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Effective Date: 11/14/03

Material Safety Data Sheet

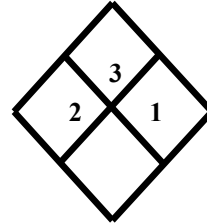
MSDS No: 2484

1. PRODUCT IDENTIFICATION

Trade Name: POLYLITE® 32153-00

Chemical Family: Unsaturated Polyester Resin in Styrene

Intended Use: Marble Resin



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				MFR.	CARCINOGEN STATUS		
			ACGIH		OSHA			IARC	NTP	OSHA
			TWA	STEL	PEL	STEL				
*	100-42-5	Styrene	20 ppm	40 ppm	100 ppm	NE	NE	Yes	NR	NR
		Concentration								
	26098-37-3	2,5-Furandione, polymer with 1,3-isobenzofurandione, 2,2'-oxybis[ethanol] and 1,2-propanediol	NE	NE	NE	NE	NE	NR	NR	NR
		Common Name: Polyester Resin								
		Concentration								
		69.50 wt%								

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

Emergency Overview: Appearance: Light Blue Clear 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.

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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° 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).

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.

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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.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Effective Date: 11/14/03

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 could add to the employees exposure.

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:	Light Blue, 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:	1.12 - 1.16 (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:	30.5 % by weight
VOC Content:	348 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.

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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.

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.

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.

Effective Date: 11/14/03

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.

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.

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

Effective Date: 11/14/03

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): The following chemical(s) are listed as hazardous air pollutants (HAP) under the U.S. Clean Air Act Section 112(b)(1), (40 CFR 61): Styrene (CAS# 100-42-5) See Section 2 of this MSDS for amount.

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: This product contains the following chemical(s) listed on the WHMIS Ingredient Disclosure List at or above the specified concentration limit: Styrene Monomer (CAS# 100-42-5)

16. OTHER INFORMATION

MSDS No:	2484
Reason Issued:	Updates to sections 2, 11 and 14.
Prepared By:	Environment, Health & Safety Department
Approved Date:	11/14/03
Supersedes Date:	07/15/02

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MATERIAL SAFETY DATA SHEET



NOROX[®] MEKP-9

SECTION 1 - IDENTIFICATION OF THE PRODUCT AND THE COMPANY

PRODUCT NAME	NOROX[®] MEKP-9	TELEPHONE	626-334-2908
MANUFACTURER	Norac, Inc.	CHEMTREC (24hr) (USA)	800-424-9300
ADDRESS	405 S. Motor Ave., Azusa, CA 91702	(Maritime/International)	703-527-3887
CHEMICAL NAME	Methyl Ethyl Ketone Peroxide (MEKP)	CAS NO.	See Section II
CHEMICAL FAMILY	Organic Peroxide - Ketone Peroxide	CHEMICAL FORMULA	Mixture

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

<u>COMPONENTS</u>	<u>CAS NO.</u>	<u>%</u>
Methyl Ethyl Ketone Peroxide	1338-23-4	34
Dimethyl Phthalate	131-11-3	43
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	6846-50-0	20
Hydrogen Peroxide	7722-84-1	01
Methyl Ethyl Ketone	78-93-3	02
Water	7732-18-5	01

SECTION 3 - HAZARD IDENTIFICATION OF THE PREPARATION

PHYSICAL HAZARDS	Organic Peroxide. Decomposition
HEALTH HAZARDS	Severe Irritant
EXPOSURE LIMITS	The ACGIH Ceiling STEL is 1.5 mg/m ³ (0.2 ppm) for Methyl Ethyl Ketone Peroxide.
ROUTES OF EXPOSURE	
Skin Contact	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	Moderately toxic by inhalation.
EFFECTS OF OVER-EXPOSURE	Prolonged inhalation of vapors may cause mucous membrane irritation and vertigo. There are no known medical conditions, which are recognized as being aggravated by exposure.

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	Do Not induce vomiting. Drink plenty of water. Immediately call a physician. For aid to physician, suggest local Poison Control Center.
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	Unknown
AUTOIGNITION POINT	Unknown
EXTINGUISHING 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 MEKP formulations may re-ignite. Light water additives may be particularly effective at extinguishing MEKP fires.

NOROX[®] MEKP-9**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 MEKP fire, the extinguished area must be thoroughly wetted down with water to prevent re-ignition.

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 spill to prevent runoff from entering drains, sewers, streams, etc. Wet spilled material with water and absorb with an inert absorbent material such as perlite, vermiculite, or sand. Sweep up using non-sparking tools and place in a clean polyethylene drum or a polyethylene pail. **DO NOT place into a steel container, lined or unlined, as a decomposition may occur.** Treat any contaminated cardboard packaging as hazardous waste. **Wet container contents with additional water prior to sealing.**

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 MEKP onto curing or into raw resin or flues. Keep MEKP in its original container. DO NOT USE NEAR FOOD OR DRINK. Wash thoroughly after handling.

STORAGE

The stability of MEKP formulations is directly related to the shipping and storage temperature history. Cool storage at 80°F or below is recommended for longer shelf life and stability. Prolonged storage at elevated temperatures of 100°F 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**VENTILATION**

Mechanical, general.

RESPIRATORY PROTECTION

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

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:**

Water white liquid with a slight odor.

BOILING POINT:

Unknown

SPECIFIC GRAVITY: 1.1

VAPOR PRESSURE:

Unknown

FLASH POINT: >200°F (93°C) C.O.C

VAPOR DENSITY:

> 1

FLAMMABLE LIMITS: Unknown

EVAPORATION RATE:

Unknown

SADT: >60°C (140°F)

% VOLATILE BY VOLUME:

Unknown

pH: Not applicable

SOLUBILITY IN WATER:

Slightly soluble in water.

NOROX[®] MEKP-9

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. Direct sunlight. Open flames. Prolonged storage above 100°F (38°C). Storage above SADT. Storage near flammable or combustible materials.
MATERIALS TO AVOID	Dimethylaniline, cobalt naphthenate and other promoters, promoted resins, accelerators, oxidizing and reducing agents, strong acids, bases, metals, metal alloys and salts, sulfur compounds, amines or any hot material.
HAZARDOUS DECOMPOSITION PRODUCTS	Decomposition products are flammable. Acrid smoke and irritating fumes.
HAZARDOUS POLYMERIZATION	Will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

Methyl Ethyl Ketone Peroxide

Hazard Data:

Inhalation: Rat--LC₅₀: 200 ppm/4 hr, lung, thorax, respiration, or dyspnea; Mouse--LC₅₀: 170 ppm/4 hr, lung, thorax, respiration, or dyspnea.

Intraperitoneal: Rat--LD₅₀: 65 mg/kg, behavioral, muscle weakness behavioral, ataxia.

Oral: Rat--LD₅₀: 484 mg/kg; Mouse--LD₅₀: 470 mg/kg; Human--TD_{Lo}: 480 mg/kg, changes in structure or function of esophagus gastrointestinal, nausea or vomiting gastrointestinal.

Skin: Rabbit-- LD₅₀: 500 mg.

Dimethyl Phthalate

Hazard Data:

Inhalation: Cat--LC_{Lo}: 9300 mg/m³/6.5 hr.

Intraperitoneal: Mouse--LD₅₀: 1380 mg/kg.

Oral: Rat & Mouse--LD₅₀: 6800 mg/kg, somnolence behavioral, withdrawal nutritional and gross metabolic, weight loss or decreased weight gain; Dog--LD: >1400 mg/kg; Rabbit--LD₅₀: 4400 uL/kg.

Subcutaneous: Mouse--LD_{Lo}: 6500 mg/kg, dyspnea lung, thorax, respiration, or cyanosis.

2,2,4-Trimethyl-1,3-pentanediol diisobutyrate

Hazard Data:

Oral: Rat--LD₅₀: >3200 mg/kg

Hydrogen Peroxide

Hazard Data:

Inhalation: Mouse--LC_{Lo}: 227 ppm; Rat--TC_{Lo}: 67 ppm/6hr/6W-1, dermatitis, irritative of the skin.

Intraperitoneal: Mouse--LD₅₀: 880 mg/kg.

Intravenous: Rabbit--LD₅₀: 15 gm/kg, behavioral, convulsions or effect on seizure threshold.

Oral: Rat--LD₅₀: 376 mg/kg, gastrointestinal, peritonitis blood, pigmented or nucleated red blood cells; Mouse--LD₅₀: 2 mg/kg.

Subcutaneous: Rat--LD₅₀: 620 mg/kg; Mouse--LD₅₀: 1072 mg/kg.

Skin: Rat--LD₅₀: 4060 mg/kg, lung, thorax, respiration, or pulmonary emboli; Rabbit--LD_{Lo}: 500 mg/kg, behavioral, convulsions or effect on seizure threshold.

Methyl Ethyl Ketone

Hazard Data:

Eye: Human: 350 ppm.

Inhalation: Rat--LC₅₀: 23500 mg/m³/8hr.

Intraperitoneal: Rat--LD₅₀: 607 mg/kg; Mouse--LD₅₀: 616 mg/kg.

Oral: Rat--LD₅₀: 2737 mg/kg; Mouse--LD₅₀: 4050 mg/kg.

Skin: Rabbit--LD₅₀: 6480 mg/kg.

SECTION 12 - ECOLOGICAL INFORMATION

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

Ecotoxicity: Methyl ethyl ketone peroxide: EC₅₀ (Guppy), 44.2 mg/L/96 hr; EC₅₀ (alga), 42,700 ug/L/96 hr.

Environmental Fate: Methyl ethyl ketone peroxide (MEKP) was evaluated for biodegradability in a closed bottle system and was reported to be readily biodegradable. An EC₅₀ of 16mg MEKP/L activated sludge was reported in an activated sludge respiration inhibition test.

NOROX[®] MEKP-9**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
(METHYL ETHYL KETONE PEROXIDE, ≤45%)

DOT Hazard Class: 5.2

UN/NA ID No.: UN3105

DOT Packing Group: PG II

DOT RQ: RQ

Labels: 5.2 (Organic Peroxide)

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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>
Dimethyl Phthalate	131-11-3	43
Methyl Ethyl Ketone	78-93-3	02

Reportable Quantity

2-Butanone Peroxide (MEKP): 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.

European Inventory of Existing Commercial Chemical Substances (EINECS)

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

TSCA Status

The ingredients in this product are listed in the US Toxic Substances Control Act (TSCA) Inventory.

Status of Carcinogenicity

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

SECTION 16 - OTHER INFORMATION**VOC Information**

Using ASTM Test Method D-2369-87, but at 40°C (since MEKP decomposes rapidly above 100°C and is not a VOC), MEKP-9 contains 2.4% VOC, by weight, or 27 grams per liter. For more information call Norac.

NFPA 432 Organic Peroxide Classification

Class III

NFPA 704 Rating

<u>Health</u>	<u>Flammability</u>	<u>Reactivity</u>
3	2	2

HMIS Rating

<u>Health</u>	<u>Flammability</u>	<u>Reactivity</u>
3	2	2

MSDS Reference: MEKP-9 MSDS 0408.9

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