



Pigment Titanium Dioxide	13463-67-7	< 5
Silica (Various Grades)	14808-60-7	< 20
Other proprietary ingredients	Proprietary	N/A

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

#### 4. First-aid measures

<b>Inhalation</b>	Remove from exposure area to fresh air immediately. Perform artificial respiration if necessary. Keep person warm and at rest. Get medical attention immediately.
<b>Skin contact</b>	Remove contaminated clothing and shoes immediately. Launder before re-use. Wash affected area thoroughly with soap and water until no evidence of chemical remains (at least 15-20 minutes). Get medical attention immediately.
<b>Eye contact</b>	Wash eyes immediately with large amounts of water occasionally lifting upper and lower lids until no evidence of chemical remains (at least 15-20 minutes), get medical attention immediately.
<b>Ingestion</b>	Extreme care must be used to prevent aspiration. Do not induce vomiting. Get medical attention immediately.

#### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Dry chemical, foam and carbon dioxide. If water is used, use very large quantities of cold water. The reaction between water and hot Isocyanate may be vigorous.
<b>Unusual fire and explosion hazards</b>	Delayed lung damage can occur after exposure to combusting products. Containers may explode when exposed to heat from flames (due to pressure build up)
<b>Special firefighting procedures</b>	Wear approved self-contained breathing apparatus in positive pressure mode with full face –piece. Boots, gloves (neoprene), goggles and full protective clothing are also required. Excessive pressure or temperature may cause explosive rupture of containers.

#### 6. Accidental release measures

<b>Personal Precautions</b>	Put on protective equipment. Ensure adequate ventilation/exhaust extraction. Keep unauthorized persons away. Worker must wear air-purifying respirator, safety goggles, protect clothing and gloves to prevent contact with this materials. Keep container tightly closed. Wash thoroughly after handling.
<b>Environmental precautions</b>	Do not flush into surface water or sanitary sewer system
<b>Methods for cleaning up</b>	Eliminate all sources of ignition (no smoking, flames or flares in hazard area). Use spark resistant tools. Ventilate and avoid breathing vapors. For small spills, take up with sand or other absorbent material and place into containers for later disposal. For larger spills, dike far ahead of spill for disposal later.

#### 7. Handling and storage

<b>Precautions for safe handling/storage</b>	Keep in cool, dry ventilated storage area, in closed containers and out of direct sunlight. Store in containers above ground and surrounded by dikes to contain spills or leaks. Keep containers closed when not in use. Keep away from all ignition sources such as heat, open flame and spark. Store away from incompatible substances (oxidizing materials, acid or base). Keep container cool. Avoid prolonged breathing of spray mists. Use spark resistant tools when thinned. (see Section 10 of the SDS).
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**Other precautions** Prevent skin and eye contact, observe TLV limitations. Avoid sanding dust and the recommended TLV limit is 2mg/m<sup>3</sup>. Worker should shower and change fresh clothing after each shift. A sensitized individual should not be exposed to the product that caused the sensitization. Individuals with existing respiratory disease such as chronic bronchitis, emphysema or asthma should not be exposed.

**Advice on protection against fire and explosion** Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques.

## 8. Exposure controls/personal protection

**Ventilation** If needed, use local exhaust ventilation to keep airborne concentrations below the TLV. Exhaust air may need to be cleaned by scrubbers or filters to reduce environmental contamination.

**Respiratory protection** Use only with adequate ventilation  
If personal exposure cannot be controlled below the applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by authorized institute. When sanding or abrading the dried film, wear a dust/mist respirator. Approved air supplied type respirator should be used in confined spaces.

**Protective Clothing** Gloves determined to be imperious under the conditions of use should be worn always when working with this product. Depending on conditions of use, additional protection may be required such as apron, arm covers or full body suit. Wash contaminated clothing before re-wearing.

**Eye Protection** Splash-proof or dust resistant safety goggles recommended

**Other Protective Equipment and measures** Unhindered access to safety shower and eye wash stations. As a general hygienic practice, wash hands and face after use. Showers and cleaning of cloths are recommended. Follow all label instruction. Educate employees in safe use of product. Clean, long-legged, long-sleeved work clothes.

## 9. Physical and chemical properties

### Appearance

**Physical state** Paste  
**Form** Paste  
consistency  
**Color** Grey

**Odor** Smell of Phenolic

**Odor threshold** Not available.

**pH** 8-12

**Melting point/freezing point** Not available.

**Initial boiling point and boiling range** Not available.

**Flash point** Not available.

**Evaporation rate** Slower than butyl acetate.

**Vapor density** >1

**Specific gravity** 14.39 lb/gal

### Solubility(ies)

**Solubility (water)** Insoluble

**Viscosity** Not available

**VOC content (%)** <0 lb/gal

## 10. Stability and reactivity

<b>Stability</b>	Stable under normal conditions and ambient temperatures.
<b>Conditions to avoid</b>	Heat, High temperature, open flame, sparks and moisture.
<b>Incompatibility (Materials to avoid)</b>	Use or contact with Oxidizing agents (per chlorates, nitrates, etc) and cleaning solutions acidic or alkaline.
<b>Hazardous Decomposition or By Products</b>	Carbon monoxide, Aldehydes, Oxides and sulphur and Nitrogen
<b>Hazardous Polymerization</b>	Will not occur under normal conditions.

## 11. Toxicological information

### Toxicity to Animals

#### Oral LD 50

Ethyl alcohol 2000 mg/kg rabbit

#### Dermal LD 50

Ethyl alcohol 20,000 mg/kg rabbit

#### Acute toxicity, oral

Expected to be of low toxicity, LD<sub>50</sub>>2000mg/kg, LD<sub>5</sub>>5000mg/kg

#### Acute toxicity, Inhalation

Expected to be of low toxicity, LD<sub>50</sub>>2000mg/kg

#### Primary skin irritation

LD<sub>50</sub>=20,000mg/kg (skin absorption in rabbits), May be moderately irritating to skin, Contact with hot material can cause thermal burns. May cause skin sensitization.

#### Primary mucosa irritation

Inhalation of product vapors may cause irritation of the nose, throat and respiratory system.

#### Sensitization

Preparation contains sensitizing components and may lead to allergic dermatitis

#### Carcinogenicity

IARC has classified crystalline silica as carcinogen to humans in the inhalable form of quartz for occupational sources.

## 12. Ecological information

### General

Data based on Epoxy Resin, Do not discharge the fire fighting waters into drains, surface and/or ground waters or on to surface soils.

### Biodegradability

Do not allow to enter soil, water ways and waste water channel. Contains Biphenol A-(Epichlorohydrin) which is toxic to aquatic organisms. May cause long term adverse effect.

### Toxicity to Fish

Rainbow Trout (96 hrs): LC50 1.5 mg/l ; Zebra Fish (96 hrs): LC50 2.4 mg/l

### Acute toxicity for daphnia

Delphnia Toxicity (24 hr): EC50 3.6 mg/l

## 13. Disposal considerations

### Waste Disposal Method

Eliminate the product and its package in agreement with the local legislation. The end user of this product is responsible for the waste (product and package). Mix with compatible chemical which is less flammable and incinerate.

### Empty Container Precautions

Since emptied containers retain product residue, follow label warnings even after container is emptied.

## 14. Transport information

Non hazardous for transportation by Road, Rail, Sea or Air

<b>DOT Proper Shipping Name</b>	Not regulated
<b>IATA Proper Shipping Name</b>	Not regulated
<b>IMO Proper Shipping Name</b>	Not regulated

## 15. Regulatory information

Symbol(s)	Epoxy Resin based composites are as per European Classification <b>Xn</b> : Dangerous for the environment <b>Xi</b> : Irritant
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SARA Title III Section 311/312 Section 313	QUARTZ – D2A
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WHMIS	QUARTZ – Listed Titanium Dioxide – Listed
TSCA/ ATSDR	N/A

## 16. Other information, including date of preparation or last revision

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

### **IMPORTANT**

#### **LIABILITY DISCLAIMER**

The information contained in this Material Safety Data Sheet (MSDS) is believed to be correct as it was obtained from sources we believe are reliable. However, no representations, guarantees or warranties of any kind are made as to its accuracy, suitability for particular applications, hazards connected with the use of the material, or the results to be obtained from the use thereof. User assumes all risks and liability of any use, processing or handling of any material, variations in methods, conditions and equipment used to store, handle or process the material and hazards connected with the use of the material are solely the responsibility of the user and remain at his sole discretion. Compliance with all applicable federal, state, and local laws and regulations remains the responsibility of the user, and the user has the responsibility to provide a safe work place, to examine all aspects of its operation and to determine if or where precautions, in addition to those described herein, are required.



### 3. Composition/information on ingredients

#### Mixtures

Chemical name	CAS number	%
Isophorone diamine	2855-13-2	< 30
Inert fillers		< 25
Other proprietary ingredients	Proprietary	40-60

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

### 4. First-aid measures

#### Inhalation

Remove from exposure area to fresh air immediately. Perform artificial respiration if necessary. Keep person warm and at rest. Get medical attention immediately.

#### Skin contact

Remove contaminated clothing and shoes immediately. Launder before re-use. Wash affected area thoroughly with soap and water until no evidence of chemical remains (at least 15-20 minutes). Get medical attention immediately.

#### Eye contact

Wash eyes immediately with large amounts of water occasionally lifting upper and lower lids until no evidence of chemical remains (at least 15-20 minutes), get medical attention immediately

#### Ingestion

Extreme care must be used to prevent aspiration. Do not induce vomiting. Get medical attention immediately.

### 5. Fire-fighting measures

#### Suitable extinguishing media

Dry chemical, foam and carbon dioxide, Water spray (fog).

#### Unusual fire and explosion hazards

Delayed lung damage can occur after exposure to combusting products. Containers may explode when exposed to heat from flames (due to pressure build up)

#### Special firefighting procedures

Move container from fire area if you can do it without risk. Avoid breathing toxic vapors. Keep upwind. Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible auto ignition or explosion when exposed to extreme heat

### 6. Accidental release measures

#### Personal Precautions

Put on protective equipment. Ensure adequate ventilation/exhaust extraction. Keep unauthorized persons away.

#### Environmental precautions

Do not flush into surface water or sanitary sewer system

#### Methods for cleaning up

Eliminate all sources of ignition (no smoking, flames or flares in hazard area). Use spark resistant tools. Ventilate and avoid breathing vapors. For small spills, take up with sand or other absorbent material and place into containers for later disposal. For larger spills, dike far ahead of spill for disposal later.

### 7. Handling and storage

#### Precautions for safe handling/storage

Keep in cool, dry ventilated storage area, in closed containers and out of direct sunlight. Store in containers above ground and surrounded by dikes to contain spills or leaks. Keep containers closed when not in use. Keep away from all ignition sources such as heat, open flame and spark. Store away from incompatible substances (oxidizing materials, acid or base). Keep container cool.

Avoid prolonged breathing of spray mists. Use spark resistant tools when thinned. (see Section 10 of the SDS).

#### Other precautions

Prevent skin and eye contact, observe TLV limitations. Avoid breathing vapors. Worker should shower and change fresh clothing after each shift. A sensitized individual should not be exposed to the product that caused the sensitization. Individuals with existing respiratory disease such as chronic bronchitis, emphysema or asthma should not be exposed.

## 8. Exposure controls/personal protection

<b>Ventilation</b>	Provide adequate ventilation to keep vapor concentrations below an acceptable TLV. Use explosion proof ventilation equipment.
<b>Respiratory protection</b>	Use only with adequate ventilation. If personal exposure cannot be controlled below the applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by authorized institute. When sanding or abrading the dried film, wear a dust/mist respirator. Approved air supplied type respirator should be used in confined spaces.
<b>Protective Clothing</b>	Gloves determined to be imperious under the conditions of use should be worn always when working with this product. Depending on conditions of use, additional protection may be required such as apron, arm covers or full body suit. Wash contaminated clothing before re-wearing.
<b>Eye Protection</b>	Splash-proof or dust resistant safety goggles recommended
<b>Other Protective Equipment and measures</b>	Unhindered access to safety shower and eye wash stations. As a general hygienic practice, wash hands and face after use. Showers and cleaning of cloths are recommended. Follow all label instruction. Educate employees in safe use of product. Clean, long-legged, long-sleeved work clothes.

## 9. Physical and chemical properties

### Appearance

<b>Physical state</b>	Liquid
<b>Form</b>	Liquid
<b>Color</b>	Light reddish to translucent
<b>Odor</b>	Smell of Amine
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Slower than butyl acetate.
<b>Vapor density</b>	>1
<b>Specific gravity</b>	8.35 lb/gal
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Insoluble
<b>Viscosity</b>	Not available
<b>VOC content (%)</b>	<0 lb/gal



## 10. Stability and reactivity

<b>Stability</b>	Stable under normal conditions and ambient temperatures.
<b>Conditions to avoid</b>	Keep away from heat, open flame and sparks.
<b>Incompatibility (Materials to avoid)</b>	Strong Oxidants. May dissolve some plastics and rubber.
<b>Hazardous Decomposition or By Products</b>	Carbon dioxide & Carbon monoxide
<b>Hazardous Polymerization</b>	Will not occur under normal conditions.

## 11. Toxicological information

<b>Acute toxicity, oral</b>	LD <sub>50</sub> : 1,030 mg/kg (Rat)
<b>Acute toxicity, Inhalation</b>	LD <sub>50</sub> : 1,800 mg/kg (Rabbit)
<b>Primary skin irritation</b>	Rabbit: irritating
<b>Eye Irritation</b>	Rabbit, OECD Test guideline 405, Corrosive
<b>Sensitization</b>	Dermal: sensitized (Human Patch test)
<b>Repeated Dose toxicity</b>	13 Weeks, oral: NOAEL: approximately 60 mg/kg (Rat, Male/Female, daily)
<b>Mutagenicity</b>	Genetic Toxicity in Vitro  Ames: Negative results were reported in various vitro studies. (Salmonella typhimurium, Metabolic Activation:with/without) Genetic Toxicity in Vivo: Micronucleus Assay: Negative ( Mouse, Male/Female, oral)

## 12. Ecological information

<b>Biodegradability</b>	Aerobic, 8% Exposure time:28 days
<b>Bioaccumulation</b>	Not expected to bio-accumulate
<b>Acute and Prolonged Toxicity to fish</b>	LC50: 110 mg/l (Golden orfe (Leuciscus idus), 95 hrs)
<b>Acute Toxicity to Aquatic invertebrates</b>	EC50: 1-50 mg/l (water flea (Daphnia Magna), 48 hrs)
<b>Toxicity to Aquatic plants</b>	EC50: 37 mg/l, End point: biomass (Green algae (Scenedesmus subspicatus), 72 hrs)
<b>Toxicity to Microorganisms</b>	EC10: 1,120 mg/l, (Pseudomonas putida, 18 hrs)

## 13. Disposal Consideration

<b>Waste Disposal method</b>	Dispose off in compliance with all relevant local, state and federal laws and regulations regarding treatment.
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**Empty Container precautions** Empty containers must be handled with care due to product residue. Decontaminate container prior to disposal.

## 14. Transport information

**DOT Proper Shipping Name** Not regulated  
**IATA Proper Shipping Name** Not regulated  
**IMO Proper Shipping Name** Not regulated

## 15. Regulatory information

**State standard: California** As per requirements of the Safe Drinking Water & Toxic Enforcement Act of CA, USA 1985 (Proposition 65), the public is warned that materials used in this product may create an exposure to chemicals known to the state of California to cause cancer, birth defects or other reproductive harm. This warning is required by section 25249.6 of California Health and Safety Code.

**Toxic Substance Control Act** All Chemicals comprising this product are listed on the TSCA inventory

**User Responsibility** A bulletin such as this cannot be expected to cover all possible individual situations. As the user has the responsibility to provide a safe workplace, all aspects of an individual operation should be examined to determine if or where precautions, in addition to those described herein, are required. Any health hazard and safety information herein should be passed on to your customers or employees, as the case may be.

## 16. Other information, including date of preparation or last revision

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