

# SAFETY DATA SHEET

## 1. IDENTIFICATION

Product identifier used on the label

: Flottec 470 Process help

Recommended use of the chemical and restrictions on use

: Assistant in filtration and dehydration

Chemical family

: Surfactant mix

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

**Flottec, LLC**

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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

		
H318: Causes serious eye damage	H315: Causes skin irritation	H361: Suspected of damaging fertility or the unborn child

Flammable liquids (Category 4)  
Skin corrosion / irritation (Category 2)  
Severe eye damage / Eye irritation (Category 1)  
Reproductive toxicity (Category 2)

Label elements

**Signal Word**

Danger

**Hazard statement(s)**

H227: Combustible liquid  
H318: Causes serious eye damage  
H315: Causes skin irritation  
H361: Suspected of damaging fertility or the unborn child  
H402: Harmful to aquatic life

**Precautionary statement(s)**

P201: Obtain special instructions before use. .  
P202: Do not handle until safety precautions have been read and understood.  
P210: Keep away from heat, sparks, flames, and hot surfaces. No Smoking.  
P264: Wash face, hands and any part of exposed skin after handling.  
P273: Do not dispose of to the environment.  
P280: Use eye protection, gloves and protective clothing adapted to the task to be carried out and its possible risks.  
P301 + 312: IF SWALLOWED: Call a doctor if you feel unwell.  
P302 + 352: IF ON SKIN: Wash with soap and water.  
P332 + 313: In case of skin irritation: Get medical attention.  
P305 + 351 + 338: IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if you have one. Continue rinsing.  
P310: Immediately call a doctor.  
P362 + P364: Take off contaminated clothing and wash before reuse.  
P370 + 378: In case of fire: Use water spray, chemical foam, dry chemical or carbon dioxide to extinguish.  
P403: Keep in a ventilated place.  
P405: Keep closed.

P501: Dispose of waste and containers with a chemical waste agency according to local, regional and national regulations.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Common name	CAS #	Concentration / wt %
Docusate sodium	577-11-7	70
2-Ethylhexanol	104-76-7	0-5.5
Ethyl alcohol	64-17-5	0-4.5

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. If spontaneous vomiting occurs, keep head below hips level to prevent aspiration into the lungs. Seek medical attention or contact a Poison Centre immediately. If victim is conscious wash out mouth with water and give 1-2 glasses of water to drink.
- 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. Seek medical attention immediately.
- 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. Seek medical attention immediately.

**Symptoms** : May cause severe eye irritation or eye damage. May cause skin irritation and burns. May cause burns to mouth, throat and stomach.

**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*

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

*Unsuitable extinguishing media*

: Do not use direct water jet.

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

: This product is an aqueous solution which does not support combustion unless the water has been evaporated. Emits toxic and corrosive fumes under fire conditions.

#### 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

: 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. Finish cleaning by rinsing with water contaminated surface. Dispose via a licensed waste disposal contractor.

## 7. HANDLING AND STORAGE

- Precautions for safe handling** : This product should not be mixed with acids since evolution of toxic and flammable hydrogen sulfide gas could result. This precaution does not, of course, apply to addition of this reagent to flotation pulps in amounts customarily used for flotation. Use only in well ventilated area. Avoid all 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 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. Store away from acids and from incompatible materials (see section 10). Keep away from direct sunlight and heat.
- Storage temperature** :

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Immediately Dangerous to Life or Health

Sodium Hydroxide : 10 mg/m<sup>3</sup>

### Exposure limits

Ethyl alcohol:	STEL	1000 ppm		ACGIH , BC, ON
	TWA (8h)	1000 ppm	1880 mg/m3	RSST
		1000 ppm	1900 mg/m3	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. 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. 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>Color</b>	: Light	<b>Flash point</b>	: >61°C (141.8°F) SETA
<b>Odor</b>	: Alcohol	<b>Auto-ignition temperature</b>	: N/Av
<b>Odor threshold</b>	: N/Av	<b>Sensibility to electrostatic charge</b>	: No
<b>pH</b>	: 10.2-13	<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>	: 100°C	<b>Relative density (Water = 1)</b>	: 1.09 kg/L @ 25°C (77°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>	: N/Av	<b>Viscosity</b>	: N/Av
<b>Volatiles (% by weight)</b>	: 30%	<b>Molecular mass</b>	: N/Av
<b>Flammability (solid, gas)</b>	: Not flammable		

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	: Information not available for this product.
<b>Chemical stability</b>	: Stable under recommended storage conditions.
<b>Possibility of hazardous reactions (including polymerizations)</b>	: Hazardous polymerization will not occur.
<b>Conditions to avoid</b>	: Avoid contact with incompatible materials.
<b>Incompatible materials</b>	: Strong acids, strong bases, strong oxidizing agents (such as nitric acid, perchloric acid, peroxides, chlorates and perchlorates).
<b>Hazardous decomposition products</b>	: 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)
Docusate sodium	No disponible	>2100	>10000
2-Ethylhexanol	>2000 ppm/6h <5 mg/l/4h	2040	>2000
Ethyl alcohol	39 mg/l/4h Ratón	7060	20000

### Likely routes of exposure

<b>Skin</b>	: Yes
<b>Eye</b>	: Yes
<b>Inhalation</b>	: Yes
<b>Ingestion</b>	: Yes

### Potential Health Effects:

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

<b>Skin</b>	: May cause redness and irritation of the skin. Docusate sodium causes irritation in rabbits (OECD Test Guideline 404), with effects still visible after 14 days. 2-Ethylhexanol causes skin irritation in Rabbits (OECD TG 404). Severe erythema and edema were reported in all animals treated 24 hours after treatment, continuing for 72 hours. Liquid ethanol is not irritating to human skin.
<b>Eye</b>	: May cause severe damage or irritation. Docusate sodium causes irreversible eye damage in rabbits (OECD TG 405), including corneal turbidity, 2-ethylhexanol causes eye irritation in rabbits 21 days after treatment (OECD TG 405). Severe iritis and moderate corneal opacity were observed in all animals at 24 and 48 hours after treatment. Liquid ethanol in the human eye causes an immediate burning sensation. Acute discomfort decreases rapidly

<b>Inhalation</b>	: Inhalation of vapors/mists can cause burns to nose, throat and respiratory tract.
<b>Ingestion</b>	: Ingestion causes digestive tract disorders such as nausea, vomiting, and diarrhea.
<b>Sensitization to material</b>	: Ingredients present at levels greater than or equal to 0.1% of this product are skin or respiratory sensitizers.
<b>IRAC/NTP Classification</b>	: No ingredients listed
<b>Carcinogenicity</b>	: 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.
<b>Mutagenicity</b>	: Ingredients in this product present at levels greater than or equal to 0.1% are not known to cause mutagenic effect.
<b>Reproductive Effects</b>	: Docusate sodium causes developmental toxicity and teratogenesis in rats on oral exposure and exhibited signs of marked maternal toxicity (OECD TG 414). 2-Ethylhexanol causes developmental toxicity but does not cause teratogenesis in rats with oral exposure with no signs of maternal toxicity (OECD TG 414). Studies in humans and especially in animals show that the ingestion of high amounts of ethanol can affect fertility in both men and women.
<b>Specific target organ effects – single exposure</b>	: No target organ is listed.
<b>Specific target organ effects – repeated exposure</b>	: No target organ is listed.
<b>Other information</b>	: The oral and skin acute toxicity estimates (ATE) of the mixture were calculated to be greater than 2000 mg/kg. These values are not classified according to WHMIS 2015 and OSHA HCS 2012.

## 12. ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	:		
	Fish - Goldfish	LC <sub>50</sub>	17.1 mg/L; 96h (2-Ethylhexanol) OCDE 203
	Aquatic Invertebrate- Daphnia Magna, Water flea, freshwater	EC <sub>50</sub>	39 mg/L; 48h (2-Ethylhexanol) OCDE 202
	Aquatic plant - Alga, Scenedesmus subspicatus	EC <sub>50</sub>	11.5-16.6 mg/L; 72h (2-Ethylhexanol)
	Fish- Zebrafish - Brachydanio rerio	LC <sub>50</sub>	49 mg/L; 96h (Docusato de sodio)
	Aquatic Invertebrate- Daphnia Magna, Water flea, freshwater	EC <sub>50</sub>	34.9 mg/L; 48h (Docusato de sodio)
	Alga - Desmodesmus subspicatus	EC <sub>50</sub>	39.3 mg/L; 72h (Docusato de sodio)
	Fish - Bluegill (Lepomis macrochirus)	LD <sub>50</sub>	>100 mg/L ; 96 h (etanol)
	Crustaceans (Cenodaphnia quadrangular)	LD <sub>50</sub>	5012 mg/L ; 48 h (etanol)
	Aquatic plant - Alga, Chlorella vulgaris	EC <sub>50</sub>	1000 mg/L ; 96 h (etanol)
<b>Persistence</b>	: No information available for this product. May be persistent in aquatic environment.		
<b>Degradability</b>	: No information is available for this product. Docusate sodium is readily biodegradable (OECD TG 301F). A degradation due to oxygen consumption of 73-78% in 28 days was reported. Docusate sodium degrades very slowly by hydrolysis. 2-Ethylhexanol is easily biodegradable (OECD TG 301C). A degradation by oxygen consumption of 79% was reported in 14 days.		
<b>Bioaccumulation potential</b>	: No hay información disponible para este producto. El docusato de sodio tiene un factor de bio concentración de un valor <9.3, y el valor de su Log Kow es 1.998, indicando que su potencial de bioacumulación es bajo. El 2-Ethylhexanol tiene un factor de bio concentración de un valor de 30, el valor de su Log Kow es 2.73, indicando que su potencial de bioacumulación es bajo. El etanol tiene un factor de bio concentración de un valor de 10, y el valor de su Log Kow es < 0, indicando que su potencial de bioacumulación es bajo..		
<b>Mobility in soil</b>	: No hay información disponible para este producto. El valor estimado de Koc es de 9.37 lo que sugiere que el docusato de sodio tiene una alta movilidad en (base de datos de TOXNET). El valor estimado de Koc es de 35 lo que sugiere que el 2-Ethylhexanol tiene una alta movilidad en (base de datos de TOXNET)		
<b>Other adverse environmental effects</b>	: 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. Residues and empty containers must be considered as hazardous waste. 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	NA1993	COMBUSTIBLE LIQUID, N.O.S. * (ETHANOL)	3	II I	Combustible
<b>Additional Information</b>		This material is not listed as a marine pollutant. Not regulated in containers holding less than 120 gallons (450 L).			
TDG	NA1993	COMBUSTIBLE LIQUID, N.O.S. * (ETHANOL)	3	II I	Combustible
<b>Additional Information</b>					
IMO/IMDG	NA1993	COMBUSTIBLE LIQUID, N.O.S. * (ETHANOL)	3	II I	Combustible
<b>Additional Information</b>					
IATA	NA1993	COMBUSTIBLE LIQUID, N.O.S. * (ETHANOL)	3	II I	Combustible
<b>Additional Information</b>					

### 15 - REGULATORY INFORMATION

**US Federal Information:**

- Toxic Substance Control Act (TSCA):  
 All ingredients are listed in the Chemical Control Act or otherwise meet the requirements of the Act.
  - EPCRA Section 313 Toxic Chemicals:  
 There are no materials mentioned.
  - CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):  
 There are no materials mentioned.
  - EPCRA Section 302/304 Extremely Hazardous Substances:  
    - Clean Water Act (CWA) 311 Hazardous Substances:  
 There are no materials mentioned.
    - Clean Water Act (CWA) Major Contaminants:  
 There are no materials mentioned.
  - Clean Air Act (CAA) 111:  
 2-Ethylhexanol (CAS No. 104-76-7).
    - Clean Air Act (CAA 112b) HON - Hazardous Organic National Emitting Air Pollutants:  
 There are no materials mentioned.
    - Clean Air Act (CAA 112b) HAP - Hazardous Air Pollutants:  
 There are no materials mentioned.
    - CAA 112 (r) Regulated Chemicals for Accidental Release Prevention:  
 There are no materials mentioned.
  - California Proposition 65:  
 Ethyl alcohol in alcoholic beverages.

**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.



**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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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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