



MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

| | |
|-----------------------------|---|
| PRODUCT NAME: | Kemtec 160-10 Frother |
| CHEMICAL FAMILY: | Mixed glycol, glycol ethers |
| SYNONYMS: | None |
| MOLECULAR FORMULA: | Mixture |
| MOLECULAR WEIGHT: | Mixture |
| MANUFACTURER: | Kemtec Mineral Processing Pty Ltd • 131/15 Hall St • Port Melbourne VIC • Australia |
| PRODUCT INFORMATION: | Tel: +613 9646 3833 • Fax: +61 9646 3933 |
| EMERGENCY PHONE: | CHEMTREC • North America: +1.800.424.9300 • International: +1.703.527.3887 |
| ISSUE DATE: | April 30, 2012 |

2. COMPOSITION/INFORMATION ON INGREDIENTS

OSHA REGULATED COMPONENTS

| COMPONENT | CAS No. | % (w/w) | OSHA (PEL) | ACGIH (TLV) | Carcinogen |
|---|---------|---------|------------|-------------|------------|
| No Permissible Exposure Limits (PEL/TLV) have been established by OSHA or ACGIH | | | | | |

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

APPEARANCE AND ODOR

Color: Dark brown
Appearance: Heavy liquid
Odor: Mild polyglycol ether odor

STATEMENT OF HAZARD

CAUTION! MAY CAUSE EYE, SKIN AND MUCOUS MEMBRANE IRRITATION

POTENTIAL HEALTH EFFECTS

EFFECTS / ROUTES OF EXPOSURE

The acute oral (rat) LD50 and acute dermal (rabbit) LD50 values for this material are estimated to be >2000 mg/kg and >2000 mg/kg, respectively.
Direct contact with this material may cause mild eye and skin irritation.
Refer to Section 11 for toxicology information on the regulated components of this product.

4. FIRST AID MEASURES

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| INGESTION: | If swallowed, call a physician immediately. ONLY induce vomiting at the instructions of a physician. Never give anything by mouth to an unconscious person. |
| SKIN CONTACT: | Remove contaminated clothing without delay. Flush skin thoroughly with water. Do not reuse clothing without laundering. |
| EYES CONTACT: | Rinse immediately with plenty of water for at least 15 minutes. Obtain medical advice if there are persistent symptoms. |
| INHALATION: | Material is not expected to be harmful if inhaled. If inhaled, remove to fresh air. |

5. FIREFIGHTING MEASURES

EXTINGUISHING MEDIA AND FIRE FIGHTING INSTRUCTIONS

Extinguishing Media

Use water spray, alcohol foam, carbon dioxide or dry chemical to extinguish fires.

Protective Equipment

Firefighters, and others exposed, wear self-contained breathing apparatus. Wear full firefighting protective clothing. See MSDS Section 8 (Exposure Controls/personal Protection).

Special Hazards

Keep containers cool by spraying with water if exposed to fire.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

Where exposure level is known, wear approved respirator suitable for level of exposure. Where exposure level is not known, wear approved, positive pressure, self-contained respirator. In addition to the protective clothing/equipment in Section 8 (Exposure Controls/personal Protection). Wear impervious boots.

METHODS FOR CLEAN UP

Remove source of ignition. Cover spills with some inert absorbent material; sweep up and place in a waste disposal container. Flush spill area with water.

ENVIRONMENTAL PRECAUTIONS

Not available

7. HANDLING AND STORAGE

HANDLING

Precautionary Measures

Do not get in eyes, on skin, on clothing. Keep away from heat and flame. Wash thoroughly after handling.

Special Handling Statements

None Known

STORAGE

Do not store in aluminum, brass or copper. Areas containing this material should have fire safe practices and electrical equipment in accordance with applicable regulations and/or guidelines.

Storage Temperature: Room Temperature

Reason: Integrity

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

ENGINEERING CONTROLS

Where this material is not used in a closed system, good enclosure and local exhaust ventilation should be provided to control exposure.

PERSONAL PROTECTIVE EQUIPMENT

EYES: Wear eye/face protection such as chemical splash proof goggles or face shield. Eyewash equipment and safety shower should be provided in areas of potential exposure.

SKIN: Avoid skin contact. Wear impermeable gloves and suitable protective clothing.

RESPIRATORY PROTECTION: Where exposures are below the established exposure limit, no respiratory protection is required. Where exposures exceed the established exposure limit, use respiratory protection recommended for the material and level of exposure.

ADDITIONAL ADVICE

Food, beverage and tobacco products should not be carried, stored or consumed where this material is used. Before eating, drinking, or smoking, wash face and hands with soap and water.

9. PHYSICAL AND CHEMICAL PROPERTIES

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|---|-----------------------------------|
| APPEARANCE AND ODOR: | Brown, typical polyglycol odor |
| BOILING POINT: | 225°C |
| MELTING POINT: | Not available |
| VAPOR PRESSURE: | 0.02 mmHG@20°C |
| SPECIFIC GRAVITY: | 0.98 – 1.05@ 25°C |
| VAPOR DENSITY: | Not available |
| % VOLATILE (BY WT.): | Not available |
| pH: | 10; (5% aqueous solution) |
| SATURATION IN AIR (% by Vol): | Not applicable |
| EVAPORATION RATE: | Not applicable |
| SOLUBILITY IN WATER: | Soluble |
| VOLATILE ORGANIC CONTENT: | Not available |
| FLASH POINT: | >220°F (104°C) MPCC |
| FLAMMABLE LIMITS (% BY VOL.): | Not available |
| AUTOIGNITION TEMPERATURE: | Not available |
| DECOMPOSITION TEMPERATURE: | Not available |
| PARTIAL COEFFICIENT (n-octanol/water): | Not available |
| ODOR TRESHOLD: | See Section 2 for exposure limits |

10. STABILITY AND REACTIVITY

| | |
|--|---|
| STABILITY: | Stable |
| CONDITIONS TO AVOID: | None known |
| POLYMERIZATION: | Will not occur |
| CONDITIONS TO AVOID: | None known |
| INCOMPATIBLE MATERIALS: | Avoid contact with oxidizers, contact with isocyanates due to heat liberation, and strong acids. Corrosive to aluminum, brass, copper |
| HAZARDOUS DECOMPOSITION PRODUCTS: | Carbon dioxide; carbon monoxide; aldehydes; ketones; organic acids |

11. TOXICOLOGICAL INFORMATION

Toxicological information for the product is found under SECTION 3: HAZARDS IDENTIFICATION

Toxicological information on the regulated components of this product is as follows:

This product contains no OSHA regulated (hazardous) components

12. ECOLOGICAL INFORMATION

This product is not classified as dangerous for the environment and is readily biodegradable.

13. DISPOSAL CONSIDERATIONS

| | |
|---|---|
| RECOMMENDATIONS FOR THE PRODUCT: | Dispose of product in accordance with local, state, and federal laws and regulations. Do not contaminate any lakes, streams, ponds, ground water or soil. |
| RECOMMENDATIONS FOR PACKAGING: | DO NOT PRESSURIZE, CUT, WELD, BRAZE, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SURCES OF IGNINITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, properly bunged and promptly returned to a drum re-conditioner, or properly disposed of. |
| RECOMMENDED CLEANSING AGENT: | Water |

14. Transportation Information

| | D.O.T. Shipping Information | | | IMO Shipping Information |
|--|------------------------------------|----------|----------|---------------------------------|
| SHIPPING NAME: | Not applicable/Not regulated | | | Not applicable/Not regulated |
| HAZARD CLASS | Not applicable | | | Not applicable |
| PACKING GROUP: | Not applicable | | | Not applicable |
| UN/ID NUMBER: | Not applicable | | | Not applicable |
| IMDG PAGE: | Not applicable | | | Not applicable |
| DOT HAZARDOUS SUBSTANCE: | Not applicable | | | Not applicable |
| TRANSPORT LABEL REQUIRED: | None required | | | None required |
| | ICAO/IATA | | | Transport Canada |
| SHIPPING NAME: | Not applicable | | | Not applicable/Not regulated |
| HAZARD CLASS: | Not applicable | | | Not applicable |
| SUBSIDIARY CLASS: | Not applicable | | | Not applicable |
| UN/ID NUMBER: | Not applicable | | | Not applicable |
| PACKING GROUP: | Not applicable | | | Not applicable |
| TRANSPORT LABEL REQUIRED: | Not applicable | | | Not applicable |
| PACKING INSTRUCTIONS/ MAXIMUM NET QUANTITY: | PASSENGER | Not app. | Not app. | Not applicable |
| | CARGO | Not app. | Not app. | |

ADDITIONAL TRANSPORTATION INFORMATION

Technical Name (N.O.S.): Not applicable/not regulated

15. REGULATORY INFORMATION

INVENTORY INFORMATION

United States (USA): All components of this product are included on the TSCA Inventory in compliance with the Toxic Substances Control Act, 15 U. S. C. 2601 et. seq.

Canada: Components of this product have been reported to Environment Canada in accordance with subsection 25 of the Canadian Environmental Protection Act and are included on the Domestic Substances List.

European Union (EU): All components of this product are included in the European Inventory of Existing Chemical Substances (EINECS) or the "No Longer Polymer" list in compliance with Council Directive 67/548/EEC and its amendments.

OTHER ENVIRONMENTAL INFORMATION

The following components of this product may be subject to reporting requirements pursuant to Section 313 of CERCLA (40 CFR 372), Section 12(b) of TSCA, or may be subject to release reporting requirements (40 CFR 307, 40 CFR 311, etc.) See Section 13 for information on waste classification and waste disposal of this product.

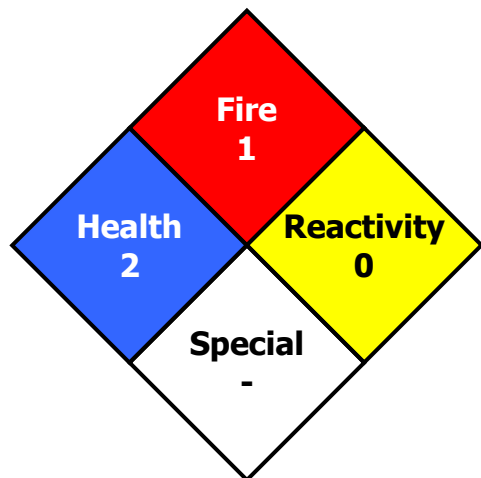
| Component | CAS NO. | % (w/w) | TPQ (lbs) | RQ (lbs) | S313 | TSCA 12B |
|---------------------|-------------|-----------|-----------|----------|------|----------|
| Potassium Hydroxide | 001310-58-3 | 0.1 – 1.0 | | 1000 | | |

PRODUCT CLASSIFICATION UNDER SECTION 311 OF SARA

Not applicable under SARA TITLE III

WHMIS Classification: D2B Eye and Skin irritant

16. OTHER INFORMATION



NFPA HAZARD RATING (National Fire Protection Association)

FIRE: Materials that must be preheated before ignition can occur.

HEALTH: Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

REACTIVITY: Materials that in themselves are normally stable, even under fire exposure conditions.

REASON FOR REVISION: Triennial review

Prepared By: F. Cappuccitti

Revised By: C. Yuen

IMPORTANT: The above information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warrant, expressed or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular uses.