

## SAFETY DATA SHEET

### 1. IDENTIFICATION

Product identifier used on the label

: **Flottec X60-02 Collector**

Recommended use of the chemical and restrictions on use

: Collector used in mining industry.

Chemical family

: Dithiocarbamates

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

**Flottec, LLC**

338 West Main Street  
Boonton, NJ 07005 U.S.A.  
www.flottec.com

Information Telephone # : (973) 588 4717

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)

Eye irritation (Category 2)

Label elements

**Signal Word**

Warning

**Hazard statement(s)**

H302: Harmful if swallowed

H319: Causes serious eye irritation H316: Causes mild skin irritation

H410: Very toxic to aquatic life with long lasting effects

**Precautionary statement(s)**

P264: Wash face, hands and any exposed skin thoroughly after handling. P270: Do not eat, drink or smoke when using this product.

P271: Use only in a well-ventilated area.

P273: Avoid release to the environment.

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

P301+312+P330: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

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.

P391: Collect spillage.

P501: Dispose of contents and container to a licensed chemical disposal agency in accordance with local, regional and national regulations.

**Hazard pictogram(s)**



**Other hazards**

Acute hazard to the aquatic environment (Category 1).

Long-term hazard to the aquatic environment (Category 1).

Skin irritation (Category 3)

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Common name	CAS #	Concentration / wt %
Sodium diethyldithiocarbamate trihydrate	20624-25-3	97

\* This product is listed as sodium diethyldithiocarbamate (CAS no 148-18-5) in Canada.

### 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* : Wash skin with warm water and mild soap. 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 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 (CO<sub>2</sub>), chemical foam. Flood the area with water.

*Unsuitable extinguishing media*

: Do not use direct water jet.

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

: May be combustible at high temperature. In a fire or if heated, a pressure increase will occur and the container may burst. May release irritating, toxic and/or corrosive during fire or when heated to decomposition.

#### 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

: Do not allow material to contaminate ground water system. For a large spillage, consult the Department of Environment or the relevant authorities.

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

: Ventilate well the area. Avoid generating dusty conditions. Vacuum or sweep up and place in an appropriate waste disposal container. Dispose via a licensed waste disposal contractor.

### 7. HANDLING AND STORAGE

- Precautions for safe handling** : Use only in well ventilated area. Avoid breathing dust and fume. Avoid generating dusty conditions. 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. Do not eat, do not drink and do not smoke during use. Keep containers tightly closed when not used. Keep away from heat and open flame. After use, wash hands with soap and water. Wash contaminated clothing before reuse.
- Conditions for safe storage** : Store tightly closed and in properly labeled container. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Store away from oxidizing materials and incompatible materials (see section 10). Keep away from moisture.
- Storage temperature** :

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Immediately Dangerous to Life or Health

- : No IDLH value reported.

### Exposure limits

#### Sodium diethyldithiocarbamate trihydrate

- |            |                 |                      |      |
|------------|-----------------|----------------------|------|
| : TWA (8h) | Respirable Dust | 5 mg/m <sup>3</sup>  | OSHA |
|            | Total Dust      | 15 mg/m <sup>3</sup> | OSHA |

### 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. For nuisance exposures use type N95 particle respirator.
- 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 overall suit.
- Eye / face protection** : Wear safety glasses. If risk of contact with eyes wear chemical splash goggles.
- Hands** : Wear nitrile or neoprene gloves. Disposable nitrile gloves can also be used, but discard after single use. 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. Before using, user should confirm impermeability. Discard gloves that show tears, pinholes, or signs of wear.
- Other protective equipment** : Wear safety shoes.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state</b>	: Solid powder	<b>Flammability limits (% by vol.)</b>	: N/Ap
<b>Colour</b>	: Grey white or slightly brown	<b>Flash point</b>	: N/Ap
<b>Odor</b>	: Characteristic	<b>Auto-ignition temperature</b>	: 244 to 258°C (471.2 to 496.4°F)
<b>Odor threshold</b>	: N/Av	<b>Sensibility to electrostatic charge</b>	: N/Av
<b>pH</b>	: 8 to 11 @ 20%	<b>Sensibility to sparks/friction</b>	: N/Av
<b>Melting/Freezing point</b>	: 94 to 102°C (201.2 to 215.6°F)	<b>Vapor density (Air = 1)</b>	: 5.9
<b>Boiling point/range</b>	: N/Av	<b>Relative density (Water = 1)</b>	: 1.1 kg/L
<b>Solubility in water</b>	: 600 g/L @ 20°C (68°F)	<b>Partition coefficient (n-octanol/water)</b>	: -1.48
<b>Evaporation rate (BuAc = 1)</b>	: N/Av	<b>Decomposition temperature</b>	: N/Av
<b>Vapor pressure</b>	: N/Av	<b>Viscosity</b>	: N/Av
<b>Volatiles (% by weight)</b>	: N/Av	<b>Molecular mass</b>	: 225.31
<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 contact with incompatible materials. Avoid generating dusty conditions.

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

**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)
Sodium diethyldithiocarbamate trihydrate	N/Av	1500	N/Av

### 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 slight irritation of the skin. The mechanical friction can increase skin irritation. Sodium diethyldithiocarbamate is minimally irritating to the rabbit skin (OECD Guideline 404). The irritation is fully reversible within 72 hours.

**Eye** : May cause redness and irritation to eyes. The mechanical friction can increase eyes irritation. Prolonged exposure may cause severe eye irritation or eye damage. Sodium diethyldithiocarbamate is slightly irritating to eyes. The rabbit's eyes treated appeared normal at the 72-hour observation (OECD 405).

**Inhalation** : Overexposure may cause nose, throat and respiratory tract irritation.

**Ingestion** : Harmful if swallowed. Swallowing will cause 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. No skin reactions were noted with sodium diethyldithiocarbamate (Guinea pig, OECD 406).

**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** : No additional information.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity** : Aquatic Invertebrate - Crustaceans, Daphnia Magna EC50 0.71-1.06 mg/L; 48h (sodium diethyldithiocarbamate, OECD 202)  
 Fish - Guppy (Poecilia reticulata) LC50 6.9 mg/L; 96h (sodium diethyldithiocarbamate, OECD 203)  
 Aquatic Plant - Algae, Chlorella pyrenoidosa EC50 1.4 mg/L; 72h (sodium diethyldithiocarbamate, OECD 201)  
 Fish - Branchydanio Renio - fresh water NOEC 0.0032 mg/L; 9 days (sodium diethyldithiocarbamate, OECD 210)

**Persistence** : Not persistent in aquatic environment.



- Degradability** : Dithiocarbamates are both chemically and biologically degradable. Its hydrolysis will depend on pH (OECD Guideline 111). It was found to be stable in aqueous solution at pH 7 but decomposed under slightly acidic conditions (pH 5-6.7). Sodium diethyldithiocarbamate is readily biodegradable, 67.6% in 14 days (OECD 301D). Degradation by Biochemical Oxygen Demand BOD (O<sub>2</sub> consumption) was reported as 60% in 14 days.
- Bioaccumulation potential** : Sodium diethyldithiocarbamate has a partition factors Log Kow of -1.48 indicating that it should not accumulate in the food chain.
- Mobility in soil** : 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. 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>		This material is not listed as a marine pollutant.			
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:  
 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:  
This product is on the Domestic Substances List (DSL) under: Sodium diethyldithiocarbamate(CAS no 148-18-5).
- Canadian National Pollutant Release Inventory Substances (NPRI):  
No material is listed.

**WHMIS 1988:**

Class D2B: Toxic material causing other toxic effects

**NFPA**



**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:**

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**REASON FOR REVISION:**

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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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