

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Revision: 07.10.2022

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name:** LIQUID METAL EPOXY
- **Article number:**

- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Epoxy resin
- **1.3 Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier** Gemstone Systems
Clearwater, FL 33762
Phone: 800 969-1998

- **Further information obtainable from:** Product Safety Department
- **1.4 Emergency telephone number:**
ChemTel Inc.
(800)255-3924, +1 (813)248-0585

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
The following Hazard Statements are applicable only to the EU regulations and not the US GHS regulation: H361fd, H411.
The following Hazard Statements are applicable only to the general GHS regulations and not the specific CLP regulation: H361.



Repr. 2 H361: Suspected of damaging fertility or the unborn child.



health hazard

Repr. 2 H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.

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Trade name: LIQUID METAL EPOXY

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Skin Sens. 1 H317 May cause an allergic skin reaction.

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



C; Corrosive

R34: Causes burns.



Xn; Harmful

R22-62-63: Harmful if swallowed. Possible risk of impaired fertility. Possible risk of harm to the unborn child.



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

· **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

The classification is in accordance with the latest editions of international substances lists, and is supplemented by information from technical literature and by information provided by the company.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

· **Hazard pictograms**



This pictogram only applicable for EU regulations. Not for use in the United States (OSHA GHS).



GHS05 GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

Reaction products of Epichlorohydrin and Bisphenol A
nonylphenol

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Trade name: LIQUID METAL EPOXY

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· **Hazard statements**

The following Hazard Statements are applicable only to the EU regulations and not the US GHS regulation: H361fd, H411.

The following Hazard Statements are applicable only to the general GHS regulations and not the specific CLP regulation: H361.

H361: Suspected of damaging fertility or the unborn child.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.

H411 Toxic to aquatic life with long lasting effects.

· **Precautionary statements**

P260 Do not breathe mist/vapours/spray.

P281 Use personal protective equipment as required.

P264 Wash thoroughly after handling.

P202 Do not handle until all safety precautions have been read and understood.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Hazard description:**

· **WHMIS-symbols:**

D2A - Very toxic material causing other toxic effects

E - Corrosive material



· **NFPA ratings (scale 0 - 4)**



Health = 1

Fire = 0

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 1

Fire = 0

Reactivity = 0

· **HMIS Long Term Health Hazard Substances**

	N/A

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- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

	NOT Regulated Epoxy solution	100%

- **Additional information:** For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Immediately remove any clothing soiled by the product.

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Trade name: LIQUID METAL EPOXY

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- Immediately wash with water and soap and rinse thoroughly.
- If skin irritation continues, consult a doctor.
- **After eye contact:**
 - Remove contact lenses if worn.
 - Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
 - Rinse out mouth and then drink plenty of water.
 - Do not induce vomiting; call for medical help immediately.
- **4.2 Most important symptoms and effects, both acute and delayed**
 - Allergic reactions
 - Nausea
 - Dizziness
 - Gastric or intestinal disorders when ingested.
- **Hazards**
 - Danger of impaired breathing.
 - Causes severe skin burns and eye damage.
 - Suspected of damaging fertility or the unborn child.
- **4.3 Indication of any immediate medical attention and special treatment needed**
 - Treat skin and mucous membrane with antihistamine and corticoid preparations.
 - Monitor circulation.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**
 - Formation of toxic gases is possible during heating or in case of fire.
- **5.3 Advice for firefighters**
- **Protective equipment:**
 - Wear self-contained respiratory protective device.
 - Wear fully protective suit.
- **Additional information** Cool endangered receptacles with water spray.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
 - Use respiratory protective device against the effects of fumes/dust/aerosol.
 - Wear protective equipment. Keep unprotected persons away.
 - Ensure adequate ventilation
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
 - Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
 - Dispose contaminated material as waste according to item 13.
 - Clean the affected area carefully; suitable cleaners are:
 - Warm water and cleansing agent

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OSHA GHS

Trade name: LIQUID METAL EPOXY

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· **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Prevent formation of aerosols.

Use only in well ventilated areas.

· **Information about fire - and explosion protection:** Protect from heat.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** No special requirements.

· **Information about storage in one common storage facility:**

Store away from oxidising agents.

Store away from foodstuffs.

Do not store together with acids.

· **Further information about storage conditions:** Store in cool, dry conditions in well sealed receptacles.

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

100-51-6 Benzyl alcohol

WEEL (USA) | 10 ppm

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

Use suitable respiratory protective device in case of insufficient ventilation.

Use suitable respiratory protective device when aerosol or mist is formed.

· **Protection of hands:**



Protective gloves

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The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

· **Material of gloves**

Butyl rubber, BR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Safety glasses

· **Body protection:** Protective work clothing

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Liquid
Colour:	Light yellow
Odour:	Characteristic
Odour threshold:	Not determined.
pH-value:	Not determined.

· **Change in condition**

Melting point/Melting range:	Not Determined.
Boiling point/Boiling range:	205 °C (401 °F)

· **Flash point:** 96 °C (205 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Auto/Self-ignition temperature:** 370 °C (698 °F)

· **Decomposition temperature:** Not determined.

· **Self-igniting:** Product is not self-igniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower: 1,0 Vol %

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OSHA GHS

Trade name: LIQUID METAL EPOXY

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- **Upper:** 13,0 Vol %
- **Vapour pressure at 20 °C (68 °F):** < 1,0 hPa (< 1 mm Hg) (< 0,75 mm Hg)
- **Density at 20 °C (68 °F):** 1,14 g/cm³ (9.50 lbs/gal)
- **Relative density** Not determined.
- **Vapour density** Not determined.
- **Evaporation rate** Not determined.
- **Solubility in / Miscibility with water:** Slightly soluble.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
 - Dynamic:** Not determined.
 - Kinematic:** Not determined.
- **Solvent content:**
- **VOC content:** ,0 %
- **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**
Reacts with peroxides and other radical forming substances.
Reacts with amines.
Exothermic polymerisation.
Reacts with oxidising agents.
- **10.4 Conditions to avoid**
Keep ignition sources away - Do not smoke.
Store away from oxidising agents.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Nitrogen oxides

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values relevant for classification:**

100-51-6 Benzyl alcohol

Oral	LD50	1230 mg/kg (rat)
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Trade name: LIQUID METAL EPOXY

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- **Primary irritant effect:**
- **on the skin:** Caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic effect.
- **Sensitisation:**
Sensitisation possible through skin contact.
Sensitising effect through inhalation is possible by prolonged exposure.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Harmful
Irritant
Corrosive
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
- **Acute effects (acute toxicity, irritation and corrosivity):**
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
- **Repeated dose toxicity:**
Suspected of damaging fertility or the unborn child.
May cause damage to organs through prolonged or repeated exposure.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):**
Repr. 2

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** The product contains materials that are harmful to the environment.
- **12.2 Persistence and degradability** Moderately /partly biodegradable
- **12.3 Bioaccumulative potential** May be accumulated in organism
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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OSHA GHS

Trade name: LIQUID METAL EPOXY

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- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Hand over to hazardous waste disposers.

Can be burned with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.

The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

· **Uncleaned packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

· 14.1 UN-Number

· DOT, ADR, IMDG, IATA

NOT REGULATED

· 14.2 UN proper shipping name

· DOT, IMDG, IATA

· ADR

· 14.3 Transport hazard class(es)

· DOT



· Class

· Label

· ADR



· Class

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OSHA GHS

Trade name: LIQUID METAL EPOXY

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· Label

· IMDG, IATA



· Class

· Label

· 14.4 Packing group

· DOT, ADR, IMDG, IATA

· 14.5 Environmental hazards:

· Marine pollutant:

· Special marking (ADR):

· Special marking (IATA):

· 14.6 Special precautions for user

· Danger code (Kemler):

· EMS Number:

· 14.7 Transport in bulk according to Annex II of
MARPOL73/78 and the IBC Code

· Transport/Additional information:

· ADR

· Limited quantities (LQ)

· Transport category

· Tunnel restriction code

· DOT

· UN "Model Regulation":

SECTION 15: Regulatory information

· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

· United States (USA)

· SARA

· Section 355 (extremely hazardous substances):

None of the ingredients are listed.

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OSHA GHS

Trade name: LIQUID METAL EPOXY

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· **Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Proposition 65 (California):**

· **Chemicals known to cause cancer:**

Present in trace quantities.

106-89-8 | 1-chloro-2,3-epoxypropane

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**

Present in trace quantities.

106-89-8 | 1-chloro-2,3-epoxypropane

· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

· **Carcinogenic Categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients are listed.

· **IARC (International Agency for Research on Cancer)**

None of the ingredients are listed.

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients are listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients are listed.

· **Canada**

· **Canadian Domestic Substances List (DSL)**

All ingredients are listed.

· **Canadian Ingredient Disclosure list (limit 0.1%)**

106-89-8 | 1-chloro-2,3-epoxypropane

· **Canadian Ingredient Disclosure list (limit 1%)**

100-51-6 | Benzyl alcohol

· **Other regulations, limitations and prohibitive regulations**

· **Substances of very high concern (SVHC) according to REACH, Article 57**

None

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
OSHA GHS

Trade name: LIQUID METAL EPOXY

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SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H350	May cause cancer.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
R10	Flammable.
R20/22	Harmful by inhalation and if swallowed.
R22	Harmful if swallowed.
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
R34	Causes burns.
R36/38	Irritating to eyes and skin.
R43	May cause sensitisation by skin contact.
R45	May cause cancer.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R62	Possible risk of impaired fertility.
R63	Possible risk of harm to the unborn child.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport Association
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 ACGIH: American Conference of Governmental Industrial Hygienists
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 NFPA: National Fire Protection Association (USA)
 HMIS: Hazardous Materials Identification System (USA)
 WHMIS: Workplace Hazardous Materials Information System (Canada)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 VOC: Volatile Organic Compounds (USA, EU)
 Flam. Liq. 3: Flammable liquids, Hazard Category 3

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according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
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Trade name: LIQUID METAL EPOXY

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Acute Tox. 3: Acute toxicity, Hazard Category 3
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
Skin Corr. 1C: Skin corrosion/irritation, Hazard Category 1C
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
Carc. 1B: Carcinogenicity, Hazard Category 1B
Repr. 2: Reproductive toxicity, Hazard Category 2
Aquatic Acute 1: Hazardous to the aquatic environment - Acute Hazard, Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA
GHS

Revision: 07.11.22

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name:** LIQUID METAL EPOXY PART B
- **Article number:**
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Epoxy curing agent
- **1.3 Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**
Coatings Solutions
3919 Air Park Drive Suite 11
Lakeland, FL 33811 863-450-2192
- **1.4 Emergency telephone number:**
ChemTel Inc.
(800)255-3924, +1 (813)248-0585

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
Classifications listed are applicable to the OSHA GHS Hazard Communication Standard (29CFR1910.1200).
The following Hazard Statements are applicable only to the EU regulations and not the US GHS regulation: H412.



health hazard

Muta. 2	H341 Suspected of causing genetic defects.
Repr. 2	H361 Suspected of damaging fertility or the unborn child.



corrosion

Skin Corr. 1A	H314 Causes severe skin burns and eye damage.
Eye Dam. 1	H318 Causes serious eye damage.



Acute Tox. 4	H302 Harmful if swallowed.
Acute Tox. 4	H332 Harmful if inhaled.
Skin Sens. 1	H317 May cause an allergic skin reaction.
Aquatic Chronic 3	H412 Harmful to aquatic life with long lasting effects.

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Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA
GHS

Trade name: **LIQUID METAL EPOXY Part B**

(Cont'd. from page 1)

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is additionally classified and labelled according to the Globally Harmonized System within the United States (GHS).

The following Hazard Statements are applicable only to the EU regulations and not the US GHS regulation: H412.

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS05 GHS07 GHS08

Signal word Danger

Hazard-determining components of labelling:

Proprietary Cycloaliphatic amine

Benzyl alcohol

Proprietary Amine-Epoxy Resin Adduct

Salicylic acid

Hazard statements

The following Hazard Statements are applicable only to the EU regulations and not the US GHS regulation: H412.

H302+H332 Harmful if swallowed or if inhaled.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H341 Suspected of causing genetic defects.

H361 Suspected of damaging fertility or the unborn child.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P260 Do not breathe mist/vapours/spray.

P281 Use personal protective equipment as required.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P308+P313 IF exposed or concerned: Get medical advice/attention.

NFPA ratings (scale 0 - 4)



Health = 3

Fire = 1

Reactivity = 0

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GHS

Trade name: LIQUID METAL EPOXY Part B

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· HMIS-ratings (scale 0 - 4)

HEALTH	3	Health = *3
FIRE	1	Fire = 1
REACTIVITY	0	Reactivity = 0

* - Indicates a long term health hazard from repeated or prolonged exposures.

· 2.3 Other hazards

· Results of PBT and vPvB assessment

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· 3.2 Mixtures

· **Description:** Mixture of substances listed below with nonhazardous additions.

· Dangerous components:

	Proprietary Cycloaliphatic amine ⚠ Skin Corr. 1A, H314 ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317 Aquatic Chronic 3, H412	25-50%
CAS: 100-51-6 EINECS: 202-859-9 Index number: 603-057-00-5	Benzyl alcohol ⚠ Acute Tox. 4, H302; Acute Tox. 4, H332	10-25%
	Proprietary Amine-Epoxy Resin Adduct ⚠ Eye Dam. 1, H318 ⚠ Skin Irrit. 2, H315	10-25%

· Additional information:

For the wording of the listed Hazard Statements refer to section 16.

For the listed ingredient(s), the identity and exact percentages are being withheld as a trade secret.

SECTION 4: First aid measures

· 4.1 Description of first aid measures

· General information:

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Immediately remove any clothing soiled by the product.

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- **After inhalation:**
Supply fresh air; consult doctor in case of complaints.
Respiration of particulates is unlikely during normal usage.
- **After skin contact:**
Do not pull solidified product off the skin.
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
Seek immediate medical help for blistering or open wounds.
- **After eye contact:**
Protect unharmed eye.
Remove contact lenses if worn, if possible.
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; call for medical help immediately.
- **4.2 Most important symptoms and effects, both acute and delayed**
Allergic reactions
Dizziness
Nausea
Cramp
Coughing
Gastric or intestinal disorders.
Strong caustic effect on skin and mucous membranes.
- **Hazards**
Causes serious eye damage.
Danger of gastric perforation.
- **4.3 Indication of any immediate medical attention and special treatment needed**
Contains m-phenylenebis(methylamine), Proprietary Cycloaliphatic amine. May produce an allergic reaction.
If necessary oxygen respiration treatment.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
Water haze or fog
Foam
Fire-extinguishing powder
Carbon dioxide
- **For safety reasons unsuitable extinguishing agents:**
Water with full jet
Water spray
- **5.2 Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.

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· **Additional information**

Eliminate all ignition sources if safe to do so.
Cool endangered receptacles with water fog or haze.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Use respiratory protective device against the effects of fumes/dust/aerosol.

Ensure adequate ventilation

Wear protective equipment. Keep unprotected persons away.

· **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**

Allow to solidify. Pick up mechanically.

Clean the affected area carefully; suitable cleaners are:

Warm water and cleansing agent

Dispose contaminated material as waste according to section 13.

Ensure adequate ventilation.

· **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Store in cool, dry place in tightly closed receptacles.

Prevent formation of aerosols.

Use only in well ventilated areas.

· **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

When heated the product forms flammable fumes.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Store in a cool location.

Avoid storage near extreme heat, ignition sources or open flame.

· **Information about storage in one common storage facility:**

Store away from foodstuffs.

Do not store together with oxidising and acidic materials.

· **Further information about storage conditions:**

Store receptacle in a well ventilated area.

Keep container tightly sealed.

· **7.3 Specific end use(s)** No further relevant information available.

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SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see section 7.

· 8.1 Control parameters

· **Ingredients with limit values that require monitoring at the workplace:**

100-51-6 Benzyl alcohol

WEEL (USA) Long-term value: 10 ppm

1477-55-0 m-phenylenebis(methylamine)

REL (USA) Ceiling limit: 0,1 mg/m³
Skin

TLV (USA) Ceiling limit: 0,1 mg/m³
Skin

EL (Canada) Ceiling limit: 0,1 mg/m³
Skin

EV (Canada) Ceiling limit: 0,1 mg/m³
Skin

· **DNELs** No further relevant information available.

· **PNECs** No further relevant information available.

· 8.2 Exposure controls

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

Not necessary if room is well-ventilated.

Use suitable respiratory protective device in case of insufficient ventilation.

Use suitable respiratory protective device when aerosol or mist is formed.

For spills, respiratory protection may be advisable.

Use respiratory protection when grinding or cutting material.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

· **Material of gloves**

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The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**

Contact lenses should not be worn.



Safety glasses

· **Body protection:** Protective work clothing

· **Limitation and supervision of exposure into the environment**

No further relevant information available.

· **Risk management measures**

See Section 7 for additional information.

No further relevant information available.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Liquid
Colour:	Yellow
Odour:	Amine-like
Odour threshold:	Not determined.
pH-value:	Not determined.

· **Change in condition**

Melting point/Melting range:	Not Determined.
Boiling point/Boiling range:	Undetermined.

· **Flash point:** >100 °C (>212 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Auto/Self-ignition temperature:** Not determined.

· **Decomposition temperature:** Not determined.

· **Self-igniting:** Product is not self-igniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

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Trade name: LIQUID METAL EPOXY Part B

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- **Vapour pressure:** Not determined.
- **Density at 20 °C (68 °F):** 1.03 g/cm³ (8,60 lbs/gal)
- **Relative density** Not determined.
- **Vapour density** Not determined.
- **Evaporation rate** Not determined.
- **Solubility in / Miscibility with water:** Not miscible or difficult to mix.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
 - Dynamic at 25 °C (77 °F):** 600 cp mPas
 - Kinematic:** Not determined.
 - VOC content:** < 0.5 g/L
- **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions**
Reacts with strong acids and oxidising agents.
Reacts with peroxides and other radical forming substances.
- **10.4 Conditions to avoid** Store away from oxidising agents.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Sulphur oxides (SO_x)
Nitrogen oxides (NO_x)

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
Harmful if swallowed or if inhaled.

· LD/LC50 values relevant for classification:

Proprietary Cycloaliphatic amine

Oral	LD50	1030 mg/kg (rat)
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100-51-6 Benzyl alcohol

Oral	LD50	1230 mg/kg (rat)
Dermal	LD50	2000 mg/kg (rabbit)

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Trade name: LIQUID METAL EPOXY Part B

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| | | |
|--|--|--|
- **Primary irritant effect:**
 - **Skin corrosion/irritation**
Causes severe skin burns and eye damage.
 - **Serious eye damage/irritation**
Causes serious eye damage.
 - **Respiratory or skin sensitisation**
May cause an allergic skin reaction.
 - **Additional toxicological information:**
Toxic and/or corrosive effects may be delayed up to 24 hours.
Suspected of causing genetic defects.
Suspected of damaging fertility or the unborn child.
 - **Acute effects (acute toxicity, irritation and corrosivity):**
Harmful if swallowed.
Harmful if inhaled.
 - **Repeated dose toxicity:**
May cause damage to organs through prolonged or repeated exposure.
Repeated exposures may result in skin and/or respiratory sensitivity.
 - **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):**
 - **Germ cell mutagenicity**
Suspected of causing genetic defects.
 - **Carcinogenicity** Based on available data, the classification criteria are not met.
 - **Reproductive toxicity**
Suspected of damaging fertility or the unborn child.
 - **STOT-single exposure** Based on available data, the classification criteria are not met.
 - **STOT-repeated exposure** Based on available data, the classification criteria are not met.
 - **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:**
The product contains materials that are harmful to the environment.

100-51-6 Benzyl alcohol

LC50	460 mg/l (pimephales promelas)
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- **12.2 Persistence and degradability** The product is partially biodegradable. Significant residuals remain.
- **12.3 Bioaccumulative potential** Does not accumulate in organisms.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:**
Harmful to fish
Due to mechanical actions of the product (e.g. agglutinations) damages may occur.

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Trade name: LIQUID METAL EPOXY Part B


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- **Additional ecological information:**
- **General notes:**
 Avoid transfer into the environment.
 Must not reach sewage water or drainage ditch undiluted or unneutralised.
 Harmful to aquatic organisms
 Due to available data on eliminability/decomposition and bioaccumulation potential prolonged term damage of the environment can not be excluded.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
 Must not be disposed together with household garbage. Do not allow product to reach sewage system.
 Can be burned with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.
 Can be disposed of with household garbage after solidification following consultation with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- **14.1 UN-Number**
 - **DOT, ADR, IMDG, IATA** UN2735
 - **14.2 UN proper shipping name**
- 

Limited Quantity for packages less than 30 kg (66 lb) and inner packagings less than 5 L (1.3 gal). not regulated
- **DOT** Polyamines, liquid, corrosive, n.o.s. (Cycloaliphatic amine)
 - **ADR** 2735 POLYAMINES, LIQUID, CORROSIVE, N.O.S. (Cycloaliphatic amine)
 - **IMDG, IATA** POLYAMINES, LIQUID, CORROSIVE, N.O.S. (Cycloaliphatic amine)

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Trade name: LIQUID METAL EPOXY Part B

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· **14.3 Transport hazard class(es)**

· **DOT**



- **Class** 8 Corrosive substances.
- **Label** 8

· **ADR**



- **Class** 8 (C7) Corrosive substances.
- **Label** 8

· **IMDG, IATA**



- **Class** 8 Corrosive substances.
- **Label** 8
- **14.4 Packing group**
- **DOT, ADR, IMDG, IATA** III
- **14.5 Environmental hazards:**
- **Marine pollutant:** No
- **14.6 Special precautions for user** Warning: Corrosive substances.
- **Danger code (Kemler):** 80
- **EMS Number:** F-A,S-B
- **Segregation groups** Alkalies
- **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.
- **Transport/Additional information:**

· **ADR**

- **Limited quantities (LQ)** 5L
- **Excepted quantities (EQ)** Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml
- **Transport category** 3
- **Tunnel restriction code** E

· **IMDG**

- **Limited quantities (LQ)** 5L

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Trade name: LIQUID METAL EPOXY Part B

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· Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· UN "Model Regulation":

UN2735, POLYAMINES, LIQUID, CORROSIVE, N.O.S.
(Cycloaliphatic amine), 8, III

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- United States (USA)
- SARA

· Section 355 (extremely hazardous substances):

None of the ingredients are listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· Proposition 65 (California):

· Chemicals known to cause cancer:

None of the ingredients are listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

· Carcinogenic Categories

· EPA (Environmental Protection Agency)

None of the ingredients are listed.

· IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients are listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients are listed.

· Canada

· Canadian Domestic Substances List (DSL)

All ingredients are listed.

· Canadian Ingredient Disclosure list (limit 0.1%)

69-72-7 | Salicylic acid

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· **Canadian Ingredient Disclosure list (limit 1%)**

100-51-6	Benzyl alcohol

· None of the ingredients are listed.

· **Other regulations, limitations and prohibitive regulations**

· **Substances of very high concern (SVHC) according to REACH, Article 57**

· None of the ingredients are listed.

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H332 Harmful if inhaled.
H341 Suspected of causing genetic defects.
H361 Suspected of damaging fertility or the unborn child.
H412 Harmful to aquatic life with long lasting effects.

· **Abbreviations and acronyms:**

Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A
Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
Muta. 2: Germ cell mutagenicity, Hazard Category 2
Repr. 2: Reproductive toxicity, Hazard Category 2
Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

· **Sources**

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