

CHOCKFAST RED SG AGGREGATE

This product appears in the following stock number(s):

1071U-SG

Last revised: 03/31/03

Printed: 03/31/2003

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**Tradename:** CHOCKFAST RED SG AGGREGATE**General use:** This information applies to the aggregate mixture sold with resin and hardener. After mixing, handle uncured material as for the hardener; after curing, this product is not hazardous.**Chemical family:** Silica-silicate mixture**MANUFACTURER**ITW Philadelphia Resins
130 Commerce Dr.
Montgomeryville, PA 18936**EMERGENCY INFORMATION****Emergency telephone number**
(CHEMTREC): (800) 424-9300
Other Calls: (215) 855-8450**2. COMPOSITION/INFORMATION ON INGREDIENTS****HAZARDOUS CONSTITUENTS****Exposure limits**

Constituent	Abbr.	CAS No.	Weight percent	ACGIH TLV	OSHA PEL	Other Limits
Crystalline silica		14808607	60-90	0.05 mg/m ³	10/(%Q+2) mg/m ³	0.1 mg/m ³ (Canada)
Hydrotreated distillate, light		*	< 1	n/e	n/e	n/e
Glass Oxide		65997173	1-20	n/e	n/e	n/e
2-methoxy-1-propanol acetate		70657704	< 1	n/e	n/e	n/e
Polyether modified methalkyl polysiloxane copolymer		*	< 1	n/e	n/e	n/e

"TLV" means the Threshold Limit Value exposure (eight-hour, time-weighted average, unless otherwise noted) established by the American Conference of Governmental Industrial Hygienists. "STEL" indicates a short-term exposure limit. "PEL" indicates the OSHA Permissible Exposure Limit. "n/e" indicates that no exposure limit has been established. An asterisk (*) indicates a substance whose identity is a trade secret of our supplier and unknown to us.

3. HAZARDS IDENTIFICATION**Emergency Overview**

Appearance, form, odor: Pigmented sand with no odor.

CAUTION! Respiratory irritant. Silica Quartz is a suspected human carcinogen based on animal studies. May cause silicosis.

Potential health effects

Primary routes of exposure: Skin contact Skin absorption Eye contact Inhalation Ingestion

Symptoms of acute overexposure:

Skin: Abrasive, but not otherwise hazardous on skin contact.

Eyes: Mechanical irritant

Inhalation:

Irritant. (Inhalation is unlikely, since the aggregate is slightly wetted with a coupling agent which inhibits dusting.)

Ingestion:

No data

Effects of chronic overexposure:

IARC lists respirable silica quartz as a suspect human carcinogen based on animal testing.

Carcinogenicity -- OSHA regulated: No

ACGIH: No

National Toxicology Program: Yes

International Agency for Research on Cancer: Yes

Cancer-suspect constituent(s) : Respirable Silica

Medical conditions which may be aggravated by exposure:

Respiratory disorders. Skin disorders and allergies.

4. FIRST AID MEASURES**First aid for eyes:**

Avoid rubbing particles into the eyes. Flush with a gentle flow of clean water. Contact a physician if irritation persists.

First aid for skin:

No first aid needed for simple skin contact. If particles are driven into skin, wash thoroughly and bandage if needed.

First aid for inhalation:

Remove patient to fresh air. Administer oxygen if breathing is difficult. Get medical attention if symptoms are serious or persistent.

First aid for ingestion:

Consult a physician.

5. FIRE FIGHTING MEASURES**Extinguishing media:**

Water Carbon dioxide Dry chemical Foam Alcohol foam

Flash Point (°F): None

Method: not applicable

Explosive limits in air (percent) -- Lower: none **Upper:** none

Special firefighting procedures:

Does not support combustion with oxygen.

Unusual fire and explosion hazards:

None

Hazardous products of combustion:

None

6. ACCIDENTAL RELEASE MEASURES**Spill control:**

Avoid inhalation of dusts if any are raised.

Containment:

N/A

Cleanup:

Shovel or sweep up for re-use or disposal.

Special procedures:

N/A

7. HANDLING AND STORAGE**Handling precautions:**

Avoid creating and inhaling dusts of this product. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after using and particularly before eating, drinking, smoking, applying cosmetics, or using toilet facilities.

Launder contaminated clothing and protective gear before reuse.

Storage:

Store in closed containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Engineering controls****Ventilation :**

Mechanical ventilation as required to keep dust concentration below the TLV.

Other engineering controls :

Have emergency shower and eye wash available.

Personal protective equipment**Eye and face protection:**

Safety glasses with side shields or dust-tight goggles.

Skin protection:

Long-sleeved clothing.

Respiratory protection:

Should dust be raised in handling (unlikely), wear NIOSH-approved dust respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

Specific gravity:	2.57	Boiling point (°F):	4226
Melting point (°F):	3110	Vapor density (air = 1):	No vapor
Vapor pressure (mmHg):	Nil at 78 °F	Evaporation rate (butyl acetate = 1):	Nil
VOC (grams/liter):	0	Solubility in water:	Nil
Percent volatile by volume:	0	pH (5% solution or slurry in water):	Neutral
Percent solids by weight:	100		

10. STABILITY AND REACTIVITY

This material is chemically stable. Hazardous polymerization will not occur.

Conditions to avoid :

None

Incompatible materials:

Extremely powerful oxidizers (e.g. fluorine, oxygen difluoride, manganese trioxide, chlorine trifluoride)

Hazardous products of decomposition:

None

Conditions under which hazardous polymerization may occur:

None

11. TOXICOLOGICAL INFORMATION

Acute oral effects: LD50 (rat): No data

Acute dermal effects: LD50 (rabbit): No data

Acute inhalation effects: LC50 (rat): No data

Exposure: 0 hours.

Eye irritation:

No data available.

Subchronic effects:

No data available.

Carcinogenicity, teratogenicity, and mutagenicity:

No data available.

Other chronic effects:

Respirable crystalline quartz may cause chronic lung injury (silicosis). Acute or rapid silicosis may occur in a short period of time in heavy exposure in certain occupations such as sandblasters. Silicosis is a form of disabling pulmonary fibrosis which can be progressive and may lead to death. Pulmonary function may be reduced by inhalation of respirable crystalline silica. It may produce lung scarring which may lead to a progressive massive fibrosis, increasing susceptibility to pulmonary tuberculosis. Progressive massive fibrosis may be accompanied by right heart enlargement, heart failure, and pulmonary failure. Smoking aggravates the effects of exposure.

Toxicological information on hazardous chemical constituents of this product:

Constituent	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 4hr, (rat)
Crystalline silica	n/d	n/d	n/d
Hydrotreated distillate, light	n/d	n/d	n/d
Glass Oxide	n/d	n/d	n/d

'n/d' = 'not determined'

Constituent	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 4hr, (rat)
2-methoxy-1-propanol acetate	n/d	n/d	n/d
Polyether modified methlalkyl polysilocane copolymer	n/d	n/d	n/d

12 ECOLOGICAL INFORMATION

Ecotoxicity:

No data available.

Mobility and persistence:

No data available.

Environmental fate:

No data available.

13. DISPOSAL CONSIDERATIONS

Please see also Section 15, Regulatory Information.

Waste management recommendations:

The aggregate may be discarded in landfills as nonhazardous waste.

14. TRANSPORT INFORMATION

Proper shipping name: Non-regulated
Technical name : N/A
Hazard class : N/A
UN number: N/A
Packing group: N/A
Emergency Response Guide no.: N/A
IMDG page number: N/A
Other: N/A

15. REGULATORY INFORMATION

U.S. Federal Regulations

TSCA

All ingredients of this product are listed, or are exempt from listing, on the TSCA inventory.

The following RCRA code(s) applies to this material if it becomes waste:

None

Regulatory status of hazardous chemical constituents of this product:

Constituent	Extremely Hazardous*	Toxic Chemical**	CERCLA RQ (lbs)	TSCA 12B Export Notification
Crystalline silica	No	No	0.0	Not required
Hydrotreated distillate, light	No	No	0.0	Not required
Glass Oxide	No	No	0.0	Not required
2-methoxy-1-propanol acetate	No	No	0.0	Not required
Polyether modified methlalkyl polysilocane copolymer	No	No	0.0	Not required

*Consult the appropriate regulations for emergency planning and release reporting requirements for substances on the SARA Section 301 Extremely Hazardous Substance list.

**Substances for which the "Toxic Chemical" column is marked "Yes" are on the SARA Section 313 list of Toxic Chemicals, for which release reporting may be required. For specific requirements, consult the appropriate regulations.

For purposes of SARA Section 312 hazardous materials inventory reporting, the following hazard classes apply to this material: - Delayed health hazard -

Canadian regulations

WHMIS hazard class(es) : D2B; D2A

16. OTHER INFORMATION

Hazardous Materials Identification System (HMIS) ratings:	Health	Flammability	Reactivity
	1*	0	0

The information and recommendations in this document are based on the best information available to us at the time of preparation, but we make no other warranty, express or implied, as to its correctness or completeness, or as to the results of reliance on this document.

CHOCKFAST RED SG HARDENER

This product appears in the following stock number(s):

1071U-SG

Last revised: 05/07/01

Printed: 11/19/2001

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**Tradename:** CHOCKFAST RED SG HARDENER**Product Identifier:** EPOXY HARDENER**General use:** The following data pertain to the hardener only; properly mixed and cured epoxies are not hazardous.**Chemical family:** Polyamines and modified polyamines**MANUFACTURER**ITW Philadelphia Resins
130 Commerce Dr.
Montgomeryville, PA 18936**EMERGENCY INFORMATION****Emergency telephone number****(CHEMTREC): (800) 424-9300****Other Calls: (215) 855-8450****2. COMPOSITION/INFORMATION ON INGREDIENTS****HAZARDOUS CONSTITUENTS****Exposure limits**

Constituent	Abbr.	CAS No.	Weight percent	ACGIH TLV	OSHA PEL	Other Limits
Triethylenetetramine	TETA	112243	> 75	n/e	n/e	1 ppm (skin) (AIHA-WEEL)

"TLV" means the Threshold Limit Value exposure (eight-hour, time-weighted average, unless otherwise noted) established by the American Conference of Governmental Industrial Hygienists. "STEL" indicates a short-term exposure limit. "PEL" indicates the OSHA Permissible Exposure Limit. "n/e" indicates that no exposure limit has been established. An asterisk (*) indicates a substance whose identity is a trade secret of our supplier and unknown to us.

3. HAZARDS IDENTIFICATION**Emergency Overview**

Appearance, form, odor: Light straw liquid with mild ammonia-like odor.

DANGER! Corrosive. Causes eye and skin burns. Eye, skin and respiratory irritant. Toxic by skin absorption. May cause skin sensitization.

Potential health effects

Primary routes of exposure: Skin contact Skin absorption Eye contact Inhalation Ingestion

Symptoms of acute overexposure:**Skin:** Severe irritant. Corrosive.**Eyes:** Severe irritant. Can cause blindness.**Inhalation:**

Irritation of nose and throat; nausea and vomiting in severe cases

Ingestion:

May cause irritation of mouth and throat and gastrointestinal tract.

Effects of chronic overexposure:

Repeated and/or prolonged exposure may cause allergic reaction/sensitization. May cause respiratory sensitization/asthmatic response. Repeated and/or prolonged exposures may result in: adverse respiratory effects (such as cough, tightness of chest or shortness of breath), adverse eye effects (such as conjunctivitis or corneal damage), adverse skin effects (such as rash, irritation or corrosion).

Carcinogenicity -- OSHA regulated: No

ACGIH: No

National Toxicology Program: No

International Agency for Research on Cancer: No

Cancer-suspect constituent(s) : None

Medical conditions which may be aggravated by exposure:

Asthma, Chronic respiratory disease (e.g. Bronchitis, Emphysema), eye disease, skin disorders and allergies.

Other effects:

Product is absorbed through skin and may cause malaise, discomfort, injury or death unless treated promptly.

4. FIRST AID MEASURES**First aid for eyes:**

Immediately flush with clean water for at least 15 minutes while gently holding eyelids open. Get medical help as soon as possible.

First aid for skin:

Immediately remove contaminated clothing and shoes and wash well with soap and warm water. See a doctor if irritation develops.

First aid for inhalation:

Remove patient to fresh air. Give oxygen or artificial respiration if needed. See a doctor if symptoms persist.

First aid for ingestion:

Do not induce vomiting. Dilute with lots of milk or water and get immediate medical help.

5. FIRE FIGHTING MEASURES**Extinguishing media:**

Water

Carbon dioxide

Dry chemical

Foam

Alcohol foam

Flash Point (°F): >200

Method: CC

Explosive limits in air (percent) -- Lower: n/d

Upper: n/d

Special firefighting procedures:

Firefighters should wear self-contained breathing apparatus and sufficient protective gear to prevent all skin and eye contact with this material.

Unusual fire and explosion hazards:

None

Hazardous products of combustion:

Acrid and toxic fumes with organic amines, ammonia, oxides of carbon and nitrogen.

6. ACCIDENTAL RELEASE MEASURES**Spill control:**

Avoid personal contact. Eliminate ignition sources. Ventilate area.

Containment:

Dike, contain and absorb with clay, sand or other suitable material.

Cleanup:

For large spills, pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand, or other suitable material and dispose of properly. Flush area with water to remove trace residue.

Special procedures:

Prevent spill from entering drainage/sewer systems, waterways, and surface waters.

7. HANDLING AND STORAGE**Handling precautions:**

Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after using and particularly before eating, drinking, smoking, applying cosmetics, or using toilet facilities. Launder contaminated clothing and protective gear before reuse. Discard contaminated leather articles. Handle mixed resin and hardener in accordance with the potential hazard of the curing agent used. Provide appropriate ventilation/respiratory protection against decomposition products (see Section 10) during welding/flame cutting operations and to protect against nuisance dust during sanding/grinding of cured product.

Storage:

Store in a cool, dry area away from high temperatures and flames.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Engineering controls****Ventilation :**

General mechanical ventilation is adequate for occasional use. For prolonged or repeated use, local exhaust is recommended.

Other engineering controls :

Have emergency shower and eye wash stations available.

Personal protective equipment**Eye and face protection:**

Safety glasses with sideshields or chemical goggles.

Skin protection:

Chemical-resistant rubber (for example, neoprene, butyl rubber or nitrile) gloves and other protective gear as needed to prevent skin contact.

Respiratory protection:

None needed in normal use with proper ventilation. In poorly ventilated areas or when creating a dust or mist, use NIOSH-approved organic vapor respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

Specific gravity:	0.98	Boiling point (°F):	>450
Melting point (°F):	n/d	Vapor density (air = 1):	>1
Vapor pressure (mmHg):	<0.01 at 68 °F	Evaporation rate (butyl acetate = 1):	<<1
VOC (grams/liter):	0	Solubility in water:	30-60%
Percent volatile by volume:	0	pH (5% solution or slurry in water):	10-11
Percent solids by weight:	100		

10. STABILITY AND REACTIVITY

This material is chemically stable. Hazardous polymerization will not occur.

Conditions to avoid :

Extreme heat or open flame

Incompatible materials:

Mineral and organic acids. Oxidizing agents. Sodium or calcium hypochlorite. Nitrous acid and nitrites.

Hazardous products of decomposition:

Acrid and toxic fumes with organic amines, ammonia, oxides of carbon and nitrogen

Conditions under which hazardous polymerization may occur:

Heat is released when this product is mixed with epoxy resins; use care when mixing large quantities.

11. TOXICOLOGICAL INFORMATION

Acute oral effects: LD50 (rat): > 2000 mg/kg

No data.

Acute dermal effects: LD50 (rabbit): > 800 mg/kg

TETA has been found to be toxic by skin absorption (ANSI Z129.1 1988). TETA is a severe irritant to the skin of a rabbit.

Acute inhalation effects: LC50 (rat): No data

Exposure: hours.

No data.

Eye irritation:

TETA is a severe irritant to the eyes of a rabbit.

Subchronic effects:

No data.

Carcinogenicity, teratogenicity, and mutagenicity:

TETA has shown activity in some in vitro genotoxicity tests, but is negative in in vivo test. Several developmental toxicity studies have reported that TETA can cause adverse embryofetal effects. These effects, however, are associated with only high maternally toxic dosages with induction of severe copper deficiency.

Other chronic effects:

It has been generally observed in animal studies that aliphatic amines can cause changes in the lungs and heart. TETA has been found to produce liver and kidney damage and brain congestion in dermally exposed animals.

Toxicological information on hazardous chemical constituents of this product:

Constituent	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 4hr, (rat)
Triethylenetetramine	2500 mg/kg	805 mg/kg	n/d

'n/d' = 'not determined'

12 ECOLOGICAL INFORMATION**Ecotoxicity:**

No data.

Mobility and persistence:

No data.

Environmental fate:

No data.

13. DISPOSAL CONSIDERATIONS

Please see also Section 15, Regulatory Information.

Waste management recommendations:

If this material becomes a waste, it would not be a hazardous waste by RCRA criteria (40CFR 261). Dispose of according to applicable federal, state, and local regulations.

14. TRANSPORT INFORMATION

Proper shipping name: Triethylenetetramine

Technical name :

Hazard class : 8

UN number: 2259

Packing group: II

Emergency Response Guide no.: 153

IMDG page number: N/A

Other:

15. REGULATORY INFORMATION**U.S. Federal Regulations****TSCA**

All ingredients of this product are listed, or are exempt from listing, on the TSCA inventory.

The following RCRA code(s) applies to this material if it becomes waste:

None

Regulatory status of hazardous chemical constituents of this product:

Constituent	Extremely Hazardous*	Toxic Chemical**	CERCLA RQ (lbs)	TSCA 12B Export Notification
Triethylenetetramine	No	No	0.0	Not required

*Consult the appropriate regulations for emergency planning and release reporting requirements for substances on the SARA Section 301 Extremely Hazardous Substance list.

**Substances for which the "Toxic Chemical" column is marked "Yes" are on the SARA Section 313 list of Toxic Chemicals, for which release reporting may be required. For specific requirements, consult the appropriate regulations.

For purposes of SARA Section 312 hazardous materials inventory reporting, the following hazard classes apply to this material: - Immediate health hazard -- Delayed health hazard -

Canadian regulations

WHMIS hazard class(es) : D2B; E; D1B

16. OTHER INFORMATION

Hazardous Materials Identification System (HMIS) ratings:	Health	Flammability	Reactivity
	3*	1	1

Other information:

This material has been tested in accordance with the requirements of 49CFR 173.136 and found not to be corrosive for transportation.

The information and recommendations in this document are based on the best information available to us at the time of preparation, but we make no other warranty, express or implied, as to its correctness or completeness, or as to the results of reliance on this document.

CHOCKFAST RED SG RESIN

This product appears in the following stock number(s):

1071U-SG

Last revised: 05/08/01

Printed: 11/19/2001

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**Tradename:** CHOCKFAST RED SG RESIN**General use:** This information applies to the resin component of the two-part kit; handle freshly-mixed resin and hardener as recommended for the hardener. After curing, the product is not hazardous.**Chemical family:** Epoxy resin**MANUFACTURER**ITW Philadelphia Resins
130 Commerce Dr.
Montgomeryville, PA 18936**EMERGENCY INFORMATION****Emergency telephone number**
(CHEMTREC): (800) 424-9300
Other Calls: (215) 855-8450**2. COMPOSITION/INFORMATION ON INGREDIENTS****HAZARDOUS CONSTITUENTS****Exposure limits**

Constituent	Abbr.	CAS No.	Weight percent	ACGIH TLV	OSHA PEL	Other Limits
1,4- Cyclohexanedimethanol diglycidyl Ether		14228730	10-20	n/e	n/e	n/e
Bisphenol A diglycidyl ether resin	DGEBPA	25068386	> 70	n/e	n/e	n/e
Butyrolactone		96480	1-10	n/e	n/e	n/e

"TLV" means the Threshold Limit Value exposure (eight-hour, time-weighted average, unless otherwise noted) established by the American Conference of Governmental Industrial Hygienists. "STEL" indicates a short-term exposure limit. "PEL" indicates the OSHA Permissible Exposure Limit. "n/e" indicates that no exposure limit has been established. An asterisk (*) indicates a substance whose identity is a trade secret of our supplier and unknown to us.

3. HAZARDS IDENTIFICATION**Emergency Overview**

Appearance, form, odor: viscous liquid with little odor.

WARNING! Eye and skin irritant. Potential skin sensitizer.**Potential health effects****Primary routes of exposure:** Skin contact Skin absorption Eye contact Inhalation Ingestion**Symptoms of acute overexposure:****Skin:** Moderate irritant. Contact at elevated temperatures can cause thermal burns. May cause skin sensitization (rashes, hives).**Eyes:** Moderate to severe irritant. Contact at elevated temperatures can cause thermal burns.

Inhalation:

The low vapor pressure of the resin makes inhalation unlikely in normal use.

Ingestion:

Acute oral toxicity is low. May cause gastric distress.

Effects of chronic overexposure:

Prolonged or repeated skin contact may cause sensitization, with itching, swelling, or rashes on later exposure.

Carcinogenicity -- OSHA regulated: No

ACGIH: No

National Toxicology Program: No

International Agency for Research on Cancer: No

Cancer-suspect constituent(s) : None

Medical conditions which may be aggravated by exposure:

Preexisting eye and skin disorders. Development of preexisting skin or lung allergy symptoms may increase.

Other effects:

Over exposure to "cyclic ester" is expected to cause symptoms of Central Nervous System depression. Also see section 11.

4. FIRST AID MEASURES**First aid for eyes:**

Flush eye with clean water for at least 15 minutes while gently holding eyelids open. Get immediate medical attention.

First aid for skin:

Immediately remove contaminated clothing and excess contaminant. Flush skin with water. Wash thoroughly with soap and warm water. Consult a physician if irritation develops.

First aid for inhalation:

Remove patient to fresh air. Administer oxygen if breathing is difficult. Get medical attention if symptoms persist.

First aid for ingestion:

Do NOT induce vomiting. Give two glasses of water to dilute if patient is conscious. Get medical attention.

Note to physician :

In general, emesis induction is unnecessary in high viscosity, low volatility products, e.g., neat epoxy resins.

5. FIRE FIGHTING MEASURES**Extinguishing media:**

Water

Carbon dioxide

Dry chemical

Foam

Alcohol foam

Flash Point (°F): >400

Method: Estimate

Explosive limits in air (percent) -- Lower: n/d

Upper: n/d

Special firefighting procedures:

Material will not burn unless preheated. Do not enter confined space without full bunker gear. Firefighters should wear self-contained breathing apparatus and protective clothing. Cool fire exposed containers with water.

Unusual fire and explosion hazards:

Heat may rupture closed containers Heating above 300 deg F in the presence of air may cause slow oxidative decomposition and above 500 deg F may cause polymerization. Vapors are heavier than air and may travel along floor to an ignition source.

Hazardous products of combustion:

When heated to decomposition it emits fumes of Cl⁻, carbon monoxide, other fumes and vapors varying in composition and toxicity.

6. ACCIDENTAL RELEASE MEASURES**Spill control:**

Avoid personal contact. Eliminate ignition sources. Ventilate area.

Containment:

Dike, contain and absorb with clay, sand or other suitable material.

Cleanup:

For large spills, pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand, or other suitable material and dispose of properly. Flush area with water to remove trace residue.

Special procedures:

Prevent spill from entering drainage/sewer systems, waterways, and surface waters.

7. HANDLING AND STORAGE**Handling precautions:**

Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after using and particularly before eating, drinking, smoking, applying cosmetics, or using toilet facilities.

Launder contaminated clothing and protective gear before reuse. Discard contaminated leather articles.

Handle mixed resin and hardener in accordance with the potential hazard of the curing agent used. Provide appropriate ventilation/respiratory protection against decomposition products (see Section 10) during welding/flame cutting operations and to protect against nuisance dust during sanding/grinding of cured product.

Storage:

Store in a cool, dry area away from high temperatures and flames.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Engineering controls****Ventilation :**

Local exhaust ventilation is preferred although good general mechanical ventilation is usually adequate for most industrial applications. Local exhaust is recommended for confined areas.

Other engineering controls :

Have emergency shower and eye wash available.

Personal protective equipment**Eye and face protection:**

Safety glasses with side shields or splash goggles.

Skin protection:

Chemical-resistant gloves and other gear as required to prevent skin contact.

Respiratory protection:

None required at normal handling temperatures and conditions. Use NIOSH approved organic vapor cartridges for uncured resin and dust/particle respirators during grinding/sanding operations of cured resin as exposure levels dictate.

9. PHYSICAL AND CHEMICAL PROPERTIES

Specific gravity:	1.16	Boiling point (°F):	>400
Melting point (°F):	n/d	Vapor density (air = 1):	>1
Vapor pressure (mmHg):	n/d at 171 °F	Evaporation rate (butyl acetate = 1):	<<1
VOC (grams/liter):	0	Solubility in water:	Negligible
Percent volatile by volume:	0	pH (5% solution or slurry in water):	neutral
Percent solids by weight:	100		

10. STABILITY AND REACTIVITY

This material is chemically stable. Hazardous polymerization will not occur.

Conditions to avoid :

Open flame and extreme heat, oxidizing conditions.

Incompatible materials:

Strong Lewis or mineral acids, strong oxidizing agents, strong mineral and organic bases (especially primary and secondary aliphatic amines).

Hazardous products of decomposition:

Oxides of carbon; aldehydes, acids and other organic substances may be formed during combustion or elevated temperature (>500 deg F) degradation.

Conditions under which hazardous polymerization may occur:

Heat is generated when resin is mixed with curing agents; Run-a-way cure reactions may char and decompose the resin, generating unidentified fumes and vapors which may be toxic.

11. TOXICOLOGICAL INFORMATION

Acute oral effects: LD50 (rat): > 1000 mg/kg

Acute dermal effects: LD50 (rabbit): n/d

Acute inhalation effects: LC50 (rat): n/d

Exposure: 8 hours.

Subchronic effects:

No data available.

Carcinogenicity, teratogenicity, and mutagenicity:

1) MUTAGENICITY: Liquid resins based on diglycidyl ether of Bisphenol A (DGEBA), have proved to be inactive when tested by in vivo mutagenicity assays. These resins have shown activity in in vitro microbial mutagenicity screening and have produced chromosomal aberrations in cultured rat liver cells. The significance of these tests to man is unknown. 2) CARCINOGENICITY: Recent 2-year bioassays in rats and mice exposed by the dermal route to DGEBA yielded no evidence of carcinogenicity to the skin or any other organs. This study clarifies prior equivocal

results from a 2-year mouse skin painting study, which were suggestive, but not conclusive, for weak carcinogenic activity. 3) The International Agency for Research on Cancer (IARC) concluded that DGEBA is not classifiable as a carcinogen (IARC group 3), that is human and animal evidence of carcinogenicity is inadequate.

Other chronic effects:

Prolonged or repeated skin contact may cause sensitization, with itching, swelling, or rashes on later exposure. Studies have shown bisphenol A diglycidyl ether resin to cause allergic contact dermatitis.

Toxicological information on hazardous chemical constituents of this product:

Constituent	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 4hr, (rat)
1,4- Cyclohexanedimethanol diglycidyl Ether	> 1000 mg/kg	> 1000 mg/kg	n/d
Bisphenol A diglycidyl ether resin	11.4 g/kg	>20 ml/kg	no deaths
Butyrolactone	> 500 mg/kg	n/d	> 2.5 g/m3

'n/d' = 'not determined'

12 ECOLOGICAL INFORMATION**Ecotoxicity:**

No data available.

Mobility and persistence:

No data available.

Environmental fate:

No data available.

13. DISPOSAL CONSIDERATIONS

Please see also Section 15, Regulatory Information.

Waste management recommendations:

If this resin becomes a waste, it would not be a hazardous waste by RCRA criteria (40CFR 261). Dispose of according to applicable federal, state, and local regulations.

14. TRANSPORT INFORMATION

Proper shipping name: Non-regulated

Technical name : N/A

Hazard class : N/A

UN number: N/A

Packing group: N/A

Emergency Response Guide no.: N/A

IMDG page number: N/A

Other:

15. REGULATORY INFORMATION

U.S. Federal Regulations

TSCA

All ingredients of this product are listed, or are exempt from listing, on the TSCA inventory.

The following RCRA code(s) applies to this material if it becomes waste:

None

Regulatory status of hazardous chemical constituents of this product:

Constituent	Extremely Hazardous*	Toxic Chemical**	CERCLA RQ (lbs)	TSCA 12B Export Notification
1,4- Cyclohexanedimethanol diglycidyl Ether	No	No	0.0	Required
Bisphenol A diglycidyl ether resin	No	No	0.0	Not required
Butyrolactone	No	No	0.0	Not required

*Consult the appropriate regulations for emergency planning and release reporting requirements for substances on the SARA Section 301 Extremely Hazardous Substance list.

**Substances for which the "Toxic Chemical" column is marked "Yes" are on the SARA Section 313 list of Toxic Chemicals, for which release reporting may be required. For specific requirements, consult the appropriate regulations.

For purposes of SARA Section 312 hazardous materials inventory reporting, the following hazard classes apply to this material: - Immediate health hazard -- Delayed health hazard -

Canadian regulations

WHMIS hazard class(es) : D2B

16. OTHER INFORMATION

Hazardous Materials Identification System (HMIS) ratings:	Health	Flammability	Reactivity
	2*	1	1

Revisions for this issue:

MSDS section	Revisions
11	Updated toxicology data

The information and recommendations in this document are based on the best information available to us at the time of preparation, but we make no other warranty, express or implied, as to its correctness or completeness, or as to the results of reliance on this document.