

TITLE V OPERATION PERMIT RENEWAL APPLICATION

Prepared for:



Dunnellon, Florida

Dept. of Environmental
Protection

DEC 16 2009

Southwest District

Prepared by:

ECT

Environmental Consulting & Technology, Inc.

3701 Northwest 98th Street
Gainesville, Florida 32606

ECT No. 090676-0100

December 2009

1.0 INTRODUCTION

ASA Manufacturing, Inc. (ASA) is a manufacturer of fiberglass drains/sumps for swimming pools, fiberglass wall panels for water parks and other miscellaneous fiberglass products. ASA Manufacturing is located in Marion County, five miles east of Dunnellon, in the Dunnellon/Marion County Airport Commerce Park. See Figure A-1A for Site Location Map.

Fiberglass drains/sumps and other miscellaneous fiberglass products are manufactured in a three-sided booth (approximately 10 feet (ft) high, 24 ft wide and 17 ft deep), which is located within the manufacturing building. See Figure A-1B for Facility Plot Plan. Molds are prepared using either a wax-like paste or polyvinyl alcohol (PVA) as a releasing agent. Gel coat and resin are applied to the molds using hand layout as well as chop gun (spray) application. Acetone is used for chop gun flushing and cleaning of tools. ASA uses a non-atomized, state-of-the-art chop gun for reduced emissions. These materials are applied within the booth and emissions are exhausted by means of two axial flow exhaust fans, which discharge horizontally from the manufacturing building through gravity louvers. The booth is equipped with a Pre-Baffle System designed to reduce particulate matter emissions as a good industry practice. The drains/sumps and other miscellaneous fiberglass products are then transferred to a covered area outside the manufacturing building where trimming and grinding of the parts is performed using hand held electric tools. Touch-up of the gel coat using a small brush is also performed. See Figure A-2A for Process Flow Diagram for drain/sump production.

Fiberglass wall panels are manufactured on vacuum tables, which are located in the open shop area of the manufacturing building. One coat of vinyl ester resin and three coats of general purpose resin are applied by hand, (i.e. rollers or brush). A small amount of styrene is also applied by hand for cleaning and softening of the wall panels. All emissions are fugitive emissions and exhaust the building through two roll-up doors on either end of the building, two exhaust fans located directly over each roll-up door, two roof mounted exhaust fans and roof vents located along the peak of the roof. The wall panels are transferred to an outside covered area where cutting, drilling and polishing is performed using hand held electric tools. See Figure A-2B for Process Flow Diagram for wall panel production.

The trimming, grinding, cutting, drilling, and polishing operations using hand-held tools are considered insignificant activities. Other insignificant activities include a small woodworking shop for constructing molds and pallets for shipping purposes and one propane-fueled forklift.

ASA does not perform any surface coating operations and the manufacturing building is not heated.

ASA is currently operating under Title V Final Permit Number 0830104-006-AV, which has an expiration date of July 31, 2010. In accordance with 62-213.420(1)(a)(2), a timely permit renewal application is one that is submitted 225 days before the expiration date of a permit that expires on or after June 1, 2009. Therefore, ASA must submit a permit renewal application no later than December 18, 2009 if it is to be considered a timely permit renewal application.

Potential usage rates for all materials are the same as those presented in the initial Title V operating permit application dated September 2004. The same representative Material Safety Data Sheets (MSDSs) have also been used to calculate potential emissions. Therefore, the potential emissions are identical to those presented in the initial permit application and the emission limits contained in the current Title V operating permit.

This application package consists of the most current version of Florida Department of Environmental Protection's *Application for Air Permit – Long Form* (DEP Form No. 62-210.900(1) effective March 16, 2008) and all required supplemental facility and emission unit information.

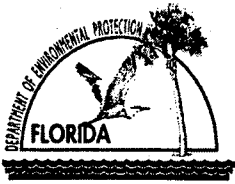
The following attachments are included as referenced in the permit application:

- A-1 Site Location Map and Facility Plot Plan
- A-2 Process Flow Diagrams
- A-3 Precautions to Prevent Emissions of Unconfined Particulate Matter
- A-4 List of Insignificant Activities
- A-5 Identification of Applicable Requirements
- A-6 Compliance Report and Plan

- B-1 Potential Annual Styrene Emission Calculations
 - B-2 Potential Hourly Styrene Emission Calculations
 - B-3 Potential Annual HAP Emission Calculations
 - B-4 Potential Hourly HAP Emission Calculations
 - B-5 Potential Annual Volatile Organic Compound (VOC) Emission Calculations
 - B-6 Potential Hourly Volatile Organic Compound (VOC) Emission Calculations

 - C Representative Material Safety Data Sheets (MSDSs)

 - D Unified Emission Factors for Open Molding of Composites
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Department of Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

Air Construction Permit – Use this form to apply for an air construction permit:

- For any required purpose at a facility operating under a federally enforceable state air operation permit (FESOP) or Title V air operation permit;
- For a proposed project subject to prevention of significant deterioration (PSD) review, nonattainment new source review, or maximum achievable control technology (MACT);
- To assume a restriction on the potential emissions of one or more pollutants to escape a requirement such as PSD review, nonattainment new source review, MACT, or Title V; or
- To establish, revise, or renew a plantwide applicability limit (PAL).

Air Operation Permit – Use this form to apply for:

- An initial federally enforceable state air operation permit (FESOP); or
- An initial, revised, or renewal Title V air operation permit.

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: ASA Manufacturing, Inc.	
2. Site Name:	
3. Facility Identification Number:	
4. Facility Location... Street Address or Other Locator: 14879 SW 111 th Street City: Dunnellon County: Marion Zip Code: 34432-4734	
5. Relocatable Facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6. Existing Title V Permitted Facility? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Application Contact

1. Application Contact Name: Todd DuPlessis	
2. Application Contact Mailing Address... Organization/Firm: ASA Manufacturing, Inc. Street Address: 14879 SW 111 th Street City: Dunnellon State: Florida Zip Code: 34432-4734	
3. Application Contact Telephone Numbers... Telephone: (352) 465 - 0236 ext. Fax: (352) 465 - 0239	
4. Application Contact E-mail Address: todd@asamfg.com	

Application Processing Information (DEP Use)

1. Date of Receipt of Application: 12-16-09	3. PSD Number (if applicable):
2. Project Number(s): 0830104~007-AV	4. Siting Number (if applicable):

APPLICATION INFORMATION

Purpose of Application

This application for air permit is being submitted to obtain: (Check one)

Air Construction Permit

- Air construction permit.
- Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL).
- Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL), and separate air construction permit to authorize construction or modification of one or more emissions units covered by the PAL.

Air Operation Permit

- Initial Title V air operation permit.
- Title V air operation permit revision.
- Title V air operation permit renewal.
- Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.
- Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)

- Air construction permit and Title V permit revision, incorporating the proposed project.
- Air construction permit and Title V permit renewal, incorporating the proposed project.

Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:

- I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

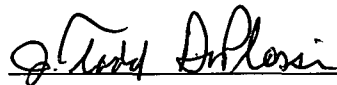
Application Comment

ASA Manufacturing Inc. is currently operating under Final Permit No. 0830104-006-AV. This Title V operating permit renewal application does not request any changes to the current permit conditions.

APPLICATION INFORMATION

Owner/Authorized Representative Statement N/A

Complete if applying for an air construction permit or an initial FESOP.

1. Owner/Authorized Representative Name : <u>John Todd Duplessis</u>
2. Owner/Authorized Representative Mailing Address... Organization/Firm: <u>A.S.A. Manufacturing INC</u> Street Address: <u>14879 S.W. 111th ST</u> City: <u>Dunnellon</u> State: <u>FL</u> Zip Code: <u>34432</u>
3. Owner/Authorized Representative Telephone Numbers... Telephone: <u>(352) 465-0236</u> ext. Fax: <u>() -352-465-0239</u>
4. Owner/Authorized Representative E-mail Address:
5. Owner/Authorized Representative Statement: <i>I, the undersigned, am the owner or authorized representative of the corporation, partnership, or other legal entity submitting this air permit application. To the best of my knowledge, the statements made in this application are true, accurate and complete, and any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department.</i> <u></u> Signature <u>12/14/09</u> Date

Dept. of Environmental
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DEC 16 2009
Southwest District

APPLICATION INFORMATION

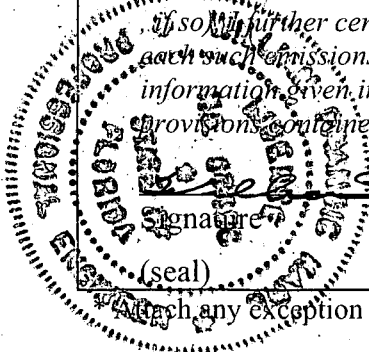
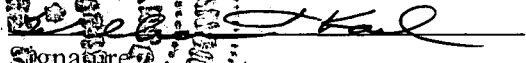
Application Responsible Official Certification

Complete if applying for an initial, revised, or renewal Title V air operation permit or concurrent processing of an air construction permit and revised or renewal Title V air operation permit. If there are multiple responsible officials, the “application responsible official” need not be the “primary responsible official.”

1. Application Responsible Official Name: Todd DuPlessis
2. Application Responsible Official Qualification (Check one or more of the following options, as applicable): <input checked="" type="checkbox"/> For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C. <input type="checkbox"/> For a partnership or sole proprietorship, a general partner or the proprietor, respectively. <input type="checkbox"/> For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official. <input type="checkbox"/> The designated representative at an Acid Rain source, CAIR source, or Hg Budget source.
3. Application Responsible Official Mailing Address... Organization/Firm: ASA Manufacturing Inc. Street Address: 14879 SW 111 th Street City: Dunnellon State: Florida Zip Code: 34432-4734
4. Application Responsible Official Telephone Numbers... Telephone: (352) 465 - 0236 ext. Fax: (352) 465 - 0239
5. Application Responsible Official E-mail Address: todd@asamfg.com
6. Application Responsible Official Certification: <i>I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.</i> Signature: <u>Todd DuPlessis</u> Date: <u>12/14/09</u>

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: William F. Karl Registration Number: 67498
2. Professional Engineer Mailing Address... Organization/Firm: Environmental Consulting & Technology, Inc. Street Address: 3701 NW 98 th Street City: Gainesville State: Florida Zip Code: 32606
3. Professional Engineer Telephone Numbers... Telephone: (352) 248 - 3313 ext. Fax: (352) 332 - 6722
4. Professional Engineer E-mail Address: wkarl@ectinc.com
5. Professional Engineer Statement: <i>I, the undersigned, hereby certify, except as particularly noted herein*, that:</i> <i>(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and</i> <i>(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.</i> <i>(3) If the purpose of this application is to obtain a Title V air operation permit (check here <input checked="" type="checkbox"/>, if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.</i> <i>(4) If the purpose of this application is to obtain an air construction permit (check here <input type="checkbox"/>, if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here <input type="checkbox"/>, if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.</i> <i>(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here <input type="checkbox"/>, if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.</i>  Signature:  Date: 12/10/09

*Attach any exception to certification statement.

FACILITY INFORMATION

Facility Regulatory Classifications

Check all that would apply *following* completion of all projects and implementation of all other changes proposed in this application for air permit. Refer to instructions to distinguish between a “major source” and a “synthetic minor source.”

1. <input type="checkbox"/> Small Business Stationary Source	<input type="checkbox"/> Unknown
2. <input type="checkbox"/> Synthetic Non-Title V Source	
3. <input checked="" type="checkbox"/> Title V Source	
4. <input type="checkbox"/> Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. <input type="checkbox"/> Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. <input checked="" type="checkbox"/> Major Source of Hazardous Air Pollutants (HAPs)	
7. <input type="checkbox"/> Synthetic Minor Source of HAPs	
8. <input type="checkbox"/> One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9. <input type="checkbox"/> One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11. <input type="checkbox"/> Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
12. Facility Regulatory Classifications Comment: ASA Manufacturing Inc. is subject to 40 CFR Part 63 Subpart WWWW, National Emission Standard for Hazardous Air Pollutant (NESHAP) for Reinforced Plastic Composites Production.	

FACILITY INFORMATION

C. FACILITY ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: A-1 _____ <input type="checkbox"/> Previously Submitted, Date: _____
2. Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: A-2 _____ <input type="checkbox"/> Previously Submitted, Date: _____
3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: A-3 _____ <input type="checkbox"/> Previously Submitted, Date: _____

Additional Requirements for Air Construction Permit Applications

1. Area Map Showing Facility Location: <input checked="" type="checkbox"/> Attached, Document ID: A-1 _____ <input type="checkbox"/> Not Applicable (existing permitted facility)
2. Description of Proposed Construction, Modification, or Plantwide Applicability Limit (PAL): N/A <input type="checkbox"/> Attached, Document ID: _____
3. Rule Applicability Analysis: <input checked="" type="checkbox"/> Attached, Document ID: A-5 _____
4. List of Exempt Emissions Units: <input checked="" type="checkbox"/> Attached, Document ID: A-4 _____ <input type="checkbox"/> Not Applicable (no exempt units at facility)
5. Fugitive Emissions Identification: <input checked="" type="checkbox"/> Attached, Document ID: A-2 _____ <input type="checkbox"/> Not Applicable
6. Air Quality Analysis (Rule 62-212.400(7), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
7. Source Impact Analysis (Rule 62-212.400(5), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
8. Air Quality Impact since 1977 (Rule 62-212.400(4)(e), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
9. Additional Impact Analyses (Rules 62-212.400(8) and 62-212.500(4)(e), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

FACILITY INFORMATION

C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for FESOP Applications – Not Applicable

1. List of Exempt Emissions Units: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable (no exempt units at facility)

Additional Requirements for Title V Air Operation Permit Applications

1. List of Insignificant Activities: (Required for initial/renewal applications only) <input checked="" type="checkbox"/> Attached, Document ID: <u>A-4</u> <input type="checkbox"/> Not Applicable (revision application)

2. Identification of Applicable Requirements: (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>A-5</u> <input type="checkbox"/> Not Applicable (revision application with no change in applicable requirements)

3. Compliance Report and Plan: (Required for all initial/revision/renewal applications) <input checked="" type="checkbox"/> Attached, Document ID: <u>A-6</u> Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.
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4. List of Equipment/Activities Regulated under Title VI: (If applicable, required for initial/renewal applications only) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Equipment/Activities Onsite but Not Required to be Individually Listed <input checked="" type="checkbox"/> Not Applicable

5. Verification of Risk Management Plan Submission to EPA: (If applicable, required for initial/renewal applications only) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
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6. Requested Changes to Current Title V Air Operation Permit: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

FACILITY INFORMATION

C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Facilities Subject to Acid Rain, CAIR, or Hg Budget Program

1. Acid Rain Program Forms:

Acid Rain Part Application (DEP Form No. 62-210.900(1)(a)):

Attached, Document ID: _____ Previously Submitted, Date: _____

Not Applicable (not an Acid Rain source)

Phase II NO_x Averaging Plan (DEP Form No. 62-210.900(1)(a)1.):

Attached, Document ID: _____ Previously Submitted, Date: _____

Not Applicable

New Unit Exemption (DEP Form No. 62-210.900(1)(a)2.):

Attached, Document ID: _____ Previously Submitted, Date: _____

Not Applicable

2. CAIR Part (DEP Form No. 62-210.900(1)(b)):

Attached, Document ID: _____ Previously Submitted, Date: _____

Not Applicable (not a CAIR source)

3. Hg Budget Part (DEP Form No. 62-210.900(1)(c)):

Attached, Document ID: _____ Previously Submitted, Date: _____

Not Applicable (not a Hg Budget unit)

Additional Requirements Comment

EMISSIONS UNIT INFORMATION

Section [1] of [1]

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for an initial, revised or renewal Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for an air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application - Where this application is used to apply for both an air construction permit and a revised or renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes, and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this application that is subject to air construction permitting and for each such emissions unit that is a regulated or unregulated unit for purposes of Title V permitting. (An emissions unit may be exempt from air construction permitting but still be classified as an unregulated unit for Title V purposes.) Emissions units classified as insignificant for Title V purposes are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

EMISSIONS UNIT INFORMATION

Section [1] of [1]

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

- The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.
- The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

- This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).
- This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.
- This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section: Fiberglass drain/sump, fiberglass wall panels and miscellaneous fiberglass products/accessories manufacturing

3. Emissions Unit Identification Number: 001

4. Emissions Unit Status Code: A	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code: 28
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8. Federal Program Applicability: (Check all that apply)

- Acid Rain Unit
- CAIR Unit
- Hg Budget Unit

9. Package Unit:
Manufacturer: _____ Model Number: _____

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment:

EMISSIONS UNIT INFORMATION

Section [1] of [1]

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ___ of ___

1. Control Equipment/Method Description:
2. Control Device or Method Code:

EMISSIONS UNIT INFORMATION

Section [1] of [1]

C. EMISSION POINT (STACK/VENT) INFORMATION

(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: EP-1		2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: Three-sided booth with two (2) axial flow exhaust fans discharging emissions from the booth horizontally through gravity louvers located on the side of the building.			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: NA			
5. Discharge Type Code: H	6. Stack Height: 3.0 feet	7. Exit Diameter: 3.33 feet square	
8. Exit Temperature: Ambient °F	9. Actual Volumetric Flow Rate: 12,400 acfm (per fan)	10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: This emission point represents gel coat and resin spray operations performed in a three-sided booth.			

EMISSIONS UNIT INFORMATION

Section [1] of [1]

C. EMISSION POINT (STACK/VENT) INFORMATION

(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: EP-2		2. Emission Point Type Code: 3	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: Fugitive emissions from fiberglass manufacturing operations conducted within the shop building but outside of the three-sided booth			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: NA			
5. Discharge Type Code: R	6. Stack Height: feet	7. Exit Diameter: feet square	
8. Exit Temperature: Ambient °F	9. Actual Volumetric Flow Rate: acfm (per fan)	10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: This emission point represents resin hand-applied operations performed in the shop building. Fugitive emissions are discharged through roll-up doors and wall mounted exhaust fans located on both ends of the shop building, roof mounted exhaust fans and roof vents.			

EMISSIONS UNIT INFORMATION

Section [1] of [1]

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 8_

1. Segment Description (Process/Fuel Type): General Purpose Resin chop or spray application		
2. Source Classification Code (SCC): 30800730		3. SCC Units: Gallons used
4. Maximum Hourly Rate: 13.75 gallons per hour	5. Maximum Annual Rate: 60,225 gallons per year	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: Maximum hourly rate based on two 55-gallon drums per 8-hour day. Maximum annual rate based on three 55-gallon drums per 24-hour day, 365 days per year		

Segment Description and Rate: Segment 2_ of 8_

1. Segment Description (Process/Fuel Type): General Purpose Resin hand lay-up application		
2. Source Classification Code (SCC): 30800723		3. SCC Units: Gallons used
4. Maximum Hourly Rate: 4.58 gallons per hour	5. Maximum Annual Rate: 40,150 gallons per year	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: Maximum hourly rate based on two 55-gallon drums per 24-hour day. Maximum annual rate based on three 55-gallon drums per 24-hour day, 365 days per year		

EMISSIONS UNIT INFORMATION

Section [1] of [1]

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment 3_ of 8_

1. Segment Description (Process/Fuel Type): Vinyl Ester Resin hand lay-up application		
2. Source Classification Code (SCC): 30800723		3. SCC Units: Gallons used
4. Maximum Hourly Rate: 2.75 gallons per hour	5. Maximum Annual Rate: 5,720 gallons per year	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: Maximum hourly rate based on two 55-gallon drums per 40-hour week. Maximum annual rate based on three 55-gallon drums per week, 52 weeks per year		

Segment Description and Rate: Segment 4_ of 8_

1. Segment Description (Process/Fuel Type): Gelcoat spray application		
2. Source Classification Code (SCC): 30800722		3. SCC Units: Gallons used
4. Maximum Hourly Rate: 2.5 gallons per hour	5. Maximum Annual Rate: 5,720 gallons per year	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: Maximum hourly rate based on 20 gallons per 8-hour day. Maximum annual rate based on three 55-gallon drums per week, 52 weeks per year		

EMISSIONS UNIT INFORMATION

Section [1] of [1]

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment 5_ of 8_

1. Segment Description (Process/Fuel Type): Catalyst for General Purpose and Vinyl Esther Resin.		
2. Source Classification Code (SCC): 30800730		3. SCC Units: Gallons used
4. Maximum Hourly Rate: 0.55 gallons per hour	5. Maximum Annual Rate: 3,183 gallons per year	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: Maximum hourly catalyst usage rate based on 3% of maximum hourly general purpose resin usage rate for both drain/sump production (13.75 gal/hr) and wall panel production (4.58 gal/hr) Maximum annual rate based on 3% of maximum annual general purpose and vinyl ester resin rate.		

Segment Description and Rate: Segment 6_ of 8_

1. Segment Description (Process/Fuel Type): Catalyst for Gelcoat		
2. Source Classification Code (SCC): 30800722		3. SCC Units: Gallons used
4. Maximum Hourly Rate: 0.075 gallons per hour	5. Maximum Annual Rate: 172 gallons per year	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: Maximum hourly rate based on 3% of hourly gelcoat usage rate. Maximum annual rate based on 3% of annual gelcoat usage rate.		

EMISSIONS UNIT INFORMATION

Section [1] of [1]

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment 7_ of 8_

1. Segment Description (Process/Fuel Type): Styrene hand wipe operation used for preparation of vacuum tables prior to fiberglass wall panel production		
2. Source Classification Code (SCC): 40100398		3. SCC Units: Gallons used
4. Maximum Hourly Rate: 0.25 gallons per hour	5. Maximum Annual Rate: 45.625 gallons per year	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: Maximum hourly rate based on two pints per hour. Maximum annual rate based on one pint per day, 365 days per year		

Segment Description and Rate: Segment 8_ of 8_

1. Segment Description (Process/Fuel Type): Acetone for cleaning chop gun parts and roll out tools		
2. Source Classification Code (SCC): 30800722		3. SCC Units: Gallons used
4. Maximum Hourly Rate: 2.5 gallons per hour	5. Maximum Annual Rate: 5,720 gallons per year	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: Maximum hourly rate based on 20 gallons per 8-hour day. Maximum annual rate based on three 55-gallon drums per week, 52 weeks per year		

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: H163 (Styrene)		2. Total Percent Efficiency of Control: N/A	
3. Potential Emissions: 12.5 lb/hour 34.1 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: See Attachment B-1 and B-2 for emission factors. Reference:		7. Emissions Method Code: 5	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Attachments B-1 and B-2 for annual and hourly styrene emission calculations, respectively.			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
 ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: HAPS		2. Total Percent Efficiency of Control: N/A	
3. Potential Emissions: 12.5 lb/hour 35.8 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: See Attachment B-3 and B-4 for emission factors. Reference:		7. Emissions Method Code: 5	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Attachments B-3 and B-4 for annual and hourly total HAP emissions calculations, respectively.			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS
 (Optional for unregulated emissions units.)**

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: VOC		2. Total Percent Efficiency of Control: N/A	
3. Potential Emissions: 17.4 lb/hour 48.7 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: See Attachment B-5 and B-6 for emission factors. Reference:		7. Emissions Method Code: 5	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: See Attachments B-5 and B-6 for annual and hourly VOC emission calculations, respectively.			
11. Potential, Fugitive, and Actual Emissions Comment:			

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions __ of __

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

EMISSIONS UNIT INFORMATION

Section [1] of [1]

H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor ___ of ___

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor ___ of ___

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

EMISSIONS UNIT INFORMATION

Section [1] of [1]

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

Continuous Monitoring System: Continuous Monitor ___ of ___

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor ___ of ___

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

EMISSIONS UNIT INFORMATION

Section [1] of [1]

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input checked="" type="checkbox"/> Attached, Document ID: <u>A-2</u> <input type="checkbox"/> Previously Submitted, Date _____
2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) N/A <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____
3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of revision being sought) N/A <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____
4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) N/A <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input type="checkbox"/> Not Applicable (construction application)
5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____ <input checked="" type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records: <input type="checkbox"/> Attached, Document ID: _____ Test Date(s)/Pollutant(s) Tested: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: <u>01/12/09</u> Test Date(s)/Pollutant(s) Tested: <u>Annual statement of compliance</u> <input type="checkbox"/> To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: _____ <input type="checkbox"/> Not Applicable Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.
7. Other Information Required by Rule or Statute: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

ATTACHMENT A-1
SITE LOCATION MAP AND FACILITY PLOT PLAN

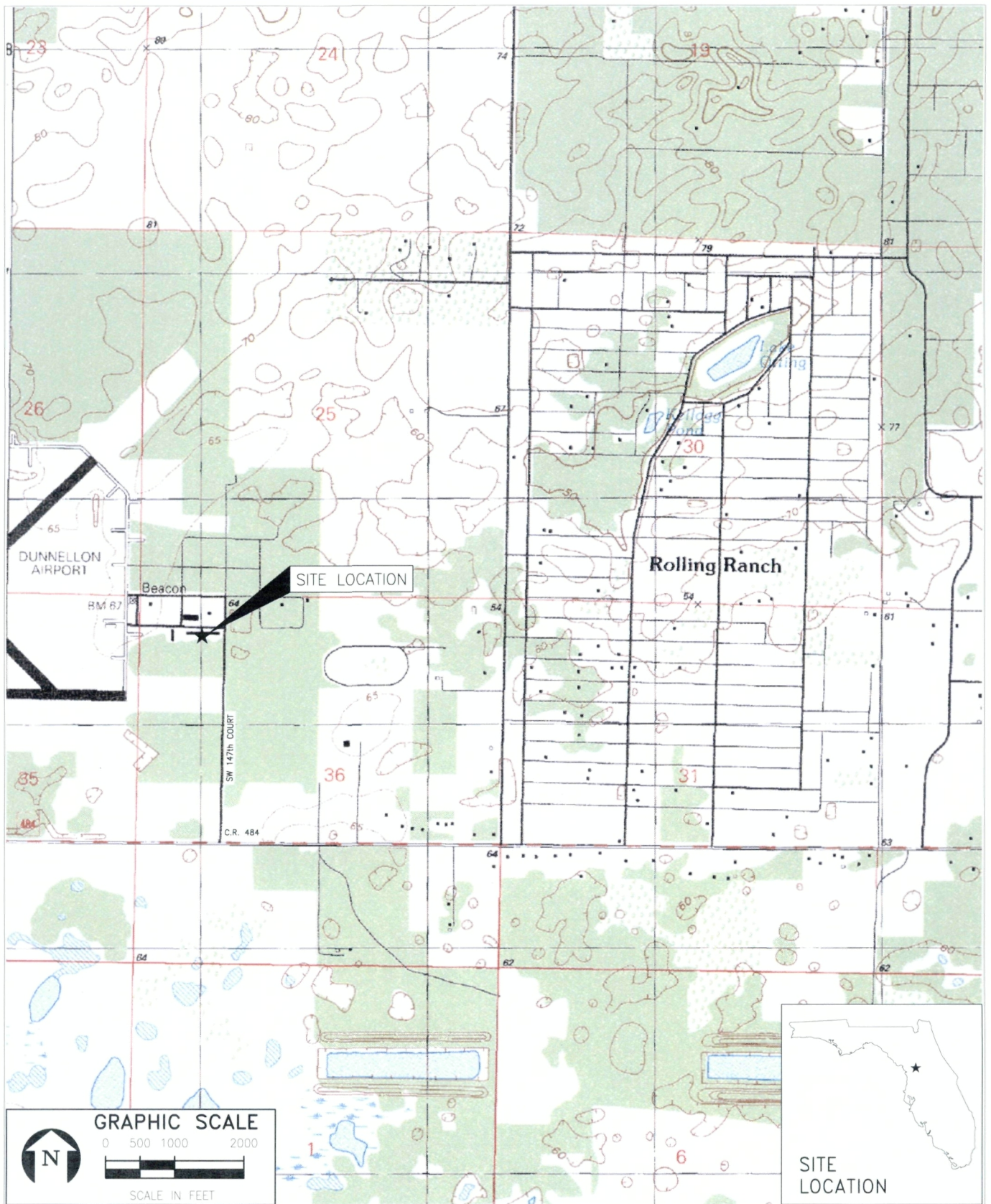


FIGURE A-1A.

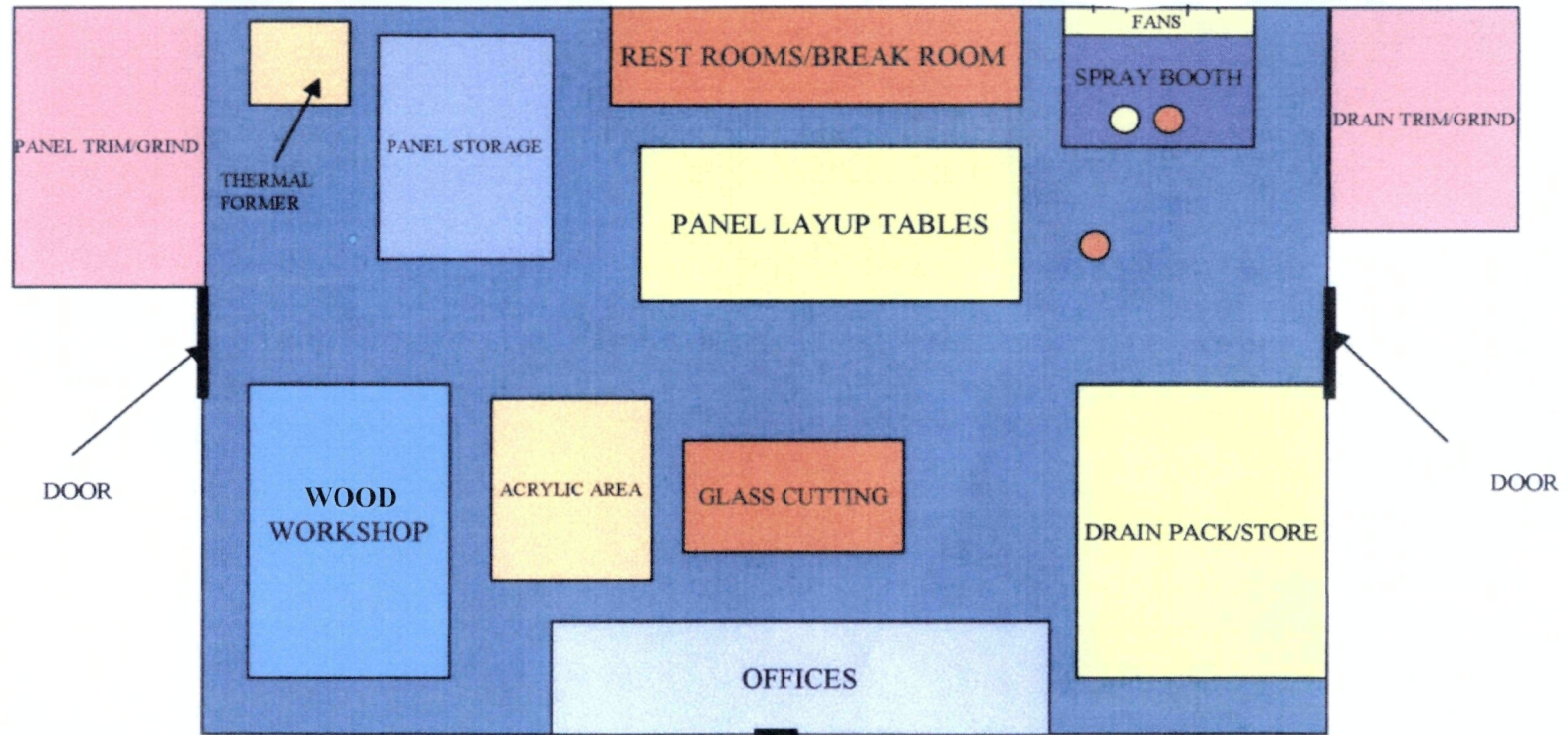
SITE LOCATION MAP

ASA MANUFACTURING, INC.

Sources: USGS Quad, Dunnellon SE, FL, 1991; ECT, 2009.

ECT

Environmental Consulting & Technology, Inc.



DRAWING NOT TO SCALE. BUILDING DIMENSIONS 100' X 200'

FIGURE A-1B.

FACILITY PLOT PLAN
 ASA MANUFACTURING, INC.

Source: ASA, 2009.



ATTACHMENT A-2
PROCESS FLOW DIAGRAMS

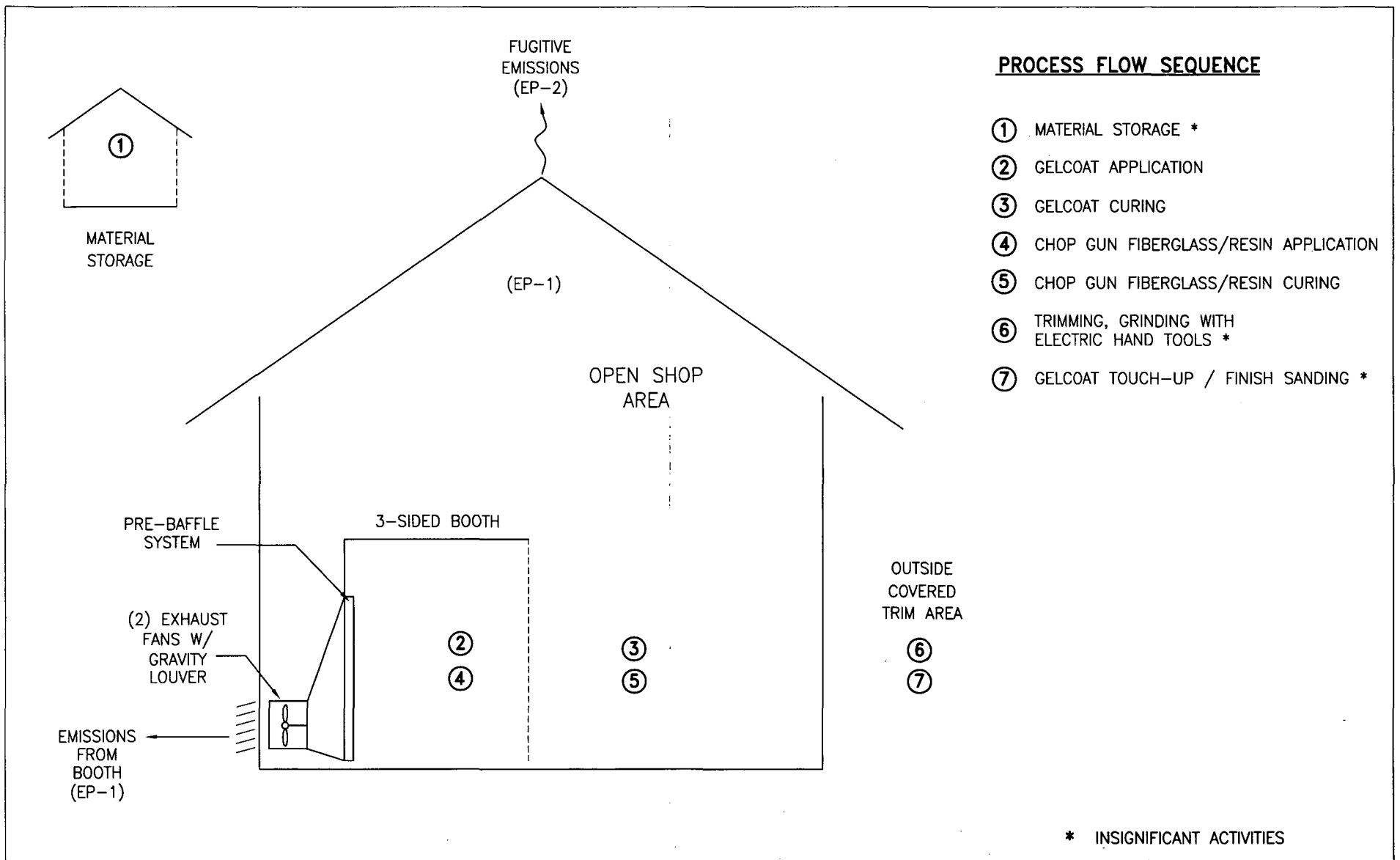


FIGURE A-2A.
PROCESS FLOW DIAGRAM - FIBERGLASS DRAIN/SUMP PRODUCTION
ASA MANUFACTURING, INC.

Source: ECT, 2009.



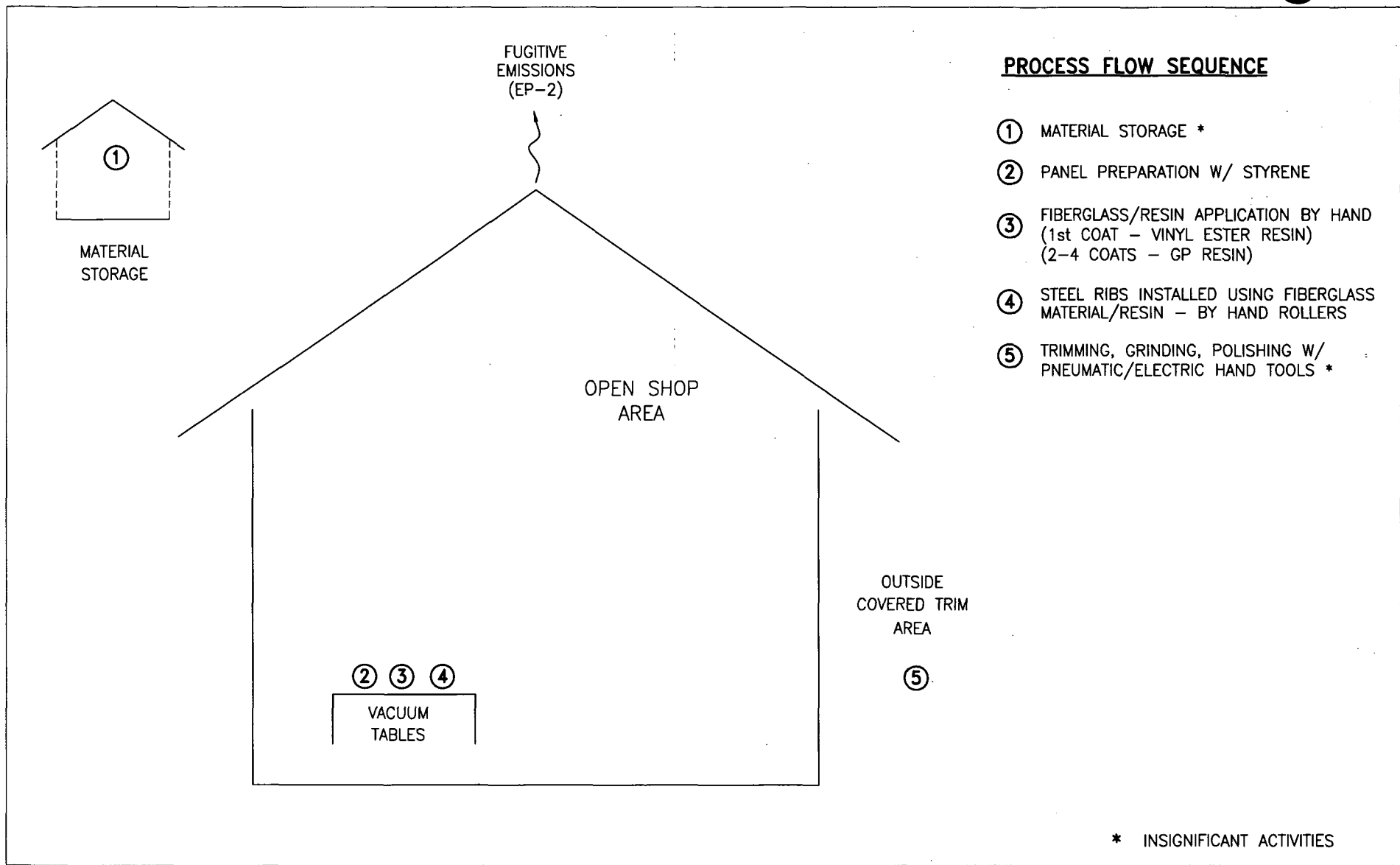


FIGURE A-2B.
 PROCESS FLOW DIAGRAM - FIBERGLASS WALL PANEL PRODUCTION
 ASA MANUFACTURING, INC.

Source: ECT, 2009.

ATTACHMENT A-3
**PRECAUTIONS TO PREVENT EMISSIONS OF UNCONFINED PARTI-
CULATE MATTER**

ATTACHMENT A-3

PRECAUTIONS TO PREVENT EMISSIONS OF UNCONFINED PARTICULATE MATTER

Unconfined particulate matter emissions that may result from operations include:

- Trim/grind areas.
- Woodworking shop area.

The following techniques will be used to prevent unconfined particulate matter emissions on an as needed basis:

- Routine sweeping/vacuuming of shop floor and outside trim/grind areas.

ATTACHMENT A-4
LIST OF INSIGNIFICANT ACTIVITIES

ATTACHMENT A-4

LIST OF INSIGNIFICANT ACTIVITIES

ASA MANUFACTURING, INC.

1. Hand-held electric operated cutting, drilling, grinding and buffing equipment.
2. Wood shop for building pallets used for shipping and molds.
3. One (1) propane-fueled forklift.
4. Application of mold release agent and polyvinyl alcohol application using spray gun.
5. Any other emissions unit or activity that:
 - a. Is not subject to a unit-specific applicable requirement.
 - b. In combination with other units and activities proposed as insignificant, would not cause ASA Manufacturing, Inc. to exceed any major source threshold(s) as defined by Rule 62-213.420(3)(c)1., F.A.C., unless acknowledged in a permit application.
 - c. Would neither emit or have the potential to emit:
 - 500 pounds per year of lead and lead compounds expressed as lead;
 - 1,000 pounds per year or more of any hazardous air pollutant;
 - 2,500 pounds per year or more of total hazardous air pollutants; or
 - 5.0 tons per year or more of any other regulated pollutant.

ATTACHMENT A-5
IDENTIFICATION OF APPLICABLE REQUIREMENTS

Table A-5A. Summary of Federal EPA Regulatory Applicability and Corresponding Requirements for ASA Manufacturing, Inc. (Page 1 of 2)

Regulation	Citation	Not Applicable	Applicable	Applicable Requirement or Non-Applicability Rationale
40 CFR Part 60 —Standards of Performance for New Stationary Sources: Subparts A, B, C, Cb, D, Da, Db, Dc, E, Ea, Eb, F, G, H, I, J, K, Ka, Kb, L, M, N, Na, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AAa, BB, CC, DD, EE, GG, HH, KK, LL, MM, NN, PP, QQ, RR, SS, TT, UU, VV, WW, XX, AAA, BBB, DDD, FFF, GGG, HHH, III, JJJ, KKK, LLL, NNN, OOO, PPP, QQQ, RRR, SSS, TTT, UUU, VVV, WWW, AAAA, BBBB, CCCC, DDDD, EEEE, FFFF, HHHH, IIII, JJJJ, and KKKK		X		None of the listed NSPSs contain requirements which are applicable to the ASA Manufacturing, Inc.
40 CFR Part 61 —National Emission Standards for Hazardous Air Pollutants				
40 CFR Part 61 —National Emission Standards for Hazardous Air Pollutants: Subparts A, B, C, D, E, F, H, I, J, K, L, M, N, O, P, Q, R, T, V, W, Y, BB, and FF		X		None of the listed NESHAPs contain requirements which are applicable to ASA Manufacturing, Inc.
40 CFR Part 63 —National Emission Standards for Hazardous Air Pollutants for Source Categories: Subparts B, C, D, E, F, G, H, I, J, L, M, N, O, Q, R, S, T, U, W, X, Y, AA, BB, CC, DD, EE, GG, HH, II, JJ, KK, LL, MM, YY, CCC, DDD, GGG, HHH, III, JJJ, LLL, MMM, NNN, OOO, PPP, QQQ, RRR, UUU, TTT, VVV, XXX, AAAA, CCCC, EEEE, FFFF, GGGG, HHHH, IIII, JJJJ, KKKK, MMMM, NNNN, OOOO, PPPP, QQQQ, RRRR, SSSS, TTTT, UUUU, VVVV, WWWW, XXXX, YYYY, ZZZZ, AAAAA, BBBB, CCCCC, DDDDD, EEEEE, FFFFF, GGGGG, HHHHH, IIII, JJJJ, KKKKK, LLLLL, MMMMM, NNNNN, PPPPP, QQQQQ, RRRRR, SSSSS, TTTTT, WWWWW, ZZZZZ, CCCCCC, DDDDD, EEEEE, FFFFF, GGGGGG, HHHHHH, LLLLLL, MMMMMM, NNNNNN, OOOOO, PPPPP, QQQQQ, RRRRR, SSSSS, TTTTT, WWWWWW, XXXXXX, YYYYYY		X		None of the listed NESHAPs contain requirements which are applicable to ASA Manufacturing, Inc.
<i>Subpart A—General Provisions</i>	63.1		X	General Provisions apply to all facilities that are subject to a specific source category subpart.
<i>Subpart WWWW—Reinforced Plastic Composites Production</i>	63.5780		X	ASA Manufacturing, Inc. is subject to the requirements of this subpart.
40 CFR Part 72 —Acid Rain Program Permits		X		
40 CFR Part 75 —Continuous Emission Monitoring		X		

Table A-5A. Summary of Federal EPA Regulatory Applicability and Corresponding Requirements for ASA Manufacturing, Inc. (Page 2 of 2)

Regulation	Citation	Not Applicable	Applicable	Applicable Requirement or Non-Applicability Rationale
40 CFR Part 76 —Acid Rain Nitrogen Oxides Emission Reduction Program		X		
40 CFR Part 77 —Excess Emissions		X		
40 CFR Part 78 —Appeal Procedures for Acid Rain Program		X		
40 CFR Part 82 —Protection of Stratospheric Ozone		X		ASA Manufacturing Inc., does not possess any ozone depleting substances nor any equipment that contains ozone-depleting substance.
40 CFR Part 50 —National Primary and Secondary Ambient Air Quality Standards		X		State agency requirements - not applicable to individual emission sources.
40 CFR Part 51 —Requirements for Preparation, Adoption, and Submittal of Implementation Plans		X		State agency requirements - not applicable to individual emission sources.
40 CFR Part 52 —Approval and Promulgation of Implementation Plans		X		State agency requirements - not applicable to individual emission sources.
40 CFR Part 62 —Approval and Promulgation of State Plans for Designated Facilities and Pollutants		X		State agency requirements - not applicable to individual emission sources.
40 CFR Part 70 —State Operating Permit Programs		X		State agency requirements - not applicable to individual emission sources.
40 CFR Parts 53, 54, 55, 56, 57, 58, 62, 66, 67, 68, 69, 71, 74, 75, 76, 77, 78 79, 80, 81, 85, 86, 87, 88, 89, and 90		X		The listed regulations do not contain any requirements which are applicable to ASA Manufacturing, Inc.

Source: ECT, 2009.

Table A-5B. Summary of FDEP Regulatory Applicability and Corresponding Requirements for ASA Manufacturing, Inc. (Page 1 of 6)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable Requirement or Non-Applicability Rationale
Chapter 62-4, F.A.C. —Permits: Part I General				
Scope of Part I	62-4.011, F.A.C.	X		Contains no applicable requirements.
Definitions	62-4.020, .021, F.A.C.	X		Contains no applicable requirements.
General Prohibition	62-4.030, F.A.C.*		X	All stationary air pollution sources must be permitted, unless otherwise exempted.
Exemptions	62-4.040, F.A.C		X	Certain structural changes exempt from permitting. Other stationary sources exempt from permitting upon FDEP insignificance determination.
Procedure to Obtain Permits; Application	62-4.050(1), (2), (3), and (4).2.a, F.A.C.		X	All permit applications must be submitted on FDEP forms, in quadruplicate, and signed by a Professional Engineer. Application fee is required for construction permit.
Permit Processing	62-4.055, F.A.C.	X		Contains no applicable requirements.
Consultation	62-4.060, F.A.C.	X		Consultation is encouraged, not required.
Standards for Issuing or Denying Permits; Issuance; Denial	62-4.070, F.A.C	X		Establishes standard procedures for FDEP. Requirement is not applicable to the facility.
Modification of Permit Conditions	62-4.080, F.A.C	X		Application is for initial Title V operating permit. A Title V permit condition modification is not requested.
Renewals	62-4.090, F.A.C.		X	Establishes permit renewal criteria. Additional criteria are cited at 62-213.430(3), F.A.C.
Suspension and Revocation	62-4.100, F.A.C.*		X	Establishes permit suspension and revocation criteria.
Financial Responsibility	62-4.110, F.A.C.		X	Proof of financial responsibility may be required.
Transfer of Permits	62-4.120, F.A.C.	X		Application is for initial Title V operating permit. A sale or legal transfer of a permitted facility is not included in this application.
Plant Operation - Problems	62-4.130, F.A.C.*		X	Immediate notification is required whenever the permittee is temporarily unable to comply with any permit condition. Notification content is specified.
Permit Conditions	62-4.160, F.A.C.		X	Specifies general conditions that must be included in all permits.
Construction Permits	62-4.210, F.A.C.		X	General requirements for construction permits
Operation Permits for New Sources	62-4.220, F.A.C.		X	General requirements for initial new source operation permits.

Table A-5B. Summary of FDEP Regulatory Applicability and Corresponding Requirements for ASA Manufacturing, Inc. (Page 2 of 6)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable Requirement or Non-Applicability Rationale
Chapter 62-204, F.A.C.—General Provisions				
General Provisions	62-204.100, .200, .220, .240, .260, .320, .340, .360, 400, and .500, F.A.C.	X		Contains no applicable requirements.
Federal Regulations Adopted by Reference	62-204.800(1)-(10), (11)(b) 1-69, 71-81, (12)-(14), and (16), F.A.C.*	X		Contains no applicable requirements.
State Implementation Plan	62-204.800(11)(b)70, (c), (d), and (e), F.A.C.*	X		Contains no applicable requirements.
State Implementation Plan	62-204.800(12), (13), (15)	X		Contains no applicable requirements.
State Implementation Plan	62-204.800(19), F.A.C.*	X		Contains no applicable requirements.
Chapter 62-210, F.A.C.— Stationary Sources - General Requirements				
Purpose and Scope	62-210.100, F.A.C.	X		Contains no applicable requirements.
Definitions	62-210.200, F.A.C.	X		Contains no applicable requirements.
Permits Required	62-210.300, F.A.C.,		X	Air construction and operation permit required. Startup notification required if a permitted source has been shut down for more than 1 year.
Public Notice and Comment				
Public Notice of Proposed Agency Action	62-210.350(1), F.A.C.		X	All permit applicants required to publish notice of proposed agency action.
Additional Notice Requirements for Sources Subject to Prevention of Significant Deterioration or Nonattainment Area New Source Review	62-210.350(2), F.A.C.	X		PSD and nonattainment area NSR application not included in this application package.
Additional Public Notice Requirements for Sources Subject to Operation Permits for Title V Sources	62-210.350(3), F.A.C.		X	Notice requirements for Title V operating permit applicants.
Public Notice and Hearing Requirements for State Implementation Plan Revisions	62-210.350(4), F.A.C.	X		Defines requirements applicable to FESOP's, only.

Table A-5B. Summary of FDEP Regulatory Applicability and Corresponding Requirements for ASA Manufacturing, Inc. (Page 3 of 6)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable Requirement or Non-Applicability Rationale
Additional Public Notice Requirements for Sources Subject to CAA Section 112(g)	62-210.350(5), F.A.C.	X		CAA Section 112(g) does not apply.
Administrative Permit Corrections	62-210.360, F.A.C.	X		Application is for construction permit and initial Title V operating permit. An administrative permit correction is not requested in this application.
Reports				
Notification of Intent to Relocate Air Pollutant Emitting Facility	62-210.370(1), F.A.C.	X		Facility does not have any relocatable emission units.
Annual Operating Report for Air Pollutant Emitting Facility	62-210.370(3), F.A.C.		X	Specifies annual reporting requirements
Stack Height Policy	62-210.550, F.A.C.	X		Contains no applicable requirements.
Circumvention	62-210.650, F.A.C.	X		Contains no applicable requirements.
Excess Emissions	62-210.700, F.A.C.		X	Excess emissions due to startup, shut down, and malfunction are limited. Excess emissions due to malfunction must be reported. Excess emissions due to certain other causes are prohibited.
Forms and Instructions	62-210.900, F.A.C.	X		Contains no applicable requirements.
Notification Forms for Air General Permits	62-210.920, F.A.C.	X		Contains no applicable requirements.
Chapter 62-212, F.A.C.—Stationary Sources - Preconstruction Review				
Purpose and Scope	62-212.100, F.A.C.	X		Contains no applicable requirements.
General Preconstruction Review Requirements	62-212.300, F.A.C.		X	Contains general pre construction review requirements.
Prevention of Significant Deterioration	62-212.400, F.A.C.	X		PSD permit required prior to construction of facility, not applicable to Title V operating permit applications.
New Source Review for Nonattainment Areas	62-212.500, F.A.C.	X		Facility not located in any nonattainment area or nonattainment area of influence.
Sulfur Storage and Handling Facilities	62-212.600, F.A.C.	X		Applicable only to sulfur storage and handling facilities.
Chapter 62-213, F.A.C.—Operation Permits for Major Sources of Air Pollution				
Purpose and Scope	62-213.100, F.A.C.	X		Contains no applicable requirements.
Annual Emissions Fee	62-213.205(1) and (4), F.A.C.		X	Annual emissions fee and documentation requirements.
Annual Fee	62-213.205(2), and (3), F.A.C.	X		Contains no applicable requirements.
Title V Air General Permits	62-213.300, F.A.C.	X		Not applicable to ASA Manufacturing, Inc.

Table A-5B. Summary of FDEP Regulatory Applicability and Corresponding Requirements for ASA Manufacturing, Inc. (Page 4 of 6)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable Requirement or Non-Applicability Rationale
Permits and Permit Revisions Required	62-213.400, F.A.C.		X	Title V operation permit required.
Concurrent Processing of Permit Applications	62-213.405, F.A.C.	X		ASA Manufacturing, Inc. is submitting Title V operating permit renewal application only.
Changes Without Permit Revision	62-213.410, F.A.C.		X	Certain changes may be made if specific notice and record-keeping requirements are met.
Immediate Implementation Pending Revision Process	62-213.412, F.A.C.		X	Certain modifications can be implemented pending permit revision if specific criteria are met.
Fast-Track Revisions of Acid Rain Parts	62-213.413, F.A.C.	X		Contains no applicable requirements.
Trading of Emissions within a Source	62-213.415, F.A.C.	X		Applies only to facilities with a federally enforceable emissions cap.
Permit Applications	62-213.420, F.A.C.		X	Title V operating permit application required.
Action on Application	62-213.430(1), F.A.C.	X		Contains no applicable requirements.
Permit Denial	62-213.430(2), F.A.C.	X		Contains no applicable requirements.
Permit Renewal and Expiration	62-213.430(3), F.A.C.		X	Defines permit renewal application contents.
Permit Revision	62-213.430(4), F.A.C.		X	Defines permit revision application contents.
EPA Recommended Actions	62-213.430(5), F.A.C.	X		Contains no applicable requirements.
Insignificant Emissions Units or Pollutant-Emitting Activities	62-213.430(6), F.A.C.		X	Identifies criteria for insignificant activities.
Permit Content	62-213.440, F.A.C.		X	Defines permit content.
Permit Review by EPA and Affected States	62-213.450, F.A.C.	X		Contains no applicable requirements.
Permit Shield	62-213.460, F.A.C.		X	Provides permit shield for facilities in compliance with permit terms and conditions.
Forms and Instructions	62-213.900, F.A.C.	X		Contains no applicable requirements.
Chapter 62-214—Requirements for Sources Subject to the Federal Acid Rain Program				
Purpose and Scope	62-214.100, F.A.C.	X		Contains no applicable requirements.
Applicability	62-214.300, F.A.C.	X		Contains no applicable requirements.
Applications	62-214.320, F.A.C.	X		Contains no applicable requirements.
Acid Rain Compliance Plan and Compliance Options	62-214.330, F.A.C.	X		Contains no applicable requirements.
Exemptions	62-214.340, F.A.C.	X		Contains no applicable requirements.
Certification	62-214.350, F.A.C.	X		Contains no applicable requirements.
Department Action on Applications	62-214.360, F.A.C.	X		Contains no applicable requirements.
Revisions and Administrative Corrections	62-214.370, F.A.C.	X		Contains no applicable requirements.
Acid Rain Part Content	62-214.420, F.A.C.	X		Contains no applicable requirements.
Implementation and Termination of Compliance Options	62-214.430, F.A.C.	X		Contains no applicable requirements.

Table A-5B. Summary of FDEP Regulatory Applicability and Corresponding Requirements for ASA Manufacturing, Inc. (Page 5 of 6)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable Requirement or Non-Applicability Rationale
Chapter 62-243—Tampering with Motor Vehicle Emissions Air Pollution Control Equipment				
Tampering with Motor Vehicle Emissions Air Pollution Control Equipment		X		Contains no applicable requirements.
Chapter 62-252—Gasoline Vapor Control				
Gasoline vapor control	62-252, F.A.C.	X		Contains no applicable requirements.
Chapter 62-256—Open Burning and Frost Protection Fires				
Declaration and Intent	62-256.100, F.A.C.	X		Contains no applicable requirements.
Definitions	62-256.200, F.A.C.	X		Contains no applicable requirements.
Prohibitions	62-256.300, F.A.C.*		X	Defines prohibited open burning.
Burning for Cold and Frost Protection	62-256.450, F.A.C.	X		Limited to agricultural protection.
Land Clearing	62-256.500, F.A.C.*	X		Defines allowed open burning for non-rural land clearing and structure demolition.
Industrial, Commercial, Municipal, and Research Open Burning	62-256.600, F.A.C.	X		Industrial open burning is not conducted.
Open Burning allowed	62-256.700, F.A.C.	X		Contains no applicable requirements.
Effective Date	62-256.800, F.A.C.	X		Contains no applicable requirements.
Chapter 62-257—Asbestos Fee				
Asbestos fee	62-257, F.A.C.*	X		Contains no applicable requirements.
Chapter 62-285—Greenhouse gas Emission Reduction				
Adoption of California Motor Vehicle Emission Standards	62-285.400, F.A.C.	X		Contains no applicable requirements.
Heavy-Duty Vehicle Idling Reduction	62-285.420, F.A.C.	X		Contains no applicable requirements.
Clean Diesel Rebate Program	62-285.421, F.A.C.	X		Contains no applicable requirements.
Chapter 62-296—Stationary Source - Emission Standards				
Purpose and Scope	62-296.100, F.A.C.	X		Contains no applicable requirements
General Pollutant Emission Limiting Standard, Volatile Organic Compounds Emissions	62-296.320(1), F.A.C.		X	Known and existing vapor control devices must be applied as required by the Department.
General Pollutant Emission Limiting Standard, Objectionable Odor Prohibited	62-296.320(2), F.A.C.		X	Objectionable odor release is not allowed.

Table A-5B. Summary of FDEP Regulatory Applicability and Corresponding Requirements for ASA Manufacturing, Inc. (Page 6 of 6)

Regulation	Citation	Not Applicable	Applicable: Facility-Wide	Applicable Requirement or Non-Applicability Rationale
General Pollutant Emission Limiting Standard, Industrial, Commercial, and Municipal Open Burning Prohibited	62-296.320(3), F.A.C.*		X	Open burning in connection with industrial, commercial, or municipal operations is prohibited.
General Particulate Emission Limiting Standard, Process Weight Table	62-296.320(4)(a), F.A.C.	X		Facility does not have any applicable emission units.
General Particulate Emission Limiting Standard, General Visible Emission Standard	62-296.320(4)(b), F.A.C.		X	Opacity limited to 20 percent, unless otherwise permitted.
General Particulate Emission Limiting Standard, Unconfined Emission of Particulate Matter	62-296.320(4)(c), F.A.C.		X	Reasonable precautions must be taken to prevent unconfined particulate matter emission.
Specific Emission Limiting and Performance Standards	62-296.401 through 62-296.417, F.A.C.	X		No applicable emissions units at facility.
Reasonably Available Control Technology (RACT) Volatile Organic Compounds (VOC) and Nitrogen Oxides (NO _x) Emitting Facilities	62-296.500 through 62-296.516, F.A.C.	X		No applicable emissions units at facility.
Reasonably Available Control Technology (RACT)—Requirements for Major VOC- and NO _x -Emitting Facilities	62-296.570, F.A.C.	X		Facility is not a major VOC- or NO _x -emitting facility.
Reasonably Available Control Technology (RACT) - Lead	62-296.600 through 62-296.605, F.A.C.	X		Facility not located in a lead nonattainment area or a lead air quality maintenance area.
Reasonably Available Control Technology (RACT)—Particulate Matter	62-296.700, through 62-296.712, F.A.C.	X		Facility is not located in a particulate matter maintenance area or area of influence.
Chapter 62-297—Stationary Sources - Emissions Monitoring				
Purpose and Scope	62-297.100, F.A.C.	X		Contains no applicable requirements.
General Test Requirements	62-297.310, F.A.C.	X		Contains no applicable requirements.
Compliance Test Methods	62-297.401, F.A.C.	X		Contains no applicable requirements.
Supplementary Test Procedures	62-297.440, F.A.C.	X		Contains no applicable requirements.
EPA VOC Capture Efficiency Test Procedures	62-297.450, F.A.C.	X		Contains no applicable requirements.
CEMS Performance Specifications	62-297.520, F.A.C.	X		Contains no applicable requirements.
Exceptions and Approval of Alternate Procedures and Requirements	62-297.620, F.A.C.	X		Contains no applicable requirements.

*State requirement only; not federally enforceable.

ATTACHMENT A-6
COMPLIANCE REPORT, PLAN AND CERTIFICATION

ATTACHMENT A-6

ASA MANUFACTURING, INC.
DUNELLON, FLORIDA

COMPLIANCE REPORT, PLAN, AND CERTIFICATION

1. Compliance Report and Plan

Attachment A-5 identifies the requirements that are applicable to the emission unit(s) that comprise this Title V source. Each emissions unit is in compliance and will continue to comply with the respective applicable requirements.

The emission unit(s) that comprise this Title V source will comply with future-effective applicable requirements on a timely basis.

2. Proposed Schedule for the Submission of Periodic Compliance Statements Throughout the Permit Term

Periodic compliance statements are proposed to be submitted on an annual basis within 60 days after the end of each calendar year pursuant to the requirements of FDEP Rule 62-213.440(3)(a), F.A.C.

3. Compliance Certification

I, the undersigned, am the responsible official as defined in Chapter 62-210.200(267), F.A.C., of the Title V source for which this report is being submitted. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made and data contained in this report are true, accurate, and complete.

Todd DuPlessis
President

Date

ATTACHMENT B
POTENTIAL EMISSION CALCULATIONS

ATTACHMENT B-1

Potential Annual Styrene Emission Calculations						
Description	Potential Resin/Gelcoat Usage ¹			Unified Emission Factor ²	Styrene Emissions	
	(gallons per day)	(pounds per day)	(tons per year)	(lb styrene/ton resin or gelcoat)	(pounds per year)	(tons per year)
General Purpose (GP) Resin Chop	165	1,541.10	240.41	155	37,264	18.6
Lay-up	110	1,027.40	160.27	117	18,752	9.4
Vinyl Ester (VE) Resin Lay-up	18.3	168.12	26.23	143	3,750	1.9
Gel Coat	18.3	194.33	30.32	259	7,852	3.9
Styrene	0.25	1.89	N/A	N/A	589	0.3
				TOTAL	68,207	34.1

Note:

1. Potential Usage is based on operating 24 hours per day, 312 days per year, i.e. 6 days per week, 52 weeks per year.

2. Unified Emission Factors based on the following:

GP Resin - 39% styrene

VE Resin - 43.5% styrene

Gelcoat - 40% styrene

(See Attachment C for representative Material Safety Data Sheets)

Ref: Unified Emission Factors for Open Molding of Composites, July 23, 2001. (See Attachment D)

ATTACHMENT B-2

Potential Hourly Styrene Emission Calculations					
Description	Potential Resin/Gelcoat Usage ¹			Unified Emission Factor ²	Styrene Emissions
	(gallons per hour)	(pounds per hour)	(tons per hour)	(lb styrene/ton resin or gelcoat)	(pounds per hour)
General Purpose (GP) Resin Chop (D/S)	13.75	128.43	0.06	155	10.0
Lay-up (WP)	4.58	42.78	0.02	117	2.5
Vinyl Ester (VE) Resin Lay-up (WP)	2.75	25.22	0.01	143	1.8
Gel Coat (D/S)	2.5	26.50	0.01	259	3.4
Styrene	0.25	1.89	N/A	N/A	1.9
				TOTAL³	12.5

Note:

1. Potential Hourly Usage is based on:

- GP Resin Chop - Two 55-gallon drums per 8-hour day
- GP Resin Lay-up - Two 55-gallon drums per 24-hour day
- VE Resin - Two 55-gallon drums per 40-hour week
- Gelcoat - 20 gallons per 8-hour day
- Styrene - 2 pints per hour

2. Unified Emission Factors based on the following:

- GP Resin - 39% styrene
- VE Resin - 43.5% styrene
- Gelcoat - 40% styrene

(See Attachment C for representative Material Safety Data Sheets)

Ref: Unified Emission Factors for Open Molding of Composites, July 23, 2001. (See Attachment D)

3. Total hourly styrene emissions are based on maximum hourly emission rate for drain/sump (D/S) production and wall panel (WP) production that could be performed simultaneously.

ATTACHMENT B-3

Potential Annual HAP Emission Calculations							
Description	Potential Resin/Gelcoat Usage ¹			Unified Emission Factor ²	Other HAP Content ³	HAP Emissions	
	(gallons per day)	(pounds per day)	(tons per year)	(lb styrene or MMA/ton resin or gelcoat)	(% by weight)	(pounds per year)	(tons per year)
General Purpose (GP) Resin							
Chop	165	1,541.10	240.41	155	0	37,264	18.6
Catalyst ⁴	4.95	44.26	N/A	N/A	1.1	152	0.1
Lay-up	110	1,027.40	160.27	117	0	18,752	9.4
Catalyst ⁴	3.3	29.50	N/A	N/A	1.1	101	0.1
Vinyl Ester (VE) Resin							
Lay-up	18.3	168.12	26.23	143	0	3,750	1.9
Catalyst ⁴	0.55	4.92	N/A	N/A	1.1	17	0.0
Gelcoat - styrene	18.3	194.33	30.32	259	N/A	7,852	3.9
Gelcoat - MMA	18.3	194.33	30.32	105	N/A	3,183	1.6
Catalyst ⁴	0.55	4.92	N/A	N/A	1.0	15	0.0
Styrene	0.25	1.89	N/A	N/A	0	589	0.3
					TOTAL	71,676	35.8

Note:

1. Potential Daily Usage is based on operating 24 hours per day, 312 days per year, i.e. 6 days per week, 52 weeks per year.

2. Unified Emission Factors based on the following:

GP Resin - 39% styrene

VE Resin - 43.5% styrene

Gelcoat - 40% styrene, 7% methyl methacrylate

(See Attachment C for representative Material Safety Data Sheets)

Ref: Unified Emission Factors for Open Molding of Composites, July 23, 2001. (See Attachment D)

3. Other HAPs include methyl ethyl ketone and xylene.

4. Catalyst usage is based on 3% of resin/gelcoat usage.

ATTACHMENT B-4

Potential Hourly HAP Emission Calculations						
Description	Potential Resin/Gelcoat Usage ¹			Unified Emission Factor ²	Other HAP Content ³	HAP Emissions
	(gallons per hour)	(pounds per hour)	(tons per hour)	(lb styrene or MMA/ton resin or gelcoat)	(% by weight)	(pounds per hour)
General Purpose (GP) Resin						
Chop (D/S)	13.75	128.43	0.06	155		10.0
Catalyst	0.4125	3.69	N/A	N/A	1.1	0.0
Lay-up (WP)	4.58	42.78	0.02	117		2.5
Catalyst	0.1374	1.23	N/A	N/A	1.1	0.0
Vinyl Ester (VE) Resin						
Lay-up (WP)	2.75	25.22	0.01	143		1.8
Catalyst	0.0825	0.74	N/A	N/A	1.1	0.0
Gel Coat (D/S) - styrene	2.5	26.50	0.01	259		3.4
Gel Coat (D/S) - MMA	2.5	26.50	0.01	105		1.4
Catalyst	0.075	0.67	N/A	N/A	1.0	0.0
Styrene	0.25	1.89	N/A	N/A		1.9
					TOTAL⁴	12.5

Note:

1. Potential Hourly Usage is based on:

- GP Resin Chop - Two 55-gallon drums per 8-hour day
- GP Resin Lay-up - Two 55-gallon drums per 24-hour day
- VE Resin - Two 55-gallon drums per 40-hour week
- Gelcoat - 20 gallons per 8-hour day
- Styrene - 2 pints per hour

2. Unified Emission Factors based on the following:

- GP Resin - 39% styrene
- VE Resin - 43.5% styrene
- Gelcoat - 40% styrene, 7% methyl methacrylate

(See Attachment C for representative Material Safety Data Sheets)

Ref: Unified Emission Factors for Open Molding of Composites, July 23, 2001. (See Attachment D)

3. Other HAPs include methyl ethyl ketone and xylene.

4. Total hourly styrene emissions are based on maximum hourly emission rate for drain/sump (D/S) production and wall panel

(WP) production that could be performed simultaneously.

ATTACHMENT B-5

Potential Annual VOC Emission Calculations						
Description	Potential Resin/Gelcoat Usage ¹			Unified Emission Factor ² (lb styrene or MMA/ton resin or gelcoat)	VOC Emissions	
	(gallons per day)	(pounds per day)	(tons per year)		(pounds per year)	(tons per year)
General Purpose (GP) Resin						
Chop	165	1,541.10	240.41	155	37,264	18.6
Catalyst ³	4.95	44.26	N/A	N/A	13,808	6.9
Lay-up	110	1,027.40	160.27	117	18,752	9.4
Catalyst ³	3.3	29.50	N/A	N/A	9,205	4.6
Vinyl Ester (VE) Resin						
Lay-up	18.3	168.12	26.23	143	3,750	1.9
Catalyst ³	0.55	4.92	N/A	N/A	1,534	0.8
Gel Coat - styrene	18.3	194.33	30.32	259	7,852	3.9
Gel Coat - MMA	18.3	194.33	30.32	105	3,183	1.6
Catalyst ³	0.55	4.92	N/A	N/A	1,534	0.8
Styrene	0.25	1.89	N/A	N/A	589	0.3
				TOTAL	97,472	48.7

Note:

1. Potential Daily Usage is based on operating 24 hours per day, 312 days per year, i.e. 6 days per week, 52 weeks per year.

2. Unified Emission Factors based on the following:

GP Resin - 39% styrene

VE Resin - 43.5% styrene

Gelcoat - 40% styrene, 7% methyl methacrylate

(See Attachment C for representative Material Safety Data Sheets)

Ref: Unified Emission Factors for Open Molding of Composites, July 23, 2001. (See Attachment D)

3. Catalyst usage is based on 3% of resin/gelcoat usage. Annual VOC emissions assume all catalyst is volatilized.

ATTACHMENT B-6

Potential Hourly VOC Emission Calculations					
Description	Potential Resin/Gelcoat Usage ¹			Unified Emission Factor ²	VOC Emissions
	(gallons per hour)	(pounds per hour)	(tons per hour)	(lb styrene or MMA/ton resin or gelcoat)	(pounds per hour)
General Purpose (GP) Resin					
Chop (D/S)	13.75	128.43	0.06	155	10.0
Catalyst	0.4125	3.69	N/A	N/A	3.7
Lay-up (WP)	4.58	42.78	0.02	117	2.5
Catalyst	0.1374	1.23	N/A	N/A	1.2
Vinyl Ester (VE) Resin					
Lay-up (WP)	2.75	25.22	0.01	143	1.8
Catalyst	0.0825	0.74	N/A	N/A	0.7
Gel Coat (D/S) - styrene	2.5	26.50	0.01	259	3.4
Gel Coat (D/S) - MMA	2.5	26.50	0.01	105	1.4
Catalyst	0.075	0.67	N/A	N/A	0.7
Styrene	0.25	1.89	N/A	N/A	1.9
				TOTAL³	17.4

Note:

1. Potential Hourly Usage is based on:

- GP Resin Chop - Two 55-gallon drums per 8-hour day
- GP Resin Lay-up - Two 55-gallon drums per 24-hour day
- VE Resin - Two 55-gallon drums per 40-hour week
- Gelcoat - 20 gallons per 8-hour day
- Styrene - 2 pints per hour

2. Unified Emission Factors based on the following:

- GP Resin - 39% styrene
- VE Resin - 43.5% styrene
- Gelcoat - 40% styrene, 7% methyl methacrylate

(See Attachment C for representative Material Safety Data Sheets)

Ref: Unified Emission Factors for Open Molding of Composites, July 23, 2001. (See Attachment D)

3. Total hourly styrene emissions are based on maximum hourly emission rate for drain/sump (D/S) production and wall panel (WP) production that could be performed simultaneously.

ATTACHMENT C
REPRESENTATIVE MATERIAL SAFETY DATA SHEETS (MSDSs)

Note: The following representative MSDSs are provided for reference only.

General Purpose (GP) Resin



Ashland
Ashland Distribution Co. &
Ashland Specialty Chemical Co.
P. O. Box 2219
Columbus, OH 43216
614-790-3333



003 311

0118616-0118616 03/20/03

ASA MANUFACTURING INCORPORATED
14879 SW 111TH ST
DUNNELLON FL 34432

ASA MANUFACTURING INCORPORATED
14879 SW 111TH STREET
DUNNELLON FL 34432

ASHLAND PRODUCT NAME: 33283-30 RCI GP
DATA SHEET NO: 0330782-002.001 SUPPLIER:
INVOICE: 1237947 MATERIAL: 2012259 400 01S
LATEST REVISION DATE: 01/03/03 INVOICE DATE: 03/19/03

PAGE 001

311

03307A2-002
1-8-03

Material Safety Data Sheet
INFORMATION TELEPHONE NO. 1-800-275-5353
POLYLITE (R) 33283-30

MSDS No: 1945
Reichhold, Inc.
Corporate Headquarters
P.O. Box 13582
Research Triangle Park, NC 27709-3582

ALL CHEMICAL EMERGENCIES
1-800-424-9300

5

Effective Date: 08/22/01

Page 1

1. PRODUCT IDENTIFICATION

Trade Name: ~~POLYLITE (R) 33283-30~~
Chemical Family: ~~Unsaturated Polyester Resin in Styrene~~
Intended Use: Marine-Low Profile Resin

NFPA Hazard Classification

Health Hazard: 2
Fire Hazard: 3
Reactivity: 1
Special Hazard:

HMIS Hazard Classification:

Health: 2* Moderate Hazard/Chronic Effect
Flammability: 3 Serious Hazard
Reactivity: 1 Slight Hazard
Personal Protection:

2. COMPOSITION / INFORMATION ON INGREDIENTS

CAS No.	Name	ACGIH TLV		OSHA	
		TWA	STEL	PEL	AMOUNT
100425	Styrene	20 ppm	40 ppm	100 ppm	37.00 ±2 wt%
	Proprietary Polyester Resin	NE	NE	NE	62.00 ±2 wt%
112945525	Silica, Amorphous, Fumed, Cryst.-Free	10 ppm	NE	20 ppm	1.00 % by wt

Refer to Section 8, subheading "Exposure Guidelines", for additional information concerning exposure limits. Section 8, "Exposure Guidelines", includes information concerning the OSHA-styrene industry voluntary agreement on exposure limits for styrene.

3. HAZARDS IDENTIFICATION

Emergency Overview:

Appearance: Grey-Green Opaque Liquid. Pungent Odor. FLAMMABLE liquid and vapor. Harmful if swallowed - can enter lungs and cause damage May undergo hazardous polymerization.

Route(s) of Entry:

Inhalation, ingestion, skin and eye.

Acute Exposure:

INHALATION: Harmful if inhaled. Effects from exposure may include

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1-800-424-9300

Effective Date: 08/22/01

Page 2

headaches, fatigue, nausea, sensation of drunkenness, central nervous system depression and pulmonary edema. Inhalation of vapor or aerosol may cause irritation to the respiratory tract (nose, throat, and lungs). SKIN: Harmful if absorbed through skin. Contact causes skin irritation. Prolonged or repeated skin contact can result in defatting and drying of the skin. EYES: Harmful to eyes. Direct contact with this material causes eye irritation. Symptoms may include stinging, tearing, redness and swelling. INGESTION: Harmful if swallowed. Single dose oral toxicity is low. Swallowing small amounts during normal handling is not likely to cause harmful effects; swallowing large amounts may be harmful. Effects from exposure through ingestion may include gastrointestinal disturbances, pain and discomfort. Effects of exposure by ingestion may also include those indicated by the inhalation route. Styrene is harmful or fatal if liquid is aspirated into the lungs.

Chronic Exposure:

Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans and may aggravate pre-existing disorders of these organs; central nervous system effects, effects on hearing and respiratory tract damage.

Carcinogenicity:

This material contains styrene which is listed by the International Agency for Research (IARC) on Cancer as a group 2B cancer causing agent (possibly carcinogenic to humans).

4. FIRST AID MEASURES

Eye Contact:

Immediately flush eyes with large quantities of clean water for at least 15 minutes. Get immediate medical attention.

Skin Contact:

Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists. Wash contaminated clothing before reuse.

Ingestion:

DO NOT INDUCE VOMITING. ASPIRATION HAZARD: this material may enter the lungs during vomiting. Immediately give the victim one or two glasses of water or milk to drink. Never give anything by mouth to an unconscious person. GET IMMEDIATE MEDICAL ATTENTION.

Inhalation:

Remove victim to fresh air. Keep warm and quiet. If not breathing, give artificial respiration. If breathing is difficult, give oxygen by trained personnel. GET IMMEDIATE MEDICAL ATTENTION.

5. FIRE FIGHTING MEASURES

Flash Point: 89 degrees F (32 degrees C)
Flash Point Method Used: SetaFlash Closed Cup
Flammable Limits in Air (Lower): 1.1 % in air Styrene

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POLYLITE (R) 33283-30

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Corporate Headquarters
P.O. Box 13582

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ALL CHEMICAL EMERGENCIES
1-800-424-9300

Effective Date: 08/22/01

Page 3

Flammable Limits in Air (Upper): 7 % in air Styrene
Autoignition: 914 degrees F (490 degrees C) Styrene

General Hazards:

FLAMMABLE LIQUID: This material's flash point is less than 100 degrees F (38 degrees C). Containers of this material may build up pressure if exposed to heat (fire). See information in Fire Fighting Instructions (below) in this section.

Fire Fighting Extinguishing Media:

Use carbon dioxide, foam, dry chemical or water fog to extinguish fire.

Fire Fighting Equipment:

Wear self-contained breathing apparatus (SCBA) and full fire-fighting protective clothing. Thoroughly decontaminate all protective equipment after use.

Fire Fighting Instructions:

Evacuate all persons from the fire area to an explosion-protected location. Move non-burning material, as feasible, to a safe location as soon as possible. Fire fighters should be protected from potential explosion hazard while extinguishing the blaze. Containers of this material may build up pressure if exposed to heat (fire). Use water spray to cool fire-exposed containers. DO NOT extinguish a fire resulting from the flow of this flammable liquid until the flow of liquid is effectively shut off. This precaution will help prevent the accumulation of an explosive vapor-air mixture after the initial fire is extinguished. Use water spray to disperse vapors if a spill or leak has not ignited. See Section 13 for disposal considerations.

Fire and Explosion Hazards:

FLAMMABLE LIQUID. Vapors can form an explosive mixture with air. Vapor can travel to a source of ignition (spark or flame) and flash back. This material may polymerize (react) when its container is exposed to heat (as during a fire). This polymerization increases pressure inside a closed container and may result in the violent rupture of the container.

Hazardous Combustion Products:

Combustion may produce carbon monoxide, carbon dioxide and irritating or toxic vapors and gases.

6. ACCIDENTAL RELEASE MEASURES

Accidental Release Measures:

FOR SMALL SPILLS: Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Use non-sparking (non-metallic) tools to clean up spill. Remove all sources of ignition. **NO SMOKING.** **FOR LARGE SPILLS:** Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). **NO SMOKING.** Persons not wearing protective equipment (see Section 8) should be excluded from the area of the spill until clean-up has been completed. Stop spill at source. Prevent spilled material from contaminating soil or entering drains, sewers, streams or other bodies of water. Prevent spilled material from spreading. Immediately notify authorities of any reportable spill as may be required pursuant to regulations. See Section 15 for applicable CERCLA

MSDS No: 1945
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P.O. Box 13582

Research Triangle Park, NC 27709-3582

ALL CHEMICAL EMERGENCIES
1-800-424-9300

Effective Date: 08/22/01

Page 4

reportable quantities. Pump or vacuum transfer spilled product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other waste materials to waste containers for disposal.

7. HANDLING AND STORAGE

Signal Word:

W A R N I N G

Handling Information:

Avoid inhalation and contact with eyes, skin, and clothing. Wash hands thoroughly after handling and before eating or drinking. Remove and wash contaminated clothing before reuse. Use with adequate ventilation. Ground and bond containers when transferring the material to prevent static electricity sparks which could ignite the vapor. Use spark-proof tools and explosion-proof equipment. Consult your supplier of promoters and catalysts for additional instructions on proper mixing and usage. Empty containers may retain product residue (liquid and/or vapor). Do not pressurize, cut, weld, braze, solder, drill, grind, or expose these containers to heat, flame, sparks, static electricity, or other sources of ignition as the container may explode and may cause injury or death. Empty drums should be completely drained and properly bunged. Empty drums should be promptly returned to a drum reconditioner or properly disposed.

Storage Information:

Keep away from ignition sources: flames, pilot lights, electrical sparks, and sparking tools. NO SMOKING. Do not store in direct sunlight. Store separate from oxidizing materials, peroxides, and metal salts. Keep container closed when not in use. To ensure maximum stability and maintain optimum resin properties, resins should be stored in closed containers at temperatures below 75 degrees F (25 degrees C). Copper or copper containing alloys should be avoided as containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines:

The Occupational Safety and Health Administration (OSHA), has established for styrene, a Permissible Exposure Limit (PEL) of 100 ppm for an 8 hour Time Weighted Average (TWA); 200 ppm for an acceptable ceiling concentration; and a 600 ppm concentration within a duration of 5 minutes in any 3 hours as an acceptable maximum peak above the acceptable ceiling concentration for an 8 hour shift. While the federal workplace exposure limit for styrene is 100 ppm, OSHA accepted the styrene industry's proposal to voluntarily meet a PEL of 50 ppm on an 8 hour TWA and a Short Term Exposure Limit (STEL) of 100 ppm, 15 minute exposure. The American Conference of Governmental Industrial Hygienists (ACGIH) have established, for styrene, Threshold Limit Values (TLV) of 20 ppm or 85 mg/m³ TWA and 40 ppm or 170 mg/m³ Short Term Exposure Limit (STEL), 15 minute exposure, with a skin notation which indicates absorption through the skin which

MSDS No: 1945
Reichhold, Inc.
Corporate Headquarters
P.O. Box 13582
Research Triangle Park, NC 27709-3582

ALL CHEMICAL EMERGENCIES
1-800-424-9300

Effective Date: 08/22/01

Page 5

could add to the employees exposure. The Occupational Safety and Health Administration (OSHA), has established for amorphous silica, a Permissible Exposure Limit (PEL) of 20 mppcf (million particles per cubic foot of air) or 80 mg/m³ SiO₂ for an 8 hour Time Weighted Average (TWA). The American Conference of Governmental Industrial Hygienists (ACGIH) have established, for amorphous silica, Threshold Limit Values (TLV) of 10 mg/m³ Inhalable (total) particulate and 3 mg/m³ for respirable particulate based on Particulates Not Otherwise Classified (PNOC).

Engineering Controls:

The use of general or local exhaust ventilation may be required to maintain exposures below the regulatory or recommended occupational exposure limits. Use explosion-proof ventilation equipment.

Eye Protection:

Wear 1) safety glasses with side shields and a faceshield or 2) goggles and a faceshield. Facilities storing or utilizing this material should be equipped with an eyewash station and safety shower.

Skin Protection:

Wear chemical resistant gloves such as polyvinyl alcohol or Viton (R). If splashing is likely, wear impervious clothing and boots to prevent repeated or prolonged skin contact. Consult your supplier of personal protective equipment for additional instructions on proper usage.

Respiratory Protection:

A NIOSH/MSHA approved air purifying respirator with organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. Protection provided by air purifying respirators is limited. Use a positive pressure air-supplied respirator if 1) there is any potential for an uncontrolled release, 2) exposure levels are not known, or 3) during other circumstances where air purifying respirators may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Grey-Green, Opaque
Odor:	Pungent
Odor Threshold:	0.2 ppm Styrene
Physical State:	Liquid
Solubility in Water:	Insoluble at 20 degrees C (68 degrees F)
Viscosity:	Not available
Vapor Pressure:	6.12 (mm Hg) Styrene
Specific Gravity:	1.08 - 1.12 (Water = 1) at 25 degrees C (77 degrees F)
Boiling Point:	295 degrees F (146 degrees C) Styrene
Melting Point:	Not applicable
Freezing Point:	-22.7 degrees F (-30.4 degrees C) Styrene
Evaporation Rate:	< 1 (BuAc=1) Styrene
Vapor Density:	3.6 (AIR=1) Styrene
% Volatile:	35 - 39 % by weight

Material Safety Data Sheet
INFORMATION TELEPHONE NO. 1-800-424-9300
POLYLITE (R) 33283-30

MSDS No: 1945
Reichhold, Inc.
Corporate Headquarters
P.O. Box 13582
Research Triangle Park, NC 27709-3582

ALL CHEMICAL EMERGENCIES
1-800-424-9300

Effective Date: 08/22/01

Page 6

VOC Content: 407 grams/liter (calculated product as supplied)
pH: Not applicable
Coefficient of water/oil: Not applicable

10. STABILITY AND REACTIVITY

Stability:

Stable at normal temperatures and storage conditions.

Incompatibility:

Avoid contact with strong acids, oxidizing agents (peroxides), metal salts and polymerization catalysts.

Hazardous Decomposition Products:

Thermal decomposition may produce various hydrocarbons and irritating, acrid vapors.

Hazardous Polymerization:

Product will undergo hazardous polymerization at temperatures above 150 F (65 C). Hazardous polymerization will occur if contaminated with peroxides, metal salts and polymerization catalysts.

11. TOXICOLOGICAL INFORMATION

Acute Eye Toxicity:

~~Studies indicate that exposures to concentrations of styrene above 200 ppm cause irritation of the eyes. Styrene causes transient moderate eye irritation without corneal involvement.~~

Acute Skin Toxicity:

Draize Skin Primary Irritation Score (range, 0-8) for a 4-hour exposure (rabbits) to styrene is 6.6. Styrene: dermal LD50 (rabbit), 5 g/kg. Styrene causes severe irritation at 72 hours.

Acute Inhalation Toxicity:

Styrene: inhalation LC50 (rat), 24 g/m³ / 4 hrs. Studies indicate that exposures to concentrations of styrene above 200 ppm cause irritation of the upper respiratory tract. Acute exposure to high concentrations of styrene may produce irritation of the mucous membranes of the upper respiratory tract, nose, and mouth, followed by symptoms of narcosis, muscular contraction, and death due to respiratory center paralysis.

Acute Oral Toxicity:

Styrene: oral LD50 (rat), 5 g / kg. Silica-Amorphous, Fumed: oral LD50 (rat), 3160 mg/kg.

Subchronic:

Styrene: inhalation NOEL (rat) 200 ppm 6 hr / day 13 weeks, target organ effects: auditory response; inhalation LOEL (rat) 800 ppm 6 hr / day 3 - 13 weeks, target organ effects: auditory response. Styrene has been shown to cause probable hearing loss in rats exposed for at least six hours per day for three to thirteen weeks to 800 ppm of styrene in the air, as indicated by a rise in the auditory brainstem response threshold and loss of hair cells of the inner ear. No effects were observed in rats exposed to styrene at 200 ppm for 13 weeks. Based on animal studies and human

MSDS No: 1945

Reichhold, Inc.

Corporate Headquarters

P.O. Box 13582

Research Triangle Park, NC 27709-3582

ALL CHEMICAL EMERGENCIES

1-800-424-9300

Effective Date: 08/22/01

Page 7

experience, no significant risk of hearing loss is expected in occupationally exposed persons. Overexposure to styrene has been suggested as a cause of the following effects in laboratory animals and may aggravate pre-existing disorders of the following organs in humans; mild, reversible kidney effects, effects on hearing, respiratory tract damage, testis damage and liver damage.

Chronic/Carcinogenicity:

The International Agency for Research on Cancer (IARC) has classified styrene in Group 2B, possibly carcinogenic to humans. IARC concluded that ~~evidence of carcinogenicity from human health studies, was inadequate and based the classification on animal and other relevant data.~~ The animal data included an increased incidence of cancer observed in a few studies in which rats and mice were given styrene by inhalation or by ingestion for their lifetimes. IARC considered the combined results of these cancer studies to provide "limited evidence" of carcinogenicity. Other scientists consider the results of these studies inadequate to assess human carcinogenicity because these studies had either negative or statistically inconclusive results or had serious problems such as poor study design or very high mortality. Other relevant data included results from in-vivo and in-vitro genotoxicity studies. IARC also relied on data on styrene oxide including the results of two studies demonstrating stomach tumors in rats that were fed styrene oxide for their lifetime. Several epidemiology studies involving workers in the styrene, polystyrene or reinforced plastics industries have been conducted. Together, these studies show no increased cancer risk from occupational exposure to styrene. Preliminary results of a recent inhalation study indicated that mice exposed to styrene showed an increased incidence of lung tumors, however no dose response relationship was observed. ~~The relevance of these findings is uncertain since data from other long-term animal studies and from epidemiology studies of workers exposed to styrene do not provide a basis to conclude that styrene is carcinogenic.~~ The American Conference of Governmental Industrial Hygienists (ACGIH) has adopted the listing of Styrene as "A4-Not Classifiable as a Human Carcinogen." There is ~~inadequate data on which to classify the agent in terms of its~~ carcinogenicity in humans and/or animals.

Teratology:

Styrene did not cause birth defects in orally-dosed rats, mice, rabbits and hamsters exposed by inhalation. Styrene given by inhalation for six hours a day during organ development has been shown to be toxic to fetal mice at 250 ppm and to fetal hamsters at 1000 ppm. Information from human experience and the results of animal studies suggest no significant risk of birth defects or reproductive toxicity of styrene to humans.

Mutagenicity:

Styrene has given mixed positive and negative results in a number of mutagenicity tests. It was not mutagenic in the Ames test without metabolic activation but gave negative and positive mutagenic results with metabolic activation. It has also given negative mutagenic results in the Chinese Hamster Ovary Test, and the Forward Gene Mutation Test and positive results in the Sister Chromatid Exchange and the Chromosomal Aberration assay.

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Material Safety Data Sheet
INFORMATION TELEPHONE NO. 1-800-275-0353
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MSDS No: 1945
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P.O. Box 13582
Research Triangle Park, NC 27709-3582

ALL CHEMICAL EMERGENCIES
1-800-424-9300

Effective Date: 08/22/01

Page 8

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Styrene is toxic to aquatic organisms and should not be released to sewage, drainage systems and all bodies of water at concentrations exceeding approved limits under applicable regulations and permits. Styrene: LC50 (Sheepshead minnow), 9.1 mg / l / 96 hr.

Environmental Fate:

Styrene released to soil is subject to biodegradation. The results of one extensive biological screening study suggest that styrene will be rapidly destroyed by biodegradation in most aerobic environments, but the rate may be slow at low concentrations in aquifers and lake waters and in environments at low pH (6).

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:

RCRA HAZARDOUS WASTE: This material and containers that are not empty, if discarded, would be regulated as a hazardous waste under RCRA. Treatment and/or disposal must be completed at a RCRA-permitted Treatment, Storage and Disposal Facility (TSD). The storage and transportation of RCRA hazardous wastes are also regulated by the USEPA. EMPTY DRUMS: "Empty containers", as defined under 40 CFR 261.7 or other applicable state or provincial regulations or transportation regulations, are not classified as hazardous wastes.

RCRA Hazard Class:

D001 (IGNITABLE): When discarded in its purchased form, this material would be regulated under 40 CFR 261.21 as EPA Hazardous Waste Number D001 based on the characteristic of ignitability.

14. TRANSPORT INFORMATION

DOT / IATA / IMDG / TDG: Non Bulk
Proper Shipping Name: RESIN SOLUTION
Hazard Class: 3
ID Number: UN1866
Packing Group: III
Label:
Placard:
Marine Pollutant:
ERG Number: 127

DOT / IMDG: Bulk
Proper Shipping Name: RESIN SOLUTION
Hazard Class: 3
ID Number: UN1866
Packing Group: III

Material Safety Data Sheet
INFORMATION: TELEPHONE NO. 1-800-275-6353
POLYLITE (R) 33283-30

MSDS No: 1945
Reichhold, Inc.
Corporate Headquarters
P.O. Box 13582

Research Triangle Park, NC 27709-3582

ALL CHEMICAL EMERGENCIES
1-800-424-9300

Effective Date: 08/22/01

Page 9

Label:

Placard:

Marine Pollutant:

ERG Number: 127

TDG:

Bulk

Proper Shipping Name: RESIN SOLUTION

Technical Shipping Name (If n.o.s.): STYRENE

Hazard Class: 3(9.2)

ID Number: UN1866

Packing Group: III

Placard:

ERG Number: 127

15. REGULATORY INFORMATION

Occupational Safety and Health Act (OSHA):

This material is classified as a hazardous chemical under the criteria of the US Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, 29 CFR 1910.1200.

SARA Title III: Section 304 - CERCLA:

Styrene (CAS# 100-42-5): Reportable Quantity - 1,000 lb.

~~SARA Title III: Section 311/312 - Hazard Communication Standard (HCS):~~

~~This material is classified as an IMMEDIATE HEALTH HAZARD, DELAYED HEALTH HAZARD, FLAMMABILITY HAZARD, and REACTIVITY HAZARD under the US Superfund Amendment and Reauthorization Act (Section 311/312).~~

SARA Title III: Section 313 Toxic Chemical List (TCL):

Styrene (100-42-5)

TSCA Section 8(b) - Inventory Status:

All components of this material are listed on the US Toxic Substances Control Act (TSCA) inventory.

TSCA Section 12(b) - Export Notification:

This material does not contain any components that are subject to the US Toxic Substances Control Act (TSCA) Section 12(b) Export Notification requirements.

Canadian Inventory Status:

This material contains components that are NOT listed on the Canadian Domestic Substances List (DSL) or the Canadian Non-Domestic Substances List (NDSL). New Substances Notifications (NSN) have been submitted to Environment Canada.

Canadian WHMIS:

This material is classified by the Canadian Workplace Hazardous Material Information System as: B2 (flammable liquid) D2A (materials causing other toxic effects, very toxic material) D2B (materials causing other toxic effects, toxic material) F (dangerously reactive material)

California Proposition 65:

WARNING: This product contains a chemical(s) known to the State of California to cause cancer. Styrene Oxide and Aniline (CAS# 62-53-3)

Material Safety Data Sheet
INFORMATION TELEPHONE NO. 1-800-275-6353
POLYLITE (R) 33283-30

MSDS No: 1945
Reichhold, Inc.
Corporate Headquarters
P.O. Box 13582
Research Triangle Park, NC 27709-3582

ALL CHEMICAL EMERGENCIES
1-800-424-9300

Effective Date: 08/22/01

Page 10

Additional Canadian Regulatory Information:

Under the Transportation of Dangerous Goods regulations, the following chemicals have been assigned Regulated Limits (RL): Styrene Monomer (CAS # 100-42-5): RL=50 KG. The following chemicals are listed on the WHMIS Ingredient Disclosure List: Styrene Monomer (CAS# 100-42-5)

16. OTHER INFORMATION

MSDS No: 1945
Reason Issued: ANSI Z400 Standard Revision - Update
Prepared By: Product Safety & Compliance Department
Supersedes Date: 09/10/98

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Vinyl Ester (VE) Resin



Ashland
Ashland Distribution Co. &
Ashland Specialty Chemical Co.
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614-790-3333



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DUNNELLON FL 34432

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14879 SW 111TH STREET
DUNNELLON FL 34432

ASHLAND PRODUCT NAME: ~~33350-99~~ HYDREX RCI VE
DATA SHEET NO: ~~0343430-002-001~~ SUPPLIER:
INVOICE: 1404566 MATERIAL: ~~2020042~~ 400 OLS
LATEST REVISION DATE: 01/06/03 INVOICE DATE: 06/11/03

PAGE 001

311

6

0343430-002
1-6-03

Material Safety Data Sheet
INFORMATION TELEPHONE NO. 1-800-275-6353
HYDREX (R) 100 33350-99

MSDS No: 2445
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ALL CHEMICAL EMERGENCIES
1-800-424-9300

Effective Date: ~~06/20/01~~ Page 1

1. PRODUCT IDENTIFICATION

Trade Name: ~~HYDREX (R) 100 33350-99~~
Chemical Family: ~~Vinyl Ester Resin in Styrene~~
Intended Use: ~~Corrosion Resistant Resin~~

NFPA Hazard Classification

Health Hazard: 2
Fire Hazard: 3
Reactivity: 1
Special Hazard:

HMIS Hazard Classification:

Health: 2* Moderate Hazard/Chronic Effect
Flammability: 3 Serious Hazard
Reactivity: 1 Slight Hazard
Personal Protection:

2. COMPOSITION /- INFORMATION ON INGREDIENTS

CAS No.	Name	ACGIH TLV		OSHA	AMOUNT
		TWA	STEL	PEL	
100425	Styrene	20 ppm	40 ppm	100 ppm	39.50 - 43.50
112945525	Silica, Amorphous, Fumed, Cryst.-Free	10 ppm	NE	20 ppm	< 2.00 % by w
Proprietary	Vinyl Ester Resin	NE	NE	NE	51.50 - 55.50
98839	alpha-Methyl Styrene	50 ppm	100 ppm	100 ppm	< 3.00 % by w

Refer to Section 8, Subheading "Exposure Guidelines", for additional information concerning exposure limits. Section 8, "Exposure Guidelines" includes information concerning the OSHA-styrene industry voluntary agreement on exposure limits for styrene.

3. HAZARDS IDENTIFICATION

Emergency Overview:

Appearance: Amber Opaque Liquid Pungent Odor FLAMMABLE liquid and vapor.
Harmful if swallowed - can enter lungs and cause damage May undergo hazardous polymerization.

Route(s) of Entry:

Inhalation, ingestion, skin and eye.

Material Safety Data Sheet
INFORMATION TELEPHONE NO. 1-800-275-6353
HYDREX (R) 100 33350-99

MSDS No: 2445
Reichhold, Inc.
Corporate Headquarters

P.O. Box 13582
Research Triangle Park, NC 27709-3582

ALL CHEMICAL EMERGENCIES
1-800-424-9300

Effective Date: 06/19/01

Page 2

Acute Exposure:

INHALATION: Harmful if inhaled. Effects from exposure may include headaches, fatigue, nausea, sensation of drunkenness, central nervous system depression and pulmonary edema. Inhalation of vapor or aerosol may cause irritation to the respiratory tract (nose, throat, and lungs). SKIN: Harmful if absorbed through skin. Contact causes skin irritation. Prolonged or repeated skin contact can result in defatting and drying of the skin. EYES: Harmful to eyes. Direct contact with this material causes eye irritation. Symptoms may include stinging, tearing, redness and swelling. INGESTION: Harmful if swallowed. Single dose oral toxicity is low. Swallowing small amounts during normal handling is not likely to cause harmful effects; swallowing large amounts may be harmful. Effects from exposure through ingestion may include gastrointestinal disturbances, pain and discomfort. Effects of exposure by ingestion may also include those indicated by the inhalation route. Styrene is harmful or fatal if liquid is aspirated into the lungs.

Chronic Exposure:

Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans and may aggravate pre-existing disorders of these organs; central nervous system effects, effects on hearing and respiratory tract damage.

Carcinogenicity:

This material contains styrene which is listed by the International Agency for Research (IARC) on Cancer as a group 2B cancer causing agent (possibly carcinogenic to humans).

4. FIRST AID MEASURES

Eye Contact:

Immediately flush eyes with large quantities of clean water for at least 15 minutes. Get immediate medical attention.

Skin Contact:

Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists. Wash contaminated clothing before reuse.

Ingestion:

DO NOT INDUCE VOMITING. ASPIRATION HAZARD: this material may enter the lungs during vomiting. Immediately give the victim one or two glasses of water or milk to drink. Never give anything by mouth to an unconscious person. GET IMMEDIATE MEDICAL ATTENTION.

Inhalation:

Remove victim to fresh air. Keep warm and quiet. If not breathing, give artificial respiration. If breathing is difficult, give oxygen by trained personnel. GET IMMEDIATE MEDICAL ATTENTION.

5. FIRE FIGHTING MEASURES

Flash Point:

89 degrees F (32 degrees C)

Material Safety Data Sheet
INFORMATION TELEPHONE NO. 1-800-275-6353
HYDREX (R) 100 33350-99

MSDS No: 2445

Reichhold, Inc.

Corporate Headquarters

P.O. Box 13582

Research Triangle Park, NC 27709-3582

ALL CHEMICAL EMERGENCIES

1-800-424-9300

Effective Date: 06/19/01

Page 2

Flash Point Method Used: SetaFlash Closed Cup
Flammable Limits in Air (Lower): 1.1 % in air Styrene
Flammable Limits in Air (Upper): 7 % in air Styrene
Autoignition: 914 degrees F (490 degrees C) Styrene
TDG Flammability Class: B2

General Hazards:

FLAMMABLE LIQUID: This material's flash point is less than 100 degrees F (38 degrees C). Use water in flooding quantities as a fog to extinguish the fire. DO NOT USE a solid stream of water as that may spread the fire. DO NOT extinguish a fire resulting from the flow of this flammable liquid until the flow of liquid is effectively shut off. This precaution will help prevent the accumulation of an explosive vapor-air mixture after the initial fire is extinguished.

Fire Fighting Extinguishing Media:

Use carbon dioxide, foam, dry chemical or water fog to extinguish fire.

Fire Fighting Equipment:

Wear self-contained breathing apparatus (SCBA) and full fire-fighting protective clothing. Thoroughly decontaminate all protective equipment after use.

Fire Fighting Instructions:

Evacuate all persons from the fire area to an explosion-protected location. Move non-burning material, as feasible, to a safe location as soon as possible. Fire fighters should be protected from potential explosion hazard while extinguishing the blaze. Containers of this material may build up pressure if exposed to heat (fire). Use water spray to cool fire-exposed containers. DO NOT extinguish a fire resulting from the flow of this flammable liquid until the flow of liquid is effectively shut off. This precaution will help prevent the accumulation of an explosive vapor-air mixture after the initial fire is extinguished. Use water spray to disperse vapors if a spill or leak has not ignited. See Section 13 for disposal considerations.

Fire and Explosion Hazards:

FLAMMABLE LIQUID. Vapors can form an explosive mixture with air. Vapor can travel to a source of ignition (spark or flame) and flash back. This material may polymerize (react) when its container is exposed to heat (as during a fire). This polymerization increases pressure inside a closed container and may result in the violent rupture of the container.

Hazardous Combustion Products:

Combustion may produce carbon monoxide, carbon dioxide and irritating or toxic vapors and gases.

6. ACCIDENTAL RELEASE MEASURES

Accidental Release Measures:

FOR SMALL SPILLS: Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Use non-sparking (non-metallic) tools to clean up spill. Remove all sources of ignition. NO SMOKING. FOR LARGE SPILLS: Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). NO SMOKING. Persons not

Material Safety Data Sheet
INFORMATION TELEPHONE NO. 1-800-275-6353
HYDREX (R) 100 33350-99

MSDS No: 2445

Reichhold, Inc.

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P.O. Box 13582

Research Triangle Park, NC 27709-3582

ALL CHEMICAL EMERGENCIES

1-800-424-9300

Effective Date: 06/19/01

Page 4

wearing protective equipment (see Section 8) should be excluded from the area of the spill until clean-up has been completed. Stop spill at source. Prevent spilled material from contaminating soil or entering drains, sewers, streams or other bodies of water. Prevent spilled material from spreading. Immediately notify authorities of any reportable spill as may be required pursuant to regulations. See Section 15 for applicable CERCLA reportable quantities. Pump or vacuum transfer spilled product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other waste materials to waste containers for disposal. See Section 13 for disposal considerations.

7. HANDLING AND STORAGE

Signal Word:

W A R N I N G

Handling Information:

Avoid inhalation and contact with eyes, skin, and clothing. Wash hands thoroughly after handling and before eating or drinking. Remove and wash contaminated clothing before reuse. Use with adequate ventilation. Ground and bond containers when transferring the material to prevent static electricity sparks which could ignite the vapor. Use spark-proof tools and explosion-proof equipment. Consult your supplier of promoters and catalysts for additional instructions on proper mixing and usage. Empty containers may retain product residue (liquid and/or vapor). Do not pressurize, cut, weld, braze, solder, drill, grind, or expose these containers to heat, flame, sparks, static electricity, or other sources of ignition as the container may explode and may cause injury or death.

~~Empty drums should be completely drained and properly bunged. Empty drums should be promptly returned to a drum reconitioner or properly disposed.~~

Storage Information:

Keep away from ignition sources: flames, pilot lights, electrical sparks, and sparking tools. NO SMOKING. Do not store in direct sunlight. Store separate from oxidizing materials, peroxides, and metal salts. Keep container closed when not in use. To ensure maximum stability and maintain optimum resin properties, resins should be stored in closed containers at temperatures below 75 degrees F (25 degrees C). Copper or copper containing alloys should be avoided as containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines:

The Occupational Safety and Health Administration (OSHA), has established for styrene, a Permissible Exposure Limit (PEL) of 100 ppm for an 8 hour Time Weighted Average (TWA); 200 ppm for an acceptable ceiling concentration; and a 600 ppm concentration within a duration of 5 minutes in any 3 hours as an acceptable maximum peak above the acceptable ceiling concentration for an 8 hour shift. While the federal workplace exposure limit for styrene is 100 ppm, OSHA accepted the styrene industry's

Material Safety Data Sheet
INFORMATION TELEPHONE NO. 1-800-275-6353
HYDREX (R) 100 33350-99

MSDS No: 2445
Reichhold, Inc.
Corporate Headquarters
P.O. Box 13582
Research Triangle Park, NC 27709-3582

ALL CHEMICAL EMERGENCIES
1-800-424-9300

Effective Date: 06/19/01

Page 5

proposal to voluntarily meet a PEL of 50 ppm on an 8 hour TWA and a Short Term Exposure Limit (STEL) of 100 ppm, 15 minute exposure. The American Conference of Governmental Industrial Hygenists (ACGIH) have established, for styrene, Threshold Limit Values (TLV) of 20 ppm or 85 mg/m³ TWA and 40 ppm or 170 mg/m³ Short Term Exposure Limit (STEL), 15 minute exposure, with a skin notation which indicates absorption through the skin which could add to the employees exposure. The Occupational Safety and Health Administration (OSHA), has established for amorphous silica, a Permissible Exposure Limit (PEL) of 20 mppcf (million particles per cubic foot of air) or 80 mg/m³/ $\frac{1}{4}$ SiO₂ for an 8 hour Time Weighted Average (TWA). The American Conference of Governmental Industrial Hygenists (ACGIH) have established, for amorphous silica, Threshold Limit Values (TLV) of 10 mg/m³ Inhalable (total) particulate and 3 mg/m³ for respirable particulate based on Particulates Not Otherwise Classified (PNOC). The Occupational Safety and Health Administration (OSHA), has established for alpha-methyl styrene, a Permissible Exposure Limit (PEL) of 100 ppm or 480 mg/m³ ceiling limit, not to be exceeded at any time. The American Conference of Governmental Industrial Hygenists (ACGIH) have established, for alpha-methyl styrene, Threshold Limit Values (TLV) of 50 ppm or 242 mg/m³ TWA and 100 ppm or 483 mg/m³ Short Term Exposure Limit (STEL), 15 minute exposure.

Engineering Controls:

The use of general or local exhaust ventilation may be required to maintain exposures below the regulatory or recommended occupational exposure limits. See occupational exposure limits in Section 2 and under Exposure Guidelines in Section 8. Use explosion-proof ventilation equipment.

Eye Protection:

Wear 1) safety glasses with side shields and a faceshield or 2) goggles and a faceshield. ~~Facilities storing or utilizing this material should be equipped with an eyewash station and safety shower.~~

Skin Protection:

Wear chemical resistant gloves such as polyvinyl alcohol or Viton (R). If splashing is likely, wear impervious clothing and boots to prevent repeated or prolonged skin contact. Consult your supplier of personal protective equipment for additional instructions on proper usage.

Respiratory Protection:

A NIOSH/MSHA approved air purifying respirator with organic vapor cartridge or canister may be necessary under certain circumstances where airborne concentrations are expected to exceed exposure limits. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. Protection provided by air purifying respirators is limited. Use a positive pressure air-supplied respirator if 1) there is any potential for an uncontrolled release, 2) exposure levels are not known, or 3) during other circumstances where air purifying respirators may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color: Amber, Opaque

Material Safety Data Sheet
INFORMATION TELEPHONE NO. 1-800-275-6353
HYDREX (R) 100 33350-99

MSDS No: 2445

Reichhold, Inc.

Corporate Headquarters

P.O. Box 13582

Research Triangle Park, NC 27709-3582

ALL CHEMICAL EMERGENCIES

1-800-424-9300

Effective Date: 06/19/01

Page 6

Odor: Pungent
Odor Threshold: 0.2 ppm Styrene
Physical State: Liquid
Solubility in Water: Insoluble at 20 degrees C (68 degrees F)
Dispersion
Vapor Pressure: 6.12 (mm Hg) Styrene
Specific Gravity: 1.06 - 1.1 (Water = 1) at 25 degrees C (77
degrees F)
Boiling Point: 295 degrees F (146 degrees C) Styrene
Freezing Point: -22.7 degrees F (-30.4 degrees C) Styrene
Evaporation Rate: < 1 (BuAc=1)
Vapor Density: 3.6 (AIR=1) Styrene
% Volatile: 42.5 - 46.5 % by weight
VOC Content: 481 grams/liter (calculated) product as supplied
pH: Not applicable

10. STABILITY AND REACTIVITY

Stability:

Stable at normal temperatures and storage conditions. See Section 7 for additional storage information.

Incompatibility:

Avoid contact with strong acids, oxidizing agents (peroxides), metal salts and polymerization catalysts.

Hazardous Decomposition Products:

Thermal decomposition may produce various hydrocarbons and irritating, acrid vapors.

~~Hazardous Polymerization:~~

~~Product will undergo hazardous polymerization at temperatures above 150 F (65 C). Hazardous polymerization will occur if contaminated with peroxides, metal salts and polymerization catalysts.~~

11. TOXICOLOGICAL INFORMATION

Acute Eye Toxicity:

Studies indicate that exposures to concentrations of styrene above 200 ppm cause irritation of the eyes. Styrene causes transient moderate eye irritation without corneal involvement.

Acute Skin Toxicity:

Draize Skin Primary Irritation Score (range, 0-8) for a 4-hour exposure (rabbits) to styrene is 6.6. Styrene: dermal LD50 (rabbit), 5 g/kg. Styrene causes severe irritation at 72 hours.

Acute Inhalation Toxicity:

Styrene: inhalation LC50 (rat), 24 g/m³ / 4 hrs. Studies indicate that exposures to concentrations of styrene above 200 ppm cause irritation of the upper respiratory tract. Acute exposure to high concentrations of styrene may produce irritation of the mucous membranes of the upper respiratory tract, nose, and mouth, followed by symptoms of narcosis.

Material Safety Data Sheet
INFORMATION TELEPHONE NO. 1-800-275-6353
HYDREX (R) 100 33350-99

MSDS No: 2445
Reichhold, Inc.
Corporate Headquarters
P.O. Box 13582
Research Triangle Park, NC 27709-3582

ALL CHEMICAL EMERGENCIES
1-800-424-9300

Effective Date: 06/19/01

Page 7

muscular contraction, and death due to respiratory center paralysis.
Studies indicate that in concentrations above 400 ppm, alpha-methyl styrene monomer is irritating to all parts of the respiratory tract.

Acute Oral Toxicity:

Styrene: oral LD50 (rat), 5 g / kg. Silica-Amorphous, Fumed: oral LD50 (rat), 3160 mg/kg. alpha-Methyl Styrene: oral LD50 (rat), 4900 mg/kg; (mouse), 4500 mg/kg.

Subchronic:

Styrene: inhalation NOEL(rat) 200 ppm 6 hr / day 13 weeks, target organ effects: auditory response; inhalation LOEL (rat) 800 ppm 6 hr / day 13 weeks, target organ effects: auditory response. Styrene has been shown to cause probable hearing loss in rats exposed for at least six hours per day for three to thirteen weeks to 800 ppm of styrene in the air, as indicated by a rise in the auditory brainstem response threshold and loss of hair cells of the inner ear. No effects were observed in rats exposed to styrene at 200 ppm for 13 weeks. Based on animal studies and human experience, no significant risk of hearing loss is expected in occupationally exposed persons. Overexposure to styrene has been suggested as a cause of the following effects in laboratory animals and may aggravate pre-existing disorders of the following organs in humans; mild, reversible kidney effects, effects on hearing, respiratory tract damage, testis damage and liver damage.

Chronic/Carcinogenicity:

The International Agency for Research on Cancer (IARC) has classified styrene in Group 2B, possibly carcinogenic to humans. IARC concluded that evidence of carcinogenicity from human health studies, was inadequate and based the classification on animal and other relevant data. The animal data included an increased incidence of cancer observed in a few studies ~~in which rats and mice were given styrene by inhalation or by ingestion for their lifetimes.~~ IARC considered the combined results of these cancer studies to provide "limited evidence" of carcinogenicity. Other scientists consider the results of these studies inadequate to assess human carcinogenicity because these studies had either negative or statistically inconclusive results or had serious problems such as poor study design or very high mortality. Other relevant data included results from in-vivo and in-vitro genotoxicity studies. IARC also relied on data on styrene oxide including the results of two studies demonstrating stomach tumors in rats that were fed styrene oxide for their lifetime. Several epidemiology studies involving workers in the styrene, polystyrene or reinforced plastics industries have been conducted. Together, these studies show no increased cancer risk from occupational exposure to styrene. Preliminary results of a recent inhalation study indicated that mice exposed to styrene showed an increased incidence of lung tumors, however no dose response relationship was observed. The relevance of these findings is uncertain since data from other long-term animal studies and from epidemiology studies of workers exposed to styrene do not provide a basis to conclude that styrene is carcinogenic. The American Conference of Governmental Industrial Hygienists (ACGIH) has adopted the listing of Styrene as "A4-Not Classifiable as a Human Carcinogen." There is inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.

Teratology:

Styrene did not cause birth defects in orally-dosed rats, mice, rabbits

Material Safety Data Sheet
INFORMATION TELEPHONE NO. 1-800-275-6353
HYDREX (R) 100 33350-99

MSDS No: 2445

Reichhold, Inc.

Corporate Headquarters

P.O. Box 13582

Research Triangle Park, NC 27709-3582

ALL CHEMICAL EMERGENCIES

1-800-424-9300

Effective Date: 06/19/01

Page 8

and hamsters exposed by inhalation. Styrene given by inhalation for six hours a day during organ development has been shown to be toxic to fetal mice at 250 ppm and to fetal hamsters at 1000 ppm. Information from human experience and the results of animal studies suggest no significant risk of birth defects or reproductive toxicity of styrene to humans.

Mutagenicity:

Styrene has given mixed positive and negative results in a number of mutagenicity tests. It was not mutagenic in the Ames test without metabolic activation but gave negative and positive mutagenic results with metabolic activation. It has also given negative mutagenic results in the Chinese Hamster Ovary Test, and the Forward Gene Mutation Test and positive results in the Sister Chromatid Exchange and the Chromosomal Aberration assay.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Styrene is toxic to aquatic organisms and should not be released to sewage, drainage systems and all bodies of water at concentrations exceeding approved limits under applicable regulations and permits. Styrene: LC50 (Sheepshead minnow), 9.1 mg / l / 96 hr.

Environmental Fate:

Styrene released to soil is subject to biodegradation. The results of one extensive biological screening study suggest that styrene will be rapidly destroyed by biodegradation in most aerobic environments, but the rate may be slow at low concentrations in aquifers and lake waters and in environments at low pH (6).

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:

RCRA HAZARDOUS WASTE: This material and containers that are not empty, if discarded, would be regulated as a hazardous waste under RCRA. Treatment and/or disposal must be completed at a RCRA-permitted Treatment, Storage and Disposal Facility (TSD). The storage and transportation of RCRA hazardous wastes are also regulated by the USEPA. EMPTY DRUMS: "Empty containers", as defined under 40 CFR 261.7 or other applicable state or provincial regulations or transportation regulations, are not classified as hazardous wastes.

RCRA Hazard Class:

D001 (IGNITABLE): When discarded in its purchased form, this material would be regulated under 40 CFR 261.21 as EPA Hazardous Waste Number D001 based on the characteristic of ignitability.

14. TRANSPORT INFORMATION

Material Safety Data Sheet
INFORMATION TELEPHONE NO. 1-800-275-6353
HYDREX (R) 100 33350-99

MSDS No: 2445
Reichhold, Inc.
Corporate Headquarters
P.O. Box 13582
Research Triangle Park, NC 27709-3582

ALL CHEMICAL EMERGENCIES
1-800-424-9300

Effective Date: 06/19/01

Page 9

DOT: Non Bulk
Proper Shipping Name: RESIN SOLUTION
Hazard Class: 3
ID Number: UN1866
Packing Group: III
Label:
Placard:
ERG Number: 127

DOT: Bulk
Proper Shipping Name: RESIN SOLUTION
Hazard Class: 3
ID Number: UN1866
Packing Group: III
Placard:
Marine Pollutant: STYRENE
ERG Number: 127

IATA: Non Bulk
Proper Shipping Name: RESIN SOLUTION
Hazard Class: 3
ID Number: UN1866
Packing Group: III
Label:
Placard:
ERG Number: 127

IMDG: Bulk and Non-Bulk
Proper Shipping Name: RESIN SOLUTION
Hazard Class: CLASS 3
ID Number: UN1866
Packing Group: PG III
Label:
Placard:
Marine Pollutant: STYRENE
ERG Number: 127

TDG: Non Bulk
Proper Shipping Name: RESIN SOLUTION
Hazard Class: CLASS 3
ID Number: UN1866
Packing Group: PG III
Label:
Placard:
ERG Number: 127

TDG: Bulk
Proper Shipping Name: RESIN SOLUTION
Technical Shipping Name (If n.o.s.): STYRENE
Hazard Class: CLASS 3(9.2)
ID Number: UN1866
Packing Group: PG III

Material Safety Data Sheet
INFORMATION TELEPHONE NO. 1-800-275-6353
HYDREX (R) 100 33350-99

MSDS No: 2445
Reichhold, Inc.
Corporate Headquarters
P.O. Box 13582

Research Triangle Park, NC 27709-3582

ALL CHEMICAL EMERGENCIES
1-800-424-9300

Effective Date: 06/19/01

Page 10

Placard:

ERG Number: 127

Reportable Quantity: See Section 15

15. REGULATORY INFORMATION

Clean Water Act - Priority Pollutants (PP):

Styrene (100-42-5) is listed under Section 311 as a Hazardous Substance.

Occupational Safety and Health Act (OSHA):

This material is classified as a hazardous chemical under the criteria of the US Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, 29 CFR 1910.1200.

SARA Title III: Section 304 - CERCLA:

Styrene (CAS# 100-42-5): Reportable Quantity = 1,000 lb.

SARA Title III: Section 311/312 - Hazard Communication Standard (HCS):

This material is classified as an IMMEDIATE HEALTH HAZARD, DELAYED HEALTH HAZARD, FLAMMABILITY HAZARD, and REACTIVITY HAZARD under the US Superfund Amendment and Reauthorization Act (Section 311/312).

SARA Title III: Section 313 Toxic Chemical List (TCL):

Styrene (100-42-5)

TSCA Section 8(b) - Inventory Status:

All components of this material are listed on the US Toxic Substances Control Act (TSCA) inventory.

TSCA Section 12(b) - Export Notification:

~~This material does not contain any components that are subject to the US Toxic Substances Control Act (TSCA) Section 12(b) Export Notification requirements.~~

Canadian Inventory Status:

All components of this material are listed on the Canadian Domestic Substances List (DSL).

Canadian WHMIS:

This material is classified by the Canadian Workplace Hazardous Material Information System as: B2 (flammable liquid) D2A (materials causing other toxic effects, very toxic material) D2B (materials causing other toxic effects, toxic material) F (dangerously reactive material)

California Proposition 65:

WARNING: This product contains a chemical(s) known to the State of California to cause cancer. Styrene Oxide

Additional Canadian Regulatory Information:

Under the Transportation of Dangerous Goods regulations, the following chemicals have been assigned Regulated Limits (RL): Styrene Monomer (CAS # 100-42-5): RL=50 KG. The following chemicals are listed on the WHMIS Ingredient Disclosure List: Styrene Monomer (CAS# 100-42-5) Alpha Methyl Styrene (CAS# 98-83-9)

16. OTHER INFORMATION

Material Safety Data Sheet
INFORMATION TELEPHONE NO. 1-800-275-6353
HYDREX (R) 100 33350-99

MSDS No: 2445
Reichhold, Inc.
Corporate Headquarters
P.O. Box 13582
Research Triangle Park, NC 27709-3582

ALL CHEMICAL EMERGENCIES
1-800-424-9300

Effective Date: 06/19/01

Page 11

MSDS No: 2445
Reason Issued: Update to Section 14
Prepared By: Product Safety & Compliance Department
Supersedes Date: 03/29/01

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14879 SW 111TH STREET
DUNNELLON FL 34432

ASA MANUFACTURING INCORPORATED
14879 SW 111TH STREET
DUNNELLON FL 34432

ASHLAND PRODUCT NAME: ~~81-110450 WH FERRO GC~~
DATA SHEET NO: ~~0362240-002-001 SUPPLIER~~
INVOICE: 1696887 MATERIAL: 2027373 400 OLS
LATEST REVISION DATE: 10/28/03 INVOICE DATE: ~~12/05/03~~

PAGE 001

311

4

MATERIAL SAFETY DATA SHEET

ERRO Code Number: 81-110450

SDS Rev.: 05-SEP-2003

MSDS Print Date: 09/19/03

0362240-002

10/28/03

SECTION I - PRODUCT AND COMPANY INFORMATION

Product Name: SE FRP White Ultra Plus MIXTURE
CAS Number
HMIS Hazard Rating: Health: 2* Fire: 3 Reactivity: 2 PPI: J

Company Identification: Ferro Corporation
Liquid Coatings & Dispersions
1301 N. Flora Street
Plymouth IN 46563

Contact: Nancy McCallen
Telephone/Fax: (574) 935-5131 (574) 935-5278
Emergency Phone (24 Hour): Ferro Corporation
(216) 641-5324
Chemtrec (24 Hour): (800) 424-9300
Preparer: Nancy McCallen
Environmental Technician

Trade Name: SE FRP White Ultra Plus
N Class: 3
UN Number: 1866
UN Pack Group: III
Shipping Name: Resin Solution
(Contains Styrene Monomer, inhibited)

SECTION II - HAZARDOUS INFORMATION

Table with 4 columns: Ingredient Name, CAS Number, Percent, TSCA In. Rows include Styrene Monomer, Unsaturated Polyester, Titanium Dioxide, Talc (Magnesium Silicate), Methyl Methacrylate Monomer, Amorphous Fumed Silica, Alkyl Quaternary Ammonium Montmorillonite.

*** ALL Ingredients in this product are listed in the T.S.C.A. Inventory

Additional Ingredient Information:

Styrene may contain trace amounts of Benzene (CAS# 71-43-2) as an

MATERIAL SAFETY DATA SHEET

PRO Code Number: 81-110450

S Rev.: 05-SEP-2003

MSDS Print Date: 09/19/0

impurity.

Naphtha-Light Aromatic (CAS# 64742-95-6) contains:

1,2,4-Trimethylbenzene, Xylene and Cumene

SECTION III - PHYSICAL DATA

Appearance/Color: White
Solubility (in water): Negligible
Boiling Point: 100.°C - 145.°C (212.°F - 293.°F)
Vapor Pressure (mmHg): 4.5@ 68.°F (20.°C)
Evaporation Rate: Slower than n-Butyl Acetate

% Volatile Weight 39.42% - 4.1785 LB/GAL
% Volatile Volume 55.32%
Specific Gravity: 1.27105 - 10.6 LB/GAL

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flammability Class IC
Flash Point: 83.°F - 89.°F (28.33°C - 31.67°C)
Tag Closed Cup
Explosive Range: 1.1%
12.5%

EXTINGUISHING MEDIA:

Foam, Dry Chemical, CO2

SPECIAL FIREFIGHTING PROCEDURES

Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus. Wear full protective equipment/clothing. Treat as oil fire. Fight fire from a distance; sealed containers can rupture explosively when heated. Water may be used to keep fire-exposed containers cool until fire is out.

UNUSUAL FIRE & EXPLOSION HAZARDS:

Flammable liquid. Vapors may form explosive mixture with air. Can polymerize when heated. Combustion can produce toxic gases. Vapors are heavier than air, can travel along the ground or through ventilation systems, and be ignited by sparks, flames or static discharge.

SECTION V - HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LEVEL:

See Section VIII.

EFFECTS OF OVEREXPOSURE:

A study conducted by the National Toxicology Program states that lifetime inhalation exposure of rats and mice to concentrations of Ethylbenzene (750 ppm) resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations of Ethylbenzene (75 ppm or 250 ppm). The study does not address the relevance of these results to humans. Ethylbenzene is considered a IRAC Group 2B carcinogen based on animal studies. Styrene & MMA are skin, nose and respiratory tract irritants, and can

MATERIAL SAFETY DATA SHEET

Page 3

TERRO Code Number: 81-110450

JDS Rev.: 05-SEP-2003

MSDS Print Date: 09/19/03

cause allergic skin rashes. Skin permeation may occur. Both are severe eye irritants and can cause stinging, tearing, blurring of vision, redness and swelling, and possible corneal damage. Inhalation can cause central nervous system (CNS) depression with headache, nausea, dizziness, lung irritation with cough, discomfort & shortness of breath, and other CNS effects.

Methyl Methacrylate (MMA) exposure can cause abnormal kidney function tests and temporary elevation of blood pressure.

High levels of Styrene (1000 ppm) can cause anesthetic effects. May be fatal at 10,000 ppm Styrene.

IARC has classified Styrene as a possible carcinogen (Class 2B).

There is currently not sufficient evidence to indicate that Styrene is a human carcinogen. The IARC 2B classification is based on animal data generated on Styrene Oxide. Styrene Oxide is a metabolite of Styrene.

Ingestion causes a burning sensation of the mouth and throat, and gastrointestinal tract irritation.

TALC (no Asbestos):

ACUTE: May cause mechanical eye irritation. Excessive exposure may cause bronchitis.

CHRONIC: Prolonged exposure to excessive quantities of Talc can result in scarring of the lungs or in the covering of the lungs.

TITANIUM DIOXIDE: Results of a Dupont epidemiology study showed that employees who had been exposed to Titanium Dioxide pigments were at no greater risk of developing lung cancer than were employees who had not been exposed to Titanium Dioxide pigments. Based on the results of this study Dupont concluded that TiO₂ pigments will not cause lung cancer or chronic respiratory disease in humans at concentrations experienced in the work place.

Solvent absorption by inhalation and/or repeated skin contact has caused injury to liver, kidney, respiratory system, blood, and/or bone marrow in laboratory animals.

Intentional misuse by deliberately concentrating and inhaling vapors may be harmful or fatal.

May be aggravating to some skin and asthma-type conditions, and to pre-existing liver and/or kidney disorders.

NAPHTHA-LIGHT AROMATIC:

ACUTE:

Inhalation - High concentrations of vapors may be irritating to the respiratory tract. May cause headaches, dizziness, nausea and vomiting. May cause CNS depression (drowsiness, loss of coordination, and fatigue).

Eye & Skin - Repeated or prolonged contact may cause irritation.

Ingestion - Repeated ingestion may irritate the digestive tract.

CHRONIC:

Absorption of ingredients by inhalation and/or repeated skin contact may cause injury to the liver/kidney. Reports have associated repeated and prolonged occupational exposure to solvents with permanent brain and nervous system damage.

FIRST AID:

MATERIAL SAFETY DATA SHEET

Page 4

RRO Code Number: 81-110450

DS Rev.: 05-SEP-2003

MSDS Print Date: 09/19/

INHALATION: If inhaled, move individual to fresh air. Make comfortably warm but not hot. Use oxygen or artificial respiration as required. See a physician if irritation is present or persists.

SKIN: In case of contact, remove contaminated clothing. Wash thoroughly with soap & plenty of water. See a physician if irritation is present or persists. Launder contaminated clothing before reuse.

EYE: Immediately flush eyes with plenty of water for at least 15 minutes and get prompt medical attention.

INGESTION: If swallowed, call a physician immediately. Induce vomiting only at the instructions of a physician.

Never give anything by mouth to an unconscious person.

NOTE TO PHYSICIAN: Vomiting can cause aspiration of the liquid into the lungs, which can cause chemical pneumonitis, which can be fatal.

SECTION VI - STABILITY AND REACTIVITY DATA

Stability: This product is stable

Hazardous Polymerization: Hazardous polymerization may occur

INCOMPATIBILITY:

Styrene is incompatible with strong acids & bases, peroxides, oxidizers, aluminum chloride and metallic hydrides.

Methyl Methacrylate is incompatible with oxidizing and reducing agents. MMA is a strong solvent and can soften paints & rubber.

CONDITIONS TO AVOID:

Avoid excessive heat and inadvertent addition of catalyst.

HAZARDOUS DECOMPOSITION PRODUCTS:

Oxides of Carbon; incompletely burned hydrocarbons.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Styrene Monomer has a Reportable Quantity (RQ) = 1000 lbs.

Methyl Methacrylate has a Reportable Quantity (RQ) = 1000 lbs.

Confine spill. Remove all sources of ignition. Ventilate area and maintain ventilation. Use all described protective measures and equipment. Use absorbant material, such as clay or sand, to collect and contain for salvage and disposal. Prevent runoff from entering drains, sewers or waterways.

WASTE DISPOSAL METHOD:

Follow all applicable Federal, Provincial, State and Municipal laws, regulations and by-laws. Package in U.N. approved containers and transport to an approved treatment, storage and disposal (TSD) facility. (Also see Section X.)

Unused product and cleaned-up material may be RCRA Hazardous Waste (D001, D003).

SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

MATERIAL SAFETY DATA SHEET

ERRO Code Number: 81-110450

MSDS Rev.: 05-SEP-2003

MSDS Print Date: 09/19/03

	ACGIH TLV	ACGIH TLV-C	ACGIH STEL	OSHA STEL	OSHA PEL
Styrene Monomer	20.00 PPM	N/est	40.00 PPM	100.00 PPM	50.00 PPM
Unsaturated Polyester	N/est	N/est	N/est	N/est	N/est
Titanium Dioxide	10.00 mg/M3	N/est	N/est	N/est	10.00 mg/M3
Talc (Magnesium Silicate)	2.00 mg/M3	N/est	N/est	N/est	2.00 mg/M3
Methyl Methacrylate Monomer	50.00 PPM	N/est	100.00 PPM	N/est	100.00 PPM
Amorphous Fumed Silica	10.00 mg/M3	N/est	N/est	N/est	6.00 mg/M3
Alkyl Quaternary Ammonium Montmorillonite	N/est	N/est	N/est	N/est	N/est
Naptha - Light Aromatic	50.00 PPM	N/est	N/est	N/est	400.00 PPM
Paint Additive	N/est	N/est	N/est	N/est	N/est
Ethylbenzene	100.00 PPM	N/est	125.00 PPM	N/est	100.00 PPM

RESPIRATORY PROTECTION:

Use appropriate NIOSH/MSHA approved respiratory protection when exposure to airborne contaminants may exceed acceptable limits. In emergency situations, or when used in confined spaces, use self-contained breathing apparatus or other air supplied full-face respirator.

VENTILATION:

Ventilate to maintain exposure below published exposure limits. Use explosion proof motors and wiring.

PROTECTIVE GLOVES:

Use impervious butyl rubber gloves. Replace as often as needed to maintain protection.

EYE PROTECTION:

Use chemical safety goggles or full-face shield.

OTHER PROTECTIVE EQUIPMENT:

Eye wash stations & safety showers should be easily accessible. Where splash can occur, use protective clothing.

SECTION IX - SPECIAL PRECAUTIONS

MATERIAL SAFETY DATA SHEET

FERRO Code Number: 81-110450
 DS Rev.: 05-SEP-2003

MSDS Print Date: 09/19/0

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

DO NOT STORE ABOVE 100 degrees F (38 degrees C)!
 Avoid contact with eyes, skin, clothing. Avoid breathing vapor, mist or spray. Use with good ventilation. Wash thoroughly after handling. Store in cool, dry area in closed containers away from incompatible materials. Store away from sunlight, heat, sparks and open flames. Protect containers against physical damage. Do not smoke in work area. Do not store near food or feed.

OTHER PRECAUTIONS:

Since emptied containers retain product residues (vapor, liquid or solid), all hazard precautions listed in the MSDS should be observed! Avoid improper addition of promotor and/or catalyst. Consult product bulletin. Promotors (metal organics such as Cobalt, or Analine type) and catalyst (organic peroxide type) used with this product, should always be premixed separately into the product.

**** NEVER MIX PROMOTORS & CATALYST DIRECTLY TOGETHER ****

SECTION X - REGULATORY INFORMATION

SARA TITLE III SECTION 313:

is product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right to Know Act of 1986 and of 40 CFR 372:

Ingredient Name	CAS Number	Percent
Styrene Monomer	100-42-5	33.46
Methyl Methacrylate Monomer	80-62-6	5.00
Cobalt Compound (as Cobalt)	N/A	0.02

~~PROP 65 (CARCINOGEN)~~

WARNING: This product contains a chemical known to the state of California to cause cancer.

Ingredient Name	CAS Number	Percent
Ethylene Glycol	107-21-1	< 0.5

Although Styrene Monomer is not listed under Prop. 65, trace amounts of Benzene may be present as an impurity. (<0.05%)

MASSACHUSETTS SUBSTANCE LIST:

Styrene (CAS# 100-42-5) is listed.

CLA - 40 CFR 302.4:

Styrene Monomer has a Reportable Quantity (RQ) = 1000 lbs.

Methyl Methacrylate has a Reportable Quantity (RQ) = 1000 lbs.

RCRA - 40 CFR 261:

MATERIAL SAFETY DATA SHEET

Page 7

VERRO Code Number: 81-110450

SDS Rev.: 05-SEP-2003

MSDS Print Date: 09/19/03

Wastes containing Styrene Monomer and Methyl Methacrylate (MMA) in a liquid form may exhibit EPA Hazardous Waste Characteristics; D001 (ignitability) and D003 (reactivity).

DISCLAIMER:

The information and recommendations contained in this Material Safety Data Sheet have been compiled from sources believed to be reliable and to represent the most reasonable current opinion on the subject when the MSDS was prepared. No warranty, guaranty or representation is made as to the correctness or sufficiency of the information. The user of this product must decide what safety measures are necessary to safely use this product, either alone or in combination with other products, and determine its environmental regulatory compliance obligations under any applicable federal or state laws.

Catalyst-Resin

Product name: Hi - Point 90 Red

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Hi - Point 90 Red

Chemical name: Methyl ethyl ketone peroxides

Supplier: Crompton Corporation
199 Benson Road
Middlebury, CT 06749, USAEmergency telephone number: Crompton Corporation Emergency Response 903-938
5141
CHEMTREC (24 hours) 800-424-9300

For MSDS, Product Safety, or regulatory inquiries, call: 866-430-2775

Customer Service: 877-948-2660

2. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	CAS#	CONCENTRATION
Methyl ethyl ketone peroxides	1338-23-4	36.0 - 40.0 %
(% Active Oxygen)		≤ 9.0 %
Dimethyl phthalate	131-11-3	32.0 - 36.0 %
proprietary safety diluent	Trade secret	26.0 - 30.0 %
Methyl Ethyl Ketone	78-93-3	0.1 - 1.0 %
Hydrogen peroxide 35%	7722-84-1	0.1 - 1.5 %
C.I. Solvent Red 164	70879-65-1	0.2 - 0.3 %
Xylene	1330-20-7	0.01 - 0.1 %

3. HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW****WARNING!**
MAY BE HARMFUL OR FATAL IF SWALLOWED.MAY CAUSE ALLERGIC SKIN REACTION.
MAY BE IRRITATING OR CORROSIVE TO THE SKIN AND/OR EYES.
COMBUSTIBLE LIQUID
OXIDIZING MATERIAL

Product name: Hi - Point 90 Red

4. FIRST AID MEASURES

Swallowing

Obtain medical attention. If patient is fully conscious, rinse mouth with water. Give water to drink. Drink water in small sips. (Diluting effect) Never give anything by mouth to an unconscious person. Vomiting may cause aspiration into the lungs resulting in chemical pneumonia.

Skin

Remove contaminated clothing. Wash skin with soap and water. If irritation persists or if contact has been prolonged, obtain medical attention.

Inhalation

Remove to fresh air. If exposure is severe, hospitalize and observe. If breathing has stopped, give artificial respiration.

Eye contact

Immediately flush eyes with water and continue washing for at least 15 minutes. Obtain medical attention immediately. May cause blindness.

Notes to physician

ROUTES OF ENTRY: Eyes, skin, ingestion, inhalation, mist. TARGET ORGANS: Eyes, skin, respiratory system.

5. FIRE-FIGHTING MEASURES

Flash point: 80 °C

NFPA CLASSIFICATION

Health: 3	Flammability: 2	Reactivity: 2	Special provisions: -
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Special fire fighting procedures

Evacuate all personnel from danger area. Use water spray to cool fire-exposed containers and structures.

Special protective equipment for firefighters

Body covering protective clothing. Self-contained breathing apparatus.

Extinguishing media

Suitable:

- water fog
- foam
- CO2
- dry chemical
- dry sand

Unusual fire and explosion hazards

Other harmful gases and vapors may be formed in addition to the major combustion products of carbon dioxide and carbon monoxide. There is a potential for an explosive decomposition in a fire situation. Once ignited, this product will burn vigorously and with acceleration.

Product name: Hi - Point 90 Red

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Avoid contact with eyes and skin. Avoid contact with liquid and vapors. Provide sufficient ventilation.

Environmental precautions

Avoid runoff to sewers or waterways. This product has limited solubility in water.

Methods for cleaning up

Stop the leak if it can be done without risk.

Dike to contain spill.

Absorb on inert material such as sand, earth, vermiculite.

Cover by foam or wet with small quantities of water.

Sweep up using non-sparking equipment.

Collect in a suitable container for disposal.

Storage material: Polypropylene, polyethylene

Dispose of waste material in compliance with all federal, state, and local regulations.

7. HANDLING AND STORAGE

HANDLING

Handling precautions

Keep containers tightly closed to prevent contamination. Avoid contact with eyes, skin and clothing. Do not eat, drink or smoke when handling. Wear recommended personal protection equipment. Remove contaminated clothing and wash before reuse. Use spark-proof tools and explosion-proof equipment.

Other precautions

Store containers in a well-ventilated area. Open them cautiously, in case they may be under slight pressure. ~~Have~~ good ventilation and suitable protective equipment in areas where containers will be opened.

Keep away from heat, sparks and flame.

Do not expose to direct sunlight.

STORAGE

Storage requirements

Regulated as an Organic Peroxide, Class 5.2, for storage and handling. Store in original containers away from incompatible materials, direct sunlight, flames, and all sources of heat.

Further information on storage

Maximum Storage Temperature: 38 °C (100 °F). In order to maintain the product's original manufactured assay for long term storage, a lower storage temperature of below 30 °C (86 °F) is strongly recommended. Shelf Life: (Calculated from half-life data in benzene solution) Estimate > 48 months at which 95% of the original manufactured assay remains when stored at or below 30 °C (86 °F).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTION

Respiratory protection

None required in normal use. Self-contained breathing apparatus may be needed if product is used in a confined or poorly ventilated area.

Product name: Hi - Point 90 Red

Hand protection / protective gloves

Neoprene-type gloves.

Eye protection

Wear suitable eye protection.

Faceshield

Safety goggles.

Contact lenses should not be worn.

Skin protection

Wear protective clothing.

Apron/boots of neoprene if risk of splashing

ENGINEERING CONTROLS

Ventilation

General (mechanical) room ventilation is expected to be satisfactory.

EXPOSURE LIMITS

<u>Component</u>	<u>Type</u>	<u>Value</u>	<u>Remark</u>
Methyl ethyl ketone peroxides	Ceiling, ACGIH	1.5 mg/m ³	
<u>Component</u>	<u>Type</u>	<u>Value</u>	<u>Remark</u>
Dimethyl phthalate	TWA, ACGIH	5.0 mg/m ³	
<u>Component</u>	<u>Type</u>	<u>Value</u>	<u>Remark</u>
Methyl Ethyl Ketone	TWA, OSHA	200.0 ppm	
	TWA, ACGIH	200.0 ppm	
	STEL, ACGIH	300.0 ppm	
<u>Component</u>	<u>Type</u>	<u>Value</u>	<u>Remark</u>
Hydrogen peroxide 35%	TWA, ACGIH	1.0 ppm	
<u>Component</u>	<u>Type</u>	<u>Value</u>	<u>Remark</u>
Xylene	TWA, OSHA	100.0 ppm	
	TWA, ACGIH	100.0 ppm	
	STEL, ACGIH	150.0 ppm	

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Physical state

Liquid

Color

Dyed Red

OTHER PROPERTIES

Product name: Hi - Point 90 - Red

Boiling point	Decomposition: 68°C
Specific gravity (H ₂ O=1)	1.072 at 25 °C
Flash point	80 °C Method: Setaflash closed cup, ASTM D 3828
Kinematic viscosity	15 cSt at 25 °C

10. STABILITY AND REACTIVITY

Stability: This product is stable only when stored at, or below, the recommended maximum temperature. (see section 7)

SADT

Value: 70 °C

Remark: 40# Package

Stability - Conditions to avoid

Contamination with ANY foreign substance,

Exposure to heat.

Protect from direct sunlight.

Incompatible materials

Strong acids.

Reducing agents.

Accelerators

Promoters

Other reactive chemicals

Hazardous combustion products

Carbon monoxide.

Carbon dioxide.

Hydrocarbons.

Hazardous polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

SWALLOWING

Acute effects

Harmful or fatal if swallowed.

Test results

Acute toxicity:

Test substance: 9% AO-MERK

LD50 - Rat

Result: 1,017 mg/kg

SKIN ABSORPTION

Acute effects

Product name: Hi - Point 90 Red

May cause eye and skin irritation.

Test results

Acute toxicity: Test substance: 9% AO MEKP
LD50 - Rabbit
Result: 4,000 mg/kg

INHALATION

Acute effects

May be harmful by inhalation.

Test results

Acute toxicity: Test substance: 9% AO MEKP
LC50 - Mouse
Result: 17 mg/l
Exposure time: 4 h

SKIN CONTACT

Acute effects

May cause allergic skin reaction.

Test results

Skin irritation: Species: Rabbit
Result: No data available.

EYE CONTACT

Acute effects

May cause chemical burns of the eye.

Test results

Eye irritation: Species: Rabbit
Result: Corrosive.

12. ECOLOGICAL INFORMATION

This product is stable in water, and can be mechanically separated from water. The water may be suitable for disposal in a biological waste water treatment plant.

13. DISPOSAL CONSIDERATIONS

US waste

Dispose of waste material in compliance with all federal, state, and local regulations. Hazardous waste ID number U160 & U102 (MEKP & DMP), see 40CFR261.33(f)

14. TRANSPORT INFORMATION

DOT Classification

Proper shipping name: ORGANIC PEROXIDE TYPE D, LIQUID (METHYL ETHYL KETONE)

Product name: Hi - Point 90 - Red

Class: PEROXIDES, =<45%)
5.2
UN ID #: UN3105
Packing group: II

15. REGULATORY INFORMATION

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual reports of release of toxic chemicals that appear in 40CFR372 (for SARA 313). This information must be included in MSDS's that are copied and distributed for this material.

Components present in this product at a level which could require reporting under the statute are:

Chemical name	CAS#	Max weight %
Dimethyl phthalate	131-11-3	32.00 - 36.00

New Jersey Worker and Community Right-To-Know Act (Labeling Requirements)

Chemical name	CAS#	New Jersey TS Number
Methyl ethyl ketone peroxides (% Active Oxygen)	1338-23-4	-
Dimethyl phthalate	131-11-3	-
XXX Proprietary safety diluent	-	-

CHEMICAL INVENTORY

Canada: The ingredients of this product are on the DSL.

Europe: The ingredients of this mixture are on the EINECS inventory.

United States: The ingredients of this product are on the TSCA inventory.

Australia: The ingredients of this product are on the AICS inventory.

16. OTHER INFORMATION

RECOMMENDED USES AND RESTRICTIONS

Dust generated from the sanding or finishing of certain types of hardened resins can spontaneously combust if stored or disposed of improperly. Consult your resin manufacturer for proper dust storage and disposal.

FURTHER INFORMATION

MAY BE ON THE INVENTORY LIST BUT NOT NECESSARILY REGISTERED, (Korea, China, New Zealand)
CONSULT REGULATORY SPECIALIST.

HMIS RATING

Health: 3	Flammability: 2	Reactivity: 2	PPI: -
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LEGEND

STP	Standard temperature and pressure
W/W	Weight/Weight
0 (HMIS)	Minimal hazard



MATERIAL SAFETY DATA SHEET

Revision: 1.3

07/17/2003

Page: 8 of 8

Product name: HI - Point 90 Red

1 (HMIS)	Slight hazard
2 (HMIS)	Moderate hazard
3 (HMIS)	Serious hazard
4 (HMIS)	Severe hazard
X (HMIS)	Personal protection rating to be supplied by user depending on use conditions

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The opinions expressed herein are those of qualified experts within Crompton Corporation. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and of these opinions and the conditions of use of this product are not within the control of Crompton Corporation, it is the user's obligation to determine the conditions of safe use of the products.

Catalyst-Gelcoat

ASHLAND

Ashland
Ashland Distribution Co. &
Ashland Specialty Chemical Co.
P. O. Box 2219
Columbus, OH 43216
614-790-3333



A Responsible Care
Company

003 311 6D0 0118616-0118616 12/11/03

ASA MANUFACTURING INCORPORATED
14879 SW 111TH STREET
DUNNELLO FL 34432

ASA MANUFACTURING INCORPORATED
14879 SW 111TH STREET
DUNNELLO FL 34432

ASHLAND PRODUCT NAME: HI-POINT 90 CL CRCO CAT
DATA SHEET NO: 0233587-007 001 SUPPLIER:
INVOICE: 1764162 MATERIAL: 5404101 350 OLS
LATEST REVISION DATE: 11/11/03 INVOICE DATE: 12/10/03

PAGE 001

999

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0233587-007

Crompton**MATERIAL SAFETY DATA SHEET 1111103**Revision: 1.3
07/17/2003
Page: 1 of 8

Product name: Hi - Point 90

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Hi - Point 90

Chemical name: Methyl ethyl ketone peroxides

Supplier: Crompton Corporation
199 Benson Road
Middlebury, CT 06749, USAEmergency telephone number: Crompton Corporation Emergency Response 903-938-5141
CHEMTREC (24 hours) 800-424-9300

For MSDS, Product Safety, or regulatory inquiries, call: 866-430-2775

Customer Service: 877-948-2660

2. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	CAS#	CONCENTRATION
Methyl ethyl ketone peroxides	1338-23-4	36.0 - 40.0 %
(% Active Oxygen)	-	<= 9.0 %
Dimethyl phthalate	131-11-3	32.0 - 36.0 %
proprietary safety diluent	Trade secret	26.0 - 30.0 %
Methyl Ethyl Ketone	78-93-3	0.1 - 1.0 %
Hydrogen peroxide 35%	7722-84-1	0.1 - 1.5 %

3. HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW****WARNING!**

MAY BE HARMFUL OR FATAL IF SWALLOWED.

MAY CAUSE ALLERGIC SKIN REACTION.

MAY BE IRRITATING OR CORROSIVE TO THE SKIN AND/OR EYES.

COMBUSTIBLE LIQUID.

OXIDIZING MATERIAL

Product name: Hi - Point 90

4. FIRST AID MEASURES

Swallowing

Obtain medical attention. If patient is fully conscious, rinse mouth with water. Give water to drink. Drink water in small sips. (Diluting effect) Never give anything by mouth to an unconscious person. Vomiting may cause aspiration into the lungs resulting in chemical pneumonia.

Skin

Remove contaminated clothing. Wash skin with soap and water. If irritation persists or if contact has been prolonged, obtain medical attention.

Inhalation

Remove to fresh air. If exposure is severe, hospitalize and observe. If breathing has stopped, give artificial respiration.

Eye contact

Immediately flush eyes with water and continue washing for at least 15 minutes. Obtain medical attention immediately. May cause blindness.

Notes to physician

ROUTES OF ENTRY: Eyes, skin, ingestion, inhalation, mist. TARGET ORGANS: Eyes, skin, respiratory system.

5. FIRE-FIGHTING MEASURES

Flash point: 80 °C

NFPA CLASSIFICATION

Health: 3	Flammability: 2	Reactivity: 2	Special provisions: -
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Special fire fighting procedures

Evacuate all personnel from danger area. Use water spray to cool fire-exposed containers and structures.

Special protective equipment for firefighters

Body covering protective clothing. Self-contained breathing apparatus.

Extinguishing media

Suitable:

- water fog
- foam
- CO2
- dry chemical
- dry sand

Unusual fire and explosion hazards

Other harmful gases and vapors may be formed in addition to the major combustion products of carbon dioxide and carbon monoxide. There is a potential for an explosive decomposition in a fire situation. Once ignited, this product will burn vigorously and with acceleration.

6. ACCIDENTAL RELEASE MEASURES

Product name: Hi - Point 90

Personal precautions

Avoid contact with eyes and skin. Avoid contact with liquid and vapors. Provide sufficient ventilation.

Environmental precautions

Avoid runoff to sewers or waterways. This product has limited solubility in water.

Methods for cleaning up

Stop the leak if it can be done without risk.

Dike to contain spill.

Absorb on inert material such as sand, earth, vermiculite.

Cover by foam or wet with small quantities of water.

Sweep up using non-sparking equipment.

Collect in a suitable container for disposal.

Storage material: Polypropylene, polyethylene

Dispose of waste material in compliance with all federal, state, and local regulations.

7. HANDLING AND STORAGE

HANDLING**Handling precautions**

Keep containers tightly closed to prevent contamination. Avoid contact with eyes, skin and clothing. Do not eat, drink or smoke when handling. Wear recommended personal protection equipment. Remove contaminated clothing and wash before reuse. Use spark-proof tools and explosion-proof equipment.

Other precautions

Store containers in a well-ventilated area. Open them cautiously, in case they may be under slight pressure. Have good ventilation and suitable protective equipment in areas where containers will be opened.

Keep away from heat, sparks and flame.

Do not expose to direct sunlight.

STORAGE**Storage requirements**

Regulated as an Organic Peroxide, Class 5.2, for storage and handling. Store in original containers away from incompatible materials, direct sunlight, flames, and all sources of heat.

Further information on storage

Maximum Storage Temperature: 38 °C (100 °F). In order to maintain the product's original manufactured assay in long term storage, a lower storage temperature of below 30 °C (86 °F) is strongly recommended. Shelf Life: (Calculated from half-life data in benzene solution) Estimate > 48 months at which 95% of the original manufactured assay remains when stored at or below 30 °C (86 °F).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTION**Respiratory protection**

None required in normal use. Self-contained breathing apparatus may be needed if product is used in a confined or poorly ventilated area.

Product name: Hi - Point 90

Hand protection / protective gloves

Neoprene type gloves.

Eye protection

Wear suitable eye protection.

Faceshield

Safety goggles.

Contact lenses should not be worn.

Skin protection

Wear protective clothing.

Apron/boots of neoprene if risk of splashing

ENGINEERING CONTROLS

Ventilation

General (mechanical) room ventilation is expected to be satisfactory.

EXPOSURE LIMITS

<u>Component</u>	<u>Type</u>	<u>Value</u>	<u>Remark</u>
Methyl ethyl ketone peroxides	Ceiling, ACGIH	1.5 mg/m ³	
<u>Component</u>	<u>Type</u>	<u>Value</u>	<u>Remark</u>
Dimethyl phthalate	TWA, ACGIH	5.0 mg/m ³	
<u>Component</u>	<u>Type</u>	<u>Value</u>	<u>Remark</u>
Methyl Ethyl Ketone	TWA, OSHA	200.0 ppm	
	TWA, ACGIH	200.0 ppm	
	STEL, ACGIH	300.0 ppm	
<u>Component</u>	<u>Type</u>	<u>Value</u>	<u>Remark</u>
Hydrogen peroxide 35%	TWA, ACGIH	1.0 ppm	

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Physical state

Liquid

Color

Colorless to light yellow

OTHER PROPERTIES

Boiling point

Decomposition: 68°C

Specific gravity (H₂O=1)

1.072 at 25 °C

Flash point

80 °C

Method: Setaflash closed cup ASTM D 3828

Product name: Hi - Point 90

Kinematic viscosity 15 cSt at 25 °C

10. STABILITY AND REACTIVITY

Stability: This product is stable only when stored at, or below, the recommended maximum temperature. (see section 7)

SADT

Value: 70 °C

Remark: 40# Package

Stability - Conditions to avoid

Contamination with ANY foreign substance,

Exposure to heat.

Protect from direct sunlight.

Incompatible materials

Strong acids.

Reducing agents.

Accelerators

Promoters

Other reactive chemicals

Hazardous combustion products

Carbon monoxide.

Carbon dioxide.

Hydrocarbons.

Hazardous polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

SWALLOWING

Acute effects

Harmful or fatal if swallowed.

Test results

Acute toxicity:

Test substance: 9% AO MEKP

LD50 - Rat

Result: 1,017 mg/kg

SKIN ABSORPTION

Acute effects

May cause eye and skin irritation.



MATERIAL SAFETY DATA SHEET

Revision: 1.3
07/17/2003
Page: 6 of 8

Product name: Hi - Point 90

Test results

Acute toxicity: Test substance: 9% AO MEKP
LD50 - Rabbit
Result: 4,000 mg/kg

INHALATION

Acute effects

May be harmful by inhalation.

Test results

Acute toxicity: Test substance: 9% AO MEKP
LC50 - Mouse
Result: 17 mg/l
Exposure time: 4 h

SKIN CONTACT

Acute effects

May cause allergic skin reaction.

Test results

Skin irritation: Species: Rabbit
Result: No data available.

EYE CONTACT

Acute effects

May cause chemical burns of the eye.

Test results

Eye irritation: Species: Rabbit
Result: Corrosive.

12. ECOLOGICAL INFORMATION

This product is stable in water, and can be mechanically separated from water. The water may be suitable for disposal in a biological waste water treatment plant.

13. DISPOSAL CONSIDERATIONS

US waste

Dispose of waste material in compliance with all federal, state, and local regulations. Hazardous waste ID number U160 & U102 (MEKP & DMP), see 40CFR261.33(f)

14. TRANSPORT INFORMATION

DOT Classification

Proper shipping name: ORGANIC PEROXIDE TYPE D, LIQUID (METHYL ETHYL KETONE PEROXIDES, =<45%)

Class: 5.2

Product name: Hi - Point 90

UN ID #: UN3105
Packing group: II

IMDG Classification

Proper shipping name: ORGANIC PEROXIDE TYPE D, LIQUID (METHYL ETHYL KETONE PEROXIDES, =<45%)
Class: 5.2
UN ID #: UN 3105
Packing group: II

ICAO Classification

Proper shipping name: ORGANIC PEROXIDE TYPE D, LIQUID (METHYL ETHYL KETONE PEROXIDES, =<45%)
Class: 5.2
UN ID #: UN 3105
Packing group: II

15. REGULATORY INFORMATION

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual reports of release of toxic chemicals that appear in 40CFR372 (for SARA 313). This information must be included in MSDS's that are copied and distributed for this material.

Components present in this product at a level which could require reporting under the statute are:

Chemical name	CAS#	Max weight %
Dimethyl phthalate	131-11-3	32.00 - 36.00

New Jersey Worker and Community Right-To-Know Act (Labeling Requirements)

Chemical name	CAS#	New Jersey TS Number
Methyl ethyl ketone peroxides (% Active Oxygen)	1338-23-4	-
Dimethyl phthalate	131-11-3	-
XXX Proprietary safety diluent	-	-

CHEMICAL INVENTORY

Canada: The ingredients of this product are on the DSL.

Europe: The ingredients of this mixture are on the EINECS inventory.

United States: The ingredients of this product are on the TSCA inventory.

Australia: The ingredients of this product are on the AICS inventory.

16. OTHER INFORMATION

RECOMMENDED USES AND RESTRICTIONS

Dust generated from the sanding or finishing of certain types of hardened resins can spontaneously combust if stored or disposed of improperly. Consult your resin manufacturer for proper dust storage and disposal.



MATERIAL SAFETY DATA SHEET

Revision: 1.3

07/17/2003

Page: 8 of 8

Product name: Hi - Point 90

FURTHER INFORMATION

MAY BE ON THE INVENTORY LIST BUT NOT NECESSARILY REGISTERED, (Korea, China, New Zealand)
CONSULT REGULATORY SPECIALIST.

HMIS RATING

Health: 3	Flammability: 2	Reactivity: 2	PPI: -
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LEGEND

STP	Standard temperature and pressure
W/W	Weight/Weight
0 (HMIS)	Minimal hazard
1 (HMIS)	Slight hazard
2 (HMIS)	Moderate hazard
3 (HMIS)	Serious hazard
4 (HMIS)	Severe hazard
X (HMIS)	Personal protection rating to be supplied by user depending on use conditions

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The opinions expressed herein are those of qualified experts within Crompton Corporation. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and of these opinions and the conditions of use of this product are not within the control of Crompton Corporation, it is the user's obligation to determine the conditions of safe use of the products.

ATTACHMENT D
UNIFIED EMISSION FACTORS FOR
OPEN MOLDING OF COMPOSITES

Unified Emission Factors for Open Molding of Composites

July 23, 2001

Emission Rate in Pounds of Styrene Emitted per Ton of Resin or Gelcoat Processed

Styrene content in resin/gelcoat, % ⁽¹⁾	<33 ⁽²⁾	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	>50 ⁽²⁾
Manual	0.126 x %styrene x 2000	83	89	94	100	106	112	117	123	129	134	140	146	152	157	163	169	174	180	((0.286 x %styrene) - 0.0529) x 2000
Manual w/ Vapor Suppressed Resin VSR ⁽³⁾	Manual emission factor [listed above] x (1 - (0.50 x specific VSR reduction factor for each resin/suppressant formulation))																			
Mechanical Atomized	0.169 x %styrene x 2000	111	126	140	154	168	183	197	211	225	240	254	268	283	297	311	325	340	354	((0.714 x %styrene) - 0.18) x 2000
Mechanical Atomized with VSR ⁽³⁾	Mechanical Atomized emission factor [listed above] x (1 - (0.45 x specific VSR reduction factor for each resin/suppressant formulation))																			
Mechanical Atomized Controlled Spray ⁽⁴⁾	0.130 x %styrene x 2000	86	97	108	119	130	141	152	163	174	185	196	207	218	229	240	251	262	273	0.77 x ((0.714 x %styrene) - 0.18) x 2000
Mechanical Controlled Spray with VSR	Mechanical Atomized Controlled Spray emission factor [listed above] x (1 - (0.45 x specific VSR reduction factor for each resin/suppressant formulation))																			
Mechanical Non-Atomized	0.107 x %styrene x 2000	71	74	77	80	83	86	89	93	96	99	102	105	108	111	115	118	121	124	((0.157 x %styrene) - 0.0165) x 2000
Mechanical Non-Atomized with VSR ⁽³⁾	Mechanical Non-Atomized emission factor [listed above] x (1 - (0.45 x specific VSR reduction factor for each resin/suppressant formulation))																			
Filament application	0.184 x %styrene x 2000	122	127	133	138	144	149	155	160	166	171	177	182	188	193	199	204	210	215	((0.2746 x %styrene) - 0.0298) x 2000
Filament application with VSR ⁽³⁾	0.120 x %styrene x 2000	79	83	86	90	93	97	100	104	108	111	115	118	122	125	129	133	136	140	0.65 x ((0.2746 x %styrene) - 0.0298) x 2000
Gelcoat Application	0.445 x %styrene x 2000	294	315	336	356	377	398	418	439	460	481	501	522	543	564	584	605	626	646	((1.03646 x %styrene) - 0.195) x 2000
Gelcoat Controlled Spray Application ⁽⁴⁾	0.325 x %styrene x 2000	215	230	245	260	275	290	305	321	336	351	366	381	396	411	427	442	457	472	0.73 x ((1.03646 x %styrene) - 0.195) x 2000
Gelcoat Non-Atomized Application ⁽⁶⁾	SEE Note 9 below	196	205	214	223	232	241	250	259	268	278	287	296	305	314	323	332	341	350	((0.4506 x %styrene) - 0.0505) x 2000
Covered-Cure after Roll-Out	Non-VSR process emission factor [listed above] x (0.80 for Manual <or> 0.85 for Mechanical)																			
Covered-Cure without Roll-Out	Non-VSR process emission factor [listed above] x (0.50 for Manual <or> 0.55 for Mechanical)																			

Emission Rate in Pounds of Methyl Methacrylate Emitted per Ton of Gelcoat Processed

MMA content in gelcoat, % ⁽⁶⁾	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	≥20
Gel coat application ⁽⁷⁾	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	0.75 x %MMA x 2000

Notes

- 1 Including styrene monomer content as supplied, plus any extra styrene monomer added by the molder, but before addition of other additives such as powders, fillers, glass,...etc.
- 2 Formulas for materials with styrene content < 33% are based on the emission rate at 33% (constant emission factor expressed as percent of available styrene), and for styrene content > 50% on the emission rate based on the extrapolated factor equations; these are not based on test data but are believed to be conservative estimates. The value for "% styrene" in the formulas should be input as a fraction. For example, use the input value 0.30 for a resin with 30% styrene content by wt.
- 3 The VSR reduction factor is determined by testing each resin/suppressant formulation according to the procedures detailed in the *CFA Vapor Suppressant Effectiveness Test*.
- 4 SEE the *CFA Controlled Spray Handbook* for a detailed description of the controlled spray procedures.
- 5 The effect of vapor suppressants on emissions from filament winding operations is based on the *Dow Filament Winding Emissions Study*.
- 6 Including MMA monomer content as supplied, plus any extra MMA monomer added by the molder, but before addition of other additives such as powders, fillers, glass,...etc.
- 7 Based on gelcoat data from *NMMA Emission Study*.
- 8 SEE the July 17, 2001 EECS report *Emission Factors for Non-Atomized Application of Gel Coats used in the Open Molding of Composites* for a detailed description of the non-atomized gelcoat testing.
- 9 Use the equation ((0.4506 x %styrene) - 0.0505) x 2000 for gelcoats with styrene contents between 19% and 32% by wt.; use the equation 0.185 x %styrene x 2000 for gelcoats with less than 19% styrene content by wt.