

1. Identification

Product identifier	LIQUID CERAMIC EPOXY HIGH TEMP PART B
Other means of identification	None.
Recommended use	Not available.
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
	RR&C
Address	P.O. Box 67000 Detroit, MI 48267-2791
Hours of Operation	8:00 a.m. - 5:00 p.m.
Telephone Number	1-216-515-7712
CHEMTREC	1-800-424-9300

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Sensitization, respiratory	Category 1
	Sensitization, skin	Category 1
	Germ cell mutagenicity	Category 2
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, repeated exposure	Category 2
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	
Label elements		

Signal word Danger

Hazard statement Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. Suspected of causing genetic defects. May cause damage to organs through prolonged or repeated exposure.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. In case of inadequate ventilation wear respiratory protection.

Response IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor/. Specific treatment see Section 4 of this SDS. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Storage Store locked up. Store in a well-ventilated place. Keep container tightly closed.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information Not applicable.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
CYCLOHEXANAMINE, 4,4'-METHYLENEBIS-		1761-71-3	45 - 55
BENZYL ALCOHOL		100-51-6	25 - 35
[(DIMETHYLAMINO)METHYL]PHEN OL		25338-55-0	5 - 15
1,2-DIAMINOCYCLOHEXANE		694-83-7	5 - 15
3-AMINOPROPYLTRIETHOXSILAN E		919-30-2	1 - 10
BENZENE, HYDROXY-		108-95-2	1 - < 3
ETHANOL		64-17-5	< 0.1
Other components below reportable levels			30 - < 40

4. First-aid measures

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison control center immediately.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. For minor skin contact, avoid spreading material on unaffected skin. Wash contaminated clothing before reuse. Wash clothing separately before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Continue rinsing. Call a physician or poison control center immediately.

Ingestion

Call a physician or poison control center immediately. If swallowed, rinse mouth with water (only if the person is conscious). Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Most important symptoms/effects, acute and delayed

Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause an allergic skin reaction. Dermatitis. Rash.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media

Water fog. Alcohol foam. Foam. Dry chemical powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media

Water. Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical

Fire may produce irritating, corrosive and/or toxic gases.

Special protective equipment and precautions for firefighters

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Fire fighting equipment/instructions

In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers. Cool containers exposed to flames with water until well after the fire is out. Water runoff can cause environmental damage.

Specific methods

In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers.

General fire hazards

No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Extinguish all flames in the vicinity. This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Do not handle until all safety precautions have been read and understood. Do not get this material in contact with eyes. When using do not eat or drink. Do not get this material in contact with skin. Do not taste or swallow. Avoid prolonged exposure. Use personal protective equipment as required. Do not get this material on clothing. Observe good industrial hygiene practices. Do not breathe dust/fume/gas/mist/vapors/spray. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from food, drink and animal feedingstuffs.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
BENZENE, HYDROXY- (CAS 108-95-2)	PEL	19 mg/m ³
		5 ppm
ETHANOL (CAS 64-17-5)	PEL	1900 mg/m ³
		1000 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
BENZENE, HYDROXY- (CAS 108-95-2)	TWA	5 ppm
ETHANOL (CAS 64-17-5)	STEL	1000 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
BENZENE, HYDROXY- (CAS 108-95-2)	Ceiling	60 mg/m ³
		15.6 ppm
		19 mg/m ³
ETHANOL (CAS 64-17-5)	TWA	5 ppm
		1900 mg/m ³
		1000 ppm

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
BENZYL ALCOHOL (CAS 100-51-6)	TWA	44.2 mg/m ³

US. Workplace Environmental Exposure Level (WEEL) Guides**Components****Type****Value**

10 ppm

Biological limit values**ACGIH Biological Exposure Indices**

Components	Value	Determinant	Specimen	Sampling Time
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BENZENE, HYDROXY- (CAS 108-95-2)	250 mg/g	Phenol with hydrolysis	Creatinine in urine	*
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* - For sampling details, please see the source document.

Exposure guidelines**US - California OELs: Skin designation**

BENZENE, HYDROXY- (CAS 108-95-2) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

BENZENE, HYDROXY- (CAS 108-95-2) Skin designation applies.

US - Tennessee OELs: Skin designation

BENZENE, HYDROXY- (CAS 108-95-2) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

BENZENE, HYDROXY- (CAS 108-95-2) Danger of cutaneous absorption

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

BENZENE, HYDROXY- (CAS 108-95-2) Can be absorbed through the skin.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

BENZENE, HYDROXY- (CAS 108-95-2) Can be absorbed through the skin.

Appropriate engineering controls

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Chemical goggles and face shield are recommended.

Skin protection**Hand protection**

Wear appropriate chemical resistant gloves.

Other

Skin protection should include disposable chemical resistant coveralls with hoods. Hand protection should include appropriate chemical resistant disposable gloves, such as nitrile rubber.

Respiratory protection

If in spray application, respiratory protection should include at a minimum a fullface air purifying respirator (APR) with combination particulate (P100) and organic vapor (OV) cartridges. A full-face APR has an assigned protection factor (APF) of 50, as designated by OSHA. As a substitute, a PAPR with a loose-fitting hood could be used as respiratory protection.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Do not get in eyes. Do not get this material in contact with skin. Do not get this material on clothing. Wash hands before breaks and immediately after handling the product. Keep away from food and drink.

9. Physical and chemical properties**Appearance**

Liquid.

Physical state

Liquid.

Form

Liquid.

Color

Golden to Light Amber

Odor

Ammoniacal. Amine-like.

Odor threshold

Not available.

pH

Alkaline

Melting point/freezing point

4.64 °F (-15.2 °C) estimated

Initial boiling point and boiling range

359.15 °F (181.75 °C) estimated

Flash point

> 200.0 °F (> 93.3 °C) estimated

Evaporation rate

Not available.

Flammability (solid, gas)

Not available.

Upper/lower flammability or explosive limits

Explosive limit - lower (%)	3 % estimated
Explosive limit - upper (%)	10 % estimated

Vapor pressure Not available.

Vapor density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Partial

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature 816.8 °F (436 °C) estimated

Decomposition temperature Not available.

Viscosity Not available.

Other information

Density 8.08 lb/gal estimated

Specific gravity 0.968 estimated

VOC 15.2 % estimated

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Stable at normal conditions.

Possibility of hazardous reactions Hazardous polymerization can occur with elevated temperatures.

Conditions to avoid Avoid temperatures exceeding the flash point. Contact with incompatible materials.

Incompatible materials Acids. Alkaline metals. Amines. Peroxides. Fluorine. Chlorine. Phenols. Strong acids, alkalis and oxidizing agents.

Hazardous decomposition products Toxic gas. If product is burned hazardous gases such as oxides of carbon and nitrogen and various hydrocarbons may be produced. Upon combustion, oxides of chlorine may be released.

11. Toxicological information**Information on likely routes of exposure**

Inhalation Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin contact Causes severe skin burns and eye damage.

Eye contact Causes serious eye damage.

Ingestion May be harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics Irritation of eyes and mucous membranes.

Information on toxicological effects**Acute toxicity****Acute toxicity**

Product	Species	Test Results
LIQUID CERAMIC EPOXY HIGH TEMP PART B		
Acute		
Dermal		
LD50	Rabbit	11470 mg/kg
Inhalation		
LC50	Rat	6.667e+007 ppm, 10 Hours 7496 mg/l, 8 Hours
Oral		
LD50	Rat	1071 mg/kg

Components	Species	Test Results
3-AMINOPROPYLTRIETHOXSILANE (CAS 919-30-2)		
Acute		
Inhalation		
LC50	-	> 7.35 mg/l, 4 Hours
BENZENE, HYDROXY- (CAS 108-95-2)		
Acute		
Dermal		
LD50	Rat	669 mg/kg
BENZYL ALCOHOL (CAS 100-51-6)		
Acute		
Dermal		
LD50	Rabbit	2000 mg/kg
Inhalation		
LC50	-	> 4.178 mg/l, 4 Hours
Oral		
LD50	Rat	1230 - 3100 mg/kg
CYCLOHEXANAMINE, 4,4'-METHYLENEBIS- (CAS 1761-71-3)		
Acute		
Oral		
LD50	Rat	380 mg/kg
ETHANOL (CAS 64-17-5)		
Acute		
Oral		
LD50	Rat	6.2 g/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Irritating and may cause redness and pain.
Serious eye damage/eye irritation	Causes serious eye damage.
Respiratory or skin sensitization	
Respiratory sensitization	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization	Corrosive to skin and eyes. Causes severe skin burns.
Germ cell mutagenicity	Suspected of causing genetic defects.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. This product contains crystalline silica. Silica is a known carcinogen; however in this encapsulated form the normal routes of exposure are unavailable.
IARC Monographs. Overall Evaluation of Carcinogenicity	
BENZENE, HYDROXY- (CAS 108-95-2)	3 Not classifiable as to carcinogenicity to humans.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)	
	Not listed.
US. National Toxicology Program (NTP) Report on Carcinogens	
	Not listed.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	May cause irritation to the respiratory system.
Specific target organ toxicity - repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	Not available.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity	Harmful to aquatic life. Components of this product are hazardous to aquatic life. Accumulation in aquatic organisms is expected.
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Product	Species	Test Results	
LIQUID CERAMIC EPOXY HIGH TEMP PART B			
Aquatic			
Crustacea	EC50	Daphnia	2371.9158, 48 hours
<i>Acute</i>			
Crustacea	EC50	Daphnia	241.3864, 48 hours estimated
Fish	LC50	Fish	62.9717, 96 hours estimated
Components			
BENZENE, HYDROXY- (CAS 108-95-2)			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Water flea (Daphnia magna)	>= 4.24 - <= 10.7 mg/l, 48 hours
Fish	LC50	Asiatic knifefish (Notopterus notopterus)	6.85, 96 hours
BENZYL ALCOHOL (CAS 100-51-6)			
Aquatic			
<i>Acute</i>			
Fish	LC50	Bluegill (Lepomis macrochirus)	10, 96 hours
ETHANOL (CAS 64-17-5)			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Water flea (Daphnia magna)	>= 7.7 - <= 11.2 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	42, 4 days

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

BENZENE, HYDROXY-	1.46
BENZYL ALCOHOL	1.1
ETHANOL	-0.31

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Dispose of contents/container in accordance with local/regional/national/international regulations. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Offer rinsed packaging material to local recycling facilities.

14. Transport information

DOT

UN number	UN2735
UN proper shipping name	Amine, Liquid, Corrosive, N.O.S. ([3-(aminoethyl)phenyl]methanamine)
Transport hazard class(es)	
Class	8
Subsidiary risk	-

Packing group III
Special precautions for user Not available.

IATA

UN number UN2735
UN proper shipping name Amine, Liquid, Corrosive, N.O.S. ([3-(aminoethyl)phenyl]methanamine)
Transport hazard class(es)
Class 8
Subsidiary risk -
Packing group III
Environmental hazards No.
Special precautions for user Not available.

IMDG

UN number UN2735
UN proper shipping name Amine, Liquid, Corrosive, N.O.S. ([3-(aminoethyl)phenyl]methanamine)
Transport hazard class(es)
Class 8
Subsidiary risk -
Packing group III
Environmental hazards
Marine pollutant No.
EmS Not available.
Special precautions for user Not available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

DOT



IATA; IMDG



15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
CERCLA/SARA Hazardous Substances - Not applicable.

All components are on the U.S. EPA TSCA Inventory List.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

BENZENE, HYDROXY- (CAS 108-95-2) Listed.
 ETHANOL (CAS 64-17-5) Listed.

SARA 304 Emergency release notification

Phenol (CAS 108-95-2) 1000 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**SARA 302 Extremely hazardous substance**

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
BENZENE, HYDROXY-	108-95-2	1000		500	10000

SARA 311/312 Hazardous chemical

Classified hazard categories Yes
 Skin corrosion or irritation
 Serious eye damage or eye irritation
 Respiratory or skin sensitization
 Germ cell mutagenicity
 Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
BENZENE, HYDROXY-	108-95-2	1 - < 3

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

BENZENE, HYDROXY- (CAS 108-95-2)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.**FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace**

BENZENE, HYDROXY- (CAS 108-95-2) Low priority
 ETHANOL (CAS 64-17-5) Low priority

US state regulations**US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

BENZENE, HYDROXY- (CAS 108-95-2)

California Proposition 65

WARNING: California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

ETHANOL (CAS 64-17-5) Listed: April 29, 2011
 Listed: July 1, 1988

California Proposition 65 - CRT: Listed date/Developmental toxin

ETHANOL (CAS 64-17-5) Listed: October 1, 1987

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

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

Issue date	06-09-2023
Version #	01
NFPA ratings	Health: 3 Flammability: 0 Instability: 0
References	EPA: AQUIRE database US. IARC Monographs on Occupational Exposures to Chemical Agents HSDB® - Hazardous Substances Data Bank IARC Monographs. Overall Evaluation of Carcinogenicity National Toxicology Program (NTP) Report on Carcinogens ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision information	Product and Company Identification: Alternate Trade Names Handling and storage: Precautions for safe handling Physical & Chemical Properties: Multiple Properties GHS: Classification