

Safety Data Sheet

Revision Date 07.07.2017

Revision: 1

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

1.1 Product identifier

Trade name: TRFE-1G Part B - Hardener

1.2 Application of the substance / the mixture: Epoxy Adhesive

1.3 Details of the supplier of the Safety Data Sheet

Manufacturer/Supplier:



BoMetals, Inc.

141 Hammond Street

Carrollton, GA 30117

P: (770) 832-2000

1.4 Emergency telephone number:

ChemTel Inc.

(800) 255-3924, +1 (813) 248-0585

2 Hazards identification

2.1 GHS Classification of the substance or mixture

Acute toxicity - Oral Category 4

Serious Eye Damage - Category 1

Skin sensitization - Category 1

Specific target organ toxicity - repeated exposure - Oral Category 2

2.2 GHS Label elements

Hazard pictograms/symbols



Signal word: Danger

Hazard statements:

H302: Harmful if swallowed.

H317: May cause an allergic skin reaction.

H318: Causes serious eye damage.

H373a: May cause damage to organs through prolonged or repeated exposure if swallowed.

Precautionary statements:

P260: Do not breathe dust/fume/gas/mist/vapours/spray.

P264: Wash hands thoroughly after handling.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P281: Use personal protective equipment as required

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

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 CENTRE or doctor/physician.

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

Additional information: Please refer to Sections 11 for toxicity information.

HMIS Rating:

Health: 2

Flammability: 1

Physical Hazard: 0

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3 Composition/information on ingredients

3.2 Mixture

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:		
CAS: 100-51-6	Benzyl Alcohol	30-60%
Trade Secret	Modified Cycloaliphatic amine	25-50%
CAS: 1761-71-3	Methylenebis(cyclohexyl)amine, 4,4'	<5%

In conformity with 29CFR 1910.1200(i) the specific chemical identity may be withheld as Trade Secret, while all health/safety properties and effects are included in the SDS.

4 First aid measures

4.1 Description of first aid measures

General information: Seek medical advice. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.

After inhalation: Supply fresh air; consult doctor in case of complaints.

After skin contact: Immediately remove contaminated clothing, and any extraneous chemical, if possible to do so without delay. Take off contaminated clothing and shoes immediately.

After eye contact: Rinse immediately with plenty of water for at least 15 minutes. If symptoms persist, consult a doctor.

After ingestion: Never give anything by mouth to an unconscious person. Prevent aspiration of vomit. Turn victim's head to the side. Do not induce vomiting; call for medical help immediately.

4.2 Most important symptoms and effects, both acute and delayed: Repeated and/or prolonged exposures to low concentrations of vapors or aerosols may cause: sore throat, asthma, eye disease, kidney disorders, liver disorders, skin disorders and allergies.

4.3 Indication of any immediate medical attention and special treatment needed: None known.

5 Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents: Foam, Fire-extinguishing powder, Carbon dioxide.

5.2 Specific hazards arising from the substance or mixture: May generate ammonia gas. May generate toxic nitrogen oxide gases. Burning produces noxious and toxic fumes. Downwind personnel must be evacuated.

5.3 Advice for the firefighters

Protective equipment: Wear self-contained respiratory protective device, Wear fully protective suit.

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

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. Keep away from ignition sources.

6.2 Environmental precautions: Do not allow to enter sewers/surface or ground water. Inform respective authorities in case of seepage into water course or sewage system. Prevent from spreading (e.g. by damming-in or oil barriers).

6.3 Methods and material for containment and cleaning up: Send for recovery or disposal in suitable receptacles. Dispose contaminated material as waste according to item 13. Ensure adequate ventilation.

7 Handling and storage

7.1 Precautions for safe handling: Use only in well-ventilated areas. Store in cool, dry place in tightly closed receptacles (60-80°F recommended).

7.2 Conditions for safe storage, including any incompatibilities: Use only receptacles specifically permitted for this substance/product. Avoid storage near extreme heat, ignition sources or open flame.

Further information about storage conditions: Keep container tightly sealed. Store in an area with adequate ventilation.

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8 Exposure controls/personal protection

8.1 Control parameters

Exposure Limits:

Benzyl alcohol	Time Weighted Average (TWA): WEEL	10 ppm	44.20 mg/m ³
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8.2 Engineering controls Provide readily accessible eye wash stations and safety showers. Provide ventilation adequate to ensure concentrations are minimized.

8.3 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. Do not inhale gases / fumes / aerosols. Avoid contact with the eyes and skin.

Respiratory protection: Not required under normal conditions of use. Use suitable respiratory protective device in case of insufficient ventilation. For spills, respiratory protection may be advisable. Use respiratory protection when grinding or cutting material.

Hand protection: Protective, impervious gloves. (Neoprene, Butyl-rubber, Nitrile rubber) The glove material has to be impermeable and resistant to the product / the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

Eye protection: Face shield with safety glasses or goggles underneath. Contact lenses should not be worn.

Skin and Body protection: Protective work clothing. Where potential exposure warrants, rubber or plastic boots and chemically resistant protective suit.

9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance

Form:	Paste
Colour:	Black
Odour:	Amine
Odour threshold:	No data available
pH:	Alkaline
Melting point/range:	No data available
Boiling point/range:	>392 °F / >200 °C
Flash point:	>212 °F / >100 °C
Evaporation rate:	No data available
Flammability (solid, gaseous):	Not applicable
Upper/lower flammability or explosive limit:	Not applicable
Vapor pressure:	No data available
Vapor density:	No data available
Relative Density at 20°C:	1.08 g/cm ³
Solubility in / Miscibility with Water:	No data available
Partition coefficient (n-octanol/water):	No data available
Auto/Self-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity	Paste - Solid

10 Stability and reactivity

10.1 Reactivity

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 alkali, Exothermic polymerization, Reacts with strong acids and oxidizing agents, Reacts with catalysts.

10.4 Conditions to avoid: Avoid contact with strong oxidizing agents, excessive heat or flames.

10.5 Incompatible materials: Strong acids, bases and oxidizing agents.

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10.6 Hazardous decomposition products: Nitric acid, Ammonia, Nitrogen oxides (NOx), Nitrogen oxide can react with water vapors to form corrosive nitric acid, Carbon monoxide, Carbon dioxide (CO2), Aldehydes, Flammable hydrocarbon fragments.

11 Toxicological information

11.1 Information on likely routes of exposure:

Skin contact:	If absorbed through the skin, may cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties. Mild skin irritation. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Eye contact:	Causes eye burns.
Ingestion:	Harmful if swallowed.
Inhalation:	May cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties. Severe cases of overexposure can result in respiratory failure.

11.2 Symptoms related to physical, chemical and toxicological characteristics: Repeated and/or prolonged exposures to low concentrations of vapors or aerosols may cause: sore throat, asthma, eye disease, kidney disorders, liver disorders, skin disorders and allergies.

11.3 Delayed and immediate effects as well as chronic effects from short and long-term exposure: This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1 percent or greater. May cause allergic skin reaction. This product may cause adverse reproductive effects. Asthma, Eye disease, Kidney disorders, Liver disorders, Skin disorders and Allergies.

11.4 Numerical measures of toxicity: No data is available for full mixture.

12 Ecological information

12.1 Aquatic toxicity: No data available on the product itself.

Toxicity to fish - Components

Benzyl alcohol	LC50 (96 h) : 10 mg/l	Species : Bluegillsunfish (Lepomis macrochirus).
Benzyl alcohol	LC50 (96 h) : 460 mg/l	Species : Fatheadminnow (Pimephales promelas).
Methylenebis(cyclohexyl)amine, 4,4'-	LC50 (96 h) : 46 mg/l	Species : Golden orfe (Leuciscus idus).
Methylenebis(cyclohexyl)amine, 4,4'-	LC50 (96 h) : > 100 mg/l	Species : Golden orfe (Leuciscus idus).

Toxicity to daphnia - Components

Methylenebis(cyclohexyl)amine, 4,4'-	EC50 (48 h) : 6.84 mg/l	Species : Daphnia magna.
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Toxicity to algae - Components

Benzyl alcohol	IC50 (72 h) : 700 mg/l	Species : Algae.
Methylenebis(cyclohexyl)amine, 4,4'-	EC50 (72 h) : 140 - 200 mg/l	Species : Algae.

Toxicity to other organisms: No data available.

12.2 Persistence and degradability: No data available.

12.3 Bioaccumulative potential: No data available on the product itself.

12.4 Mobility in soil: No data available.

12.5 Other adverse effects: No further relevant information available

13 Disposal considerations

13.1 Waste treatment methods

Waste from residue/unused product: This product should not be allowed to enter drains, water courses or the soil. Dispose of this material in a safe manner and in accordance with federal, state and local regulations

Contaminated packaging: Disposal must be made in accordance with official federal, state and local regulations.

14 Transport information

DOT

UN number: Not Regulated

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IATA

UN number: Not Regulated

IMDG

UN number: Not Regulated

TDG

UN number: Not Regulated

15 Regulatory Information

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

Toxic Substance Control Act (TSCA) 12(b) Component(s): None.

Country	Regulatory list	Notification
USA	TSCA	Included on Inventory.
EU	EINECS	Included on EINECS inventory or polymer substance, monomers included on EINECS inventory or no longer polymer.
Canada	DSL	Included on Inventory.
Australia	AICS	Included on Inventory.
Japan	ENCS	Included on Inventory.
South Korea	ECL	Included on Inventory.
China	SEPA	Included on Inventory.
Philippines	PICCS	Included on Inventory.

SARA

Section 355 (extremely hazardous substances):
None of the ingredients is listed.
Section 313 (Specific toxic chemical listings):
Component(s) above 'de minimus' level: None
TSCA (Toxic Substances Control Act):
All the ingredients are listed.

Proposition 65 (California):

Chemicals known to cause cancer: None
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15.2 Chemical Safety assessment: A Chemical Safety Assessment has not been carried out.

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.

Abbreviation and acronyms:

ADR: 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 Harmonized System of Classification and Labeling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienist.

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substance

CAS: Chemical Abstracts Service (division of the American Chemical Society)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)