

## Scentinel® A Gas Odorant

Version 4.0

Revision Date 2021-08-18

According to Regulation (EC) No. 1907/2006, Regulation (EC) No. 2015/830

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1

##### Product information

Product Name : Scentinel® A Gas Odorant  
 Material : 1119674, 1119564, 1106807, 1098462, 1102596, 1086453,  
 1098407, 1086452, 1102264, 1072060, 1098463, 1103512,  
 1070006, 1024777, 1024776, 1024775, 1024774, 1029441,  
 1029442, 1029443, 1029444, 1029445

##### EC-No.Registration number

Chemical name	CAS-No. EC-No. Index No.	Legal Entity Registration number
Ethyl Mercaptan	75-08-1 200-837-3 016-022-00-9	Chevron Phillips Chemicals International NV 01-2119491286-30-0000

#### 1.2

##### Relevant identified uses of the substance or mixture and uses advised against

Relevant Identified Uses Supported : Manufacture of Ethanethiol used under Strictly Controlled Conditions  
 Use at Industrial Site - Intermediate  
 Injection as odorant in Liquefied Petroleum Gas under Strictly Controlled Conditions – Industrial  
 Injection as odorant in Liquefied Petroleum Gas under Strictly Controlled Conditions – Consumer

#### 1.3

##### Details of the supplier of the safety data sheet

Company : Chevron Phillips Chemical Company LP  
 10001 Six Pines Drive  
 The Woodlands, TX 77380

Local : Chevron Phillips Chemicals International N.V.  
 Airport Plaza (Stockholm Building)  
 Leonardo Da Vincilaan 19  
 1831 Diegem  
 Belgium

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SDS Requests: (800) 852-5530  
Responsible Party: Product Safety Group  
Email:sds@cpchem.com

**1.4****Emergency telephone:****Health:**

866.442.9628 (North America)

1.832.813.4984 (International)

**Transport:**

CHEMTREC 800.424.9300 or 703.527.3887(int'l)

Asia: CHEMWATCH (+612 9186 1132) China: 0532 8388 9090

EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Mexico CHEMTREC 01-800-681-9531 (24 hours)

South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600

Argentina: +(54)-1159839431

Responsible Department : Product Safety and Toxicology Group  
E-mail address : SDS@CPChem.com  
Website : www.CPChem.com

**ODOR-FADE WARNING**

**A GAS LEAK CAN CAUSE A FIRE OR EXPLOSION RESULTING IN SERIOUS INJURY OR DEATH.**

Be aware that the stenching chemical added to gas to make it detectable may not warn of a gas leak or the presence of propane or natural gas to all persons in every instance.

Instances where the odorant in an odorized gas may be undetectable include:

- Odor intensity may fade or be eliminated for a variety of chemical and physical causes, including the oxidation of rusting pipes, adsorption into or sticking onto the interior of pipes or appliances, or absorption into liquids.
- Contact with soil in underground leaks may de-odorize or remove odorant from the gas.
- Some people have a diminished ability, or inability to smell the stench. Factors that negatively affect a person's sense of smell include age, gender, medical conditions, and alcohol/tobacco usage.
- The stench of odorized gas may not awaken sleeping persons.
- Other odors may mask or hide the stench.
- Exposure to the odor for even a short period of time, may cause nasal fatigue, where a person can no longer smell the stench.

Gas detectors listed by the Underwriters Laboratories (UL) can be used as an extra measure of safety for detecting gas leaks, especially under conditions where the odorant alone may not provide an adequate warning. Gas detectors emit a loud, shrill sound when gas is present and do not depend on sense of smell. Because the odor intensity can fade or people may have problems with their sense of smell, we recommend installing, per manufacturer's instructions, one or more combustible gas detectors, in suitable locations to ensure adequate coverage to detect gas leaks.

Educate yourself, your employees, and your customers with the content of this warning and other important facts associated with the so-called "odor-fade phenomenon."

**SECTION 2: Hazards identification****2.1**

SDS Number:100000068741

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**Classification of the substance or mixture  
REGULATION (EC) No 1272/2008**

Flammable liquids, Category 1	H224: Extremely flammable liquid and vapor.
Acute toxicity, Category 4	H302: Harmful if swallowed.
Acute toxicity, Category 4	H332: Harmful if inhaled.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Skin sensitization, Category 1	H317: May cause an allergic skin reaction.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

**2.2****Labeling (REGULATION (EC) No 1272/2008)**

Hazard pictograms	:	   
Signal Word	:	Danger
Hazard Statements	:	H224 H302 + H332 H317 H318 H410 Extremely flammable liquid and vapor. Harmful if swallowed or if inhaled. May cause an allergic skin reaction. Causes serious eye damage. Very toxic to aquatic life with long lasting effects.
Precautionary Statements	:	<b>Prevention:</b> P210 P233 P273 P280 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Avoid release to the environment. Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection. <b>Response:</b> P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor. P370 + P378 P391 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. Collect spillage. <b>Storage:</b> P403 + P235 Store in a well-ventilated place. Keep cool.

Hazardous ingredients which must be listed on the label:

- 75-08-1 Ethyl Mercaptan

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**SECTION 3: Composition/information on ingredients****3.1 - 3.2****Substance or Mixture**

Synonyms : ETSH  
Ethanethiol  
Ethyl Mercaptan

Molecular formula : C<sub>2</sub>H<sub>6</sub>S

**Hazardous ingredients**

Chemical name	CAS-No. EC-No. Index No.	Classification (REGULATION (EC) No 1272/2008)	Concentration [wt%]
Ethyl Mercaptan	75-08-1 200-837-3 016-022-00-9	Flam. Liq. 1; H224 Flam. Liq. 2; H225 Acute Tox. 4; H302 Acute Tox. 4; H332 Eye Dam. 1; H318 Skin Sens. 1B; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	99

For the full text of the H-Statements mentioned in this Section, see Section 16.

**SECTION 4: First aid measures****4.1****Description of first-aid measures**

General advice : Move out of dangerous area. Consult a physician. Show this material safety data sheet to the doctor in attendance. Material may produce a serious, potentially fatal pneumonia if swallowed or vomited.

If inhaled : If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.

In case of skin contact : If on skin, rinse well with water. If on clothes, remove clothes.

In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

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**SECTION 5: Firefighting measures**

Flash point : -48°C (-54°F)  
Method: ASTM D 93

Autoignition temperature : 295°C (563°F)

**5.1****Extinguishing media**

Suitable extinguishing media : Alcohol-resistant foam. Carbon dioxide (CO<sub>2</sub>). Dry chemical.

Unsuitable extinguishing media : High volume water jet.

**5.2****Special hazards arising from the substance or mixture**

Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.

**5.3****Advice for firefighters**

Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.

Fire and explosion protection : Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.

Hazardous decomposition products : Carbon oxides. Sulfur oxides.

**SECTION 6: Accidental release measures****6.1****Personal precautions, protective equipment and emergency procedures**

Personal precautions : Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

**6.2****Environmental precautions**

Environmental precautions : Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

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**6.3****Methods and materials for containment and cleaning up**

Methods for cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

**6.4****Reference to other sections**

Reference to other sections : For personal protection see section 8. For disposal considerations see section 13.

**SECTION 7: Handling and storage****7.1****Precautions for safe handling  
Handling**

Advice on safe handling : Avoid formation of aerosol. Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Open drum carefully as content may be under pressure. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations. Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Advice on protection against fire and explosion : Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.

**7.2****Conditions for safe storage, including any incompatibilities****Storage**

Requirements for storage areas and containers : No smoking. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

**SECTION 8: Exposure controls/personal protection****8.1****Control parameters  
Ingredients with workplace control parameters**

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**SK**

Zložky	Podstata	Hodnota	Kontrolné parametre	Poznámka
Ethyl Mercaptan	SK OEL	NPEL priemerný	0,5 ppm, 1,3 mg/m <sup>3</sup>	
	SK OEL	NPEL krátkodobý	1 ppm, 2,6 mg/m <sup>3</sup>	

**SI**

Sestavine	Osnova	Vrednost	Parametri nadzora	Pripomba
Ethyl Mercaptan	SI OEL	MV	0,5 ppm, 1,3 mg/m <sup>3</sup>	
	SI OEL	KTV	1 ppm, 2,6 mg/m <sup>3</sup>	

**RO**

Componente	Sursă	Valoare	Parametri de control	Notă
Ethyl Mercaptan	RO OEL	STEL	1 mg/m <sup>3</sup>	

**PT**

Componentes	Bases	Valor	Parâmetros de controlo	Nota
Ethyl Mercaptan	PT OEL	VLE-MP	0,5 ppm,	

**PL**

Składniki	Podstawa	Wartość	Parametry dotyczące kontroli	Uwaga
Ethyl Mercaptan	PL NDS	NDS	1 mg/m <sup>3</sup>	
	PL NDS	NDSch	2 mg/m <sup>3</sup>	

**NO**

Komponenter	Grunnlag	Verdi	Kontrollparametrer	Nota
Ethyl Mercaptan	FOR-2011-12-06-1358	GV	0,5 ppm, 1 mg/m <sup>3</sup>	

**MK**

Съставки	Основа	Стойност	Параметри на контрол	Бележка
Ethyl Mercaptan	MK OEL	MV	0,5 ppm, 1,3 mg/m <sup>3</sup>	

**LV**

Sastāvdaļas	Bāze	Vērtība	Pārvaldības parametri	Piezīme
Ethyl Mercaptan	LV OEL	AER 8 st	1 mg/m <sup>3</sup>	

**LT**

Komponentai	Šaltinis	Vertė	Kontrolės parametrai	Pastaba
Ethyl Mercaptan	LT OEL	IPRD	1 mg/m <sup>3</sup>	O,

O pateikimas per nepažeistą odą

**IS**

Komponenter	Grunnlag	Verdi	Kontrollparametrer	Nota
Ethyl Mercaptan	IS OEL	TWA	0,5 ppm, 1 mg/m <sup>3</sup>	

**IE**

Components	Basis	Value	Control parameters	Note
Ethyl Mercaptan	IE OEL	OELV - 8 hrs (TWA)	0,5 ppm,	

**HU**

Komponensek	Bázis	Érték	Ellenőrzési paraméterek	Megjegyzés
Ethyl Mercaptan	HU OEL	AK-érték	1 mg/m <sup>3</sup>	N, i,
	HU OEL	CK-érték	2 mg/m <sup>3</sup>	N, i,

i Ingerlő anyag (izgatja a bőrt, nyálkahártyát, szemet vagy mindhámat)

N Irritáló anyagok, egyszerű fojtógázok, csekély egészségkárosító hatással bíró anyagok. Korrekció NEM szükséges.

**HR**

Sastojci	Temelj	Vrijednost	Nadzorni parametri	Bilješka
Ethyl Mercaptan	HR OEL	GVI	0,5 ppm, 1,3 mg/m <sup>3</sup>	
	HR OEL	KGVI	2 ppm, 5,2 mg/m <sup>3</sup>	

**GR**

Συστατικά	Βάση	Τιμή	Παράμετροι ελέγχου	Σημείωση
Ethyl Mercaptan	GR OEL	TWA	10 ppm, 25 mg/m <sup>3</sup>	
	GR OEL	STEL	10 ppm, 25 mg/m <sup>3</sup>	

**GB**

Components	Basis	Value	Control parameters	Note
Ethyl Mercaptan	GB EH40	TWA	0,5 ppm, 1,3 mg/m <sup>3</sup>	
	GB EH40	STEL	2 ppm, 5,2 mg/m <sup>3</sup>	

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**FR**

Composants	Base	Valeur	Paramètres de contrôle	Note
Ethyl Mercaptan	FR VLE	VME	0,5 ppm, 1 mg/m3	Valeurs limites indicatives,

Valeurs limites Valeurs limites indicatives  
indicatives

**FI**

Aineosat	Peruste	Arvo	Valvontaa koskevat muuttujat	Huomautus
Ethyl Mercaptan	FI OEL	HTP-arvot 15 min	0,5 ppm, 1,3 mg/m3	

**ES**

Componentes	Base	Valor	Parámetros de control	Nota
Ethyl Mercaptan	ES VLA	VLA-ED	0,5 ppm, 1,3 mg/m3	

**EE**

Komponendid, osad	Alused	Väärtus	Kontrolliparameetrid	Märkused
Ethyl Mercaptan	EE OEL	Piirnorm	0,5 ppm, 1 mg/m3	C,

C Kantserogeensed ained

**DK**

Komponenter	Basis	Værdi	Kontrolparametre	Note
Ethyl Mercaptan	DK OEL	GV	0,5 ppm, 1 mg/m3	

**DE**

Inhaltsstoffe	Grundlage	Wert	Zu überwachende Parameter	Bemerkung
Ethyl Mercaptan	DE TRGS 900	AGW	0,5 ppm, 1,3 mg/m3	H,

H Hautresorptiv

**CH**

Inhaltsstoffe	Grundlage	Wert	Zu überwachende Parameter	Bemerkung
Ethyl Mercaptan	CH SUVA	MAK-Wert	0,5 ppm, 1,3 mg/m3	
	CH SUVA	KZGW	1 ppm, 2,6 mg/m3	

**BG**

Съставки	Основа	Стойност	Параметри на контрол	Бележка
Ethyl Mercaptan	BG OEL	TWA	1 mg/m3	

**BE**

Bestanddelen	Basis	Waarde	Controleparameters	Opmerking
Ethyl Mercaptan	BE OEL	TGG 8 hr	0,5 ppm, 1,3 mg/m3	

**AT**

Inhaltsstoffe	Grundlage	Wert	Zu überwachende Parameter	Bemerkung
Ethyl Mercaptan	AT OEL	MAK-KZW	0,5 ppm, 1,3 mg/m3	
	AT OEL	MAK-TMW	0,5 ppm, 1,3 mg/m3	

DNEL : End Use: Workers  
Routes of exposure: Inhalation  
Potential health effects: Chronic effects, Systemic effects  
Value: 14,5 mg/m3

DNEL : End Use: Workers  
Routes of exposure: Skin contact  
Potential health effects: Chronic effects, Systemic effects  
Value: 2,06 mg/kg

DNEL : End Use: Workers  
Routes of exposure: Inhalation  
Potential health effects: Chronic effects, Local effects  
Value: 18,6 mg/m3

PNEC : Fresh water



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	Value: 0,0001 mg/l
PNEC	: Marine water Value: 0,00001 mg/l
PNEC	: Fresh water sediment Value: 0,00049 mg/kg
PNEC	: Marine sediment Value: 0,000049 mg/kg
PNEC	: Soil Value: 0,000039 mg/kg

**8.2****Exposure controls  
Engineering measures**

Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

**Personal protective equipment**

Respiratory protection	: Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure. Wear a NIOSH approved respirator that provides protection when working with this material if exposure to harmful levels of airborne material may occur, such as:. Air-Purifying Respirator for Organic Vapors. Full-Face Air-Purifying Respirator for Organic Vapors, Dusts and Mists. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, aerosolization, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.
Hand protection	: The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
Eye protection	: Eye wash bottle with pure water.
Skin and body protection	: Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Wear as appropriate:. Remove and wash contaminated clothing before re-use. Skin should be washed after contact. Complete head face and neck protection. Rubber apron. Footwear protecting against chemicals.

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Hygiene measures : When using do not eat or drink. When using do not smoke.  
Wash hands before breaks and at the end of workday.

For additional details, see the Exposure Scenario in the Annex portion

**SECTION 9: Physical and chemical properties****9.1****Information on basic physical and chemical properties****Appearance**

Form : liquid  
Physical state : liquid  
Color : Colorless  
Odor : Repulsive

**Safety data**

Flash point : -48°C (-54°F)  
Method: ASTM D 93

Lower explosion limit : 2,8 %(V)

Upper explosion limit : 18 %(V)

Oxidizing properties : No

Autoignition temperature : 295°C (563°F)

Molecular formula : C<sub>2</sub>H<sub>6</sub>S

Molecular weight : 62,14 g/mol

pH : Not applicable

Pour point : No data available

Boiling point/boiling range : 35°C (95°F)

Vapor pressure : 16,20 PSI  
at 37,8°C (100,0°F)

Relative density : 0,84  
at 15,6 °C (60,1 °F)

Water solubility : negligible

Partition coefficient: n-  
octanol/water : No data available

Viscosity, kinematic : No data available

Relative vapor density : 2,1  
(Air = 1.0)

Evaporation rate : 1

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Percent volatile : &gt; 99 %

**SECTION 10: Stability and reactivity****10.1****Reactivity** : Stable under recommended storage conditions.**10.2****Chemical stability** : This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.**10.3****Possibility of hazardous reactions****Hazardous reactions** : Hazardous reactions: Hazardous polymerization does not occur.

Hazardous reactions: Vapors may form explosive mixture with air.

**10.4****Conditions to avoid** : Heat, flames and sparks.**10.5****Materials to avoid** : May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.**10.6****Hazardous decomposition products** : Carbon oxides  
Sulfur oxides**Other data** : No decomposition if stored and applied as directed.**SECTION 11: Toxicological information****11.1****Information on toxicological effects****Acute oral toxicity**Ethyl Mercaptan : LD50: 682 mg/kg  
Species: Rat  
Sex: male  
Method: Fixed Dose Method**Acute inhalation toxicity**Ethyl Mercaptan : LC50: 11,23 mg/l  
Exposure time: 4 h  
Species: Rat  
Sex: male

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Test atmosphere: vapor

**Skin irritation**

Ethyl Mercaptan : slight irritation.

**Eye irritation**

Ethyl Mercaptan : Risk of serious damage to eyes.

**Sensitization**Ethyl Mercaptan : The product is a skin sensitizer, sub-category 1B.  
Information given is based on data obtained from similar substances.**Repeated dose toxicity**Ethyl Mercaptan : Species: Rat, Male and female  
Sex: Male and female  
Application Route: Inhalation  
Dose: 25, 100, 400 ppm  
Exposure time: 13 wks  
Number of exposures: 6 hr/d, 5 d/wk  
NOEL: 100 ppm  
Lowest observable effect level: 400 ppm  
Method: OECD Guideline 413  
Information given is based on data obtained from similar substances.

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Species: Rat, Male and female  
 Sex: Male and female  
 Application Route: Oral  
 Dose: 0, 10, 50, 200 mg/kg  
 Exposure time: 42-53 days  
 NOEL: 50 mg/kg  
 Method: OECD Guideline 422  
 Information given is based on data obtained from similar substances.

Species: Rat, Male and female  
 Sex: Male and female  
 Application Route: Inhalation  
 Dose: 9, 97, 196 ppm  
 Exposure time: 13 wks  
 Number of exposures: 6 hr/d, 5 d/wk  
 NOEL: >=196 ppm  
 Method: OECD Guideline 413  
 Information given is based on data obtained from similar substances.

Species: Rat, Male and female  
 Sex: Male and female  
 Application Route: Inhalation  
 Dose: 0.03, 0.26, 0.55 mg/L  
 Exposure time: 13 wks  
 Number of exposures: 6 hr/d, 5 d/wk  
 NOEL: 0,03 mg/l  
 Method: OECD Test Guideline 413  
 Information given is based on data obtained from similar substances.

**Genotoxicity in vitro**

Ethyl Mercaptan

: Test Type: Ames test  
 Metabolic activation: with and without metabolic activation  
 Method: Mutagenicity (Escherichia coli - reverse mutation assay)  
 Result: negative

Test Type: Mouse lymphoma assay  
 Method: OECD Guideline 476  
 Result: Ambiguous

Test Type: Sister Chromatid Exchange Assay  
 Metabolic activation: with and without metabolic activation  
 Result: positive

**Genotoxicity in vivo**

Ethyl Mercaptan

: Test Type: Micronucleus test  
 Species: Mouse  
 Method: Mutagenicity (micronucleus test)  
 Result: negative

**Reproductive toxicity**

Ethyl Mercaptan

: Species: Rat

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Sex: male and female  
 Application Route: Oral diet  
 Dose: 0, 10, 50, 200 mg/kg  
 Exposure time: 42-53 days  
 Number of exposures: once daily  
 Method: OECD Guideline 422  
 NOAEL Parent: 200 mg/kg  
 NOAEL F1: 50 mg/kg  
 Information given is based on data obtained from similar substances.

**Developmental Toxicity**

Ethyl Mercaptan : Species: Rat  
 Application Route: Inhalation  
 Dose: 0, 0.037, 0.28, or 0.56 mg/L  
 Number of exposures: 6 hrs/d  
 Test period: GD 6-19  
 Method: OECD Guideline 414  
 NOAEL Teratogenicity: > 0,56 mg/l  
 Information given is based on data obtained from similar substances.

Species: Rat  
 Application Route: Inhalation  
 Dose: 0, 10, 100, 200 ppm  
 Number of exposures: 6 hrs/d  
 Test period: GD 6-19  
 Method: OECD Guideline 414  
 NOAEL Teratogenicity: > 200 ppm  
 NOAEL Maternal: > 200 ppm  
 Information given is based on data obtained from similar substances.

**Aspiration toxicity**

Ethyl Mercaptan : May be harmful if swallowed and enters airways.

**CMR effects**

Ethyl Mercaptan : Carcinogenicity: Not available  
 Mutagenicity: Not mutagenic in Ames Test.  
 Teratogenicity: Animal testing did not show any effects on fetal development.  
 Reproductive toxicity: Animal testing did not show any effects on fertility.

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Further information**

: Solvents may degrease the skin. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

**SECTION 12: Ecological information****12.1  
Toxicity**

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**Toxicity to fish**

Ethyl Mercaptan : 2,4 mg/l  
 Exposure time: 96 h  
 Species: *Oncorhynchus mykiss* (rainbow trout)  
 Method: OECD Test Guideline 203

**Toxicity to daphnia and other aquatic invertebrates**

Ethyl Mercaptan : EC50: < 0,1 mg/l  
 Exposure time: 48 h  
 Species: *Daphnia magna* (Water flea)  
 static test Method: OECD Test Guideline 202

**Toxicity to algae**

Ethyl Mercaptan : EC50: 3 mg/l  
 Exposure time: 72 h  
 Species: *Pseudokirchneriella subcapitata* (green algae)  
 Method: OECD Test Guideline 201

**M-Factor**

ethanethiol : M-Factor (Acute Aquat. Tox.) 10  
 M-Factor (Chron. Aquat. Tox.) 10

**12.2****Persistence and degradability**

## Biodegradability

Ethyl Mercaptan : aerobic  
 Result: Not readily biodegradable.  
 0 %  
 Testing period: 29 d  
 Method: OECD Test Guideline 301F

**12.3****Bioaccumulative potential**

Elimination information (persistence and degradability)

Bioaccumulation : This material is not expected to bioaccumulate.

**12.4****Mobility in soil**

## Mobility

Ethyl Mercaptan : The product will be dispersed amongst the various environmental compartments (soil/ water/ air).

**12.5****Results of PBT and vPvB assessment**

Results of PBT assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of

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0.1% or higher.

**12.6****Other adverse effects**

Additional ecological information : Very toxic to aquatic life with long lasting effects.

**Ecotoxicology Assessment**

Short-term (acute) aquatic hazard

Ethyl Mercaptan : Very toxic to aquatic life.

Long-term (chronic) aquatic hazard

Ethyl Mercaptan : Very toxic to aquatic life with long lasting effects.

**SECTION 13: Disposal considerations****13.1****Waste treatment methods**

The information in this SDS pertains only to the product as shipped.

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

Product : The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

For additional details, see the Exposure Scenario in the Annex portion

**SECTION 14: Transport information****14.1 - 14.7****Transport information**

**The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition).**

Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names, etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the SDS and the bill of lading.

**US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)**

UN2363, ETHYL MERCAPTAN, 3, I, MARINE POLLUTANT, (ETHYL MERCAPTAN)



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**IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)**

UN2363, ETHYL MERCAPTAN, 3, I, (-48°C), MARINE POLLUTANT, (ETHYL MERCAPTAN)

**IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)**

UN2363, ETHYL MERCAPTAN, 3, I

**ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))**

UN2363, ETHYL MERCAPTAN, 3, I, (D/E), ENVIRONMENTALLY HAZARDOUS, (ETHYL MERCAPTAN)

**RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))**

UN2363, ETHYL MERCAPTAN, 3, I, ENVIRONMENTALLY HAZARDOUS, (ETHYL MERCAPTAN)

**ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)**

UN2363, ETHYL MERCAPTAN, 3, I, ENVIRONMENTALLY HAZARDOUS, (ETHYL MERCAPTAN)

**Maritime transport in bulk according to IMO instruments****SECTION 15: Regulatory information****15.1****Safety, health and environmental regulations/legislation specific for the substance or mixture  
National legislation**

Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

**Water contaminating class** : WGK 3 highly water endangering  
(Germany)

**15.2****Chemical Safety Assessment**

**Components** : ethanethiol A Chemical Safety Assessment 200-837-3  
has been carried out for this  
substance.

**Major Accident Hazard  
Legislation** : 96/82/EC Update: 2003  
Highly flammable  
7b  
Quantity 1: 5.000 t  
Quantity 2: 50.000 t

: 96/82/EC Update: 2003  
Dangerous for the environment

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9a  
 Quantity 1: 100 t  
 Quantity 2: 200 t

: ZEU\_SEVES3 Update:  
 FLAMMABLE LIQUIDS  
 P5a  
 Quantity 1: 10 t  
 Quantity 2: 50 t

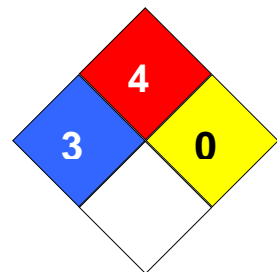
: ZEU\_SEVES3 Update:  
 ENVIRONMENTAL HAZARDS  
 E1  
 Quantity 1: 100 t  
 Quantity 2: 200 t

**Notification status**

Europe REACH	:	This product is in full compliance according to REACH regulation 1907/2006/EC.
Switzerland CH INV	:	On the inventory, or in compliance with the inventory
United States of America (USA) TSCA	:	On or in compliance with the active portion of the TSCA inventory
Canada DSL	:	All components of this product are on the Canadian DSL
Australia AICS	:	On the inventory, or in compliance with the inventory
New Zealand NZIoC	:	On the inventory, or in compliance with the inventory
Japan ENCS	:	On the inventory, or in compliance with the inventory
Korea KECI	:	All substances in this product were registered, notified to be registered, or exempted from registration by CPChem through an Only Representative according to K-REACH regulations. Importation of this product is permitted if the Korean Importer of Record was included on CPChem's notifications or if the Importer of Record themselves notified the substances.
Philippines PICCS	:	On the inventory, or in compliance with the inventory
China IECSC	:	On the inventory, or in compliance with the inventory
Taiwan TCSI	:	On the inventory, or in compliance with the inventory

**SECTION 16: Other information**

**NFPA Classification** : Health Hazard: 3  
 Fire Hazard: 4  
 Reactivity Hazard: 0

**Further information**

Legacy SDS Number : 25580

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

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The information in this SDS pertains only to the product as shipped.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%		

**Full text of H-Statements referred to under sections 2 and 3.**

H224	Extremely flammable liquid and vapor.
H225	Highly flammable liquid and vapor.
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

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