



## Orfom® MC8 Collector

Version 1.6

Revision Date 2023-04-19

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

#### Product information

Product Name : Orfom® MC8 Collector  
 Material : 1121327, 1122323, 1121613, 1121612, 1121601, 1121600

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

#### 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  
 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  
 EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)  
 Austria: VIZ +43 1 406 43 43 (24 hours/day, 7 days/week)  
 Belgium: 070 245 245 (24 hours/day, 7 days/week)  
 Bulgaria: +359 2 9154 233  
 Croatia: +3851 2348 342 (24 hours/day, 7 days/week)  
 Cyprus: 1401  
 Czech Republic: Toxicological Information Center +420 224 919 293, +420 224 915 402  
 Denmark: Danish Poison Center (Gifftlinjen): +45 8212 1212  
 Estonia: BIG +32.14.584545 (phone) or +32.14583516 (telefax)  
 Finland: 0800 147 111 09 471 977 (24 hours/day)  
 France: ORFILA number (INRS): + 33 (0) 1 45 42 59 59 (24 hours/day, 7 days/week)  
 Germany: BIG +32.14.584545 (phone) or +32.14583516 (telefax)  
 Greece: (0030) 2107793777 (24 hours/day, 7 days/week)  
 Hungary: +36-80-201-199 (24 hours/day, 7 days/week)  
 Iceland: 543 2222 (24 hours/day, 7 days/week)  
 Ireland: BIG +32.14.584545 (phone) or +32.14583516 (telefax)  
 Italy: BIG +32.14.584545 (phone) or +32.14583516 (telefax)  
 Latvia: State Fire and Rescue Service, phone number: 112; Toxicology and Sepsis Clinic  
 Poisoning and Drug Information Center, Hipokrāta 2, Riga, Latvia, LV-1038, phone number +371  
 67042473. (24 hours.)  
 Liechtenstein: BIG +32.14.584545 (phone) or +32.14583516 (telefax)  
 Lithuania: +370 (85) 2362052

**Orfom® MC8 Collector**

Version 1.6

Revision Date 2023-04-19

Luxembourg: (+352) 8002 5500 (24 hours/day, 7 days/week)  
 Malta: +356 2395 2000  
 The Netherlands: NVIC: +31 (0)88 755 8000  
 Norway: 22 59 13 00 (24 hours/day, 7 days/week)  
 Poland: BIG +32.14.584545 (phone) or +32.14583516 (telefax)  
 Portugal: CIAV phone number: +351 800 250 250  
 Romania: +40213183606  
 Slovakia: +421 2 5477 4166  
 Slovenia: Phone number: 112  
 Spain: National Emergency Telephone Number of Spanish Poison Centre: +34 91 562 04 20 (24 hours/day, 7 days/week)  
 Sweden: 112 – ask for Poisons Information

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

**SECTION 2: Hazards identification****Classification of the substance or mixture**

This product has been classified in accordance with the hazard communication standard 29 CFR 1910.1200; the SDS and labels contain all the information as required by the standard.

**Classification**

: Flammable liquids, Category 4  
 Skin irritation, Category 2  
 Skin sensitization, Category 1

**Labeling**

Symbol(s) :



Signal Word :

: Warning

Hazard Statements :

: H227: Combustible liquid.  
 H315: Causes skin irritation.  
 H317: May cause an allergic skin reaction.

Precautionary Statements :

**Prevention:**  
 P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.  
 P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.  
 P264 Wash skin thoroughly after handling.  
 P272 Contaminated work clothing must not be allowed out of the workplace.  
 P280 Wear protective gloves/ eye protection/ face protection.  
**Response:**  
 P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
 P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
 P362 Take off contaminated clothing and wash before reuse.  
 P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

**Orfom® MC8 Collector**

Version 1.6

Revision Date 2023-04-19

**Storage:**

P403 + P235 Store in a well-ventilated place. Keep cool.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

**Carcinogenicity:****IARC**

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**NTP**

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

**SECTION 3: Composition/information on ingredients**

Component	CAS-No.	Weight %
tert-Dodecanethiol	25103-58-6	91 - 97
Pine Oil	8002-09-3	3 - 9
Thiol synthesis by-products		1 - 5

**SECTION 4: 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 : Flush eyes with water as a precaution. 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 : 83°C (181°F)
- Suitable extinguishing media : Carbon dioxide (CO<sub>2</sub>).
- Unsuitable extinguishing media : High volume water jet.

**Orfom® MC8 Collector**

Version 1.6

Revision Date 2023-04-19

- Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.
- 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. Keep away from open flames, hot surfaces and sources of ignition.

**SECTION 6: Accidental release measures**

- Personal precautions : Use personal protective equipment. Ensure adequate ventilation.
- 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.
- 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). Keep in suitable, closed containers for disposal.

**SECTION 7: Handling and storage****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. Provide sufficient air exchange and/or exhaust in work rooms. 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. Keep away from open flames, hot surfaces and sources of ignition.

**Storage**

- Requirements for storage : No smoking. Keep in a well-ventilated place. Containers

**Orfom® MC8 Collector**

Version 1.6

Revision Date 2023-04-19

areas and 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****Ingredients with workplace control parameters****Chevron Phillips Chemical Company LP**

Components	Basis	Value	Control parameters	Note
tert-Dodecanethiol	Manufacturer	TWA	0.1 ppm,	

**US**

Components	Basis	Value	Control parameters	Note
------------	-------	-------	--------------------	------

**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** : If ventilation or other engineering controls are not adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure, a supplied-air NIOSH approved respirator may be appropriate. If exposure to harmful levels of airborne material may occur, a NIOSH approved respirator that provides protection may be appropriate, such as: A positive pressure, air-supplying respirator may be appropriate 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: Flame retardant protective clothing. 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.

**Orfom® MC8 Collector**

Version 1.6

Revision Date 2023-04-19

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

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

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

**Safety data**

Flash point : 83°C (181°F)  
 Boiling point/boiling range : 193°C (379°F)  
 Density : 0.879 g/cm<sup>3</sup>  
 at 25°C (77°F)  
 Viscosity, kinematic : 9.38 cSt

**SECTION 10: Stability and reactivity**

**Reactivity** : Stable under recommended storage conditions.

**Chemical stability** : This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**Possibility of hazardous reactions**

**Hazardous reactions** : Hazardous reactions: Vapors may form explosive mixture with air.

**Conditions to avoid** : Heat, flames and sparks.

**Materials to avoid** : May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

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

**SECTION 11: Toxicological information****Acute oral toxicity**

tert-Dodecanethiol : LD50: > 2,000 mg/kg  
 Species: Rat  
 Sex: female

**Orfom® MC8 Collector**

Version 1.6

Revision Date 2023-04-19

	Method: OECD Test Guideline 423
Pine Oil	LD50: 2,700 mg/kg Species: Rat Sex: male and female Method: OPPTS 870.1100
<b>Acute inhalation toxicity</b>	
tert-Dodecanethiol	: LC50: > 1.97 mg/l Exposure time: 4 h Species: Rat Sex: male and female Test atmosphere: vapor Method: OECD Test Guideline 403 Information given is based on data obtained from similar substances.
Pine Oil	LC50: > 3.67 mg/l Exposure time: 4 h Species: Rat Test atmosphere: dust/mist Method: OPPTS 870.1300
<b>Acute dermal toxicity</b>	
tert-Dodecanethiol	: LD50: > 2,000 mg/kg Species: Rat Sex: male Method: OECD Test Guideline 402 Information given is based on data obtained from similar substances.
Pine Oil	LD50: > 2,000 mg/kg Species: Rat Method: OPPTS 870.1200
<b>Orfom® MC8 Collector Skin irritation</b>	: Skin irritation largely based on animal evidence.
<b>Orfom® MC8 Collector Eye irritation</b>	: May irritate eyes.
<b>Orfom® MC8 Collector Sensitization</b>	: Causes sensitization. largely based on animal evidence.
<b>Repeated dose toxicity</b>	
tert-Dodecanethiol	: Species: Rat, male Sex: male Application Route: Inhalation Dose: 0, 26, 98 ppm Exposure time: 4 wk Number of exposures: 6 h/d, 5 d/wk Lowest observable effect level: 26 ppm Method: OECD Test Guideline 412 Target Organs: Kidney, Liver

**Orfom® MC8 Collector**

Version 1.6

Revision Date 2023-04-19



**Orfom® MC8 Collector**

Version 1.6

Revision Date 2023-04-19

Species: Rat, female  
Sex: female  
Application Route: Inhalation  
Dose: 0, 26, 98 ppm  
Exposure time: 4 wk  
Number of exposures: 6 h/d, 5 d/wk  
NOEL: 26 ppm  
Method: OECD Guideline 412  
Target Organs: Liver, Kidney

Species: Dog, male and female  
Sex: male and female  
Application Route: Inhalation  
Dose: 0, 25, 106 ppm  
Exposure time: 4 wk  
Number of exposures: 6 h/d, 5 d/wk  
NOEL: 25 ppm  
Lowest observable effect level: 109 ppm  
Method: OECD Test Guideline 412  
Target Organs: Liver

Species: Mouse, male and female  
Sex: male and female  
Application Route: Inhalation  
Dose: 0, 25, 109 ppm  
Exposure time: 4 wk  
Number of exposures: 6 h/d, 5 d/wk  
Lowest observable effect level: 25 ppm  
Method: OECD Test Guideline 412  
Target Organs: Liver

Species: Rat, male  
Sex: male  
Application Route: oral gavage  
Dose: 50, 100, 200 mg/kg  
Exposure time: 10 wk  
Number of exposures: once daily  
NOEL: 200 mg/kg  
Method: OECD Guideline 422  
Target Organs: Kidney, Liver

Species: Rat, female  
Sex: female  
Application Route: oral gavage  
Dose: 50, 100, 200 mg/kg  
Exposure time: 8 - 9 wk  
Number of exposures: once daily  
NOEL: 200 mg/kg  
Method: OECD Guideline 422  
Target Organs: Liver

Species: Rat, male  
Sex: male  
Application Route: Inhalation  
Dose: 5, 25, 100 ppm  
Exposure time: 13 wk  
Number of exposures: 6h/d, 5d/wk  
NOEL: 25 ppm  
Method: OECD Test Guideline 413

**Orfom® MC8 Collector**

Version 1.6

Revision Date 2023-04-19

Species: Rat, female  
 Sex: female  
 Application Route: Inhalation  
 Dose: 5, 25, 100 ppm  
 Exposure time: 13 wk  
 Number of exposures: 6h/d, 5d/wk  
 NOEL: 25 ppm  
 Method: OECD Test Guideline 413

Pine Oil

Species: Rat, male and female  
 Sex: male and female  
 Application Route: Dermal  
 Dose: 50, 113, 226 mg/kg/d  
 Exposure time: 13 wk  
 Number of exposures: 5 d/wk  
 NOEL: > 226 mg/kg

**Genotoxicity in vitro**

tert-Dodecanethiol

: Test Type: Ames test  
 Metabolic activation: with and without metabolic activation  
 Method: OECD Test Guideline 471  
 Result: negative

Test Type: Mouse lymphoma assay  
 Metabolic activation: with and without metabolic activation  
 Method: OECD Guideline 476  
 Result: negative

Test Type: Sister Chromatid Exchange Assay  
 Metabolic activation: with and without metabolic activation  
 Method: OECD Guideline 479  
 Result: negative

Test Type: Chromosome aberration test in vitro  
 Metabolic activation: with and without metabolic activation  
 Method: OECD Test Guideline 473  
 Result: negative

**Genotoxicity in vivo**

tert-Dodecanethiol

: Test Type: In vivo micronucleus test  
 Species: Mouse  
 Route of Application: Oral  
 Dose: 1250, 2500, 5000 mg/kg/bw  
 Method: Mutagenicity (micronucleus test)  
 Result: negative  
 Remarks: Information given is based on data obtained from similar substances.

**Reproductive toxicity**

tert-Dodecanethiol

: Species: Rat  
 Sex: male  
 Application Route: oral gavage  
 Dose: 50, 100, 200 mg/kg/d  
 Exposure time: 10 wk  
 Number of exposures: Daily

**Orfom® MC8 Collector**

Version 1.6

Revision Date 2023-04-19

Method: OECD Guideline 422  
 NOAEL Parent: 200 mg/kg  
 Animal testing did not show any effects on fertility.

Species: Rat  
 Sex: female  
 Application Route: oral gavage  
 Dose: 50, 100, 200 mg/kg/d  
 Exposure time: 8 - 9 wk  
 Number of exposures: Daily  
 Method: OECD Guideline 422  
 NOAEL Parent: 200 mg/kg  
 NOAEL F1: 100 mg/kg  
 Animal testing did not show any effects on fertility.  
 Reduced fetal weight.

Species: Rat  
 Sex: male  
 Application Route: oral gavage  
 Dose: 25, 75, 200 mg/kg/d  
 Exposure time: 18 wk  
 Number of exposures: Daily  
 Method: OECD Test Guideline 443  
 NOAEL Parent: 200 mg/kg  
 NOAEL F1: 200 mg/kg  
 NOAEL F2: 200 mg/kg  
 Animal testing did not show any effects on fertility.

Species: Rat  
 Sex: female  
 Application Route: oral gavage  
 Dose: 25, 75, 200 mg/kg/d  
 Exposure time: 16 - 18 wk  
 Number of exposures: Daily  
 Method: OECD Test Guideline 443  
 NOAEL Parent: 200 mg/kg  
 NOAEL F1: 200 mg/kg  
 NOAEL F2: 200 mg/kg  
 Animal testing did not show any effects on fertility.  
 Reduced fetal weight.

**Developmental Toxicity**

tert-Dodecanethiol

: Species: Rat  
 Application Route: Inhalation  
 Dose: 0, 22.7, 88.6 ppm  
 Number of exposures: 6 hrs/d  
 Test period: GD 6-19  
 Method: OECD Guideline 414  
 NOAEL Teratogenicity: >= 88.6 ppm  
 No adverse effects expected

**Orfom® MC8 Collector**

Version 1.6

Revision Date 2023-04-19

Species: Mouse  
 Application Route: Inhalation  
 Dose: 0, 22.7, 88.6 ppm  
 Number of exposures: 6 hrs/d  
 Test period: GD 6-19  
 Method: OECD Guideline 414  
 NOAEL Teratogenicity:  $\geq$  88.6 ppm  
 No adverse effects expected

Species: Rabbit  
 Application Route: oral gavage  
 Dose: 0, 50, 100, 200 mg/kg/d  
 Number of exposures: Daily  
 Test period: GD 6-28  
 Method: OECD Guideline 414  
 NOAEL Teratogenicity: 100 mg/kg  
 NOAEL Maternal: 100 mg/kg  
 Embryotoxic effects and adverse effects on the offspring were detected only at high maternally toxic doses

Pine Oil

Species: Rat  
 Application Route: oral gavage  
 Dose: 50, 600, 1200 mg/kg/d  
 Exposure time: GD 6 - 15  
 Number of exposures: Daily  
 NOAEL Teratogenicity: 50 mg/kg  
 NOAEL Maternal: 50 mg/kg

**Orfom® MC8 Collector  
Aspiration toxicity**

: May be harmful if swallowed and enters airways.

**CMR effects**

tert-Dodecanethiol

: Carcinogenicity: Not available  
 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: No toxicity to reproduction

**Orfom® MC8 Collector  
Further information**

: Solvents may degrease the skin.

**SECTION 12: Ecological information****Ecotoxicity effects  
Toxicity to fish**

tert-Dodecanethiol

: LL50: > 100 mg/l  
 Exposure time: 96 h  
 Species: Danio rerio (Zebra Fish)  
 static test Method: OECD Test Guideline 203  
 No toxicity at the limit of solubility.

Pine Oil

18.4 mg/l  
 Exposure time: 96 h

**Orfom® MC8 Collector**

Version 1.6

Revision Date 2023-04-19

Species: *Oncorhynchus mykiss* (rainbow trout)  
 flow-through test Method: OPPTS 850.1075

**Toxicity to daphnia and other aquatic invertebrates**

tert-Dodecanethiol : EC50: > 0.056 mg/l  
 Exposure time: 48 h  
 Species: *Daphnia magna* (Water flea)  
 semi-static test Method: OECD Test Guideline 202  
 No toxicity at the limit of solubility.

Pine Oil 24.5 mg/l  
 Exposure time: 48 h  
 Species: *Daphnia magna* (Water flea)  
 flow-through test Method: OPPTS 850.1010

**Toxicity to bacteria**

tert-Dodecanethiol : NOEC: 8.6 mg/l  
 Exposure time: 3 h  
 Growth rate  
 Respiration inhibition  
 Method: OECD Test Guideline 209

NOEC: > 10 mg/l  
 Exposure time: 3 h  
 Growth rate  
 Respiration inhibition  
 Method: OECD Test Guideline 209

**Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)**

tert-Dodecanethiol : NOEC: 0.0108 mg/l  
 Exposure time: 21 d  
 Species: *Daphnia magna* (Water flea)  
 semi-static test  
 Method: OECD Test Guideline 211  
 No toxicity at the limit of solubility.

**Biodegradability**

tert-Dodecanethiol : aerobic  
 Result: Not readily biodegradable.  
 0 %  
 Testing period: 28 d  
 Method: OECD Test Guideline 301D

Pine Oil : This material is expected to be readily biodegradable.

Elimination information (persistence and degradability)

**Bioaccumulation**

tert-Dodecanethiol : Species: *Danio rerio* (zebra fish)  
 Exposure time: 15 d

**Orfom® MC8 Collector**

Version 1.6

Revision Date 2023-04-19

	Bioconcentration factor (BCF): > 500 - < 1,950 Method: OECD Test Guideline 305 Biomagnification factor <1 The product may be accumulated in organisms.
Pine Oil	: Accumulation in aquatic organisms is expected.
Mobility	: No data available
Results of PBT assessment tert-Dodecanethiol	: Non-classified PBT substance, Non-classified vPvB substance
Additional ecological information	: May cause long lasting harmful effects to aquatic life.
<b>Ecotoxicology Assessment</b>	
Short-term (acute) aquatic hazard tert-Dodecanethiol	: No toxicity at the limit of solubility.
Pine Oil	: Harmful to aquatic life.
Thiol synthesis by-products	: No toxicity at the limit of solubility.
Long-term (chronic) aquatic hazard tert-Dodecanethiol	: May cause long lasting harmful effects to aquatic life.
Pine Oil	: Harmful to aquatic life with long lasting effects.
Thiol synthesis by-products	: May cause long lasting harmful effects to aquatic life.

**SECTION 13: Disposal considerations**

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**

**The shipping descriptions shown here are for bulk shipments only, and may not apply to**

**Orfom® MC8 Collector**

Version 1.6

Revision Date 2023-04-19

**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)**

UN1268, PETROLEUM PRODUCTS, N.O.S., 3, III

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

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (PINE OIL), 9, III, (83 °C c.c.), MARINE POLLUTANT, (PINE OIL)

**IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)**

UN3334, AVIATION REGULATED LIQUID, N.O.S., (TERT – DODECANETHIOL), 9, III

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

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

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

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

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

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**Maritime transport in bulk according to IMO instruments****SECTION 15: Regulatory information****National legislation**

**SARA 311/312 Hazards** : Flammable (gases, aerosols, liquids, or solids)  
Respiratory or skin sensitization  
Skin corrosion or irritation

**CERCLA Reportable Quantity** : This material does not contain any components with a CERCLA RQ.

**Orfom® MC8 Collector**

Version 1.6

Revision Date 2023-04-19

SARA 302 Reportable Quantity : This material does not contain any components with a SARA 302 RQ.

SARA 302 Threshold Planning Quantity : This material does not contain any components with a section 302 EHS TPQ.

SARA 304 Reportable Quantity : This material does not contain any components with a section 304 EHS RQ.

SARA 313 Components : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**Clean Air Act**

Ozone-Depletion Potential : This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

**US State Regulations**

Pennsylvania Right To Know : tert-Dodecanethiol - 25103-58-6  
Pine Oil - 8002-09-3  
Thiol synthesis by-products -

California Prop. 65 Components : This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.



**Orfom® MC8 Collector**

Version 1.6

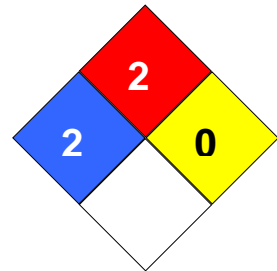
Revision Date 2023-04-19

**Notification status**

Europe REACH	:	A substance or substances in this product is not registered or notified to be registered. Importation or manufacture of this product is still permitted provided that it does not exceed the REACH minimum threshold quantity of the non-regulated substances.
Switzerland CH INV	:	Not 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 AIIC	:	On the inventory, or in compliance with the inventory
New Zealand NZIoC	:	Not in compliance with the inventory
Japan ENCS	:	Not in compliance with the inventory
Korea KECI	:	A substance(s) in this product was not registered, notified to be registered, or exempted from registration by CPChem according to K-REACH regulations. Importation or manufacture of this product is still permitted provided the Korean Importer of Record has themselves notified the substance or the exported amount does not exceed the minimum threshold quantity of the non-registered substance(s).
Philippines PICCS	:	On the inventory, or in compliance with the inventory
Taiwan TCSI	:	On the inventory, or in compliance with the inventory
China IECSC	:	On the inventory, or in compliance with the inventory

**SECTION 16: Other information**

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

**Further information**

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%
AIIC	Australian Inventory of Industrial	LOAEL	Lowest Observed Adverse Effect

**Orfom® MC8 Collector**

Version 1.6

Revision Date 2023-04-19

	Chemicals		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%	ATE	Acute toxicity estimate