

Scentinel® T-50 Gas Odorant

Version 3.0

Revision Date 2020-12-14

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® T-50 Gas Odorant
 Material : 1120360, 1101267, 1094321, 1090052, 1095293, 1098466,
 1101268, 1024726, 1024725

EC-No.Registration number

Chemical name	CAS-No. EC-No. Index No.	Legal Entity Registration number
Tetrahydrothiophene	110-01-0 203-728-9 613-087-00-0	Chevron Phillips Chemicals International NV 01-2119489799-07-0001
t-Butyl Mercaptan	75-66-1 200-890-2	Chevron Phillips Chemicals International NV 01-2119491288-26-0000

1.3

Details of the supplier of the safety data sheet

Company : Chevron Phillips Chemical Company LP
 Specialty Chemicals
 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

SDS Requests: (800) 852-5530
 Technical Information: (832) 813-4862
 Responsible Party: Product Safety Group
 Email:sds@cpchem.com

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Emergency telephone:

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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**

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

Flammable liquids, Category 2

H225:

Highly flammable liquid and vapor.

Skin irritation, Category 2

H315:

Causes skin irritation.

Eye irritation, Category 2

H319:

Causes serious eye irritation.

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Skin sensitization, Category 1

H317:

May cause an allergic skin reaction.

Long-term (chronic) aquatic hazard,
Category 2

H411:

Toxic to aquatic life with long lasting effects.

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

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H225 Highly flammable liquid and vapor.
 H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H319 Causes serious eye irritation.
 H411 Toxic to aquatic life with long lasting effects.

Precautionary Statements : **Prevention:**
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P233 Keep container tightly closed.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.
Response:
 P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
 P391 Collect spillage.

Hazardous ingredients which must be listed on the label:

- 75-66-1 t-Butyl Mercaptan

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

Synonyms : Gas Odorant

Molecular formula : Mixture

Hazardous ingredients

Chemical name	CAS-No. EC-No. Index No.	Classification (REGULATION (EC) No 1272/2008)	Concentration [wt%]
Tetrahydrothiophene	110-01-0 203-728-9 613-087-00-0	Flam. Liq. 2; H225 Acute Tox. 4; H302 Acute Tox. 4; H332 Acute Tox. 4; H312	48 - 52

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		Skin Irrit. 2; H315 Eye Irrit. 2; H319 Aquatic Chronic 3; H412	
t-Butyl Mercaptan	75-66-1 200-890-2	Flam. Liq. 2; H225 Aquatic Acute 2; H401 Eye Irrit. 2; H319 Skin Sens. 1; H317 Aquatic Chronic 2; H411	48 - 52

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. 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 skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.
- In case of eye contact : Immediately flush eye(s) with plenty of water. 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.

SECTION 5: Firefighting measures

Flash point : 15°C (59°F)
Method: Tagliabue Open Cup

Autoignition temperature : 200°C (392°F)

5.1**Extinguishing media**

Suitable extinguishing media : Alcohol-resistant foam. Carbon dioxide (CO₂). 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

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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 : Sulfur. 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.

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

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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. 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****Chevron Phillips Chemical Company LP**

Components	Basis	Value	Control parameters	Note
t-Butyl Mercaptan	Manufacturer	TWA	0,5 ppm,	

SI

Sestavine	Osnova	Vrednost	Parametri nadzora	Pripomba
Tetrahydrothiophene	SI OEL	MV	50 ppm, 180 mg/m3	K,
	SI OEL	KTV	50 ppm, 180 mg/m3	K,

K Lastnost lažjega prehajanja snovi v organizem skozi kožo

FR

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

Valeurs limites Valeurs limites indicatives
indicatives

DE

Inhaltsstoffe	Grundlage	Wert	Zu überwachende Parameter	Bemerkung
Tetrahydrothiophene	DE TRGS 900	AGW	50 ppm, 180 mg/m3	H, Y,

H Hautresorptiv

Y Ein Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes (BGW) nicht befürchtet zu werden

CH

Inhaltsstoffe	Grundlage	Wert	Zu überwachende Parameter	Bemerkung
Tetrahydrothiophene	CH SUVA	MAK-Wert	50 ppm, 180 mg/m3	SSc,
	CH SUVA	KZGW	50 ppm, 180 mg/m3	SSc,

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SSc Eine Schädigung der Leibesfrucht braucht bei Einhaltung des MAK-Wertes nicht befürchtet zu werden.

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. 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. Tightly fitting safety goggles.
- 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. Footwear protecting against chemicals.
- Hygiene measures : When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

SECTION 9: Physical and chemical properties**9.1**

Information on basic physical and chemical properties

Appearance

- Form : liquid
 Physical state : liquid
 Color : Colorless
 Odor : Pungent

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Safety data

Flash point	: 15°C (59°F) Method: Tagliabue Open Cup
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Oxidizing properties	: No
Autoignition temperature	: 200°C (392°F)
Molecular formula	: Mixture
Molecular weight	: Not applicable
pH	: Not applicable
Pour point	: No data available
Boiling point/boiling range	: 63°C (145°F)
Vapor pressure	: 3,40 PSI at 38°C (100°F)
Relative density	: 0,9 at 15 °C (59 °F)
Density	: 903,5 g/l
Water solubility	: No data available
Partition coefficient: n-octanol/water	: No data available
Viscosity, kinematic	: No data available
Relative vapor density	: No data available
Evaporation rate	: No data available
Percent volatile	: > 99 %

SECTION 10: Stability and reactivity**10.1**

Reactivity : Stable under recommended storage conditions.

10.2

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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.

Further information: No decomposition if stored and applied as directed.

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 : Sulfur
Sulfur oxides

Other data : No decomposition if stored and applied as directed.

SECTION 11: Toxicological information**11.1****Information on toxicological effects****Scentinel® T-50 Gas Odorant**

Acute oral toxicity : Acute toxicity estimate: 2.660 mg/kg
Method: Calculation method

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Acute inhalation toxicity : Acute toxicity estimate: > 20 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: Calculation method

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Acute dermal toxicity : Acute toxicity estimate: > 2.000 mg/kg
Method: Calculation method

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Skin irritation : Irritating to skin. largely based on animal evidence.

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Eye irritation : May cause irreversible eye damage. largely based on animal evidence.

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Scentinel® T-50 Gas Odorant**Sensitization** : Causes sensitization. largely based on animal evidence.**Repeated dose toxicity**

Tetrahydrothiophene : Species: Rat, Male and female
 Sex: Male and female
 Application Route: Inhalation
 Dose: 0, 51, 236, 1442 ppm
 Exposure time: 13 wk
 Number of exposures: 6 h/d, 5 d/wk
 NOEL: 51 ppm
 Method: OECD Guideline 413
 Target Organs: Upper respiratory tract

t-Butyl Mercaptan

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 hrs/d, 5 d/wk
 NOEL: > 196 ppm

Species: Rat, Male and female
 Sex: Male and female
 Application Route: oral gavage
 Dose: 10, 50, 200 mg/kg bw/day
 Exposure time: 42-53 days
 Number of exposures: Daily
 NOEL: 50 mg/kg bw/day
 Lowest observable effect level: 200 mg/kg bw/day
 Method: OECD Guideline 422

Species: Rat, Male and female
 Sex: Male and female
 Application Route: Inhalation
 Dose: 25.1, 99.6, 403.4 ppm
 Exposure time: 13 wks
 Number of exposures: 6 hrs/d, 5 d/wk
 NOEL: 99.6 ppm
 Lowest observable effect level: 403.4 ppm
 Method: OECD Guideline 413
 Target Organs: Liver, Kidney, Blood, Upper respiratory tract
 Information given is based on data obtained from similar substances.

Genotoxicity in vitro

Tetrahydrothiophene : Test Type: Ames test
 Method: Mutagenicity (Escherichia coli - reverse mutation assay)
 Result: negative

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	Test Type: Cytogenetic assay Result: negative
	Test Type: HGPRT assay Result: negative
	Test Type: Sister Chromatid Exchange Assay Method: OECD Guideline 473 Result: negative
	Test Type: Unscheduled DNA synthesis assay Result: negative
t-Butyl Mercaptan	Test Type: Mouse lymphoma assay Metabolic activation: with and without metabolic activation Result: negative
	Test Type: Sister Chromatid Exchange Assay Metabolic activation: with and without metabolic activation Result: negative
	Test Type: Ames test Metabolic activation: with and without metabolic activation Result: negative

Genotoxicity in vivo

t-Butyl Mercaptan	: Test Type: Mouse micronucleus assay Species: Mouse Dose: 1250, 2500, 5000 mg/kg Method: Mutagenicity (micronucleus test) Result: negative
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Reproductive toxicity

t-Butyl Mercaptan	: Species: Rat Sex: male and female Application Route: oral gavage Dose: 10, 50, 200 mg/kg bw/day Number of exposures: Daily Test period: 42 -53 days Method: OECD Guideline 422 NOAEL Parent: 200 mg/kg bw/day NOAEL F1: 50 mg/kg bw/day No adverse effects expected
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Developmental Toxicity

Tetrahydrothiophene	: Species: Rat Application Route: Inhalation Dose: 234, 782, 1910 ppm Method: OECD Guideline 414 NOAEL Teratogenicity: 1910 ppm NOAEL Maternal: 234 ppm No adverse effects expected
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t-Butyl Mercaptan	Species: Mouse Application Route: Inhalation
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Dose: 11, 99, 195 ppm
 Exposure time: GD 6-16
 Number of exposures: 6 hrs/d
 NOAEL Teratogenicity: > = 195 ppm
 NOAEL Maternal: > = 195 ppm

Species: Rat
 Application Route: Inhalation
 Dose: 11, 99, 195 ppm
 Exposure time: GD6-19
 Number of exposures: 6 hrs/d
 NOAEL Teratogenicity: > =195 ppm
 NOAEL Maternal: > = 195 ppm

Species: Rat
 Application Route: oral gavage
 Dose: 10, 50, 200 mg/kg bw/day
 Exposure time: 42-53 days
 Number of exposures: Daily
 NOAEL Teratogenicity: 50 mg/kg bw /day
 NOAEL Maternal: 200 mg/kg bw /day

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Aspiration toxicity : May be harmful if swallowed and enters airways.

CMR effects

Tetrahydrothiophene : Mutagenicity: Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
 Teratogenicity: Animal testing did not show any effects on fetal development.
 Reproductive toxicity: Animal testing did not show any effects on fertility.

t-Butyl Mercaptan

Carcinogenicity: Not available
 Mutagenicity: Did not show mutagenic effects in animal experiments.
 Teratogenicity: Did not show teratogenic effects in animal experiments.
 Reproductive toxicity: No toxicity to reproduction

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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****Toxicity to fish**

Tetrahydrothiophene : LC50: > 24 mg/l
 Exposure time: 96 h
 Species: Danio rerio (Zebra Fish)
 Method: OECD Test Guideline 203

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t-Butyl Mercaptan LC50: 34 mg/l
 Exposure time: 96 h
 Species: Oncorhynchus mykiss (rainbow trout)
 semi-static test Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates

Tetrahydrothiophene : EC50: 24 mg/l
 Exposure time: 48 h
 Species: Daphnia magna (Water flea)
 Method: OECD Test Guideline 202

t-Butyl Mercaptan EC50: 6,7 mg/l
 Exposure time: 48 h
 Species: Daphnia magna (Water flea)
 static test Method: OECD Test Guideline 202

Toxicity to algae

Tetrahydrothiophene : EC50: > 153,2 mg/l
 Exposure time: 72 h
 Species: Pseudokirchneriella subcapitata (green algae)
 Method: OECD Test Guideline 201

t-Butyl Mercaptan EC50: 24 mg/l
 Exposure time: 72 h
 Species: Pseudokirchneriella subcapitata (green algae)
 Method: OECD Test Guideline 201

Toxicity to bacteria

Tetrahydrothiophene : EC50: 1.530 mg/l
 Exposure time: 3 h
 Respiration inhibition
 Method: OECD Test Guideline 209

12.2**Persistence and degradability**

Biodegradability

Tetrahydrothiophene : aerobic
 Result: Not readily biodegradable.
 < 10 %
 Testing period: 28 d
 Method: Directive 67/548/EEC Annex V, C.4.E.

t-Butyl Mercaptan : aerobic
 Result: Not readily biodegradable.
 6 %
 Testing period: 63 d
 Method: OECD Test Guideline 301

12.3**Bioaccumulative potential**

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Bioaccumulation

Tetrahydrothiophene : Bioaccumulation is unlikely.

t-Butyl Mercaptan : Bioconcentration factor (BCF): 12
Bioaccumulation is unlikely.**12.4****Mobility in soil**

Mobility

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

t-Butyl 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 0.1% or higher.

12.6**Other adverse effects**

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

Ecotoxicology Assessment

Short-term (acute) aquatic hazard

Tetrahydrothiophene : Harmful to aquatic life.

t-Butyl Mercaptan : Toxic to aquatic life.

Long-term (chronic) aquatic hazard

Tetrahydrothiophene : Harmful to aquatic life with long lasting effects.

t-Butyl Mercaptan : 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

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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.

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)

UN3336, MERCAPTANS, LIQUID, FLAMMABLE, N.O.S., 3, II

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

UN3336, MERCAPTANS, LIQUID, FLAMMABLE, N.O.S., 3, II, (15°C), MARINE POLLUTANT, (TERTIARY BUTYL MERCAPTAN)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

UN3336, MERCAPTANS, LIQUID, FLAMMABLE, N.O.S., 3, II

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

UN3336, MERCAPTANS, LIQUID, FLAMMABLE, N.O.S., 3, II, (D/E), ENVIRONMENTALLY HAZARDOUS, (TERTIARY BUTYL MERCAPTAN)

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

UN3336, MERCAPTANS, LIQUID, FLAMMABLE, N.O.S., 3, II, ENVIRONMENTALLY HAZARDOUS, (TERTIARY BUTYL MERCAPTAN)

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

UN3336, MERCAPTANS, LIQUID, FLAMMABLE, N.O.S., 3, II, ENVIRONMENTALLY HAZARDOUS, (TERTIARY BUTYL MERCAPTAN)

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

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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 (Germany) : WGK 3 highly water endangering

15.2

Major Accident Hazard Legislation : 96/82/EC Update: 2003
Dangerous for the environment
9b
Quantity 1: 200 t
Quantity 2: 500 t

: 96/82/EC Update: 2003
Highly flammable
7b
Quantity 1: 5.000 t
Quantity 2: 50.000 t

: ZEU_SEVES3 Update:
FLAMMABLE LIQUIDS
P5c
Quantity 1: 5.000 t
Quantity 2: 50.000 t

Notification status

Europe REACH : This mixture contains only ingredients which have been registered according to Regulation (EU) No. 1907/2006 (REACH).

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

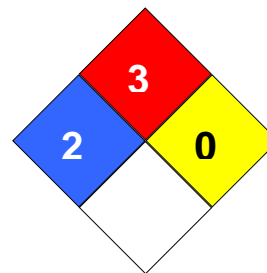
Scentinel® T-50 Gas Odorant

Version 3.0

Revision Date 2020-12-14

SECTION 16: Other information

NFPA Classification : Health Hazard: 2
Fire Hazard: 3
Reactivity Hazard: 0

**Further information**

Legacy SDS Number : 387280

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

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	TSCA	Toxic Substance Control Act

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	New Chemical Substances		
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.

H225	Highly flammable liquid and vapor.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.