Maximizing the Value of Flotation Chemicals Technology

SAFETY DATA SHEET

1. IDENTIFICATION

Product identifier used on the label

: **Flottec F150 Frother**

Recommended use of the chemical and restrictions on use

: Flotation chemical used in mining industry.

Chemical family : Polyglycols based frother

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

Flottec, LLC
2505 Collingsworth Street, 2nd 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

Acute Toxicity Oral (Category 4)

Label elements

Signal Word

Warning

Hazard statement(s)

H302 – Harmful if swallowed

Precautionary statement(s)

P270: Do not eat, drink or smoke when using this product.
P280: Wear protective gloves and eye protection.
P264: Wash thoroughly after handling.
P301+P312+P330: IF SWALLOWED: Rinse mouth. Call a physician if you feel unwell.
P501: Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Hazard pictogram(s)

Other hazards

N/Ap

3. COMPOSITION/INFORMATION ON INGREDIENTS

Common name	CAS #	Concentration / wt %
Polyether Polyol	25322-69-4	100

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 redness and slight irritation of the skin and to 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 (CO2), 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 labeled 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 : No threshold limit value is reported

Exposure controls

Appropriate engineering controls : Ensure adequate ventilation, especially in confined areas..

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.

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

Physical state	: Liquid	**Flammability limits (% by vol.)**	: N/Av
Color	: Clear to opaque dark	**Flash point**	: >93.3°C (199.9°F) PMCC
Odor	: Mild glycol odor	**Auto-ignition temperature**	: N/Av
Odor threshold	: N/Av	**Sensibility to electrostatic charge**	: N/Av
pH	: 7 to 10 @ 5%	**Sensibility to sparks/friction**	: No
Melting/Freezing point	: -37°C (-34.6°F)	**Vapor density (Air = 1)**	: >1
Boiling point/range	: 225 °C (437 °F)	**Relative density (Water = 1)**	: 1.01 kg/L @ 25°C (77°F)
Solubility in water	: Soluble	**Partition coefficient (n-octanol/water)**	
Evaporation rate (BuAc = 1)	: N/Av		: N/Av
Vapor pressure	: 2.62 kPa (19.7 mmHg)	**Decomposition temperature**	: N/Av
Volatiles (% by weight)	: N/Av	**Viscosity**	: N/Av
Flammability (solid, gas)	: Not Flammable	**Molecular mass**	: N/Ap

10. STABILITY AND REACTIVITY

Reactivity : No information available for this product.

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_{50} (Inhalation, rat)	LD_{50} / mg/kg (Oral, rat)	LD_{50} / mg/kg (Dermal, rabbit)
Polyether Polyol	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 : Prolonged or repeated contact may cause slight skin irritation. Contact with skin may aggravate an existing skin condition.
Eye : May cause redness and slight irritation of the eyes.
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 not 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 acute toxicity estimate is between 500 and 2000 mg/kg and is therefore categorized as Acute Oral Toxicity Category 4. The skin acute toxicity estimate (ATE) of the mixture was 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 - LC_{50} – N/Av.
Persistence : No information available for this product.
Degradability : No information available for this product.
Bioaccumulation potential : No information available for this product.
Mobility in soil : No information available for this product. The product is soluble in water, it is not expected to partition to the soil.

Other adverse environmental effects

: 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				
Additional Information		This material is not listed as a marine pollutant.			
TDG	Not regulated				
Additional Information					
IMO/IMDG	Not regulated				
Additional Information					
IATA	Not regulated				
Additional Information					

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):
  No material is listed.
- EPCRA Section 302/304 Extremely Hazardous Substances:
  No material is listed.
- Clean Water Act (CWA) 311 Hazardous Substances:
  No material is listed.
- Clean Water Act (CWA) Priority Pollutants:
  No material is listed.
- Clean Air Act (CAA) 111:
  Polypropylene glycol (CAS no 29434-03-5 or CAS no 25322-69-4).
- Clean Air Act (CAA 112b) HON - Hazardous Organic National Emission Air Pollutants:
  Polypropylene glycol (CAS no 29434-03-5 or CAS no 25322-69-4).
- 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) or on the Non-Domestic Substances List (NDSL)
- Canadian National Pollutant Release Inventory Substances (NPRI):
  No material is listed.

WHMIS 1988:

Non-WHMIS controlled

NFPA

16. OTHER INFORMATION

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

Prepared by: Flottec, LLC	**Revised by:** C. Rodriguez
REASON FOR REVISION: Updated section 1 with new Flottec address.	

DISCLAIMER

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