>

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:<sup>2</sup>

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:<sup>1</sup>

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:<sup>2</sup>

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

<sup>1</sup>Explain method of determining efficiency.

<sup>2</sup>Energy 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:<sup>1</sup>
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:<sup>2</sup>
- 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:<sup>1</sup>
- d. Capital Costs:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:<sup>2</sup>
- 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:<sup>1</sup>
- 3. Capital Cost:
- 4. Useful Life:
- 5. Operating Cost:
- 6. Energy:<sup>2</sup>
- 7. Maintenance Cost:
- 8. Manufacturer:
- 9. Other locations where employed on similar processes:
- a. (1) Company:
- (2) Mailing Address:
- (3) City:
- (4) State:

<sup>1</sup>Explain method of determining efficiency.

<sup>2</sup>Energy to be reported in units of electrical power - KWH design rate.

- (5) Environmental Manager:
- (6) Telephone No.:
- (7) Emissions:<sup>1</sup>

Contaminant	Rate or Concentration

(8) Process Rate:<sup>1</sup>

- b. (1) Company:
- (2) Mailing Address:
- (3) City: (4) State:
- (5) Environmental Manager:
- (6) Telephone No.:
- (7) Emissions:<sup>1</sup>

Contaminant	Rate or Concentration

(8) Process Rate:<sup>1</sup>

10. Reason for selection and description of systems:

<sup>1</sup>Applicant 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** N/A

**A. Company Monitored Data**

1. \_\_\_\_\_ no. sites \_\_\_\_\_ TSP \_\_\_\_\_ ( ) SO<sub>2</sub>\* \_\_\_\_\_ 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 <sub>2</sub>	_____ 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.

## SOURCE DESCRIPTION

Luhrs Corporation is requesting a) an increase in material usage and operating hours to allow for increased production demands projected for the next five years, and b) the addition of some raw materials to account for finishing procedures used in boat interiors. Boat production is projected at 65 boats per month (various sizes).

You will note that material usage is not directly proportional to the number of boats produced. This is a result of several factors:

- Size of boats produced
- Improved construction techniques
- Raw material conservation
- Less Waste
- Tighter controls on acetone usage.

The material usage rates have been calculated from historic data on past performance and from detailed engineering estimates.

There are no proposed changes to the wood shop production rates as related to the baghouse control equipment.

This modification represents a minor modification (by requesting less than 100 additional Tons of emissions) to a minor facility (currently less than 100 Tons per year) and is regulated by 17-2.620 (1) for the VOC sources.

SUPPLEMENTAL REQUIREMENTS

Supplement 1

Based on recently submitted data used to prepare the referenced operation permit (A055-153124), the following process input rates were derived to allow for a proposed increase in production. Product weight does not apply to this source, however, a total production of 65 various sized boats per month is requested. Usage rates are as follows:

Acetone = 22,000 gallons/yr

$$(22,000 \text{ gal/yr})(6.57 \text{ lbs/gal})(1 \text{ yr}/5400 \text{ hrs}) = 26.8 \text{ lbs/hr}$$

Resin = 280,000 gallons/yr

$$(280,000 \text{ gal/yr})(9.17 \text{ lbs/gal})(1 \text{ yr}/5400 \text{ hrs}) = 476 \text{ lbs/hr}$$

MEK Peroxide = 5400 gallons/yr

$$(5400 \text{ gal/yr})(9.04 \text{ lbs/gal})(1 \text{ yr}/5400 \text{ hrs}) = 9.04 \text{ lbs/hr}$$

Gel Coat = 49,000 gallons/yr

$$(49,000 \text{ gal/yr})(10.32 \text{ lbs/gal})(1 \text{ yr}/5400 \text{ hrs}) = 93.6 \text{ lbs/hr}$$

Polyurethane Paints = 75 gallons/yr

$$(75 \text{ gal/yr})(10.61 \text{ lbs/gal})(1 \text{ yr}/5400 \text{ hrs}) = 0.15 \text{ lbs/hr}$$

Epoxy Resin = 650 gallons/yr (Parts A & B)

$(650 \text{ gal/yr})(9.59 \text{ lbs/gal})(1 \text{ yr}/5400 \text{ hrs}) = 1.15 \text{ lbs/hr}$

Clear Coat (Chem Veer)= 450 gallons/yr

$(450 \text{ gal/yr})(7.93 \text{ lbs/gal})(1 \text{ yr}/5400 \text{ hrs}) = 0.66 \text{ lbs/hr}$

Vinyl Sealer = 450 gallons/yr

$(450 \text{ gal/yr})(7.49 \text{ lbs/gal})(1 \text{ yr}/5400 \text{ hrs}) = 0.62 \text{ lbs/hr}$

Lacquer Thinner = 1900 gallons/yr

$(1900 \text{ gal/yr})(7.76 \text{ lbs/gal})(1 \text{ yr}/5400 \text{ hrs}) = 2.73 \text{ lbs/hr}$

Please note: Monthly material usages are more representative than hourly usages. Hourly usages are calculated only for the purpose of completing the application.

### Supplement 2 & 3

VOC Emissions are based on the same emission factors used in the original construction permit application (AC55-144888). Emission factors for the additional raw materials are based on the MSDS (attached).

Acetone - based on 85 % evaporation

$$(26.8 \text{ lbs/hr})(0.85) = 22.78 \text{ lbs/hr VOC}$$

$$(22.78 \text{ lbs/hr})(5400 \text{ hrs/yr})(1 \text{ Ton}/2000 \text{ lbs}) = 61.5 \text{ Tons/yr}$$

Resin - based on 3.6% by weight volatilization

$$(476 \text{ lbs/hr})(0.036) = 17.136 \text{ lbs/hr VOC}$$

$$(17.136 \text{ lbs/hr})(5400 \text{ hrs/yr})(1 \text{ Ton}/2000 \text{ lbs}) = 46.3 \text{ Tons/yr}$$

MEK Peroxide - based on 3% by weight volatilization

$$(9.04 \text{ lbs/hr})(0.03) = 0.27 \text{ lbs/hr VOC}$$

$$(0.27 \text{ lbs/hr})(5400 \text{ hrs/yr})(1 \text{ yr}/2000 \text{ lbs}) = 0.73 \text{ Tons/yr}$$

Gel Coat - based on 1.5% volatilization

$$(93.6 \text{ lbs/hr})(0.015) = 1.404 \text{ lbs/hr VOC}$$

$$(1.404 \text{ lbs/hr})(5400 \text{ hrs/yr})(1 \text{ yr}/2000 \text{ lbs}) = 3.79 \text{ Tons/yr}$$

Polyurethane Paint - based on 50% by weight volatilization

$$(0.15 \text{ lbs/hr})(0.5) = 0.075 \text{ lbs/hr VOC}$$

$$(0.075 \text{ lbs/hr})(5400 \text{ hrs/yr})(1 \text{ Ton}/2000 \text{ lbs}) = 0.20 \text{ Tons/yr}$$

Polyurethane Paint - based on 25% overspray

$$(0.15 \text{ lbs/hr})(0.5)(0.25) = 0.02 \text{ lbs/hr particulates}$$

$$(0.02 \text{ lbs/hr})(5400 \text{ hrs/yr})(1 \text{ Ton}/2000 \text{ lbs}) = 0.054 \text{ Tons/yr}$$

Epoxy Resin (Parts A & B) - based on 2% volatilization

$$(1.15 \text{ lbs/hr})(0.02) = 0.023 \text{ lbs/hr VOC}$$

$$(0.023 \text{ lbs/hr})(5400 \text{ hrs/yr})(1 \text{ Ton}/2000 \text{ lbs}) = 0.062 \text{ Tons/yr}$$

Clear Coat - based on 69% VOC (see MSDS)

$$(0.66 \text{ lbs/hr})(0.69) = 0.46 \text{ lbs VOC/hr}$$

$$(0.46 \text{ lbs/hr})(5400 \text{ hrs/yr})(1 \text{ Ton}/2000 \text{ lbs}) = 1.24 \text{ Tons/yr}$$

Vinyl Sealer - based on 83% VOC (see MSDS)

$$(0.62 \text{ lbs/hr})(0.83) = 0.52 \text{ lbs VOC/hr}$$

$$(0.52 \text{ lbs/hr})(5400 \text{ hrs/yr})(1 \text{ Ton}/2000 \text{ lbs}) = 1.40 \text{ Tons/yr}$$

Lacquer Thinner - 100% VOC

$$(2.73 \text{ lbs/hr})(5400 \text{ hrs/yr})(1 \text{ Ton}/2000 \text{ lbs}) = 7.37 \text{ Tons/yr}$$

EMISSION SUMMARY

<u>Raw Material</u>	<u>VOC Emissions</u>		<u>Allowable lbs/hr</u>
	<u>lbs/hr</u>	<u>Tons/yr</u>	
Acetone	22.78	61.5	22.78
Resin	17.14	46.3	17.14
MEK Peroxide	0.27	0.73	0.27
Gel Coat	1.40	3.79	1.40
Polyurethane	0.075	0.20	0.075
Epoxy Resin	0.023	0.062	0.023
Clear Coat	0.46	1.24	0.46
Vinyl Sealer	0.52	1.40	0.52
Lacquer Thinner	<u>2.73</u>	<u>7.37</u>	<u>2.73</u>
Total	45.40	122.6	45.40

<u>Source</u>	<u>Particulate Emissions</u>		<u>Allowable lbs/hr</u>
	<u>lbs/hr</u>	<u>Tons/yr</u>	
*Wood Shop	0.002	0.003	5% Opacity
*Grinding booth	0.000008	0.000012	5% Opacity
Polurethane	<u>0.02</u>	<u>0.054</u>	<u>5% Opacity</u>
Total	0.022	0.057	5% Opacity

\*No change from original application - please refer for details.  
Compliance will be demonstrated as outlined in permit A055-  
153124, specific conditions 3 and 6.

Material Safety data sheets are attached for your reference. Please note that the epoxy resin emissions are based on the following facts:

1. The reaction is similar to the styrene resin reaction in that polymerization rather than drying is the method of curing.
2. The epoxy resin is 100% solids.
3. The catalyst is used up in the polymerization reaction.
4. Maximum shrinkage per the manufacturer is 2% by weight.

Supplement 4 & 5 - N/A

Supplement 6-8 - No change; please refer to the original application for these supplements.

Supplement 9 - Attached is a check for \$1000.00 for the application fee. This is based on an increase in VOC emissions as follows:

$$122.6 \text{ TPY} - 63.37 \text{ TPY} = 59.23 \text{ TPY VOC}$$

The fee is therefore based on 59.23 TPY since the remaining emissions have been paid for in the previous applications



Shell

# MATERIAL SAFETY DATA SHEET

MSDS NUMBER

5,380-4

PAGE 1

87368 (4-85)

24 HOUR EMERGENCY ASSISTANCE		GENERAL MSDS ASSISTANCE		
SHELL: 713-473-9461 CHEMTREC: 800-424-9300		SHELL: 713-241-4819		
ACUTE HEALTH 3	FIRE 4	REACTIVITY 0	HAZARD RATING LEAST - 0    SLIGHT - 1    MODERATE - 2 HIGH - 3    EXTREME - 4	
*For acute and chronic health effects refer to the discussion in Section III				

SECTION I	NAME
PRODUCT	ACETONE
CHEMICAL NAME	2-PROPANONE
CHEMICAL FAMILY	KETONE
SHELL CODE	31125

SECTION II-A		PRODUCT/INGREDIENT	
NO.	COMPOSITION	CAS NUMBER	PERCENT
P	ACETONE	67-64-1	100

SECTION II-B		ACUTE TOXICITY DATA	
NO.	ACUTE ORAL LD50	ACUTE DERMAL LD50	ACUTE INHALATION LC50
P	9.75 G/KG (RAT)	20.0 G/KG (RABBIT)	16,000 PPM/4H (RAT)

SECTION III HEALTH INFORMATION

THE HEALTH EFFECTS NOTED BELOW ARE CONSISTENT WITH REQUIREMENTS UNDER THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200).

**EYE CONTACT**  
LIQUID IS SEVERELY IRRITATING TO THE EYES. HIGH VAPOR CONCENTRATIONS ARE ALSO IRRITATING.

**SKIN CONTACT**  
LIQUID IS MILDLY IRRITATING TO THE SKIN. PROLONGED OR REPEATED LIQUID CONTACT CAN RESULT IN DEFATTING AND DRYING OF THE SKIN WHICH MAY RESULT IN SKIN IRRITATION AND DERMATITIS.

**INHALATION**  
HIGH VAPOR CONCENTRATIONS MAY PRODUCE CNS DEPRESSION.

**INGESTION**  
MAY PRODUCE CNS DEPRESSION.

**SIGNS AND SYMPTOMS**  
IRRITATION AS NOTED ABOVE. EARLY TO MODERATE CNS (CENTRAL NERVOUS SYSTEM) DEPRESSION MAY BE EVIDENCED BY GIDDINESS, HEADACHE, DIZZINESS AND NAUSEA; IN EXTREME CASES, UNCONSCIOUSNESS AND DEATH MAY OCCUR.

**AGGRAVATED MEDICAL CONDITIONS**  
PREEXISTING EYE AND SKIN DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO ACETONE.

-----  
SECTION IV OCCUPATIONAL EXPOSURE LIMITS  
-----

NO.	PEL/TWA	OSHA	PEL/CEILING	ACGIH	TLV/STEL	OTHER
P	1000 PPM				750 PPM	1000 PPM

-----  
SECTION V EMERGENCY AND FIRST AID PROCEDURES  
-----

## EYE CONTACT

IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION.

## SKIN CONTACT

FLUSH SKIN WITH WATER. IF IRRITATION OCCURS, GET MEDICAL ATTENTION.

## INHALATION

REMOVE VICTIM TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GET MEDICAL ATTENTION.

## INGESTION

DO NOT GIVE LIQUIDS IF VICTIM IS UNCONSCIOUS OR VERY DROWSY. OTHERWISE, GIVE NO MORE THAN 2 GLASSES OF WATER AND INDUCE VOMITING BY GIVING 30CC (2 TABLESPOONS) SYRUP OF IPECAC. IF IPECAC IS UNAVAILABLE, GIVE 2 GLASSES OF WATER AND INDUCE VOMITING BY TOUCHING FINGER TO BACK OF VICTIM'S THROAT. KEEP VICTIM'S HEAD BELOW HIPS WHILE VOMITING. GET MEDICAL ATTENTION.

## NOTE TO PHYSICIAN

IF VICTIM IS A CHILD, GIVE NO MORE THAN 1 GLASS OF WATER AND 15CC (1 TABLESPOON) SYRUP OF IPECAC. IF SYMPTOMS SUCH AS LOSS OF GAG REFLEX, CONVULSIONS OR UNCONSCIOUSNESS OCCUR BEFORE EMESIS, GASTRIC LAVAGE SHOULD BE CONSIDERED FOLLOWING INTUBATION WITH A CUFFED ENDOTRACHEAL TUBE.

-----  
SECTION VI SUPPLEMENTAL HEALTH INFORMATION  
-----

NONE IDENTIFIED.

-----  
SECTION VII PHYSICAL DATA  
-----

BOILING POINT: 133 (DEG F)      SPECIFIC GRAVITY: 0.8 (60 DEG F)      VAPOR PRESSURE: 186 • 60 DEG F  
(H<sub>2</sub>O=1)      (MM HG)

MELTING POINT: -139 (DEG F)      SOLUBILITY IN: COMPLETE      VAPOR DENSITY: 2.0  
(WATER)      (AIR=1)

EVAPORATION RATE (N-BUTYL ACETATE = 1) 5.6

APPEARANCE AND ODOR: COLORLESS, MOBILE LIQUID. MILD ODOR.

## SECTION VIII

## FIRE AND EXPLOSION HAZARDS

FLASH POINT AND METHOD:  
-15 DEG F (TCC)

FLAMMABLE LIMITS /% VOLUME IN AIR  
LDWER: 2.6 HIGHER: 12.8

## EXTINGUISHING MEDIA

USE WATER FOG, "ALCOHOL" FOAM, DRY CHEMICAL OR CO2.

## SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS

DANGER, EXTREMELY FLAMMABLE. CLEAR FIRE AREA OF UNPROTECTED PERSONNEL AND ISOLATE. DO NOT ENTER CONFINED FIRE SPACE WITHOUT FULL BUNKER GEAR (HELMET WITH FACE SHIELD, BUNKER COATS, GLOVES AND RUBBER BOOTS), INCLUDING A POSITIVE PRESSURE NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS. COOL FIRE EXPOSED CONTAINERS WITH WATER.

## UNUSUAL FIRE AND EXPLOSION HAZARDS

CONTAINERS EXPOSED TO INTENSE HEAT FROM FIRES SHOULD BE COOLED WITH WATER TO PREVENT VAPOR PRESSURE BUILDUP WHICH COULD RESULT IN CONTAINER RUPTURE. CONTAINER AREAS EXPOSED TO DIRECT FLAME CONTACT SHOULD BE COOLED WITH LARGE QUANTITIES OF WATER AS NEEDED TO PREVENT WEAKENING OF CONTAINER STRUCTURE.

## SECTION IX

## REACTIVITY

STABILITY: STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

## CONDITIONS AND MATERIALS TO AVOID:

AVOID HEAT, SPARKS, FLAME AND CONTACT WITH STRONG OXIDIZING AGENTS. PREVENT VAPOR ACCUMULATION.

## HAZARDOUS DECOMPOSITION PRODUCTS

CARBON MONOXIDE AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.

## SECTION X

## EMPLOYEE PROTECTION

## RESPIRATORY PROTECTION

AVOID PROLONGED OR REPEATED BREATHING OF VAPORS. IF EXPOSURE MAY OR DOES EXCEED OCCUPATIONAL EXPOSURE LIMITS (SEC. IV) USE A NIOSH-APPROVED RESPIRATOR TO PREVENT OVEREXPOSURE. IN ACCORD WITH 29 CFR 1910.134 USE EITHER AN ATMOSPHERE-SUPPLYING RESPIRATOR OR AN AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS.

## PROTECTIVE CLOTHING

AVOID CONTACT WITH EYES. WEAR CHEMICAL GOGGLES IF THERE IS LIKELIHOOD OF CONTACT WITH EYES. AVOID PROLONGED OR REPEATED CONTACT WITH SKIN. WEAR GLOVES AND OTHER CLOTHING AS REQUIRED TO MINIMIZE CONTACT.

## ADDITIONAL PROTECTIVE MEASURES

USE EXPLOSION-PROOF VENTILATION AS REQUIRED TO CONTROL VAPOR CONCENTRATIONS. AIR DRY CONTAMINATED CLOTHING IN A WELL-VENTILATED AREA, THEN LAUNDRY BEFORE REUSING.

## SECTION XI

## ENVIRONMENTAL PROTECTION

## SPILL OR LEAK PROCEDURES

DANGER! EXTREMELY FLAMMABLE. ELIMINATE ALL IGNITION SOURCES. HANDLING EQUIPMENT MUST BE GROUNDED TO PREVENT SPARKING. \*\*\* LARGE SPILLS \*\*\* ISOLATE THE HAZARD AREA AND DENY ENTRY TO UNNECESSARY PERSONNEL. WEAR APPROPRIATE RESPIRATOR AND PROTECTIVE CLOTHING. SHUT OFF SOURCE OF LEAK ONLY IF SAFE TO DO SO. DIKE AND CONTAIN. WATER FOG MAY BE USEFUL IN SUPPRESSING VAPOR CLOUD; CONTAIN RUN-OFF. REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE/SALVAGE VESSELS. SOAK UP RESIDUE WITH AN ABSORBENT SUCH AS CLAY, SAND OR OTHER SUITABLE MATERIAL; PLACE IN NON-LEAKING CONTAINERS FOR PROPER DISPOSAL. FLUSH AREA WITH WATER TO REMOVE TRACE RESIDUE; DISPOSE OF FLUSH SOLUTIONS AS ABOVE. \*\*\* SMALL SPILLS \*\*\* TAKE UP WITH AN ABSORBENT MATERIAL AND PLACE IN NON-LEAKING CONTAINERS; SEAL TIGHTLY FOR PROPER DISPOSAL.

## WASTE DISPOSAL

UNDER EPA - RCRA (40 CFR 261.33), IF ACETONE BECOMES A WASTE MATERIAL, IT WOULD BE A HAZARDOUS WASTE, HAZARDOUS WASTE NUMBER U002. REFER TO LATEST EPA OR STATE REGULATIONS REGARDING PROPER

DISPOSAL.

## ENVIRONMENTAL HAZARDS

Under the Comprehensive Environmental Response, Compensation and Liability Act, (Superfund) releases to air, land or water which exceed the reportable quantity must be reported to the National Response Center, 800-424-8802.

## SECTION XII

## SPECIAL PRECAUTIONS

KEEP LIQUID AND VAPOR AWAY FROM HEAT, SPARKS AND FLAME. SURFACES THAT ARE SUFFICIENTLY HOT MAY IGNITE EVEN LIQUID PRODUCT IN THE ABSENCE OF SPARKS OR FLAME. EXTINGUISH PILOT LIGHTS, CIGARETTES AND TURN OFF OTHER SOURCES OF IGNITION PRIOR TO USE AND UNTIL ALL VAPORS ARE GONE. VAPORS MAY ACCUMULATE AND TRAVEL TO IGNITION SOURCES DISTANT FROM THE HANDLING SITE; FLASH-FIRE CAN RESULT. KEEP CONTAINERS CLOSED WHEN NOT IN USE. USE WITH ADEQUATE VENTILATION.

CONTAINERS, EVEN THOSE THAT HAVE BEEN EMPTIED, CAN CONTAIN EXPLOSIVE VAPORS. DO NOT CUT, DRILL, GRIND, WELD OR PERFORM SIMILAR OPERATIONS ON OR NEAR CONTAINERS.

STATIC ELECTRICITY MAY ACCUMULATE AND CREATE A FIRE HAZARD. GROUND FIXED EQUIPMENT. BOND AND GROUND TRANSFER CONTAINERS AND EQUIPMENT.

## SECTION XIII

## TRANSPORTATION REQUIREMENTS

DEPARTMENT OF TRANSPORTATION CLASSIFICATION: FLAMMABLE LIQUID  
I.C.T. PROPER SHIPPING NAME: ACETONE

## OTHER REQUIREMENTS:

H1090. GUIDE SHEET 26.

## SECTION XIV

## OTHER REGULATORY CONTROLS

THIS PRODUCT IS LISTED ON THE EPA/TSCA INVENTORY OF CHEMICAL SUBSTANCES.

THE INFORMATION CONTAINED HEREIN IS BASED ON THE DATA AVAILABLE TO US AND IS BELIEVED TO BE CORRECT. HOWEVER, SHELL MAKES NO WARRANTY, EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. SHELL ASSUMES NO RESPONSIBILITY FOR INJURY FROM THE USE OF THE PRODUCT DESCRIBED HEREIN.

DATE PREPARED: JULY 29, 1985

ORIGINAL SIGNED BY:

JOHN P. SEPESI

## BE SAFE

READ OUR PRODUCT  
SAFETY INFORMATION ...AND PASS IT ON  
(PRODUCT LIABILITY LAW  
REQUIRES IT)

SHELL OIL COMPANY  
PRODUCT SAFETY AND COMPLIANCE  
P. O. BOX 4320  
HOUSTON, TX 77210

March 8, 1988

Mr. Bruno Ferraro  
6140 Edgewater Drive  
Suite F  
Orlando, FL 32810

Dear Mr. Ferraro,

A copy of Southern California Air Quality Management Rule 1162 and laboratory procedure for determining Volatile Organics Emissions is enclosed. Rule 1162 is scheduled to go into enforcement June '88.

Rule 1162 is becoming a pattern for other States to adopt their own Volatile Organic Emissions controls enforcement.

Accurate measurement of V.O.C. (mostly styrene monomer) from large scale contact molding process for fiberglass reinforced polyester resin such as boat building is difficult to measure and quantitate. The estimate nominated by Mr. Peterson of 3.6% by weight of polyester resin involved is probably shaded toward worse case.

The actual volatile loss is dependent on several variable factors:

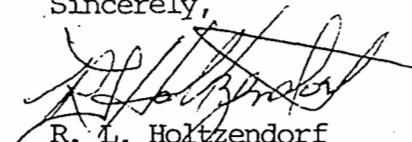
1. Thickness of laminate ie evaporation of V.O.C. occur from air exposed surface only.
2. Gel time of the laminate ie evaporation rate is time/temperature dependent.
3. Ambient temperature and laminate exotherm temperature during cure.
4. Velocity of air movement across the laminate surface during cure.
5. Styrene content of laminating resin used ie typically 42-44% by weight.
6. Use of styrene evaporation suppressed polyester resin in formulation ie such resin formulations form air side film to retard styrene evaporation.

A typical polyester/fiber glass laminate would consist of 30% by weight fiberglass and 70% by weight polyester resin. The resin would typically contain 40% by weight styrene monomer or about 28 pounds for each

100 pounds of original laminate. A styrene volatile loss of 3.6% would represent 12.8% of the styrene contained. This could only occur when very thin laminate, long gel time and high ambient temperature are concurrent.

This is intended to give you some understanding of the complexity of the problem of calculating V.O.C. emissions from contact molding process.

Sincerely,



R. L. Holtzendorf  
Vice-Chairman

cc: Pete Peterson  
Lloyd Buchanan  
Jerry Stauffer  
Mike Blurton

March 8, 1988

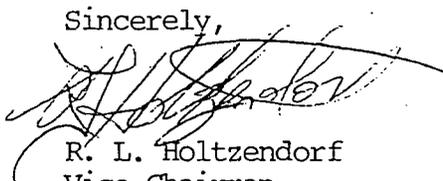
Mr. Bruno Ferraro  
6140 Edgewater Drive  
Suite F  
Orlando, FL 32810

Dear Mr. Ferraro:

The volatile loss of styrene monomer from typical fiberglass reinforced laminate in contact molding process will be from 2% to 4% based on weight of the polyester resin contained.

This range is dependent on ambient temperature, air movement across laminate surface, gel time, styrene content of resin used, exotherm temperature of the laminate and type resin used.

Sincerely,



R. L. Holtzendorf  
Vice-Chairman

cc: Pete Peterson  
Lloyd Buchanan  
Jerry Stauffer  
Mike Blurton



CHEMICALS ■ EQUIPMENT ■ HEALTH PRODUCTS

LUCIDOL

1740 MILITARY ROAD, P.O. BOX 1048, BUFFALO, NEW YORK 14240 • (716) 877-1740

March 25, 1988

Mr. Bruno A. Ferraro, President  
Grove Scientific  
6140 Edgewater Drive  
Suite F  
Orlando, FL 32810-4810

Dear Mr. Ferraro:

In reference to your letter of March 10, 1988 and our earlier telephone conversation, we agree that a loss of 3%, by volatilization or entrainment, of the total amount of Lupersol DDM-9 MEK peroxide added is a reasonable estimate.

As discussed, we have never conducted testing to determine - and would be hard pressed to simulate typical shop conditions - the latter consequently our acknowledgement of your request will have to be accepted on that basis.

In the event of questions, please feel free to contact the undersigned.

Very truly yours,

LUCIDOL DIVISION  
Pennwalt Corporation

Douglas J. Bolton  
Industry Manager

DJB:ws

RECEIVED

FEB 28 1988

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Resin

BEST AVAILABLE COPY

Manufacturer's Name	Alpha Resins Corporation	Emergency Telephone No.	(813) 858-4431
Address	4620 N. Galloway Road Lakeland, Florida 33805	Other Information	(813) 858-4431
Signature of Person Responsible for Preparation	Pete Peterson	Date Prepared	June 20, 1986

SECTION 1 - IDENTITY

Common Name: (used on label)	52-31 CW	Case No.	Mixture
Trade Name & Synonyms			
Chemical Name	Unsaturated Polyester Resin	Chemical Family	Diacid/Glycol Condensate
Formula	Mixture		

SECTION 2 - HAZARDOUS INGREDIENTS

Principal Hazardous Component(s) (chemical & common name(s))	%	OSHA PEL
Styrene (100-42-5)	45	100ppm
Fumed Silica (7631-86-9)	1	20mgpcf

SECTION 3 - PHYSICAL & CHEMICAL CHARACTERISTICS (Fire & Explosion Data)

Boiling Point	293°F	Specific Gravity (H <sub>2</sub> O = 1)	1.0 - 1.1	Vapor Pressure (mm Hg)	< 4.5
Percent Volatile by Volume (%)	45	Vapor Density (Air = 1)	3.6	Evaporation Rate (Bu Act = 1)	3.1
Solubility in Water	Very slight	Reactivity in Water	None		
Appearance and Odor	Viscous liquid with sweet pungent odor.				
Flash Point	88-92°F	Flammable Limits in Air % by Volume	Lower 1.1 Upper 6.1	Extinguisher Media	Water fog, foam Dry chem., CO <sub>2</sub>
Auto-ignition Temperature	914°F				
Special Fire Fighting Procedures	If electrical equipment is involved, the use of foam should be avoided. Handling equipment should be cooled by water stream if exposed to fire.				

Unusual Fire and Explosion Hazards: At elevated temperatures, such as in a fire condition, polymerization may take place resulting in violent rupture of closed containers. Wear positive pressure apparatus, eye protection, and keep vapors away from possible ignition sources.

SECTION 4 - PHYSICAL HAZARDS

Stability	Unstable <input type="checkbox"/> Stable <input checked="" type="checkbox"/>	Conditions to Avoid	Sunlight, open flames, contamination, and prolonged storage above 750 F
Incompatibility (Materials to Avoid)	Acids, oxidizing agents, free radical initiators such as peroxides, and metallic halides and soaps.		

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide and low molecular weight hydrocarbons.

Hazardous Reaction Conditions: May Decompose  Conditions to Avoid: Open flames, contamination and prolonged exposure to

# MATERIAL SAFETY DATA SHEET



BEST AVAILABLE COPY

CHEMICALS ■ EQUIPMENT  
HEALTH PRODUCTS

1740 Military Road/Buffalo, New York 14240/716-877-1740

Essentially Similar to O.S.H.A. Form 20

## MATERIAL SAFETY DATA SHEET

Pennwalt Code: 129

*MEK Peroxide*

Revision Date: 08/27/86  
Supersedes Form Dated: 01/11/86

TRADENAME ..... LUPERSOL DDM-9  
CHEMICAL NAME ..... Methyl Ethyl Ketone Peroxide  
MOLECULAR FORMULA ..... Mixture of  $C_8H_{10}O_4$   
and  $C_8H_{18}O_6$

CHEMICAL FAMILY.....Organic Peroxide  
SYNONYMS .....2-Butanone Peroxide  
C.A.S. REGISTRY NUMBER(S) ... Peroxide: 1338-23-4  
DMP: 131-11-3

### HAZARDOUS INGREDIENTS

Materials or Components	% w/w	Hazard Data
Methyl Ethyl Ketone Peroxide structures account for $8.8 \pm 0.1\%$ active oxygen		TLV=0.2 ppm* (ceiling limit)
Dimethyl Phthalate	35	TLV 1981 = 5 mg/m <sup>3</sup>
Proprietary solvent mixture	Bal.	

\* 11% active oxygen material

### SHIPPING INFORMATION

D.O.T. SHIPPING NAME... Methyl Ethyl Ketone Peroxide  
HAZARD CLASSIFICATION..... Organic Peroxide  
I.D. NUMBER ..... UN2550

FREIGHT CLASSIFICATION ..... Chemicals NO1BN  
INDC CODE PAGE ..... 5186

### PHYSICAL PROPERTIES

MELTING/FREEZING POINT, °C .....Below -30  
MOLECULAR WEIGHT ..... N/A  
SPECIFIC GRAVITY ( $H_2O = 1$ ), 25/25°C ..... 1.0840 min  
\*S.A.D.T. .... 70°C,  
45# Cube  
SOLUBILITY in  $H_2O$  ..... slight  
VAPOR PRESSURE ..... N/E  
VAPOR DENSITY (Air = 1)..... N/E  
% VOLATILES BY VOLUME ..... N/E  
APPEARANCE & ODOR ..... Clear oily liquid,  
ketone odor

\*Self Accelerating Decomposition Temperature

### FIRE AND EXPLOSION DATA

FLASH POINT, °C/°F..... 58/137  
EXTINGUISHING MEDIA..... Water spray, Water Fog, Dry Chemical, Foam  
SPECIAL FIRE FIGHTING PROCEDURES ..... If large amount is involved, evacuate area and fight fire from safe distance. Cool surrounding material with water.  
UNUSUAL FIRE & EXPLOSION HAZARDS..... Contamination, Temperature - Can decompose with force if confined during exposure to fire.

### REACTIVITY DATA

STABILITY ..... Unstable  
CONDITIONS CONTRIBUTING TO INSTABILITY ..... Thermal decomposition, contamination  
INCOMPATIBILITY (avoid contact with) ..... Strong acids, strong alkalis, strong oxidizers, acetone, transition metal salts, promoters and reducing agents  
HAZARDOUS DECOMPOSITION PRODUCTS ..... Decomposition products are flammable and may autoignite  
CONDITIONS TO AVOID ..... Heat, flames, sparks, ignition sources, contamination

### SPILL OR LEAK

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED ..... Absorb with Vermiculite/Perlite, sweep or scoop up using non-sparking tools and dispose of immediately.  
WASTE DISPOSAL METHOD ..... Consult with a Lucidol representative for the telephone number of your state's hazardous waste agency.

TOXICITY

ORAL (acute)(rats)..... LD50 = 681 mg/kg
DERMAL (acute)(rabbit)..... N/E
INHALATION (acute)(rats)..... LC50 = 33 mg/l (4 hours)(1977)

NOTES: Data obtained on 11% active oxygen material. Should be similar

CHRONIC, SUBCHRONIC, ETC.:

AMES TEST: Negative

HEALTH HAZARD INFORMATION

EFFECTS OF EXPOSURE:

IRRITATION..... SKIN - Severe CORROSIVITY ..... SKIN - N/E
EYE - Severe EYE - May Cause Blindness
SENSITIZATION ..... N/E LUNG EFFECTS ..... Irritant
INHALATION EFFECTS .... Irritating to airways & lungs OTHER ..... N/E

EMERGENCY FIRST AID:

INGESTION ..... Do NOT induce vomiting. Get emergency medical attention for lavage.
DERMAL ..... Flush with soap and water. Get medical attention.
EYE CONTACT ..... IMMEDIATELY flush with plenty of water for at least 15 minutes.
Get emergency medical attention.
INHALATION ..... Remove to fresh air. If not breathing, give artificial respiration. Get medical attention.

SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENTS ... Use with adequate ventilation. Local exhaust.
EYE ..... Safety glasses, goggles, face shield
HAND (Glove Type) ..... Neoprene, nitrile rubber
\*RESPIRATOR TYPE..... Can or cartridge, gas or vapor
OTHER PROTECTIVE EQUIPMENT.. Eyewash station

\*Use only NIOSH/MESA approved equipment

LABEL PRECAUTIONS

PRECAUTIONARY LABELING..... Wash thoroughly after handling
Do not get in eyes, on skin or clothing
Do not store near combustibles
Empty container may contain hazardous residues
Keep container closed
Keep away from heat, sparks, and flames
Do not reuse container

OTHER STORAGE AND HANDLING CONDITIONS ..... Store below 100°F (38°C) to maintain active oxygen content, preferably between 65-85°F

PREPARED BY: Marketing Services Department

ADDRESS: 1740 Military Road, Buffalo, NY 14240

PHONE: (716)877-1740

NOTES: N/E = Not Established
N/A = Not Applicable

The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse are beyond our control, Pennwalt MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. User should satisfy himself that he has all current data relevant to his particular use."

MATERIAL SAFETY DATA SHEET

MANUFACTURER'S NAME:

FERRO CORP., COATINGS DIVISION  
4150 E. 56th STREET  
CLEVELAND, OH 44101

EMERGENCY TELEPHONE NO.:

(216) 641-8580

INFORMATION TELEPHONE NO.:

DATE OF PREPARATION: 06-03-1987

(904) 748-5200

-----  
SECTION I - PRODUCT IDENTIFICATION  
-----

PRODUCT NUMBER: VF 05797

HMIS RATINGS: H F R

PRODUCT NAME: VF 5797 GREY INT (413)

3 3 2

PRODUCT CLASS: POLYESTER GEL COAT

DOT CLASS/ID NUMBER:

-----  
SECTION II - HAZARDOUS INGREDIENTS  
-----

INGREDIENT	CAS NUMBER	WEIGHT PERCENT	EXPOSURE LIMITS	
			TLV	OSHA PEL
STYRENE	100-42-5	15	100 ppm	100 ppm
TITANIUM DIOXIDE	13463-67-7	15	10 mg/M3	15 mg/M3
FUMED SILICA	7631-86-9	< 5.0%	20mppcf(10mg/m3)	

-----  
SECTION III - PHYSICAL DATA  
-----

BOILING RANGE: 290 F

VAPOR DENSITY: N/A

EVAP. RATE: SLOWER THAN ETHER

% VOLATILE VOLUME: 51.22 LBS/GAL: 10.32

VAPOR PRESSURE: N/A

SOLUBILITY IN WATER: N/A

APPEARANCE AND ODOR: N/A

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 80 +/-5 F CLOSED CUP LEL: 1.1

EXTINGUISHING MEDIA: FOAM, CO2, DRY CHEMICAL, WATER FOG, OTHER

UNUSUAL FIRE AND EXPLOSION HAZARDS:

HIGHLY FLAMMABLE; CAN POLYMERIZE WHEN HEATED; SEALED CONTAINER CAN RUPTURE EXPLOSIVELY WHEN HEATED.

SPECIAL FIREFIGHTING PROCEDURES:

USE CARBON DIOXIDE OR FOAM

SECTION V - HEALTH HAZARD DATA

EFFECTS OF EXPOSURE:

STYRENE AT 400 PPM OR IN A STRONG CONCENTRATION IS IRRITATING TO ALL PARTS OF THE RESPIRATORY TRACT AND EYES. MAY BE FATAL AT 10000 PPM. SOMEWHAT ANAESTHETIC (N.B.) STYRENE VAPOR GENERATION OF POLYESTER RESINS WILL RARELY EXCEED 200PPM.

MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE:

RESPIRATORY AGGRAVATION AND DERMATITIS MAY OCCUR.

ROUTE(S) OF ENTRY: DERMAL, INHALATION,

EMERGENCY AND FIRST AID PROCEDURES:

REMOVE VICTIM FROM EXPOSURE TO WELL-VENTILATED AREA- MAKE COMFORTABLY WARM BUT NOT HOT-USE OXYGEN OR ARTIFICIAL RESPIRATION AS REQUIRED. IN THE CASE OF EYE CONTACT, FLUSH PROMPTLY WITH COPIOUS AMOUNTS OF WATER FOR 15 MINUTES AND SEEK MEDICAL ATTENTION.

SECTION VI - REACTIVITY DATA

STABILITY: STABLE

HAZARDOUS POLYMERIZATION: MAY OCCUR

SUNLIGHT, OPEN FLAMES, CONTAMINATION AND PROLONGED STORAGE ABOVE 100 DEG(F)

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE AND DIOXIDE, LOW MOLECULAR WEIGHT HYDROCARBONS AND ORGANIC ACID

CONDITIONS TO AVOID:

STRONG ACIDS, PEROXIDES AND OTHER OXIDIZING AGENTS

INCOMPATIBILITY (MATERIALS TO AVOID):

REFER TO SECTIONS III, IV, AND V ABOVE.

---

## SECTION VII - SPILL OR LEAK PROCEDURES

---

### STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

REMOVE SATURATED CLOTHING PROMPTLY AND WASH AFFECTED AREAS WITH SOAP AND WATER  
REMOVE ALL SOURCES OF IGNITION. VENTILATE AREA. USE PROTECTIVE MEASURES IN SEC #8

### WASTE DISPOSAL METHOD:

ABSORB WITH INERT MATERIALS SUCH AS VERMICULITE OR SAND AND PLACE IN A CLOSED CONTAINER FOR DISPOSAL AS A SOLID WASTE. WASH AREA WELL WITH TRISODIUM PHOSPHATE AND WATER. DISPOSAL MUST CONFORM TO LOCAL, STATE AND FEDERAL REGULATIONS.

---

## SECTION VIII - SAFE HANDLING AND USE INFORMATION

---

### RESPIRATORY PROTECTION:

UP TO 100 PPM: NONE. 100 PPM AND ABOVE: U.S. BUREAU OF MINES APPROVED AIR LINE MASK OR SELF-CONTAINED BREATHING APPARATUS.

### VENTILATION:

LOCAL AND MECHANICAL EXHAUST. USE EXPLOSION PROOF MOTORS.

### PROTECTIVE GLOVES:

NEOPRENE OR NON-SOLUBLE PLASTIC.

### EYE PROTECTION:

USE SAFETY WEAR DESIGNED TO PROTECT AGAINST CHEMICAL SPLASH

### OTHER PROTECTIVE EQUIPMENT:

SAFETY SHOWERS AND EYE WASH STATIONS SHOULD BE AVAILABLE

### HYGIENIC PRACTICES:

STANDARD GOOD HOUSEKEEPING AND HEALTH PRACTICES.

---

## SECTION IX - SPECIAL PRECAUTIONS

---

### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

SUNLIGHT-OPEN FLAMES-CONTAMINATION AND PROLONGED STORAGE ABOVE 100( DEG F)

### OTHER PRECAUTIONS:

AVOID IMPROPER ADDITION OF PROMOTER AND/OR CATALYST. CONSULT PRODUCT BULLETIN. A PROMOTER (METAL ORGANIC SUCH AS COBALT OR ANILINE TYPE) AND CATALYST (ORGANIC PEROXIDE TYPE) USED WITH THIS PRODUCT SHOULD ALWAYS BE MIXED SEPARATELY WITH THE PRODUCT AND SHOULD \*\*\* NEVER BE MIXED DIRECTLY TOGETHER\*\*\*\*

---

## SECTION VII - SPILL OR LEAK PROCEDURES

---

### STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

REMOVE SATURATED CLOTHING PROMPTLY AND WASH AFFECTED AREAS WITH SOAP AND WATER  
REMOVE ALL SOURCES OF IGNITION. VENTILATE AREA. USE PROTECTIVE MEASURES IN SEC #8

### WASTE DISPOSAL METHOD:

ABSORB WITH INERT MATERIALS SUCH AS VERMICULITE OR SAND AND PLACE IN A CLOSED  
CONTAINER FOR DISPOSAL AS A SOLID WASTE. WASH AREA WELL WITH TRISODIUM PHOS-  
PHATE AND WATER. DISPOSAL MUST CONFORM TO LOCAL, STATE AND FEDERAL REGULATIONS.

---

## SECTION VIII - SAFE HANDLING AND USE INFORMATION

---

### RESPIRATORY PROTECTION:

UP TO 100 PPM: NONE. 100 PPM AND ABOVE: U.S. BUREAU OF MINES APPROVED AIR LINE  
MASK OR SELF-CONTAINED BREATHING APPARATUS.

### VENTILATION:

LOCAL AND MECHANICAL EXHAUST. USE EXPLOSION PROOF MOTORS.

### PROTECTIVE GLOVES:

NEOPRENE OR NON-SOLUBLE PLASTIC.

### EYE PROTECTION:

USE SAFETY WEAR DESIGNED TO PROTECT AGAINST CHEMICAL SPLASH

### OTHER PROTECTIVE EQUIPMENT:

SAFETY SHOWERS AND EYE WASH STATIONS SHOULD BE AVAILABLE

### HYGIENIC PRACTICES:

STANDARD GOOD HOUSEKEEPING AND HEALTH PRACTICES.

---

## SECTION IX - SPECIAL PRECAUTIONS

---

### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

SUNLIGHT-OPEN FLAMES-CONTAMINATION AND PROLONGED STORAGE ABOVE 100 (DEG F)

### OTHER PRECAUTIONS:

AVOID IMPROPER ADDITION OF PROMOTER AND/OR CATALYST. CONSULT PRODUCT BULLETIN.  
A PROMOTER (METAL ORGANIC SUCH AS COBALT OR ANILINE TYPE) AND CATALYST  
(ORGANIC PEROXIDE TYPE) USED WITH THIS PRODUCT SHOULD ALWAYS BE MIXED SEPAR-  
ATELY WITH THE PRODUCT AND SHOULD \*\*\* NEVER BE MIXED DIRECTLY TOGETHER\*\*\*\*

*Gelcoat***BEST AVAILABLE COPY****MATERIAL SAFETY DATA SHEET**CO-PLAS INCORPORATED  
5106 WHEELER AVE.  
FORT SMITH, AR 72901INFORMATION & EMERGENCY TELEPHONE NO.: 501-646-7865  
CHEMTREC : 800-424-9300

PREPARATION DATE: 05/11/88

REPLACES DATE: NEW MSDS

PREPARER: RKH

## SECTION I - PRODUCT IDENTIFICATION

GRAY INTERIOR GELCOAT

SE-8453

## SECTION II - HAZARDOUS INGREDIENTS

CHEMICAL NAME	CAS NUMBER	WT. PERCENT IS LESS THAN	OCCUPATIONAL EXPOSURE LIMITS			VAPOR PRESSURE mmHg 20C	KNOWN OR SUSPECTED CARCINOGEN
			(TLV-TWA)	(TLV-STEL)	(PEL)		
STYRENE	100-42-5	40%	100 PPM	600 PPM	200 PPM	4.5	YES
PIGMENT WHITE 6	13463-67-7	5%	10 MG/M3	NO INFO	15 MG/M3	0.0	NO
SILICON DIOXIDE	7631-86-9	5%	10 MG/M3	NO INFO	20 MPPCF	0.0	NO
ALUMINUM SILICATE	1332-58-7	20%	5 MG/M3	NO INFO	5 MG/M3	0.0	NO

N.A. - NOT APPLICABLE

## SECTION III - PHYSICAL DATA

BOILING RANGE	: 295 F	VAPOR DENSITY	: IS HEAVIER THAN AIR
ODOR	: AROMATIC	EVAPORATION RATE:	: IS SLOWER THAN ETHER
APPEARANCE	: GRAY LIQUID	SOLUBILITY	: INSOLUBLE
VOLATILE BY WEIGHT:	35.2%	PRODUCT DENSITY	: 10.4 LBS./GAL. (U.S.)
VOLATILE BY VOLUME:	48.5%		

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY CLASSIFICATION:

FLASH POINT: 90 F  
(TAGLIABUE CLOSED CUP)LEL: 1.1 %  
UEL: 6.1 %OSHA - FLAMMABLE LIQUID - CLASS IC  
DOT - FLAMMABLE LIQUID OR SOLID

EXTINGUISHING MEDIA: CARBON DIOXIDE DRY CHEMICAL FOAM

SE-8453 - 05/11/88

PAGE 2 OF 4

## =====

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

UNUSUAL FIRE AND EXPLOSION HAZARDS: KEEP CONTAINERS TIGHTLY CLOSED. ISOLATE FROM HEAT, SPARKS, AND OPEN FLAME. CLOSED CONTAINERS MAY EXPLODE WHEN EXPOSED TO EXTREME HEAT.

SPECIAL FIREFIGHTING PROCEDURES: WATER MAY BE USED TO COOL CLOSED CONTAINERS TO PREVENT PRESSURE BUILD-UP AND POSSIBLE AUTOIGNITION OR EXPLOSION WHEN EXPOSED TO EXTREME HEAT. USE SELF-CONTAINED BREATHING APPARATUS.

## =====

## SECTION V - HEALTH HAZARD DATA

EFFECTS OF OVER EXPOSURE: IRRITANT TO EYES, SKIN AND RESPIRATORY TRACT. SOME REPORTS INDICATE THAT STYRENE AND A POTENTIAL METABOLITE OF STYRENE, STYRENE OXIDE, ARE MUTAGENIC. THERE IS ALSO EVIDENCE THAT STYRENE AND ITS OXIDE CAN DAMAGE CHROMOSOMES.

MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE: PRE-EXISTING SENSITIVITY TO SOLVENTS CAN CAUSE A HEIGHTENED REACTION TO EXPOSURE TO THIS PRODUCT.

PRIMARY ROUTE(S) OF ENTRY: DERMAL INHALATION

EMERGENCY AND FIRST AID PROCEDURES: INHALATION: REMOVE TO FRESH AIR, RESTORE BREATHING. CONSULT A PHYSICIAN. SKIN CONTACT: FLUSH WITH WATER. EYE CONTACT: FLUSH IMMEDIATELY WITH LARGE AMOUNTS OF WATER. CONSULT A PHYSICIAN. IF SWALLOWED, DILUTE BY GIVING 2 GLASSES OF WATER, CONSULT A PHYSICIAN. DO NOT INDUCE VOMITING. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

SE-8453 - 05/11/88

PAGE 3 OF 4

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.

**BEST AVAILABLE COPY**

SE-8453 - 05/11/88

PAGE 4 OF 4

=====

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.

BEST AVAILABLE COPY

Gelcoat

## 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: 07/14/88

REPLACES DATE: NEW MSDS

PREPARER: RKH

## SECTION I - PRODUCT IDENTIFICATION

WHITE INTERIOR GELCOAT

SE-84107

## SECTION II - HAZARDOUS INGREDIENTS

CHEMICAL NAME	CAS NUMBER	WT. PERCENT IS LESS THAN	OCCUPATIONAL EXPOSURE LIMITS			VAPOR PRESSURE mmHg 20C	KNOWN OR SUSPECTED CARCINOGEN
			(TLV-TWA)	(TLV-STEL)	(PEL)		
STYRENE	100-42-5	35%	100 PPM	600 PPM	200 PPM	4.5	YES
PIGMENT WHITE 6	13463-67-7	10%	10 MG/M3	NO INFO	15 MG/M3	0.0	NO
SILICON DIOXIDE	7631-86-9	5%	10 MG/M3	NO INFO	20 MPPCF	0.0	NO
ALUMINUM SILICATE	1332-58-7	15%	5 MG/M3	NO INFO	5 MG/M3	0.0	NO

N.A. - NOT APPLICABLE

## SECTION III - PHYSICAL DATA

BOILING RANGE : 295 F  
ODOR : AROMATIC  
APPEARANCE : WHITE LIQUID  
VOLATILE BY WEIGHT: 31.7%  
VOLATILE BY VOLUME: 46.0%

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: 90 F  
(TAGLIABUE CLOSED CUP)

LEL: 1.1 %  
UEL: 6.1 %

OSHA - FLAMMABLE LIQUID - CLASS IC  
DOT - FLAMMABLE LIQUID OR SOLID

EXTINGUISHING MEDIA: CARBON DIOXIDE DRY CHEMICAL FOAM

SE-84107 - 07/14/88

PAGE 2 OF 4

## =====

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

UNUSUAL FIRE AND EXPLOSION HAZARDS: KEEP CONTAINERS TIGHTLY CLOSED. ISOLATE FROM HEAT, SPARKS, AND OPEN FLAME. CLOSED CONTAINERS MAY EXPLODE WHEN EXPOSED TO EXTREME HEAT.

SPECIAL FIREFIGHTING PROCEDURES: WATER MAY BE USED TO COOL CLOSED CONTAINERS TO PREVENT PRESSURE BUILD-UP AND POSSIBLE AUTOIGNITION OR EXPLOSION WHEN EXPOSED TO EXTREME HEAT. USE SELF-CONTAINED BREATHING APPARATUS.

## =====

## SECTION V - HEALTH HAZARD DATA

EFFECTS OF OVER EXPOSURE: IRRITANT TO EYES, SKIN AND RESPIRATORY TRACT. SOME REPORTS INDICATE THAT STYRENE AND A POTENTIAL METABOLITE OF STYRENE, STYRENE OXIDE, ARE MUTAGENIC. THERE IS ALSO EVIDENCE THAT STYRENE AND ITS OXIDE CAN DAMAGE CHROMOSOMES.

MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE: PRE-EXISTING SENSITIVITY TO SOLVENTS CAN CAUSE A HEIGHTENED REACTION TO EXPOSURE TO THIS PRODUCT.

PRIMARY ROUTE(S) OF ENTRY: DERMAL INHALATION

EMERGENCY AND FIRST AID PROCEDURES: INHALATION: REMOVE TO FRESH AIR, RESTORE BREATHING. CONSULT A PHYSICIAN. SKIN CONTACT: FLUSH WITH WATER. EYE CONTACT: FLUSH IMMEDIATELY WITH LARGE AMOUNTS OF WATER. CONSULT A PHYSICIAN. IF SWALLOWED, DILUTE BY GIVING 2 GLASSES OF WATER, CONSULT A PHYSICIAN. DO NOT INDUCE VOMITING. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

SE-84107 - 07/14/88

PAGE 3 OF 4

## =====

## 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.

Polyurethane

MATERIAL SAFETY  
DATA SHEET

April 15, 1987

## IMRON® POLYURETHANE ENAMEL

Paint - White Enamel

## Section I

## Manufacturer

E. I. du Pont de Nemours & Co. (Inc.)  
Automotive Products Department  
Wilmington, Delaware 19898  
Telephone: Product information (800) 441-7515  
Medical emergency (800) 441-3637  
Transportation emergency (800) 424-9300  
(CHEMTREC)

Product: Imron Polyurethane Enamel

D.O.T. Hazard Class: Flammable Liquid  
Paint UN 1263

## Hazardous Materials Identification System:

H = 2, F = 3, R = 0.

Section II — Hazardous Ingredients (See Section X for  
ingredients listed by product code)

Ingredients	CAS No.	Vapor Pressure (20°C mm Hg.)	Exposure Limits*
1. Methyl ethyl ketone	78-93-3	71	200ppm-A, O; 300ppm-A-(STEL)
2. Toluene	108-88-3	36.7	100ppm-A; 200ppm-O; 150ppm-A-(STEL); 300ppm-O-C 400ppm-A, O
3. Ethyl acetate	141-78-6	76	
4. Propylene glycol monomethyl ether acetate	108-65-6	3.8	Unknown
5. Xylene	1330-20-7	25	100ppm-A, O; 150ppm-A-(STEL)
6. VM&P naphtha	64742-89-8	15	100ppm-D; 300ppm-A; 500ppm-O
7. Chrome antimony titanate	None	None	0.5mg/m <sup>3</sup> -A, O-Sb
8. Aluminum	7429-90-5	None	10mg/m <sup>3</sup> -A
9. Carbon black	1333-86-4	None	3.5mg/m <sup>3</sup> -A, O
10. Lead chromate molybdate	12656-85-8	None	150µg/m <sup>3</sup> -A; 50µg/m <sup>3</sup> -A; 50µg/m <sup>3</sup> -O-Pb; 100µg/m <sup>3</sup> -O-Cr
11. Lead chromate	18454-12-1	None	150µg/m <sup>3</sup> -A; 50µg/m <sup>3</sup> -A; 50µg/m <sup>3</sup> -O-Pb; 100µg/m <sup>3</sup> -O-Cr
12. Nickel, antimony, titanium yellow pigment	8007-18-9	None	0.5mg/m <sup>3</sup> -A, O-SB
13. Titanium dioxide	13463-67-7	None	10.0mg/m <sup>3</sup> -A; 15 mg/m <sup>3</sup> -O

14. Other pigments	None	None	10mg/m <sup>3</sup> -A
15. Polymeric resins	None	None	10mg/m <sup>3</sup> -A
16. Butyl acetate	123-86-4	8	150ppm-A, O; 200ppm-A-(STEL)
17. N-butyl alcohol	71-36-3	5.5	100ppm-O; 25ppm-D; 50ppm-C-A
18. Aromatic hydrocarbons	64742-95-6	10	25ppm-O; 50ppm-D
19. Medium mineral spirits	64742-88-7	10	100ppm-A, D; 500ppm-O

\*A = ACGIH TLV, O = OSHA, D = Du Pont internal limit,  
S = Supplier Furnished Limit, STEL = Short Term Exposure Limit  
(15 min.), C = Ceiling

## Section III — Physical Data

Evaporation rate: Slower than ether  
Gal. Wt. (#/gal): 8.25-11.19  
Volume % Volatile: 60.8-69.4%  
Solubility in water: Miscible  
Weight % Volatile: 42.8-63.6%  
Vapor Density: Heavier than air  
V.O.C. (#/gal): 3.5-6.0  
Boiling Range: 76°F-155°F

## Section IV — Fire &amp; Explosion Data

Flash point (Closed cup): 73-100°F  
Approx. flammable limits: 1.0-13.1%  
Extinguishing media: Water spray, foam, carbon dioxide, dry chemical  
Special fire fighting procedures: Full protective equipment, including self-contained breathing apparatus, is recommended. Water from fog nozzles may be used to cool closed containers to prevent pressure build up.  
Unusual fire & explosion hazards: When heated above the flash point, emits flammable vapors which, when mixed with air, can burn or be explosive. Fine mists or sprays may be flammable at temperatures below the flash point.

## Section V — Health Hazard Data

## General effects

Ingestion: Gastro-intestinal distress.

In the unlikely event of ingestion, call a physician immediately and have names of ingredients available.

Inhalation: May cause nose and throat irritation. Repeated and prolonged overexposure to solvents may lead to permanent brain and nervous system damage. Eye watering, headaches, nausea, dizziness and loss of coordination are signs that solvent levels are too high. This product cannot be applied satisfactorily without the addition of an activator which contains an isocyanate. Exposure to the isocyanate may cause asthma-like reactions with shortness of breath, wheezing, cough or lung sensitization. This effect may be delayed for several hours after exposure. Individuals with lung or breathing problems or prior reaction to isocyanates must not be exposed to the vapors or spray mist.

If affected by inhalation of vapor or spray mist, remove to fresh air. If breathing difficulty persists, or occurs later, consult a physician.

Skin or eye contact: May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.  
In case of eye contact, immediately flush with plenty of water for at least 15 minutes; call a physician.

## Section V — Health Hazard Data — Continued

In case of skin contact, wash with soap and water. If irritation occurs, contact a physician.

### Specific effects

**Methyl Ethyl Ketone:** High concentrations have caused embryotoxic effects in laboratory animals. Methyl Ethyl Ketone (MEK) has been demonstrated to potentiate (i.e., shorten the time of onset) the peripheral neuropathy caused by either N-Hexane or Methyl N-Butyl Ketone. MEK by itself has not been demonstrated to cause peripheral neuropathy. Liquid splashes in the eye may result in chemical burns. **Toluene:** Recurrent overexposure may result in liver and kidney injury. High airborne levels have produced irregular heart beats in animals and occasional palpitations in humans. Rats exposed to very high airborne levels have exhibited high frequency hearing deficits. The significance of this to man is unknown. **Ethyl Acetate:** Prolonged and repeated high exposures of laboratory animals resulted in secondary anemia with an increase in white blood cells; fatty degeneration, cloudy swelling and an excess of blood in various organs. **Propylene Glycol Monomethyl Ether Acetate:** May cause moderate eye burning. Recurrent overexposure may result in liver and kidney injury. **Xylene:** high concentrations have caused embryotoxic effects in laboratory animals. Recurrent overexposure may result in liver and kidney injury. Can be absorbed through the skin in harmful amounts. **VM&P Naphtha and Medium Mineral Spirits:** Laboratory studies with rats have shown that petroleum distillates cause kidney damage and kidney or liver tumors. These effects were not seen in similar studies with guinea pigs, dogs, or monkeys. Several studies evaluating petroleum workers have not shown significant increases of kidney damage nor kidney or liver tumors. **Chrome Antimony Titanate, Nickel, Antimony, Titanium Yellow Pigment:** Antimony, nickel and chromium are incorporated into the crystal structure of titanium dioxide. As such they are chemically and biologically inert. **Lead Chromate Molybdate, Lead Chromate and Lead:** Overexposure to lead may cause adverse effects to the blood forming, nervous, urinary, reproductive systems including embryotoxic effects. Symptoms may include loss of appetite, anemia, disturbance of sleep and fatigue. See OSHA Lead Standard 29CFR1910.1025 for exposures longer than 8 hours. The OSHA exposure limit is reduced by this formula: Limit (in  $\mu\text{g}/\text{m}^3$ ) = 400/hours worked in the day. These pigments are NTP carcinogens. Lead can be absorbed through the skin in harmful amounts. **Titanium Dioxide:** In a lifetime inhalation test, lung cancers were found in some rats exposed to 250  $\text{mg}/\text{m}^3$  respirable titanium dust. Analysis of the titanium dioxide concentrations in the rats' lungs showed that the lung clearance mechanism was overwhelmed and that the results at the massive 250  $\text{mg}/\text{m}^3$  level are not relevant to the workplace. **Butyl Acetate:** Extremely high concentrations have caused blood changes and weakness in laboratory animals. **N-Butyl Alcohol:** Liquid splashes in the eye may result in chemical burns.

## Section VI — Reactivity Data

Stability: stable

Incompatibility (materials to avoid): none reasonably foreseeable

Hazardous decomposition products: CO, CO<sub>2</sub>, smoke, oxides of

heavy metals reported in Section II

Hazardous polymerization: will not occur

## Section VII — Spill or Leak Procedures

Steps to be taken in case material is released or spilled: Ventilate area. Remove sources of ignition. Prevent skin contact and breathing of vapor. Wear a properly fitted vapor/particulate respirator (NIOSH/MSHA TC-23C). If the material has been activated with an isocyanate, wear a positive pressure supplied

air respirator (NIOSH/MSHA TC-19C).

Confine and remove with inert absorbant.

Deactivate isocyanate containing spills with:

20% Surfactant (Tergitol TMN-10)

80% Water

or

0-10% Ammonia

2-5% Detergent

Balance Water

Water disposal method: Do not allow material to contaminate ground water systems. Incinerate absorbed material in accordance with federal, state, and local requirements. Do not incinerate in closed containers.

## Section VIII — Special Protection Information

Respiratory: Do not breathe vapors or mists.

Wear a positive pressure, supplied-air respirator (NIOSH/MSHA TC-19C) while mixing activator with enamel, during application and until all vapors and spray mists are exhausted. Individuals with a history of lung or breathing problems or prior reaction to isocyanate should not use or be exposed to this product when activated. Do not permit anyone without protection in the painting area. Follow the respirator manufacturer's directions for respirator use.

Ventilation: Provide sufficient ventilation in volume and pattern to keep contaminants below applicable OSHA requirements.

Protective clothing: Neoprene gloves and coveralls are recommended.

Eye protection: Desirable in all industrial situations. Include splash guards or side shields.

## Section IX — Special Precautions

Precautions to be taken in handling and storing: Observe label precautions. Keep away from heat, sparks and flame. Close container after each use. Ground containers when pouring. Wash thoroughly after handling and before eating or smoking. Do not store above 120°F.

Other precautions: Do not sand, flame cut, braze or weld dry coating without a NIOSH/MSHA approved respirator or appropriate ventilation.

## Section X — Hazardous Ingredients by Product Code

Product Code	Ingredients (See Section II)
520U, 521U, 522U, 523U	4, 8, 15, 16, 17, 18, 19
532U	2, 3, 4, 5, 9, 12, 13, 14, 15
533U	2, 3, 4, 5, 9, 13, 14, 15
534U, 539U, 540U, 541U, 543U, 544U, 555U	2, 3, 4, 5, 13, 14, 15
531U, 535U	2, 3, 4, 5, 9, 15
536U, 553U, 554U, 556U, 557U, 559U, 561U, 562U, 566U, 567U	2, 3, 4, 5, 9, 14, 15
537U	2, 3, 4, 5, 7, 13, 14, 15
547U	2, 3, 4, 5, 9, 10, 15
548U	2, 3, 4, 5, 9, 10, 11, 13, 14, 15
550U	2, 3, 4, 5, 6, 8, 15
552U, 558U	2, 3, 4, 5, 14, 15
560U	2, 3, 4, 5, 9, 10, 11, 15
563U, 564U	1, 2, 3, 4, 5, 6, 14, 15
565U	2, 3, 4, 5, 6, 9, 14, 15
571U, 572U	2, 3, 4, 6, 15

Notice: The data in this material safety data sheet relate only to the specific material designated herein and do not relate to use in combination with any other material or in any process.

Product Manager  
Refinish Sales

**MATERIAL SAFETY DATA SHEET**
**GOUGEON BROTHERS, INC.**

 706 MARTIN STREET  
 BAY CITY, MICHIGAN 48706, U.S.A.

**DATE OF PREPARATION**  
 March 1, 1986

page 1 of 3

**SECTION I. PRODUCT IDENTIFICATION**

<b>PRODUCT TRADE NAME</b> WEST SYSTEM® 105 Epoxy Resin	<b>EMERGENCY TELEPHONE NO.</b> 517-684-7286
<b>CHEMICAL NAME/SYNONYMS</b> Diluted Epoxidized Resin	<b>DOT HAZARD CLASSIFICATION</b> Non-regulated
<b>CHEMICAL FAMILY</b> Diluted Epoxy Resin	<b>FORMULA/MOLECULAR WEIGHT</b> N/A - Mixture

**SECTION II. HAZARDOUS INGREDIENTS**

INGREDIENTS	TLV (units)	INGREDIENTS	TLV (units)
Furfuryl Alcohol	50ppm		

**SECTION III. PHYSICAL DATA**

<b>BOILING POINT (°F)</b>	338°F	<b>SOLUBILITY IN WATER</b>	slight
<b>MELTING POINT (°F)</b>	N/A	<b>SPECIFIC GRAVITY (H<sub>2</sub>O = 1)</b>	1.15

**APPEARANCE AND ODOR**  
 Light yellow liquid - a slightly irritating odor 100% solids 9.59 #/gal

VOC content per Jim Watson (manufacturer) = 2% polymerization reaction not a drying reaction -

**SECTION IV. FIRE AND EXPLOSION HAZARD DATA**

<b>FLASH POINT (°F) (method used)</b> 167°F (Tag Open Cup)	<b>FLAMMABLE LIMITS IN AIR</b> N/A	<b>LEL</b> N/D	<b>UEL</b> N/D
<b>EXTINGUISHING MEDIA</b> Foam, CO <sub>2</sub> , Dry chemical			
<b>SPECIAL FIRE FIGHTING PROCEDURES</b> None			
<b>UNUSUAL FIRE AND EXPLOSION HAZARDS</b> None			

**SECTION V. REACTIVITY DATA**

<b>STABILITY</b>	<b>STABLE</b>		<b>CONDITIONS TO AVOID</b> Excess heating over long periods of time degrades the resin.
	<b>UNSTABLE</b>	X	
<b>INCOMPATIBILITY (materials to avoid)</b> Strong acids or bases			
<b>HAZARDOUS DECOMPOSITION PRODUCTS</b> None under normal conditions			
<b>HAZARDOUS POLYMERIZATION</b>	<b>MAY OCCUR</b>		<b>CONDITIONS TO AVOID</b> Mixing with strong acids or an aliphatic amine
	<b>WILL NOT OCCUR</b>	X	

**SECTION VI. HEALTH HAZARD DATA**

<b>INGESTION</b> Low acute oral toxicity
<b>INHALATION</b> Not considered a problem unless heated to high temperature.
<b>EYE CONTACT</b> May cause irritation.
<b>SKIN CONTACT</b> May cause allergic skin response.
<b>SKIN ABSORPTION</b> Not likely to be absorbed in toxic amounts.
<b>EFFECTS OF OVEREXPOSURE</b> Vapor, fumes could cause sensitization.

**SECTION VII. EMERGENCY & FIRST AID PROCEDURES**

<b>INGESTION</b> Induce vomiting if large amounts are ingested.
<b>INHALATION</b> Remove to fresh air if effects occur. Consult physician.
<b>EYES</b> Irrigation of the eye immediately with water for 5 minutes is a good safety practice. Consult physician.
<b>SKIN</b> Wash off in flowing water or shower. Consult physician. Decontaminate clothing and accessories before re-use.
<b>OTHER</b> Referral to a physician is recommended if there is any question about the seriousness of any injury.

**SECTION VIII. SPILL OR LEAK PROCEDURES**

<b>IN CASE MATERIAL IS RELEASED OR SPILLED</b> Soak up in absorbent material or scrape up. Residual can be removed with non-flammable solvent such as methylene chloride.
<b>WASTE DISPOSAL PROCEDURE</b> Dispose of waste per federal, state, or local regulations.

**SECTION IX: SPECIAL PROTECTION INFORMATION****RESPIRATORY PROTECTION (specify type)**

None normally needed.

**PROTECTIVE CLOTHING**

Clean, body-covering clothing; rubber gloves

**EYE PROTECTION**

Safety glasses

**VENTILATION**

Good room ventilation usually adequate for most operations.

**SECTION X: SPECIAL PRECAUTIONS****PRECAUTIONS TO BE TAKEN IN HANDLING, STORING, ETC.**

Practice good caution and personal cleanliness to avoid skin and eye contact. Avoid breathing vapors of heated material. Store in tight containers to prevent moisture absorption and loss of volatiles.

© TRADEMARK OF GOUGEON BROTHERS, INC. U.S.A.

BEST AVAILABLE COPY

Part B

Page 1 of 2  
10 July 1984MATERIAL SAFETY DATA SHEETI. PRODUCT IDENTIFICATION

Manufacturer's Name: GOUCEON BROTHERS, INC. Telephone 517/684-7286  
Address: 706 Martin Street, Bay City, MI 48706  
Product Name: WEST SYSTEM\* 200 Slow Hardener, an epoxy curing agent  
Ingredients: A mixture of polyamines

II. PHYSICAL DATA

initial boiling point - 239°C  
vapor pressure - not applicable  
vapor density - not applicable  
appearance - light yellow liquid  
odor - amine odor

solubility in water - slightly  
specific gravity - 1.02  
% volatile - about 60% (volume)

III. FIRE AND EXPLOSION DATA

flash point - 118°C (COC) flammable limits (STP in air) - not applicable  
extinguishing media - foam, carbon dioxide, dry chemical  
special fire fighting equipment and hazards - wear self-contained breathing apparatus and full protective clothing.

IV. REACTIVITY DATA

incompatibility - acid, oxidizing material, chlorinated compounds  
hazardous polymerization - may occur with epoxy resin in masses greater than one pound.

V. SPILL, LEAK, AND DISPOSAL PROCEDURES

action to take for spills - soak up in absorbent material. Do not wash into areas that will cause pollution. Avoid skin and eye contact. Wear appropriate safety equipment.  
disposal method - burn in adequate incinerator or bury in approved landfill.

VI. HEALTH HAZARD DATARoutes of Exposure

inhalation - ACHIH TLV 1 PPM diethylene triamine. Avoid vapor exposure.  
skin contact - a short contact (minutes) usually causes moderate irritation but could cause a severe burn. This material may cause significant sensitization or allergic response.  
skin absorption - apparently not readily absorbed.  
eye contact - may cause a severe burn.  
ingestion - moderate single dose oral toxicity.

\*Trademark of Gouceon Brothers, Inc., U.S.A.

MATERIAL SAFETY DATA SHEET

Page 57

I. PRODUCT IDENTIFICATION

Manufacturer's Name: GOUGEON BROTHERS, INC. Telephone 517/684-7286  
Address: 706 Martin Street, Bay City, MI 48706  
Product Name: WEST SYSTEM\* 205 Hardener, an epoxy curing agent  
Ingredients: A mixture of aliphatic polyamines, contains 12% phenol

II. PHYSICAL DATA

initial boiling point - 180°C (free phenol)      solubility in water - appreciable  
vapor pressure - 1 mm Hg @ 20°C                      specific gravity - 1.07  
vapor density ; heavier than air                      % volatile - 0  
appearance - amber liquid  
odor - amine odor

III. FIRE AND EXPLOSION DATA

flash point - 200°F Seta closed cup  
extinguishing media - alcohol foam, carbon dioxide, dry chemical, water fog  
special fire fighting equipment & hazards - wear self-contained breathing apparatus and full protective clothing

IV. REACTIVITY DATA

incompatibility - acid, oxidizing material, chlorinated compounds  
hazardous polymerization - may occur if mixed with epoxy resins in masses over one pound, causing considerable heat buildup

V. SPILL, LEAK AND DISPOSAL PROCEDURES

action to take for spills - spread absorbent material to soak up spill. Do not wash into areas that will cause pollution. Avoid skin and eye contact. Wear appropriate safety equipment  
disposal method - collect in waste metal drums and seal for removal to approved landfill

VI. HEALTH HAZARD DATA

Routes of Exposure

inhalation - ACGIH TLV 5 ppm phenol (1974). Avoid vapor exposure. Hot resin in excess of 130°F may evolve phenol vapors. May cause sensitization response  
skin contact - a short contact (minutes) may cause irritation. Prolonged contact may cause injury. May cause skin sensitization or other allergic responses.  
skin absorption - low in toxicity (LD<sub>50</sub> - 7.7 g/kg rabbits)  
eye contact - may cause a severe eye burn  
ingestion - toxic if swallowed

First Aid Procedures for Overexposure

inhalation - if ill effects occur, remove person to fresh air, get medical help

MATERIAL SAFETY DATA SHEET

Page 57

Product Name: WEST SYSTEM\* 205 Hardener

GUGEON BROTHERS, INC.

TELEPHONE: 517/684-7286

HEALTH HAZARD DATA (continued)First Aid Procedures for Overexposure

skin - immediately remove excess with disposable paper. Wash with plenty of water. Immediately remove contaminated clothing and wash before re-use. Discard contaminated shoes.

eye - immediately flush eyes with plenty of water for at least 15 minutes. Get medical help.

ingestion - induce vomiting. Consult physician.

Note to Physician

inhalation - may cause moderate irritation. Administer oxygen if available. Bronchodilators, expectorants, and antitussives may be of help.

skin - may cause dermatitis. Known or suspected skin sensitizer.

eye - may cause corneal injury. Stain for evidence of corneal injury. If cornea is burned, instill antibiotic steroid preparation. Consult ophthalmologist.

oral - moderately toxic. May burn mucous membranes. If lavage is performed, suggest endotracheal or esophagosopic control, or both.

VII. SPECIAL HANDLING DATA

ventilation - recommend control at vapor to comfort level in work area. Good natural draft or forced draft should be provided, exhaust fans, and hoods if necessary.

respiratory protection - NIOSH approved organic vapor respirator in absence of adequate environmental control.

protective gloves - Neoprene or other impervious material

eye protection - safety glasses with side shields or chemical workers goggles. keep eyewash facility at work area.

skin - wear clean, body-covering clothing. Have safety shower available to workers.

storage & handling - do not store near strong acids. Avoid handling at high temperatures and breathing of hot vapors. May begin to give off toxic fumes at temperatures above 130°F. Keep container closed.

\*Trademark of Gougeon Brothers, Inc., U.S.A.

MATERIAL SAFETY DATA SHEET

Product Name: WEST SYSTEM\* 206 HARDENER

GUGEON BROTHERS, INC.

TELEPHONE: 517/684-7286

First Aid Procedures for Overexposure

Inhalation - remove person to fresh air. If ill effects occur, get medical help.

skin - immediately wipe off excess with disposable paper. Then wash skin with soap and plenty of water for 15 minutes. Immediately remove contaminated clothing and wash before reuse. Discard contaminated shoes.

eye - immediately flush eyes with plenty of water for at least 15 minutes. Get medical help promptly.

ingestion - do not induce vomiting. Get medical help promptly.

Note to Physician

Inhalation - vapors may cause severe irritation. Good warning properties.

If massive exposure, administer oxygen if available. Bronchodilators, expectorants and antitussives may be of help. May cause respiratory sensitization or asthma.

skin - may cause severe burn. If burn is present, treat as any thermal burn. Known or suspected skin sensitizer.

eye - may cause severe corneal injury. Stain for evidence of corneal injury.

If cornea is burned, instill antibiotic steroid preparation. Consult ophthalmologist.

oral - low to moderate oral toxicity. May burn mucous membranes. If lavage is performed suggest endotracheal and/or esophagosopic control.

SPECIAL HANDLING DATA

ventilation - good ventilation a must! Without proper ventilation, then must use approved face mask for amines. Avoid breathing fumes!

skin - avoid eye contact! Wear chemical workers' goggles. Keep eye wash facility at work area.

storage - do not store near strong acids.

Trademark of Gougeon Brothers, Inc., U.S.A.

*Clear Coat*



**GUARDSMAN**  
CHEMICALS, INC.

MATERIAL SAFETY DATA SHEET

DATE OF PREPARATION: 11/14/85

MANUFACTURERS NAME: GUARDSMAN CHEMICALS, INC.

EMERGENCY/INFORMATION  
PHONE NO.: (501)897-4356

MANUFACTURERS ADDRESS: 1900 E. 145TH STREET  
LITTLE ROCK, AR 72206

PAGE 1 OF

SECTION I: PRODUCT INFORMATION

PRODUCT NAME: FULL GLOSS CHEM VEER

MANUFACTURERS CODE IDENTIFICATION: 231-0307

PRODUCT CLASS: CLEAR COATING

SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT/(CAS NO.)	% BY WGT.	PPM	TLV	MG/M3	LEL	VAPOR PRESSURE MM Hg
XYLENE (1330-20-7)	24	100	-SKIN		1.00	6.
TOLUENE (108-88-34)	17	100	-SKIN		1.20	22.
METHYL ALCOHOL (67-56-1)	5	200	-SKIN		5.50	96.
ETHYL ALCOHOL (64-17-5)	3	1000			3.70	47.
ISOPROPYL ALCOHOL (67-63-0)	2	400			2.30	33.
ISOBUTYL ALCOHOL (78-78-1)	10	50			1.20	8.
FORMALDEHYDE(50-00-0)	<	0.515	1			

SECTION III: PHYSICAL DATA

EVAPORATION RATE: FASTER X SLOWER THAN ETHER  
 VAPOR DENSITY: X HEAVIER LIGHTER THAN AIR  
 BOILING RANGE: 148 TO 287 DEG F  
 PERCENT VOLATILE BY VOLUME: 69 WEIGHT PER GALLON: 7.93 POUNDS

## SECTION IV: FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY CLASSIFICATION: FLAMMABLE LIQUID CLASS 1B

LOWER EXPLOSIVE LIMIT: REFER TO SECTION II

FLASH POINT: 45 DEG F METHOD USED: YCC

## EXTINGUISHING MEDIA:

FOAM, CARBON DIOXIDE OR DRY CHEMICAL. WATER FOG MAY LESSEN FIRE INTENSITY.

## UNUSUAL FIRE AND EXPLOSION HAZARDS:

KEEP CONTAINERS TIGHTLY CLOSED. ISOLATE FROM HEAT, ELECTRICAL EQUIPMENT, SPARKS AND OPEN FLAME. CLOSED CONTAINERS MAY EXPLODE WHEN EXPOSED TO EXTREME HEAT. VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL ALONG THE GROUND, COLLECT IN LOW AREAS, OR MAY IGNITE AT DISTANT LOCATIONS. DO NOT WELD ON OR NEAR CONTAINER, EVEN WHEN EMPTY.

## SPECIAL FIRE FIGHTING PROCEDURES:

DURING EMERGENCY CONDITIONS, DECOMPOSITION PRODUCTS CAN CAUSE HEALTH HAZARD. USE SELF-CONTAINED BREATHING APPARATUS WITH FULL FACE SHIELD OPERATED IN PRESSURE DEMAND OR OTHER POSITIVE PRESSURE MODE.

## SECTION V: HEALTH HAZARD DATA

## EFFECTS OF OVEREXPOSURE:

## ACUTE AND CHRONIC HEALTH EFFECTS:

INGESTION: SWALLOWING CAUSES INEBRIATION, HEADACHE, VOMITING, LEADING TO SEVERE ILLNESS, BLINDNESS, EVEN DEATH.

EYES: CAN CAUSE EYE BURNS, BLURRED VISION.

SKIN: LIQUID CAUSES IRRITATION. PROLONGED OR REPEATED CONTACT CAN CAUSE DEFATTING LEADING TO DERMATITIS.

INHALATION: EXCESSIVE INHALATION OF VAPORS CAN CAUSE RESPIRATORY IRRITATION, DIZZINESS, HEADACHE, VOMITING, UNCONSCIOUSNESS.

## OTHER HEALTH EFFECTS:

REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE.

FORMALDEHYDE IS CONSIDERED BY NTP, ACGIH, AND IARC TO BE A POSSIBLE CANCER HAZARD BASED ON TESTS ON LABORATORY ANIMALS.

## EMERGENCY FIRST AID PROCEDURES:

INGESTION: RINSE MOUTH. GIVE 1 TO 2 GLASSES OF WATER. CALL A PHYSICIAN FOR WAY TO INDUCE VOMITING.

EYES: FLUSH WITH PLENTY OF WATER FOR 15 MINUTES. GET MEDICAL ATTENTION.

SKIN: WASH AFFECTED AREA WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING. CONSULT A PHYSICIAN IF IRRITATION PERSISTS.

INHALATION: REMOVE TO FRESH AIR. RESTORE BREATHING. TREAT SYMPTOMATICALLY. GET MEDICAL ATTENTION.

## SECTION VI: REACTIVITY DATA

STABILITY: UNSTABLE X STABLE

HAZARDOUS POLYMERIZATION: MAY OCCUR X WILL NOT OCCUR

## HAZARDOUS DECOMPOSITION PRODUCTS:

IN CASE OF THERMAL DECOMPOSITION, CARBON DIOXIDE AND CARBON MONOXIDE WILL FORM.

## CONDITIONS TO AVOID:

AVOID HIGH TEMPERATURES, DIRECT HEATING.

## INCOMPATIBILITY (MATERIALS TO AVOID):

AVOID CONTACT WITH STRONG OXIDIZING AGENTS.

SECTION VII: SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

ELIMINATE ALL SOURCES OF IGNITION. CONTAIN SPILL AND ABSORB WITH ABSORBANT MATERIAL SUCH AS SAND. SHOVEL INTO DRUMS OR OTHER SUITABLE CONTAINERS USING NON-SPARKING TOOLS. NOTIFY APPROPRIATE AUTHORITIES IF SPILL ENTERS ENVIRONMENT.

WASTE DISPOSAL METHOD:

INCINERATE IN AN APPROVED FACILITY OR DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS. DO NOT INCINERATE CLOSED CONTAINERS.

SECTION VIII: SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:

IF TLV OF ANY COMPONENT IS EXCEEDED, USE NIOSH/MSHA APPROVED RESPIRATOR.

VENTILATION:

PROVIDE SUFFICIENT MECHANICAL AND/OR LOCAL VENTILATION TO MAINTAIN EXPOSURE LEVELS BELOW THE TLV. APPLICATION AREAS SHOULD BE VENTILATED IN ACCORDANCE WITH OSHA REGULATION #29CFR1910.107D.

PROTECTIVE GLOVES:

USE NEOPRENE, RUBBER, OR PLASTIC GLOVES TO PREVENT SKIN CONTACT.

EYE PROTECTION:

USE SAFETY GLASSES WITH SIDE SHIELDS.

OTHER PROTECTIVE EQUIPMENT:

SAFETY SHOWERS AND EYE BATH AND APRON.

SECTION IX: SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

KEEP AWAY FROM EXCESSIVE HEAT, SPARKS, AND OPEN FLAME. KEEP CLOSURES TIGHT WHEN NOT IN USE. KEEP CONTAINERS UPRIGHT TO PREVENT LEAKAGE.

OTHER PRECAUTIONS:

CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED. SINCE EMPTY CONTAINERS RETAIN RESIDUES, ALL HAZARD PRECAUTIONS MUST BE OBSERVED.

DO NOT CUT, PUNCTURE OR WELD ON OR NEAR CONTAINER.

CONTAINERS OF THIS MATERIAL MUST BE PROPERLY GROUNDED WHEN POURING.

IF CONTENTS ARE COMBINED WITH OTHER MATERIALS SUCH AS THINNERS, CATALYSTS, ETC, OBSERVE ALL PRECAUTIONS.

WHEN SPRAYING THIS MATERIAL, KEEP SPRAY BOOTH CLEAN. AVOID BUILDUP OF SPRAY DUST OR OVERSPRAY IN BOOTH OR DUCTS.

**DANGER: CONTAINS METHANOL - POISON  
CANNOT BE MADE NON-POISONOUS  
VAPOR HARMFUL**

**MAY BE FATAL OR CAUSE BLINDNESS IF SWALLOWED**

**FOR INDUSTRIAL USE ONLY**



## SECTION X: SHIPPING AND LABEL INFORMATION

DOT SHIPPING NAME: PAINT  
DOT ID NO: UN1263

DOT HAZARD CLASS: FLAMMABLE LIQUID

PRECAUTIONARY LABEL STATEMENT: 002A

**DANGER FLAMMABLE.**

HARMFUL IF INHALED. CAUSES IRRITATION.  
MAY BE FATAL OR CAUSE BLINDNESS IF SWALLOWED  
CANNOT BE MADE NON-POISONOUS.

KEEP AWAY FROM HEAT, SPARKS AND FLAME. VAPORS MAY CAUSE FLASH FIRE. USE WITH ADEQUATE VENTILATION. DO NOT BREATHE VAPORS OR SPRAY MIST. WEAR AN APPROPRIATE, PROPERLY FITTED RESPIRATOR (NIOSH/MSHA APPROVED) DURING AND AFTER APPLICATION UNTIL FUMES ARE GONE UNLESS AIR MONITORING DEMONSTRATES VAPOR/MIST LEVELS ARE BELOW APPLICABLE LIMITS. FOLLOW RESPIRATOR MANUFACTURER'S DIRECTIONS FOR RESPIRATOR USE. AVOID CONTACT WITH EYES, SKIN AND CLOTHING. WASH THOROUGHLY AFTER HANDLING.

FIRST AID: IN CASE OF EYE CONTACT, FLUSH IMMEDIATELY WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES AND GET MEDICAL ATTENTION; FOR SKIN, WASH THOROUGHLY WITH SOAP AND WATER. IF AFFECTED BY INHALATION OF VAPOR OR SPRAY MIST, REMOVE TO FRESH AIR.

**POISON**

**CALL A PHYSICIAN**

IF SWALLOWED, INDUCE VOMITING IMMEDIATELY BY GIVING TWO GLASSES OF WATER AND STICKING FINGER DOWN THROAT. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

KEEP CONTAINER CLOSED WHEN NOT IN USE. IN CASE OF SPILLAGE, ABSORB WITH INERT MATERIAL AND DISPOSE OF IN ACCORDANCE WITH APPLICABLE REGULATIONS.

NOTICE: REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL OVER-EXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALEING THE CONTENTS MAY BE HARMFUL OR FATAL.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA BELIEVED TO BE RELIABLE BY GUARDSMAN CHEMICALS; IT IS TRUE AND ACCURATE TO THE BEST OF OUR KNOWLEDGE, BUT IS NOT INTENDED TO BE ALL INCLUSIVE. USERS SHOULD CONSIDER THIS INFORMATION AS A SUPPLEMENT TO OTHER INFORMATION GATHERED BY THEM AND MUST MAKE THEIR OWN DETERMINATION OF SUITABILITY AND COMPLETENESS TO ASSURE PROPER SAFE USE AND DISPOSAL OF THESE MATERIALS.

Sealer



**GUARDSMAN**  
CHEMICALS, INC.

MATERIAL SAFETY DATA SHEET

DATE OF PREPARATION: 10/21/85

MANUFACTURERS NAME: GUARDSMAN CHEMICALS, INC.

EMERGENCY/INFORMATION  
PHONE NO.: (501)897-4356

MANUFACTURERS ADDRESS: 1900 E. 145TH. STREET  
LITTLE ROCK, AR 72206

PAGE 1 OF 4

SECTION I: PRODUCT INFORMATION

PRODUCT NAME: VINYL SEALER  
MANUFACTURERS CODE IDENTIFICATION: 279-6006  
PRODUCT CLASS: LACQUER COATING

SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT/(CAS NO.)	% BY WGT.	PPM	TLV	MG/M3	LEL	VAPOR PRES. MM HG
XYLENE (1330-20-7)	8	100	-SKIN		1.00	6.60
TOLUENE (108-88-34)	5	100	-SKIN		1.20	22.00
VM&P NAPHTHA (8030-30-6*)	13	200			0.90	13.00
ISOBUTYL ALCOHOL (78-78-1)	17	50			1.20	8.80
BUTYL ACETATE (123-84-4)	22	150			1.70	10.00
METHYL AMYL KETONE(591-78-6)	12	50			1.10	2.14
FORMALDEHYDE(50-00-0)	< 0.304	1				

SECTION III: PHYSICAL DATA

EVAPORATION RATE: FASTER X SLOWER THAN ETHER  
 VAPOR DENSITY: X HEAVIER LIGHTER THAN AIR  
 BOILING RANGE: 226 TO 304 DEG F  
 PERCENT VOLATILE BY VOLUME: 83 WEIGHT PER GALLON: 7.49 POUNDS



-----  
SECTION IV: FIRE AND EXPLOSION HAZARD DATA  
-----

FLAMMABILITY CLASSIFICATION: FLAMMABLE LIQUID CLASS IB

LOWER EXPLOSIVE LIMIT: REFER TO SECTION II

FLASH POINT: 45 DEG F METHOD USED: TCC

EXTINGUISHING MEDIA:

FOAM, CARBON DIOXIDE OR DRY CHEMICAL. WATER FOG MAY LESSEN FIRE INTENSITY.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

KEEP CONTAINERS TIGHTLY CLOSED. ISOLATE FROM HEAT, ELECTRICAL EQUIPMENT, SPARKS AND OPEN FLAME. CLOSED CONTAINERS MAY EXPLODE WHEN EXPOSED TO EXTREME HEAT. VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL ALONG THE GROUND, COLLECT IN LOW AREAS, OR MAY IGNITE AT DISTANT LOCATIONS. DO NOT WELD ON OR NEAR CONTAINER, EVEN WHEN EMPTY.

SPECIAL FIRE FIGHTING PROCEDURES:

DURING EMERGENCY CONDITIONS, DECOMPOSITION PRODUCTS CAN CAUSE HEALTH HAZARD. USE SELF-CONTAINED BREATHING APPARATUS WITH FULL FACE SHIELD OPERATED IN PRESSURE DEMAND OR OTHER POSITIVE PRESSURE MODE.

-----  
SECTION V: HEALTH HAZARD DATA  
-----

EFFECTS OF OVEREXPOSURE:

ACUTE AND CHRONIC HEALTH EFFECTS:

EYES: CAN CAUSE IRRITATION, REDNESS, TEARING, BLURRED VISION.

SKIN: PROLONGED OR REPEATED CONTACT CAN CAUSE IRRITATION, DEFATTING, DERMATITIS.

INHALATION: EXCESSIVE INHALATION OF VAPORS CAN CAUSE RESPIRATORY IRRITATION, DIZZINESS, HEADACHE, NAUSEA AND ASPHYXIATION.

INGESTION: SWALLOWING CAN CAUSE GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING, DIARRHEA. ASPIRATION OF MATERIAL INTO LUNGS CAN CAUSE CHEMICAL PNEUMONITIS WHICH CAN BE FATAL.

OTHER HEALTH EFFECTS:

REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE.

FORMALDEHYDE IS CONSIDERED BY NTP, ACGIH, AND IARC TO BE A POSSIBLE CANCER HAZARD BASED ON TESTS ON LABORATORY ANIMALS.

EMERGENCY FIRST AID PROCEDURES:

EYES: FLUSH WITH LARGE QUANTITIES OF WATER FOR AT LEAST 15 MINUTES AND GET MEDICAL ATTENTION.

SKIN: WASH AFFECTED AREAS WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING. CONSULT A PHYSICIAN IF IRRITATION PERSISTS.

INHALATION: REMOVE TO FRESH AIR. RESTORE BREATHING. TREAT SYMPTOMATICALLY. GET MEDICAL ATTENTION.

INGESTION: RINSE MOUTH. DRINK 1 TO 2 GLASSES OF WATER TO DILUTE. DO NOT INDUCE VOMITING. GET MEDICAL ATTENTION IMMEDIATELY.

-----  
SECTION VI: REACTIVITY DATA  
-----

STABILITY: UNSTABLE X STABLE

HAZARDOUS POLYMERIZATION: MAY OCCUR X WILL NOT OCCUR

HAZARDOUS DECOMPOSITION PRODUCTS:

IN CASE OF THERMAL DECOMPOSITION, CARBON DIOXIDE AND CARBON MONOXIDE WILL FORM.

CONDITIONS TO AVOID:

AVOID HIGH TEMPERATURES, DIRECT HEATING.

**GUARDSMAN**

CHEMICALS, INC.

PRODUCT: 279-6006

PAGE 3 OF

INCOMPATIBILITY (MATERIALS TO AVOID):

AVOID CONTACT WITH STRONG OXIDIZING AGENTS.

## =====

## SECTION VII: SPILL OR LEAK PROCEDURES

-----

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

ELIMINATE ALL SOURCES OF IGNITION. CONTAIN SPILL AND ABSORB WITH ABSORBANT MATERIAL SUCH AS SAND. SHOVEL INTO DRUMS OR OTHER SUITABLE CONTAINERS USING NON-SPARKING TOOLS. NOTIFY APPROPRIATE AUTHORITIES IF SPILL ENTERS ENVIRONMENT.

WASTE DISPOSAL METHOD:

INCINERATE IN AN APPROVED FACILITY OR DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS. DO NOT INCINERATE CLOSED CONTAINERS.

## =====

## SECTION VIII: SPECIAL PROTECTION INFORMATION

-----

RESPIRATORY PROTECTION:

IF TLV OF ANY COMPONENT IS EXCEEDED, USE NIOSH/MSHA APPROVED RESPIRATOR.

VENTILATION:

PROVIDE SUFFICIENT MECHANICAL AND/OR LOCAL VENTILATION TO MAINTAIN EXPOSURE LEVELS BELOW THE TLV. APPLICATION AREAS SHOULD BE VENTILATED IN ACCORDANCE WITH OSHA REGULATION #29CFR1910.107D.

PROTECTIVE GLOVES:

USE NEOPRENE, RUBBER, OR PLASTIC GLOVES TO PREVENT SKIN CONTACT.

EYE PROTECTION:

USE SAFETY GLASSES WITH SIDE SHIELDS.

OTHER PROTECTIVE EQUIPMENT:

SAFETY SHOWERS AND EYE BATH.

## =====

## SECTION IX: SPECIAL PRECAUTIONS

-----

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

KEEP AWAY FROM EXCESSIVE HEAT, SPARKS, AND OPEN FLAME. KEEP CLOSURES TIGHT WHEN NOT IN USE. KEEP CONTAINERS UPRIGHT TO PREVENT LEAKAGE.

OTHER PRECAUTIONS:

CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED. SINCE EMPTY CONTAINERS RETAIN RESIDUES, ALL HAZARD PRECAUTIONS MUST BE OBSERVED.

DO NOT CUT, PUNCTURE OR WELD ON OR NEAR CONTAINER.

CONTAINERS OF THIS MATERIAL MUST BE PROPERLY GROUNDED WHEN POURING.

IF CONTENTS ARE COMBINED WITH OTHER MATERIALS SUCH AS THINNERS, CATALYSTS, ETC, OBSERVE ALL PRECAUTIONS.

WHEN SPRAYING THIS MATERIAL, KEEP SPRAY BOOTH CLEAN. AVOID BUILDUP OF SPRAY DUST OR OVERSPRAY IN BOOTH OR DUCTS.

FOR INDUSTRIAL USE ONLY

SECTION X: SHIPPING AND LABEL INFORMATION

DOT SHIPPING NAME: PAINT  
DOT ID NO: UN1263

DOT HAZARD CLASS: FLAMMABLE LIQUID

PRECAUTIONARY LABEL STATEMENT: 001A

WARNING! FLAMMABLE.  
HARMFUL IF INHALED.  
CAUSES IRRITATION.

KEEP AWAY FROM HEAT, SPARKS AND FLAME. VAPORS MAY CAUSE FLASH FIRE. USE WITH ADEQUATE VENTILATION. DO NOT BREATHE VAPORS OR SPRAY MIST. WEAR AN APPROPRIATE, PROPERLY FITTED RESPIRATOR (NIOSH/MSHA APPROVED) DURING AND AFTER APPLICATION UNTIL FUMES ARE GONE, UNLESS AIR MONITORING DEMONSTRATES VAPOR/MIST LEVELS ARE BELOW APPLICABLE LIMITS. FOLLOW RESPIRATOR MANUFACTURER'S DIRECTIONS FOR RESPIRATOR USE. AVOID CONTACT WITH EYES, SKIN AND CLOTHING. WASH THOROUGHLY AFTER HANDLING.

FIRST AID: IN CASE OF EYE CONTACT, FLUSH IMMEDIATELY WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES AND GET MEDICAL ATTENTION. FOR SKIN, WASH THOROUGHLY WITH SOAP AND WATER. IF AFFECTED BY INHALATION OF VAPOR OR SPRAY MIST, REMOVE TO FRESH AIR. IF SWALLOWED, GET MEDICAL ATTENTION.

KEEP CONTAINER CLOSED WHEN NOT IN USE. IN CASE OF SPILLAGE, ABSORB WITH INERT MATERIAL AND DISPOSE OF IN ACCORDANCE WITH APPLICABLE REGULATIONS.

NOTICE: REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA BELIEVED TO BE RELIABLE BY GUARDSMAN CHEMICALS; IT IS TRUE AND ACCURATE TO THE BEST OF OUR KNOWLEDGE, BUT IS NOT INTENDED TO BE ALL INCLUSIVE. USERS SHOULD CONSIDER THIS INFORMATION AS A SUPPLEMENT TO OTHER INFORMATION GATHERED BY THEM AND MUST MAKE THEIR OWN DETERMINATION OF SUITABILITY AND COMPLETENESS TO ASSURE PROPER SAFE USE AND DISPOSAL OF THESE MATERIALS.



April 15, 1987

## MATERIAL SAFETY DATA SHEET

# LACQUER THINNERS AND CLEANING SOLVENTS

**Section I****Manufacturer**

E. I. du Pont de Nemours & Co. (Inc.)  
Automotive Products Dept.  
Wilmington, Delaware 19898  
Telephone: Product information (800) 441-7515  
Medical emergency (800) 441-3637  
Transportation emergency (800) 424-9300  
(CHEMTREC)

Product **Lacquer Thinners** and Cleaning SolventsD.O.T. Hazard Class: Flammable Liquid  
Paint Related Material NA 1263**Hazardous Materials Identification System:**

H = 2, F = 3, R = 0

**Section II — Hazardous Ingredients (See Section X for ingredients listed by product code)**

Ingredients	CAS No.	Vapor Pressure (20°C mm Hg.)	Exposure Limits*
1. Butyl acetate	123-86-4	8	150ppm-A,O; 200ppm-A-(STEL)
2. N-Butyl alcohol	71-36-3	5.5	100ppm-A; 25ppm-D; 50ppm-C, A
3. Acetone	67-64-1	184	750ppm-A; 1000ppm-O; 1000ppm-A-(STEL)
4. Methyl alcohol	67-56-1	100	200ppm-A,O,D; 250ppm-A-(STEL)
5. Toluene	108-88-3	36.7	100ppm-A, 200ppm-O; 150ppm-A-(STEL); 300ppm-C-O
6. Isopropyl alcohol	67-63-0	33	400ppm-A,O; 500ppm-A-(STEL)
7. Dibasic esters			
a) Dimethyl glutarate	119-40-0		
b) Dimethyl succinate	106-65-0	14 (at 100°C)	10mg/m <sup>3</sup> -D
c) Dimethyl adipate	627-93-0		
8. Propylene glycol monomethyl ether acetate	108-65-6	3.8	Unknown
9. Ethylene glycol monobutyl ether acetate	112-07-2	0.3	25ppm-S; 20ppm-O
10. Xylene	1330-20-7	25	100ppm-A,O; 150ppm-A-(STEL)
11. Aromatic hydrocarbon	64742-95-6	10	25ppm-O; 50ppm-D
12. VM&P naphtha	64742-89-8	15	100ppm-D; 300ppm-A; 500ppm-O
13. Medium mineral spirits	64742-88-7	10	100ppm-A,D; 500ppm-O

\*A = ACGIH TLV, O = OSHA, D = Du Pont internal limit,  
S = Supplier Furnished Limit, STEL = Short Term Exposure  
Limit (15 mins.), C = Ceiling

**Section III — Physical Data**

Evaporation rate: Slower than ether Gal. Weight (#/Gal): 6.54-7.76  
Solubility in Water: Miscible Volume % volatile: 100  
Vapor Density: Heavier than air Weight % volatile: 100  
Boiling Range: 54-225°F V.O.C. (#/Gal): 6.54-7.76

**Section IV — Fire & Explosion Data**

Flash point (Closed cup): Below 20°F: 3602S, 3608S, 3613S,  
3642S, 3661S, 3696S, 3924S; 20-73°F: 3939S; 73-100°F:  
3919S, 3929S; Above 100°F: 3979S

Approx. flammable limits: 0.8-36.5 percent.

Extinguishing media: Water spray, foam, carbon dioxide, dry chemical.

Special fire fighting procedures: Full protective equipment, including self-contained breathing apparatus, is recommended. Water from fog nozzles may be used to cool closed containers to prevent pressure build up.

Unusual fire &amp; explosion hazards: When heated above the flash point, emits flammable vapors which, when mixed with air, can burn or be explosive. Fine mists or sprays may be flammable at temperatures below the flash point.

**Section V — Health Hazard Data****General effects**

Ingestion: Gastro-intestinal distress.

In the unlikely event of ingestion, call a physician immediately and have the names of ingredients available.

Inhalation: May cause nose and throat irritation. Repeated and prolonged overexposure to solvents may lead to permanent brain and nervous system damage. Eye watering, headaches, nausea, dizziness and loss of coordination are all signs that solvent levels are too high.

If affected by inhalation of vapor or spray mist, remove to fresh air. If breathing difficulty persists, or occurs later, consult a physician.

Skin or eye contact: May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

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

In case of skin contact, wash with soap and water. If irritation occurs, contact a physician.

**Specific effects**

**Butyl Acetate:** Extremely high concentrations have caused blood changes and weakness in laboratory animals. **N-Butyl Alcohol:** Liquid splashes in the eye may result in chemical burns. **Methyl Alcohol:** Excessive human exposure to Methanol may lead to fatigue, headache, anaesthetic, neurologic effects, and visual difficulties including blindness or death. Recurrent overexposure may result in liver and kidney injury. Can be absorbed through the skin in harmful amounts. **Toluene:** Recurrent overexposure may result in liver and kidney injury. High airborne levels have produced irregular heart beats in animals and occasional palpitations in humans. Rats exposed to very high airborne levels have exhibited high frequency hearing deficits. The significance of this to man is unknown. **Isopropyl Alcohol:** Ingestion studies on laboratory animals showed that very high oral doses caused increased liver and kidney weights. High oral doses have caused anemia in laboratory animals. **Dibasic Esters:** High airborne levels in rats have shown mild injury to the olfactory region of the nose. **Propylene Glycol Monomethyl Ether Acetate:** May cause moderate eye burning. Recurrent overexposure may result in liver and kidney injury.

**Ethylene Glycol Monobutyl Ether Acetate:** Can be absorbed through the skin in harmful amounts. May destroy red blood cells. May cause abnormal kidney function. **Xylene:** High concentrations have caused embryotoxic effects in laboratory animals. Recurrent overexposure may result in liver and kidney injury. Can be absorbed through the skin in harmful amounts. **VM&P Naphtha and Medium Mineral Spirits:** Laboratory studies with rats have shown that petroleum distillates cause kidney damage and kidney or liver tumors. These effects were not seen in similar studies with guinea pigs, dogs, or monkeys. Several studies evaluating petroleum workers have not shown significant increases of kidney damage nor kidney or liver tumors.

#### Section VI — Reactivity Data

Stability: stable

Incompatibility (materials to avoid): none reasonably foreseeable

Hazardous decomposition products: CO, CO<sub>2</sub>, smoke

Hazardous polymerization: will not occur

#### Section VII — Spill or Leak Procedures

Steps to be taken in case material is released or spilled: Ventilate area. Remove sources of ignition. Prevent skin contact and breathing of vapor. Wear a properly fitted vapor/particulate respirator (NIOSH/MSHA TC-23C). Confine and remove with inert absorbant.

Waste disposal method: Do not allow material to contaminate ground water systems. Incinerate absorbed material in accordance with federal, state, and local requirements. Do not incinerate in closed containers.

#### Section VIII — Special Protection Information

Respiratory: Do not breathe vapors or mists.

Wear a properly fitted vapor/particulate respirator approved by NIOSH/MSHA (TC-23C) for use with paints during application and until all vapors and spray mists are exhausted. In confined spaces or in situations where continuous spray operations are typical or if proper respirator fit is not possible, wear a positive

pressure, supplied-air respirator (TC-19C). In all cases, follow the respirator manufacturer's directions for respirator use. Do not permit anyone without protection in the painting area.

Ventilation: Provide sufficient ventilation in volume and pattern to keep contaminants below applicable OSHA requirements.

Protective clothing: Neoprene gloves and coveralls are recommended.

Eye protection: Desirable in all industrial situations. Include splash guards or side shields.

#### Section IX — Special Precautions

Precautions to be taken in handling and storing: Observe label precautions. Keep away from heat, sparks and flame. Close container after each use. Ground containers when pouring. Wash thoroughly after handling and before eating or smoking. Do not store above 120°F.

Other precautions: Do not sand, flame cut, braze or weld dry coating without a NIOSH/MSHA approved respirator or appropriate ventilation.

#### Section X — Hazardous Ingredients by Product Code

Product Code	Ingredients (See Section II)
3602S	2, 3, 5, 6, 7, 8, 9, 11, 12
3608S	3, 4, 5, 6, 7, 8, 10, 12
3613S	3, 5, 6, 12
3642S	1, 3, 4, 5, 6, 8, 12
3661S	2, 3, 5, 6, 7, 8, 11, 12
3696S	3, 5, 6, 7, 8, 10, 12
3919S	13
3924S	3, 5, 6, 12
3929S, 3939S	5, 13
3979S	8, 9, 11, 13

Notice: The data in this material safety data sheet relate only to the specific material designated herein and do not relate to use in combination with any other material or in any process.

Product Manager  
Refinish Sales