

## SAFETY DATA SHEET

### 1. IDENTIFICATION

Product identifier used on the label

: **Flottec 44 Collector**

Recommended use of the chemical and restrictions on use

: Chelating agents for sulfide and industrial mineral applications.

Chemical family

: Xanthate formate

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 2B)

Label elements

**Signal Word**

Warning

**Hazard statement(s)**

H315 + H320: Causes skin and eye irritation

**Precautionary statement(s)**

P264: Wash face, hands and any exposed skin thoroughly after handling.

P280: Wear protective gloves, protective clothing and eye protection.

P301+312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

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 %
Isobutyl xanthogen ethyl formate	65573-06-0	90 - 99

**Note:** There is no toxicological data identified in literature search on isobutyl xanthogen ethyl formate (CAS no 65573-06-0). However, according to its chemical family, no adverse effect is expected under normal conditions of use. It should have low oral, dermal and inhalation toxicity.

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. If victim is conscious wash out mouth with water and give 1-2 glasses of water to drink. Never give anything by mouth if victim is unconscious or convulsing. If spontaneous vomiting occurs, keep head below hips level to prevent aspiration into the lungs. 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. Avoid touching eyes with contaminated body parts. 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. It must be preheated before ignition can occur.

### 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** : Prevent entry in sewer and other enclosed area. For a large spillage, consult the Department of Environment or the relevant authorities.

### Methods and material for containment and cleaning up

- : Remove sources of ignition. Ventilate the area well. Stop leak, if it's possible to do so without risk. Absorb with inert material (soil, sand, vermiculite) and place in an appropriate waste disposal clearly identified. Use non-sparkling and antistatic tools. Dispose via a licensed waste disposal contractor. Finish cleaning by rinsing with soapy water the contaminated surface.

## 7. HANDLING AND STORAGE

- Precautions for safe handling** : Use only in well ventilated area. Do not breathe vapors, mists or aerosols. Avoid contact with skin, eyes and clothing. 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 containers tightly closed when not used. Keep away from heat, sparks and open flame. 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** : Storage and handling should follow the NFPA 30 Flammable and/or Combustible Liquids Code and the National Fire Code of Canada (NFCC). 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** : <45°C (113°F)

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Immediately Dangerous to Life or Health

- : No IDLH value reported.

### Exposure controls

**Appropriate engineering controls** : No threshold limit value is reported. 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. 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** : Wear nitrile or neoprene gloves. Chemical-resistant, impervious gloves should be worn at all times when handling this chemical product. 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>Colour</b>	: Dark yellow	<b>Flash point</b>	: 122°C (251.6°F) TCC
<b>Odor</b>	: Slightly sweet	<b>Auto-ignition temperature</b>	: N/Av
<b>Odor threshold</b>	: N/Av	<b>Sensibility to electrostatic charge</b>	: N/Av
<b>pH</b>	: N/Av	<b>Sensibility to sparks/friction</b>	: No
<b>Melting/Freezing point</b>	: <-32°C (-25.6°F)	<b>Vapor density (Air = 1)</b>	: > 1
<b>Boiling point/range</b>	: >100°C (212°F)	<b>Relative density (Water = 1)</b>	: 1.03 to 1.08 kg/L @ 25°C (77°F)
<b>Solubility in water</b>	: Insoluble	<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>	: 0.333kPa (2.5 mm Hg) @ 23°C (73.4°F)	<b>Viscosity</b>	: N/Av
<b>Volatiles (% by weight)</b>	: N/Av	<b>Molecular mass</b>	: 222.3
<b>Flammability (solid, gas)</b>	: Not flammable		

## 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 heat, flame and sparks. Avoid contact with incompatible materials.

**Incompatible materials** : Strong acids, strong bases, strong oxidizing agents (such as nitric acid, perchloric acid, peroxides, chlorates and perchlorates).

**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)
Isobutyl xanthogen ethyl formate	N/Av	> 5000 mg/kg	> 2000 mg/kg

### 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 skin irritation.
Eye	: May cause eyes irritation.
Inhalation	: Negligible hazard unless material is strongly heated.
Ingestion	: May cause gastro-intestinal irritation with nausea and vomiting.
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

: There is no toxicological data identified in literature search on isobutyl xanthogen ethyl formate (CAS no 65573-06-0). 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 of the mixture was calculated to be greater than 20 mg/L/4h. This value is not classified according to GHS. These values are not classified according to WHMIS 2015 and OSHA HCS 2012.

## 12. ECOLOGICAL INFORMATION

Ecotoxicity	: Fish LC <sub>50</sub> 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.
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 puncture, cut, heat or burn container, even after use. DO NOT throw residual to sewer, streams, sewers or drinking water supply. 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.
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**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):  
 This material is 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:  
 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:  
 This product is on the Non-domestic Substances List (NDSL).
- Canadian National Pollutant Release Inventory Substances (NPRI):  
 No material is listed.


**WHMIS 1988:**

Class D2B: Toxic material causing other toxic effects

**NFPA**



**HMIS**





## 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

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