

**Orfom® MC47 Collector**

Version 2.2

Revision Date 2026-09-09

according to GB/T 16483 and GB/T 17519

SECTION 1: Identification of the substance/mixture and of the company/undertaking**Product information**

Product Name : Orfom® MC47 Collector
Material : 1115719, 1111049, 1111048, 1111047
Company : Chevron Phillips Chemical Company LP
9500 Lakeside Blvd.
The Woodlands, TX 77381

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 (Giftlinjen): +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: POISON CENTER MILAN – Azienda Ospedaliera Niguarda Ca` Grande Tel. +39 02

66101029; POISON CENTER ROME – Policlinico “Agostino Gemelli”, Servizio di tossicologia

clinica Tel. +39 06 3054343; POISON CENTER ROME – Ospedale Pediatrico Bambino Gesù

Tel. +39 06 68593726; POISON CENTER ROME – Policlinico “Umberto I” Tel. +39 06 4997 8000;

POISON CENTER FOGGIA – Azienda Ospedaliera Universitaria Riuniti Tel. +39 0881 732326;

POISON CENTER NAPLES – Azienda Ospedaliera “Antonio Cardarelli” Tel. +39 081 7472870;

POISON CENTER FLORENCE – Azienda Ospedaliera universitaria Careggi Tel. +39 055

7947819; POISON CENTER PAVIA – IRCCS Fondazione Salvatore Maugeri Tel. +39 0382

24444; POISON CENTER BERGAMO – Azienda Ospedaliera “Papa Giovanni XXIII” Tel. 800 883

300; POISON CENTER VERONA – Azienda Ospedaliera Universitaria integrata Tel. 800 011 858;

Orfom® MC47 Collector

Version 2.2

Revision Date 2026-09-09

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
 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

Organization that prepared the SDS : 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
GB 30000 Specification for classification and labeling of chemicals
Emergency Overview

Danger

Form: liquid **Physical state:** liquid

Hazards : Combustible liquid. Causes skin irritation. May cause an allergic skin reaction. May cause drowsiness or dizziness. Causes damage to organs through prolonged or repeated exposure if inhaled. May be fatal if swallowed and enters airways. Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Classification

: Flammable liquids, Category 4
 Skin corrosion/irritation, Category 2
 Skin sensitization, Category 1
 Specific target organ toxicity - single exposure, Category 3, Narcotic effects
 Specific target organ toxicity - repeated exposure, Category 1, Inhalation, Central nervous system
 Aspiration hazard, Category 1
 Short-term (acute) aquatic hazard, Category 2
 Long-term (chronic) aquatic hazard, Category 2

Labeling

Symbol(s) :



Orfom® MC47 Collector

Version 2.2

Revision Date 2026-09-09

Signal Word : Danger

Hazard Statements : H227: Combustible liquid.
 H304: May be fatal if swallowed and enters airways.
 H315: Causes skin irritation.
 H317: May cause an allergic skin reaction.
 H336: May cause drowsiness or dizziness.
 H372: Causes damage to organs (Central nervous system) through prolonged or repeated exposure if inhaled.
 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.
 P260: Do not breathe mist or vapors.
 P264: Wash skin thoroughly after handling.
 P270: Do not eat, drink or smoke when using this product.
 P271: Use only outdoors or in a well-ventilated area.
 P272: Contaminated work clothing should not be allowed out of the workplace.
 P273: Avoid release to the environment.
 P280: Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.
Response:
 P301 + P316: IF SWALLOWED: Get emergency medical help immediately.
 P302+P352: IF ON SKIN: Wash with plenty of water.
 P304 + P340 + P319: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical help if you feel unwell.
 P331: Do NOT induce vomiting.
 P333 + P317: If skin irritation or rash occurs: Get medical help.
 P362+P364: Take off contaminated clothing and wash it before reuse.
 P370+P378: In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
 P391: Collect spillage.
Storage:
 P403 + P233: Store in a well-ventilated place. Keep container tightly closed.
 P405: Store locked up.
Disposal:
 P501: Dispose of contents/ container to an approved waste disposal plant.

SECTION 3: Composition/information on ingredients

Molecular formula : Mixture

Chemical name	CAS-No. / EINECS-No.	Concentration [wt%]
tert-Dodecanethiol	25103-58-6	20 - 80
Distillates (petroleum), Hydrotreated light	64742-47-8	20 - 80

Orfom® MC47 Collector

Version 2.2

Revision Date 2026-09-09

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 : Consult a physician after significant exposure. If unconscious, place in recovery position and seek medical advice.
- 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. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

Notes to physician

- Risks : May be fatal if swallowed and enters airways. Causes skin irritation. May cause an allergic skin reaction. May cause drowsiness or dizziness. Causes damage to organs through prolonged or repeated exposure if inhaled.
- Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

- Flash point : 81°C (178°F)
- Suitable extinguishing media : Carbon dioxide (CO2).
- Unsuitable extinguishing media : High volume water jet.
- 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.

Orfom® MC47 Collector

Version 2.2

Revision Date 2026-09-09

Hazardous decomposition products : Carbon oxides.

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

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

CN

Components	Basis	Value	Control parameters	Note
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Orfom® MC47 Collector

Version 2.2

Revision Date 2026-09-09

Not listed

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. |

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

- | | | |
|----------------|---|--------|
| Form | : | liquid |
| Physical state | : | liquid |

Safety data

- | | | |
|-----------------------|---|-------------------|
| Flash point | : | 81°C (178°F) |
| Thermal decomposition | : | No data available |

Orfom® MC47 Collector

Version 2.2

Revision Date 2026-09-09

Molecular formula : Mixture

Density : 0.83 G/ML
at 25°C (77°F)

Viscosity, kinematic : 2.46 cSt
at 25°C (77°F)

1.40 cSt
at 60°C (140°F)

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 : No data available.

Thermal decomposition : No data available

Hazardous decomposition products : Carbon oxides

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
Method: OECD Test Guideline 423

Distillates (petroleum),
Hydrotreated light : LD50: > 4,150 mg/kg
Species: Rat
Sex: male and female
Method: OECD Test Guideline 423
No mortality observed at this dose.

Orfom® MC47 Collector

Version 2.2

Revision Date 2026-09-09

Information given is based on data obtained from similar substances.

Acute inhalation toxicity

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.

Distillates (petroleum),
Hydrotreated light LC50: > 8.2 mg/l
Exposure time: 4 h
Species: Rat
Sex: male
Test atmosphere: vapor
Method: OECD Test Guideline 403
Information given is based on data obtained from similar substances.

Acute dermal toxicity

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.

Distillates (petroleum),
Hydrotreated light LD50: > 1,700 mg/kg
Species: Rat
Sex: male and female
Method: OECD Test Guideline 402
Information given is based on data obtained from similar substances.

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Skin irritation**

: May cause skin irritation and/or dermatitis.

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Eye irritation**

: Vapors may cause irritation to the eyes, respiratory system and the skin.

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Sensitization**

: Causes sensitization.

Repeated dose toxicity

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

Orfom® MC47 Collector

Version 2.2

Revision Date 2026-09-09

Method: OECD Test Guideline 412
Target Organs: Kidney, Liver

Orfom® MC47 Collector

Version 2.2

Revision Date 2026-09-09

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® MC47 Collector

Version 2.2

Revision Date 2026-09-09

Distillates (petroleum),
Hydrotreated light

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

Species: Rat, male
Sex: male
Application Route: inhalation (vapor)
Exposure time: 13 wks
Number of exposures: 6 h/d
NOEL: 10504 mg/m3
Lowest observable effect level: 31652 mg/m3
Method: OECD Guideline 413
Target Organs: Kidney, Liver
Information given is based on data obtained from similar substances.

Orfom® MC47 Collector

Version 2.2

Revision Date 2026-09-09

Species: Rat, female
Sex: female
Application Route: inhalation (vapor)
Exposure time: 13 wks
Number of exposures: 24 h/d
NOEL: 31652 mg/m³
Method: OECD Guideline 413
Information given is based on data obtained from similar substances.

Species: Rat, male
Sex: male
Application Route: oral gavage
Dose: 116, 347, 1056 mg/kg
Exposure time: 13 wks
Number of exposures: daily
Lowest observable effect level: 347 mg/kg
Method: OECD Test Guideline 408
Target Organs: Kidney
Information given is based on data obtained from similar substances.

Species: Rat, female
Sex: female
Application Route: oral gavage
Dose: 116, 347, 1056 mg/kg
Exposure time: 13 wks
Number of exposures: daily
NOEL: 1,056 mg/kg
Method: OECD Test Guideline 408
Information given is based on data obtained from similar substances.

Species: Rat, male and female
Sex: male and female
Application Route: Dermal
Dose: 165, 330, 495 mg/kg/d
Exposure time: 13 wks
Number of exposures: 5 d/wk
NOEL: > 495 mg/kg
Method: OECD Test Guideline 411
Information given is based on data obtained from similar substances.

Genotoxicity in vitro

tert-Dodecanethiol

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

Orfom® MC47 Collector

Version 2.2

Revision Date 2026-09-09

	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
Distillates (petroleum), Hydrotreated light	Test Type: reverse mutation assay Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative Remarks: Information given is based on data obtained from similar substances. Test Type: Cytogenetic assay Metabolic activation: with and without metabolic activation Method: OECD Guideline 473 Result: negative Remarks: Information given is based on data obtained from similar substances. Test Type: Mouse lymphoma assay Metabolic activation: with and without metabolic activation Method: OECD Guideline 476 Result: negative Remarks: Information given is based on data obtained from similar substances.

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.
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Distillates (petroleum), Hydrotreated light	Test Type: Micronucleus test Species: Mouse Route of Application: Intraperitoneal injection Method: OECD Test Guideline 474 Result: negative
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Reproductive toxicity

tert-Dodecanethiol	: Species: Rat Sex: male Application Route: oral gavage Dose: 50, 100, 200 mg/kg/d
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Orfom® MC47 Collector

Version 2.2

Revision Date 2026-09-09

Exposure time: 10 wk
 Number of exposures: Daily
 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.

Distillates (petroleum),
 Hydrotreated light

Species: Rat
 Sex: male and female
 Application Route: oral gavage
 Dose: 50, 200, 750 mg/kg/d
 Method: OECD Test Guideline 416
 NOAEL Parent: ≥ 750 mg/kg
 NOAEL F1: ≥ 750 mg/kg
 No adverse effects expected
 Information given is based on data obtained from similar substances.

Developmental Toxicity

tert-Dodecanethiol

: Species: Rat
 Application Route: Inhalation
 Dose: 0, 22.7, 88.6 ppm

Orfom® MC47 Collector

Version 2.2

Revision Date 2026-09-09

Number of exposures: 6 hrs/d
 Test period: GD 6-19
 Method: OECD Guideline 414
 NOAEL Teratogenicity: ≥ 88.6 ppm
 No adverse effects expected

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: ≥ 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

Distillates (petroleum),
 Hydrotreated light

Species: Rat
 Application Route: oral gavage
 Dose: 0, 400, 800, 1000 mg/kg/bw
 Number of exposures: Daily
 Test period: GD 6 - 15
 Method: OECD Guideline 414
 NOAEL Teratogenicity: $> 1,000$ mg/kg
 NOAEL Maternal: $> 1,000$ mg/kg

Aspiration toxicity

tert-Dodecanethiol
 Distillates (petroleum),
 Hydrotreated light

: May be harmful if swallowed and enters airways.
 May be fatal 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® MC47 Collector
Further information

: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Concentrations substantially above the TLV value may cause narcotic effects. Solvents may degrease the skin.

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

SDS Number:100000101126

15/21

Orfom® MC47 Collector

Version 2.2

Revision Date 2026-09-09

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.

Distillates (petroleum),
 Hydrotreated light LL50: 10 - 30 mg/l
 Exposure time: 96 h
 Species: Fish
 Method: OECD Test Guideline 203
 Information given is based on data obtained from similar substances.

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.

Distillates (petroleum),
 Hydrotreated light EL50: 10 - 22 mg/l
 Exposure time: 48 h
 Species: Daphnia magna (Water flea)
 static test Method: OECD Test Guideline 202
 Information given is based on data obtained from similar substances.

Toxicity to algae

Distillates (petroleum),
 Hydrotreated light : EL50: 4.1 mg/l
 Exposure time: 72 h
 Species: Pseudokirchneriella subcapitata (green algae)
 Method: OECD Test Guideline 201
 Information given is based on data obtained from similar substances.

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

Orfom® MC47 Collector

Version 2.2

Revision Date 2026-09-09

	Exposure time: 21 d Species: Daphnia magna (Water flea) semi-static test Method: OECD Test Guideline 211 No toxicity at the limit of solubility.
Distillates (petroleum), Hydrotreated light	: NOELR: 0.28 mg/l Exposure time: 21 Days Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211 Information given is based on data obtained from similar substances.
Biodegradability	
tert-Dodecanethiol	: aerobic Result: Not readily biodegradable. 0 % Testing period: 28 d Method: OECD Test Guideline 301D
Distillates (petroleum), Hydrotreated light	: aerobic 74.7 % Testing period: 28 d Method: OECD Test Guideline 301 This material is expected to be readily biodegradable. Information given is based on data obtained from similar substances.
Bioaccumulation	
tert-Dodecanethiol	: Species: Danio rerio (zebra fish) Exposure time: 15 d Bioconcentration factor (BCF): > 500 - < 1,950 Method: OECD Test Guideline 305 Biomagnification factor <1 The product may be accumulated in organisms.
Distillates (petroleum), Hydrotreated light	: This material is not expected to bioaccumulate.
Mobility	
tert-Dodecanethiol	: After release, adsorbs onto soil.
Distillates (petroleum), Hydrotreated light	: Medium: Air Method: Calculation, Mackay Level III Fugacity Model Content: 96 %

Orfom® MC47 Collector

Version 2.2

Revision Date 2026-09-09

: Medium: Water
Method: Calculation, Mackay Level III Fugacity Model
Content: 1.4 %

: Medium: Soil
Method: Calculation, Mackay Level III Fugacity Model
Content: 0.07 %

: Medium: Sediment
Method: Calculation, Mackay Level III Fugacity Model
Content: 1.3 %

Results of PBT assessment
tert-Dodecanethiol

: Non-classified PBT substance, Non-classified vPvB substance

Additional ecological
information

: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Toxic to aquatic life with long lasting effects.

Ecotoxicology Assessment

Short-term (acute) aquatic hazard

Distillates (petroleum),
Hydrotreated light

: Toxic to aquatic life.

Long-term (chronic) aquatic hazard

tert-Dodecanethiol

: May cause long lasting harmful effects to aquatic life.

Distillates (petroleum),
Hydrotreated light

: Toxic to aquatic life with long lasting effects.

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.

SECTION 14: 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

Orfom® MC47 Collector

Version 2.2

Revision Date 2026-09-09

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)

NA1993, COMBUSTIBLE LIQUID, N.O.S., (DISTILLATES (PETROLEUM), HYDROTREATED LIGHT), III

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (DISTILLATES (PETROLEUM), HYDROTREATED LIGHT), 9, III, (81 °C c.c.), MARINE POLLUTANT, (DISTILLATES (PETROLEUM), HYDROTREATED LIGHT)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

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

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

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (DISTILLATES (PETROLEUM), HYDROTREATED LIGHT), 9, III, (-)

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

90, UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (DISTILLATES (PETROLEUM), HYDROTREATED LIGHT), 9, III

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

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (DISTILLATES (PETROLEUM), HYDROTREATED LIGHT), 9, III

Maritime transport in bulk according to IMO instruments

SECTION 15: Regulatory information**Notification status**

Europe EU REACH	:	On the inventory, or in compliance with the inventory
Switzerland CH INV	:	On the inventory, or in compliance with the inventory
United States of America (USA)	:	On or in compliance with the active portion of the
TSCA		TSCA inventory
Canada DSL	:	All components of this product are on the Canadian
		DSL
Australia AU AIIC	:	On the inventory, or in compliance with the inventory
New Zealand NZIoC	:	Not in compliance with the inventory
Japan ENCS	:	On the inventory, or in compliance with the inventory
Japan ISHL	:	On the inventory, or in compliance with the inventory
Korea KECI	:	A substance(s) in this product was not registered,

Orfom® MC47 Collector

Version 2.2

Revision Date 2026-09-09

notified to be registered, or exempted from registration by CPChem according to K-REACH regulations.

Philippines PICCS	:	On the inventory, or in compliance with the inventory
China IECSC	:	On the inventory, or in compliance with the inventory
Taiwan TW TCSI	:	On the inventory, or in compliance with the inventory
Other TECI	:	Not in compliance with the inventory

Other regulations : Law on the Prevention and Control of Occupational Diseases

SECTION 16: Other information

Print Date : 2026-09-13

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%
AIRC	Australian Inventory of Industrial Chemicals	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

Orfom® MC47 Collector

Version 2.2

Revision Date 2026-09-09

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