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Effective Date: 2/6/07

Material Safety Data Sheet

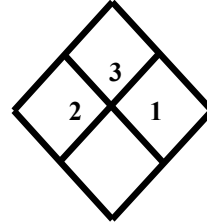
MSDS No: 1919

1. PRODUCT IDENTIFICATION

Trade Name: POLYLITE® 33540-00

Chemical Family: Unsaturated Polyester Resin in Styrene

Intended Use: Shrinkage-controlled Applications



NFPA RATING

| | |
|----------------------|----|
| Health: | 2* |
| Flammability: | 3 |
| Reactivity: | 1 |
| Personal Protection: | |

HMIS RATING

2. COMPOSITION / INFORMATION ON INGREDIENTS

| O S H A | CAS No. | CHEMICAL IDENTITY | EXPOSURE LIMITS | | | | CARCINOGEN STATUS | | | |
|------------------|---------------------------|---|-----------------|---------|---------|------|-------------------|------|-----|------|
| | | | ACGIH | | OSHA | | MFR. | IARC | NTP | OSHA |
| | | | TWA | STEL | PEL | STEL | | | | |
| * | 100-42-5 | Styrene Common Name: Styrene Monomer Concentration: 45.50 wt% | 20 ppm | 40 ppm | 100 ppm | NE | NE | Yes | NR | NR |
| | Proprietary Concentration | Polyester Resin 47.00 wt% | NE | NE | NE | NE | NE | NR | NR | NR |
| * | 108-05-4 | Vinyl acetate Common Name: Vinyl Acetate Monomer Concentration: 0.50 wt% | 10 ppm | 15 ppm | NE | NE | NE | Yes | NR | NR |
| | Proprietary Concentration | Epoxide Ester 5.00 wt% | NE | NE | NE | NE | NE | NR | NR | NR |
| * | 80-62-6 | Methyl 2-Methyl-2-Propenoate Common Name: Methyl Methacrylate Concentration: 2.00 wt% | 50 ppm | 100 ppm | 100 ppm | NE | NE | NR | NR | NR |

NE = Not Established NR = Not Reviewed * = OSHA Hazardous Ingredient

Reference Notes: Refer to Section 8, Subheading "Exposure Guidelines", for additional information concerning exposure limits.

3. HAZARDS IDENTIFICATION

| | |
|---|--|
| <p>Emergency Overview: Appearance: Amber Clear Liquid Pungent Odor FLAMMABLE liquid and vapor. Harmful if swallowed - can enter lungs and cause damage Contact causes skin irritation. May undergo polymerization.</p> | <p>Distributed By Freeman Manufacturing & Supply Co. www.freemansupply.com 800-321-8511</p> |
|---|--|

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Route(s) of Entry: Inhalation, ingestion, skin and eye.**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. Contact may cause skin sensitization, an allergic reaction which becomes evident on re-exposure to this material.

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).

This material contains vinyl acetate monomer which is listed by the International Agency for Research on Cancer (IARC) 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° F (32 ° C) |
| 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° F (490 ° C) Styrene |

General Hazards: FLAMMABLE LIQUID: This material's flash point is less than 100° F (38° C).

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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.

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 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°F (25°C). Copper or copper containing alloys should be avoided as containers.

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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.

The Occupational Safety and Health Administration (OSHA), has established for methyl methacrylate, a Permissible Exposure Limit (PEL) of 100 ppm, or 410 mg/m³ for an 8 hour Time Weighted Average (TWA).

The American Conference of Governmental Industrial Hygienists (ACGIH) have established, for methyl methacrylate, a Threshold Limit Value (TLV) of 50 ppm or 205 mg/m³ Time Weighted Average (TWA) for an 8-hour workday and a 40-hour work week and a Short Term Exposure Limit (STEL) 100 ppm or 410 mg/m³ for a 15 minute TWA.

The American Conference of Governmental Industrial Hygienists (ACGIH) has established a Threshold Limit Value (TLV) of 10 ppm or 35 mg/m³ for vinyl acetate based on an 8-hour Time Weighted Average (TWA). The ACGIH has also established a 15 ppm or 53 mg/m³ 15-minute Short Term Exposure Limit (STEL) for vinyl acetate.

Engineering Controls: Local ventilation may be required during certain operations to maintain concentrations below recommended 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®. 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, Clear |
| Odor: | Pungent |
| Odor Threshold: | 0.2 ppm Styrene |
| Physical State: | Liquid |
| Solubility in Water: | Insoluble at 20°C (68 °F) |
| Vapor Pressure: | 6.12 (mm Hg) Styrene |
| Specific Gravity: | 1.03 - 1.09 (Water = 1) at 25°C (77 °F) |
| Boiling Point: | 295° F (146 °C) Styrene |
| Freezing Point: | -22.7°F (-30.4 °C) Styrene |
| Evaporation Rate: | < 1 (BuAc=1) Styrene |
| Vapor Density: | 3.6 (AIR=1) Styrene |
| % Volatile: | 46 - 50 % by weight |
| VOC Content: | 509 grams/liter (calculated product as supplied) |

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pH: 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.

Methyl methacrylate: dermal LD50 (rabbit), > 5.0 g / kg.

Vinyl acetate monomer: dermal LD50 (rabbit), 2.3 g / kg.

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.

Methyl methacrylate: inhalation LC50 (rat), 7,094 ppm / 4 hr, 3750 ppm / 8 hr.

Vinyl acetate monomer: inhalation LC50 (rat), 3,680 - 4,490 ppm / 4 hr; (rabbit), 2,511 - 2,800 ppm / 4 hr; (mouse) 1,460 - 3,010 ppm / 4 hr; (guinea pig) 4,000 - 5,200 ppm / 4 hr.

Acute Oral Toxicity: Styrene: oral LD50 (rat), 5 g / kg.

Methyl methacrylate: oral LD50 (rat), > 5.0 g / kg.

Vinyl acetate monomer: oral LD50 (rat), 2.9 g / 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 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.

Vinyl acetate: inhalation NOEL (rat), 5,000 ppm / 13 weeks.

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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.

Vinyl acetate monomer is classified as a 2B (possibly carcinogenic to humans) agent by the International Agency for Research on Cancer (IARC).

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.

Studies indicate that methyl methacrylate did not cause birth defects, malformations, or fetal toxicity in pregnant rats inhaling concentrations up to 2028 ppm.

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.

Additional Information: No toxicological data is available for this product. Based on properties and similar polymers, the polyester resin is not hazardous.

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.



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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: Non Bulk

| | |
|------------------------------|----------------|
| Proper Shipping Name: | RESIN SOLUTION |
| Hazard Class: | 3 |
| ID Number: | UN1866 |
| Packing Group: | III |
| ERG Number: | 127 |

DOT / IMDG: Bulk

| | |
|------------------------------|----------------|
| Proper Shipping Name: | RESIN SOLUTION |
| Hazard Class: | 3 |
| ID Number: | UN1866 |
| Packing Group: | III |
| ERG Number: | 127 |

TDG: Bulk and Non-Bulk

| | |
|------------------------------|----------------|
| Proper Shipping Name: | RESIN SOLUTION |
| Hazard Class: | 3 |
| ID Number: | UN1866 |
| Packing Group: | III |
| ERG Number: | 127 |

Additional Information: US regulations require the reporting of spills when the amount exceeds the Reportable Quantity (RQ) for specific components of this material. See CERCLA in Section 15, Regulatory Information, for the Reportable Quantities of specific components.

15. REGULATORY INFORMATION

Clean Air Act -Hazardous Air Pollutants (HAP): Styrene (100-42-5) is listed as a Hazardous Air Pollutant (HAP) under Section 112 of the Clean Air Act.

Methyl Methacrylate (80-62-6) is listed as a Hazardous Air Pollutant (HAP) under Section 112 of the Clean Air Act. Vinyl acetate (108-05-4) is listed under Section 112 as a Hazardous Air Pollutant (HAP). See Section 2 of this MSDS for amount.

Clean Water Act - Priority Pollutants (PP): Styrene (100-42-5) is listed under Section 311 as a Hazardous Substance. Methyl Methacrylate (80-62-6) 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.

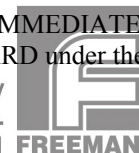
SARA Title III: Section 304 - CERCLA: Styrene (CAS# 100-42-5): Reportable Quantity = 1,000 lb.

Methyl Methacrylate (CAS# 80-62-6): Reportable Quantity = 1,000 lb.

Vinyl acetate monomer (CAS# 108-05-4): Reportable Quantity = 5,000 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).

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SARA Title III: Section 313 Toxic Chemical List (TCL): Styrene (100-42-5) freemansupply.com 800-321-8511 **FREEMAN**

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Methyl Methacrylate (80-62-6)
Vinyl Acetate (108-05-4)

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: W A R N I N G: This material contains a chemical known to the State of California to cause cancer. The California Safe Drinking Water and Toxic Enforcement Act of 1986 requires that clear and reasonable warning be given prior to exposing any person to this chemical: trace amounts of Acetaldehyde

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

Additional State Information: This material has been tested by ASTM D2566-86 and meets the definition of "shrinkage-controlled" resin per the Indiana Styrene Rule, IDEM, Title 326 IAC 20-25.

Additional Canadian Regulatory Information: The following chemicals are listed on the WHMIS Ingredient Disclosure List:
Styrene Monomer (CAS# 100-42-5)
Methyl Methacrylate Monomer (CAS # 80-62-6) Vinyl Acetate Monomer (CAS # 108-05-4)

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16. OTHER INFORMATION

| | |
|-------------------------|---|
| MSDS No: | 1919 |
| Reason Issued: | Update for Canadian usage. |
| Prepared By: | Environment, Health & Safety Department |
| Approved Date: | 02/06/07 |
| Supersedes Date: | 05/10/04 |

Disclaimer: This information is provided in good faith and is correct to the best of Reichhold's knowledge as of the date hereof and is designed to assist our customers; however, Reichhold makes no representation as to its completeness or accuracy. Our products are intended for sale to industrial and commercial customers. We require customers to inspect and test our products before use and to satisfy themselves as to suitability for their specific applications. Any use which Reichhold customers or third parties make of this information, or any reliance on, or decisions made based upon it, are the responsibility of such customer or third party. Reichhold disclaims responsibility for damages, or liability, of any kind resulting from the use of this information. THERE ARE NO WARRANTIES OR REPRESENTATIONS, EXPRESS OR IMPLIED, INCLUDING THOSE OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THIS INFORMATION OR TO THE PRODUCT IT DESCRIBES. IN NO EVENT SHALL REICHHOLD BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES.

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SECTION 1 - IDENTIFICATION OF THE PRODUCT AND THE COMPANY

| | | | |
|------------------------|---|---------------------------------|------------------|
| PRODUCT NAME | SUPEROX[®] 46-750 | TELEPHONE | 870-572-2935 |
| MANUFACTURER | Syrgis Performance Initiators, Inc. | CHEMTREC (24hr) (USA) | 800-424-9300 |
| ADDRESS | 334 Phillips 311 Rd., Helena, AR 72342 | (Maritime/International) | 703-527-3887 |
| CHEMICAL NAME | Acetyl Acetone Peroxide (AAP) and Cumyl Hydroperoxide (CHP) Mixture | CAS NO. | See section 2. |
| CHEMICAL FAMILY | Organic Peroxide - Ketone Peroxide and Hydroperoxide Mixture | CHEMICAL FORMULA | Mixture of many. |

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

| <u>COMPONENTS</u> | <u>CAS NO.</u> | <u>%</u> |
|-------------------------|----------------|----------|
| Acetyl Acetone Peroxide | 37187-22-7 | 25 - 28 |
| Cumyl Hydroperoxide | 80-15-9 | 16 - 18 |
| Phlegmatizers | Proprietary | 43 - 45 |
| Cumene | 98-82-8 | 1 - 3 |
| Water | 7732-18-5 | 7 - 9 |

SECTION 3 - HAZARD IDENTIFICATION OF THE PREPARATION

| | |
|---------------------------------|--|
| PHYSICAL HAZARDS | Organic Peroxide. Decomposition. |
| HEALTH HAZARDS | Severe Irritant. |
| EXPOSURE LIMITS | The TLV/PEL limit is 50 ppm for Cumene. |
| ROUTES OF EXPOSURE | |
| Skin Absorption | Severe skin irritant causes, redness, blistering, and edema. |
| Eye Contact | Eye contact causes severe corrosion and may cause blindness. |
| Ingestion | Human systemic effects by ingestion: changes in structure or function of esophagus, nausea, or vomiting, and other gastrointestinal effects. |
| Inhalation | Inhalation of vapors may result in headache, dizziness, sneezing, loss of coordination, and CNS depression |
| EFFECTS OF OVER-EXPOSURE | High concentrations and prolonged exposure may cause pulmonary edema and emphysema. |

SECTION 4 - FIRST-AID MEASURES

| | |
|-------------------|---|
| Skin | Immediately remove any contaminated clothing. Wash contaminated area thoroughly with soap and copious amounts of water for at least 15 minutes. If irritation or adverse symptoms develop, seek medical attention. |
| Eyes | Remove any contact lenses at once. Flush eyes with water for at least 15 minutes. Ensure adequate flushing by separating the eyelids with fingers. If irritation or adverse symptoms develop, seek medical attention. |
| Ingestion | Contact a physician, hospital or Poison Control Center at once. DO NOT INDUCE VOMITING. |
| Inhalation | Remove to fresh air, if coughing, breathing becomes labored, irritation develops or other symptoms develop, seek medical attention at once, even if symptoms develop several hours after the exposure. |

SECTION 5 - FIRE-FIGHTING MEASURES

| | |
|---|--|
| FLASH POINT | >200°F (93°C), C.O.C. |
| FLAMMABLE LIMITS | Not established. |
| AUTOIGNITION POINT | Not established. |
| FIRE EXTINGUISHER MEDIA | Water from a safe distance - preferably with a fog nozzle. In case of very small fires, other means such as carbon dioxide, foam or dry chemical extinguishers may be effective. Dry chemical combined with AAP/CHP may reignite. Light water additives may be particularly effective at extinguishing AAP/CHP fires. |
| SPECIAL FIRE FIGHTING PROCEDURES | Firemen should be equipped with protective clothing and SCBA's. In case of fire near storage area, cool the containers with water spray. If dry chemical is used to extinguish an AAP/CHP fire, the extinguished area must be thoroughly wetted down with water to prevent re-ignition. If material is confined in rigid containers, they may rupture violently. |

SUPEROX[®] 46-750

UNUSUAL FIRE AND EXPLOSION HAZARDS The heat of decomposition of the peroxides adds to the heat of the fire. Dry chemical fire extinguishing agent may catalyze the decomposition.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN EVENT OF SPILL OR RELEASE Dike to prevent runoff from entering drains, sewers, streams, etc. and transfer into containers. Spilled material should be swept up with an inert, moist diluent such as perlite, vermiculite, or sand and placed in a clean polyethylene lined drum or a polyethylene drum. Add water prior to sealing container.

SECTION 7 - HANDLING AND STORAGE

HANDLING Rotate stock using the oldest material first. Avoid contact with skin, eyes and clothing. Use PPE as specified in Section 8. Keep containers closed to prevent contamination. Keep away from sources of heat, sparks or flame. Do not add to hot solvents or monomers as a violent decomposition and/or reaction may result. When using spray equipment, never spray raw AAP/CHP onto curing or into raw resin or flues. Keep in original container. DO NOT USE NEAR FOOD OR DRINK. Wash thoroughly after handling.

STORAGE The stability of AAP/CHP formulations is directly related to the shipping and storage temperature history. Cool storage at 80°F (27°C) or below is recommended for longer shelf life and stability. Prolonged storage at elevated temperatures of 100°F (38°C) and higher will cause product degradation, gassing and potential container rupture which can result in a fire and/or explosion. Store out of direct sunlight in a well ventilated area away from combustible and incompatible materials. DO NOT STORE WITH FOOD OR DRINK. Refer to NFPA 432 Code for the Storage of Organic Peroxide Formulations from the National Fire Protection Association for additional storage information.

OTHER PRECAUTIONS Unmixed, uncontaminated material, remaining at the end of the day, shall be returned to a proper organic peroxide storage area. Under no circumstances should material be returned to the original container.

SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

RESPIRATORY PROTECTION If airborne concentrations are expected to exceed acceptable levels wear a NIOSH approved air-purifying respirator with an organic vapor cartridge or canister. When using respirators refer to OSHA's 29CFR 1910.134.

VENTILATION Mechanical, general.

EYE PROTECTION Safety goggles recommended. Permanent eyewash is highly recommended.

HAND PROTECTION Protective gloves recommended, solvent resistant, such as butyl rubber, nitrile or neoprene.

OTHER A safety shower and eyewash is recommended when the risk of a significant exposure exists.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|------------------------------|---|--------------------------|-----------------------|
| APPEARANCE AND ODOR: | Light yellow liquid with a slight odor. | SPECIFIC GRAVITY: | 1.1 - 1.2 |
| BOILING POINT: | Not established. | FLASH POINT: | >200°F (93°C), C.O.C. |
| VAPOR PRESSURE: | Not established. | FLAMMABLE LIMITS: | Not established. |
| VAPOR DENSITY: | >1 | SADT: | >50°C |
| EVAPORATION RATE: | Not established. | pH: | Not applicable. |
| % VOLATILE BY VOLUME: | Not established. | | |
| SOLUBILITY IN WATER: | Moderately soluble in water. | | |

SECTION 10 - STABILITY AND REACTIVITY

STABILITY Stable when kept in original, closed container, out of direct sunlight at temperatures below 80°F (27°C).

CONDITIONS TO AVOID Contamination. Prolonged storage above 100°F (38°C). Storage above SADT. Storage near flammable or combustible materials.

MATERIALS TO AVOID Metallic contamination, amines, organic metal salts, strong oxidizing and reducing agents, mineral acids, alkalis, promoters and promoted resins or any hot material.

HAZARDOUS DECOMPOSITION PRODUCTS Decomposition products are potentially flammable. Carbon dioxide, carbon monoxide, dense smoke and intense heat.

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HAZARDOUS POLYMERIZATION Will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION**Acetyl Acetone Peroxide****Hazard Data:**

No hazard data for this component.

Cumyl Hydroperoxide**Hazard Data:****Inhalation:** Rat--LC₅₀: 220 ppm/4hr.**Intraperitoneal:** Rat--LD₅₀: 95 mg/kg.**Oral:** Rat--LD₅₀: 382 mg/kg, kidney, ureter, and bladder, hematuria.**Skin:** Rabbit--LD₅₀: 500 mg; Rat--LD₅₀: 500 mg/kg.**Subcutaneous:** Rat--LD₅₀: 382 mg/kg.**Phlegmatizers****Hazard Data:****Reproductive Effects****Dermal:** Rabbit--TD_{Lo}: 7500 mg/kg (6-15D preg),**Inhalation:** Rat--LC_{Lo}: 116 ppm/6H (multigenerations).**Oral:** Rat--TD_{Lo}: 9700 mg/kg (6-15D preg).**Toxic Effects****Dermal:** Rabbit--LD₅₀: 8 g/kg.**Inhalation:** Rat--LC_{Lo}: 1g/m³.**Intraperitoneal:** Mouse--LD₅₀: 3050 mg/kg; Rat--LD₅₀: 2472 mg/kg.**Intravenous:** Dog--LD₅₀: 63330 µg/kg; Mouse--LD₅₀: 54500 µg/kg; Rat--LD₅₀: 80500 µg/kg.**Oral:** Mouse--LD₅₀: 5,130 mg/kg, Rat--LD₅₀: 3,200 mg/kg.**Subcutaneous:** Rat--LD_{Lo}: > 2 g/kg.**Tumorigenic Effects****Oral:** Mouse--TD_{Lo}: 784 gmg/kg/7W-C.**Cumene****Hazard Data:****Inhalation:** Rat--LC_{Lo}: 8000 ppm/4hr; Mouse--LC₅₀: 10 gm/m³/7hr, liver, multiple effects kidney, ureter, and bladder changes in both tubules and glomeruli blood - changes in spleen.**Oral:** Rat--LD₅₀: 1400 mg/kg, gastrointestinal - gastritis; Mouse --LD₅₀: 12750 mg/kg.**Skin:** Rabbit--LD₅₀: 12300 µL/kg.

Severe irritating to the skin may cause including redness, blistering, and edema. May be harmful if absorbed through the skin. Irritating to the eyes may cause severe corrosion and blindness. Harmful if swallowed. May be harmful if inhaled. Prolonged inhalation of vapors may cause mucous membrane irritation and vertigo.

SECTION 12 - ECOLOGICAL INFORMATION

No data is available on the preparation itself. The product should be prevented from entering drains, sewers, streams, etc.

SECTION 13 - DISPOSAL CONSIDERATIONS

Prevent material from entering drains, sewers, streams, etc.

Immediately dispose of waste material at a RCRA approved hazardous waste management facility in accordance with federal, state and local regulations.

SECTION 14 - TRANSPORT INFORMATION

| | |
|---------------------------|--|
| DOT Shipping Name: | ORGANIC PEROXIDE TYPE D, LIQUID (ACETYL ACETONE PEROXIDE, ≤28%, CUMYL HYDROPEROXIDE, ≤18%) |
| DOT Hazard Class: | 5.2 |
| UN/NA ID No.: | UN3105 |
| DOT Packing Group: | PG II |
| DOT RQ | RQ (if shipping container is greater than 55.5 lbs) |
| Labels: | 5.2 (Organic Peroxide) |
| 2004 ERG GUIDE NO: | 145 |

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SUPEROX[®] 46-750**SECTION 15 - REGULATORY INFORMATION**

The following chemicals are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

| <u>Chemical Name</u> | <u>CAS Number</u> | <u>Percent</u> |
|----------------------|-------------------|----------------|
| Cumyl Hydroperoxide | 80-15-9 | 16 - 18 |
| Cumene | 98-82-8 | 1 - 3 |

Reportable Quantity

α -Dimethylbenzylhydroperoxide (CHP): 10 lbs (4.54 kg)

Australian Inventory of Chemical Substances (AICS)

The ingredients in this product are listed in the Australian AICS Inventory.

Canadian Domestic Substances List (DSL)

The ingredients in this product are listed in the Canadian DSL Inventory.

Chinese Inventory of Existing Chemical Substances Manufactured or Imported in China (IECSC)

The ingredients in this product are listed in the Chinese IECSC Inventory.

European Inventory of Existing Commercial Chemical Substances (EINECS)

The ingredients in this product are listed in the European EINECS Inventory.

Japanese Existing and New Chemical Substances (ENCS)

The ingredients in this product are listed in the Japanese ENCS Inventory.

Korean Existing Chemicals List (ECL)

The ingredients in this product are listed in the Korean ECL Inventory.

Philippines Inventory of Chemicals and Chemical Substances (PICCS)

The ingredients in this product are listed in the Philippines PICCS Inventory.

US Toxic Substances Control Act (TSCA)

The ingredients in this product are listed in the US TSCA Inventory.

Status of Carcinogenicity

Not recognized as a carcinogen by the IARC, NTP or OSHA.

California Prop. 65

One of the constituents of the proprietary phlegmatizers is subject to California's Prop. 65 regulations.

SECTION 16 - OTHER INFORMATION**VOC Information**

Using ASTM Test Method D-2369-87, but at 40°C (since AAP and CHP decompose rapidly above 100°C), Superox[®] 46-750 contains 12.5% VOC, by weight, or 144 grams per liter. For more information, call Syrgis Performance Initiators, Inc.

NFPA 432 Organic Peroxide Classification

Class III

NFPA 704 Rating

| <u>Health</u> | <u>Flammability</u> | <u>Reactivity</u> |
|---------------|---------------------|-------------------|
| 2 | 2 | 2 |

HMIS Rating

| <u>Health</u> | <u>Flammability</u> | <u>Reactivity</u> |
|---------------|---------------------|-------------------|
| 2 | 2 | 2 |

MSDS Reference: 46-750 MSDS 0709.1

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