

## SAFETY DATA SHEET

### 1. IDENTIFICATION

Product identifier used on the label

: **Flottec F160-13 Frother**

Recommended use of the chemical and restrictions on use

: Flotation chemical used in mining industry. Frother chemical used to reduce size and stabilize bubbles

Chemical family : Glycol and glycol ethers

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party:

**Flottec, LLC**

2505 Collingsworth Street, 2<sup>nd</sup> Floor  
Houston, Texas 77026 U.S.A.  
www.flottec.com

Information Telephone # : 1.713.425.7055

24 Hr. Emergency Tel # : Chemtrec 1-800-424-9300 (Within Continental U.S.); Chemtrec 703-527-3887 (Outside U.S.)

### 2. HAZARDS IDENTIFICATION

Classification of the chemical

Skin irritation (Category 2)  
Eye irritation (Category 2A)

Label elements

**Signal Word**

Warning

**Hazard statement(s)**

H319: Causes serious eye irritation  
H315: Causes skin irritation

**Precautionary statement(s)**

P264: Wash face, hands and any exposed skin thoroughly after handling.  
P280: Wear protective gloves, protective clothing and eye protection.  
P302+352: IF ON SKIN: Wash with soap and water.  
P332+313: If skin irritation occurs: Get medical advice or attention.  
P305+351+338: IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.  
P337+313: If eye irritation persists: Get medical advice or attention.  
P362+ P364: Take off contaminated clothing and wash before reuse.

**Hazard pictogram(s)**



**Other hazards**

None

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Common name	CAS #	Concentration / wt %
Potassium hydroxide	1310-58-3	0.1 - 1

The exact concentrations of the above listed chemicals are being withheld as a trade secret.

### 4. FIRST-AID MEASURES

#### Description of first aid measures

- Ingestion* : DO NOT induce vomiting, unless recommended by medical personnel. Never give anything by mouth if victim is unconscious or convulsing. Seek medical attention or contact a Poison Centre immediately.
- Inhalation* : Move person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen by trained personnel. If a problem develops or persists, seek medical attention.
- Skin Contact* : Flush with water for at least 15 minutes. Remove contaminated clothing and wash before reuse. If a problem develops or persists, seek medical attention.
- Eye Contact* : IMMEDIATELY flush with plenty of water. Remove contact lenses. Flush with water for at least 15 minutes. Hold eyelids apart to rinse properly. If a problem develops or persists, seek medical attention.

**Symptoms** : May cause irritation to skin and eyes.

**Notes to the physician** : Treat according to person's condition and specifics of exposure. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

### 5. FIRE-FIGHTING MEASURES

#### Extinguishing media

*Suitable extinguishing media*

: Dried powder, water spray, carbon dioxide (CO<sub>2</sub>), chemical foam.

*Unsuitable extinguishing media*

: Do not use direct water jet.

#### Special hazards arising from the substance or mixture

: Non-Flammable. May be combustible at high temperature.

#### Special protective equipment and precautions for firefighters

*Protective equipment for fire-fighters*

: Firefighters must wear self contained breathing apparatus with full face mask. Firefighting suit may not be efficient against chemicals.

*Special fire-fighting procedures*

: Use water spray to cool fire-exposed containers. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply.

### 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment and emergency procedures

: Do not touch spilled material. Make sure to wear personal protective equipment mentioned in this Safety Data Sheet.

**Environmental precautions** : For a large spillage, consult the Department of Environment or the relevant authorities.

#### Methods and material for containment and cleaning up

: Ventilate the area well. Stop leak, if it's possible to do so without risk. Small spill - dilute with water and mop up. Then wash the contaminated surface with water. Large spill - Absorb with inert material (soil, sand, vermiculite) and place in an appropriate waste disposal clearly identified. Finish cleaning by rinsing with soapy water the contaminated surface. Dispose via a licensed waste disposal contractor.

## 7. HANDLING AND STORAGE

- Precautions for safe handling** : Use only in well ventilated area. Avoid contact with skin, eyes and clothing. Do not breathe vapors, mists or aerosols. Wear eye protection, gloves and other protective clothing that are adapted to the task being performed and the risks involved. Keep in the workplace only the quantities necessary for the work being performed. Keep away from heat and open flame. Keep containers tightly closed when not used. Do not eat, do not drink and do not smoke during use. Wash hands, forearms and face thoroughly after handling this compound and before eating, drinking or using toilet articles. Remove contaminated clothing and wash before reuse.
- Conditions for safe storage** : Store tightly close and in properly labelled containers in a cool, dry and well ventilated place. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Keep away from direct sunlight and heat. Store away from oxidizing materials and incompatible materials (see section 10).
- Storage temperature** : 15 to 30 °C (59 to 86 °F)

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Immediately Dangerous to Life or Health

- : No IDLH value reported.

### Exposure limits

- Potassium hydroxide** : Ceiling 2 mg/m<sup>3</sup> ACGIH , BC, NIOSH, ON, RSST

### Exposure controls

- Appropriate engineering controls** : Provide sufficient mechanical ventilation (general and/or local exhaust) to keep the airborne concentrations of vapors, mists, aerosols or dust below their respective occupational exposure limits.
- Respiratory protection** : Respiratory protection is not required in normal use. Respiratory protection equipment (PPE) must be selected, fitted, maintained and inspected in accordance with regulations and CSA Standard Z 94.4 and approved by NIOSH / MSHA. In case of insufficient ventilation or in confined or enclosed space and for an assigned protection factor (APF) up to 10 times the exposure limit: wear a half mask respirator with appropriate cartridges fitted with P100 filters. For an APF until maximum 100 times of exposure limit, wear a full face respirator mask with appropriate cartridges and P100 filters.
- Skin protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved. Wear normal work clothing covering arms and legs as required by employer code. If necessary, wear an apron or long-sleeve protective coverall suit.
- Eye / face protection** : Wear chemical splash goggles. If risk of contact with eyes or the face, wear a face shield.
- Hands** : Chemical-resistant, impervious gloves should be worn at all times when handling this chemical product. Wear nitrile or neoprene gloves. Before using, user should confirm impermeability. Discard gloves that show tears, pinholes, or signs of wear. Gloves must only be worn on clean hands. Wash gloves with water before removing them. After using gloves, hands should be washed and dried thoroughly
- Other protective equipment** : Wear safety shoes. Wear rubber boots to clean up a spill.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

- |                                    |                                     |  |                                   |
|------------------------------------|-------------------------------------|--|-----------------------------------|
| <b>Physical state</b>              | : Liquid                            | <b>Flammability limits (% by vol.)</b>         | : N/Av                            |
| <b>Color</b>                       | : Dark Brown                        | <b>Flash point</b>                             | : >104°C (219.2°F) PMCC           |
| <b>Odor</b>                        | : Mild glycol odor                  | <b>Auto-ignition temperature</b>               | : N/Av                            |
| <b>Odor threshold</b>              | : N/Av                              | <b>Sensibility to electrostatic charge</b>     | : N/Av                            |
| <b>pH</b>                          | : 10 @ 5%                           | <b>Sensibility to sparks/friction</b>          | : No                              |
| <b>Melting/Freezing point</b>      | : N/Av                              | <b>Vapor density (Air = 1)</b>                 | : N/Av                            |
| <b>Boiling point/range</b>         | : 225°C (437°F)                     | <b>Relative density (Water = 1)</b>            | : 0.98 to 1.05 kg/L @ 20°C (68°F) |
| <b>Solubility in water</b>         | : Soluble                           | <b>Partition coefficient (n-octanol/water)</b> | : N/Av                            |
| <b>Evaporation rate (BuAc = 1)</b> | : N/Av                              | <b>Decomposition temperature</b>               | : N/Av                            |
| <b>Vapor pressure</b>              | : 0.0027 kPa (0 mmHg) @ 20°C (68°F) | <b>Viscosity</b>                               | : N/Av                            |
| <b>Volatiles (% by weight)</b>     | : N/Av                              | <b>Molecular mass</b>                          | : N/Av                            |
| <b>Flammability (solid, gas)</b>   | : Not flammable                     |  |                                   |

## 10. STABILITY AND REACTIVITY

- Reactivity** : Corrosive for aluminum, brass and copper.
- Chemical stability** : Stable under recommended storage conditions.
- Possibility of hazardous reactions (including polymerizations)** : Hazardous polymerization will not occur.
- Conditions to avoid** : Avoid contact with incompatible materials.
- Incompatible materials** : Strong oxidizing agents (such as nitric acid, perchloric acid, peroxides, chlorates and perchlorates), strong acids, isocyanates.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 11. TOXICOLOGICAL INFORMATION

### Toxicological data

Chemical name	LC <sub>50</sub> (Inhalation, rat)	LD <sub>50</sub> / mg/kg	
		(Oral, rat)	(Dermal, rabbit)
Polypropylene glycol monomethyl ether	N/Av	46510	>19100
Potassium hydroxide	N/Av	273	N/Av
Mixture	N/Av	>2000	>2000

### Likely routes of exposure

- Skin** : Yes
- Eye** : Yes
- Inhalation** : Yes
- Ingestion** : Yes

### Potential Health Effects:

#### Signs and symptoms of delayed, immediate and chronic effects

- Skin** : May cause redness and irritation of the skin. In humans, 0.5% to 4% Sodium hydroxide solutions were irritating to the skin, and in skin irritation tests with a 0.5% solution, 55% and 61% of the volunteers showed positive skin irritation reactions (SIDS (2009)). Polypropylene glycol ether compound is not irritating. Contact with skin may aggravate an existing skin condition.
- Eye** : May cause severe eye irritation. Hydroxide solution 1% for 5 minutes on rabbit eye is irritating (OECD 405). Polypropylene glycol ether compound is not irritating.
- Inhalation** : Mist exposure can cause irritation to nose, throat and lungs.
- Ingestion** : Low degree of acute toxicity. Swallowing will causes digestive tract disturbances resulting in nausea, vomiting, cramps and diarrhea.
- Sensitization to material** : Ingredients present at levels greater than or equal to 0.1% of this product are skin or respiratory sensitizers.
- IRAC/NTP Classification** : No ingredients listed
- Carcinogenicity** : Ingredients present at levels greater than or equal to 0.1% of this product are not listed as a carcinogen by IARC, ACGIH, NIOSH, NTP or OSHA.
- Mutagenicity** : Ingredients in this product present at levels greater than or equal to 0.1% are not known to cause mutagenic effect.
- Reproductive Effects** : Ingredients in this product present at levels greater than or equal to 0.1% are not known to cause effects on reproduction.
- Specific target organ effects – single exposure** : No target organ is listed.
- Specific target organ effects – repeated exposure** : No target organ is listed
- Other information** : The oral and skin acute toxicity estimates (ATE) of the mixture were calculated to be greater than 2000 mg/kg. The acute toxicity estimate (ATE) by inhalation (aerosol/mist) of the mixture was calculated to be greater than 5 mg/L/4h. These values are not classified according to WHMIS 2015 and OSHA HCS 2012.



## 12. ECOLOGICAL INFORMATION

**Ecotoxicity** :  
 Fish - Pimephales promelas [static] LC<sub>50</sub> >100 mg/L; 96 h (CAS no 37286-64-9)

**Persistence** :  
 Fish - Lepomis macrochirus - Bluegill LC<sub>50</sub> 80 ml/L; 96 h (KOH)  
 Polypropylene glycol ethers may persist in aquatic environment.

**Degradability** : No information available for this product.

**Bioaccumulation potential** : No bioconcentration is expected because of the relatively high molecular weight of the ingredient CAS no 37286-64-9.

**Mobility in soil** : No information available for this product.

**Other adverse environmental effects** : Toxic effect on aquatic organisms due to pH change. This chemical does not deplete the ozone layer.

## 13. DISPOSAL CONSIDERATIONS

**Handling for Disposal** : Important! Prevent waste generation. Use in full. DO NOT throw residual to sewer, streams, sewers or drinking water supply. DO NOT puncture, cut, heat or burn container, even after use. Return empty container properly labeled to supplier or everywhere there is a recovery program. Dispose via a licensed waste disposal contractor. Observe all federal, state/provincial and municipal regulations. If necessary consult the Department of Environment or the relevant authorities.

## 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
DOT	Not regulated				
<b>Additional Information</b>					
TDG	Not regulated				
<b>Additional Information</b>					
IMO/IMDG	Not regulated				
<b>Additional Information</b>					
IATA	Not regulated				
<b>Additional Information</b>					

## 15 - REGULATORY INFORMATION

**US Federal Information:**

- Toxic Substance Control Act (TSCA)  
 All ingredients are listed in the TSCA Inventory or otherwise comply with TSCA requirements.
- EPCRA Section 313 Toxic Chemicals:  
 No material is listed.
- CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):  
 Potassium hydroxide (CAS no 1310-58-3).
- EPCRA Section 302/304 Extremely Hazardous Substances:  
 No material is listed.
- Clean Water Act (CWA) 311 Hazardous Substances:  
 Potassium hydroxide (CAS no 1310-58-3).
- Clean Water Act (CWA) Priority Pollutants:  
 No material is listed.
- Clean Air Act (CAA) 111:  
 No material is listed.
- Clean Air Act (CAA 112b) HON - Hazardous Organic National Emission Air Pollutants:  
 No material is listed.
- Clean Air Act (CAA 112b) HAP - Hazardous Air Pollutants:  
 No material is listed.
- CAA 112(r) Regulated Chemicals for Accidental Release Prevention:



No material is listed.  
- California Proposition 65:  
No material is listed.

**Canadian Information:**

- Canada DSL and NDSL:  
All ingredients are listed in the Domestic Substances List (DSL)  
- Canadian National Pollutant Release Inventory Substances (NPRI):  
No material is listed.

**WHMIS 1988:**

Class D2B : Toxic material causing other toxic effects

<b>NFPA</b>	<b>HMIS</b>
	

**16. OTHER INFORMATION**

**Other special considerations for handling** : Provide adequate information, instruction and training for operators.

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**Prepared by:** Flottec, LLC

**Revised by:** C. Rodriguez

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**REASON FOR REVISION:** updated section 1 with new Flottec address

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**DISCLAIMER**

The above information is believed to be accurate and represents the best information currently available to us. However, we make no warrantee 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.

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