

**Orfom® MCS**

Version 1.7

Revision Date 2015-05-07

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

Product Name : Orfom® MCS
Material : 1116197, 1116158, 1113750, 1113589, 1113586, 1113584

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:

North America: CHEMTREC 800.424.9300 or 703.527.3887
Asia: +800 CHEMCALL (+800 2436 2255) China: +86-21-22157316
EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600

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.

Emergency Overview**Danger**

Physical state: Liquid **Color:** Clear, Colorless **Odor:** characteristic

OSHA Hazards : Combustible Liquid, Aspiration hazard, Moderate skin irritant

Classification

: Flammable liquids , Category 4
Skin irritation , Category 2
Aspiration hazard , Category 1

Labeling

Orfom® MCS

Version 1.7

Revision Date 2015-05-07

Symbol(s)



Signal Word

: Danger

Hazard Statements

: H227: Combustible liquid.
 H304: May be fatal if swallowed and enters airways.
 H315: Causes skin irritation.

Precautionary Statements

: **Prevention:**
 P210 Keep away from heat/sparks/open flames/hot surfaces.
 - No smoking.
 P264 Wash skin thoroughly after handling.
 P280 Wear protective gloves/ eye protection/ face protection.
Response:
 P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
 P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
 P331 Do NOT induce vomiting.
 P332 + P313 If skin irritation 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 for extinction.
Storage:
 P403 + P235 Store in a well-ventilated place. Keep cool.
 P405 Store locked up.
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.

ACGIH

Confirmed animal carcinogen with unknown relevance to humans
 Distillates (petroleum), 64742-47-8
 Hydrotreated light

SECTION 3: Composition/information on ingredients

Synonyms

: Low Aromatic Solvent
 Solvent

Molecular formula

: UVCB

Component

CAS-No.

Weight %

Orfom® MCS

Version 1.7

Revision Date 2015-05-07

Distillates (petroleum), Hydrotreated
light

64742-47-8

100

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 : 77 °C (170 °F)
- Autoignition temperature : Not applicable
- 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 an open flame or any other incandescent material. Keep away from open flames, hot surfaces and sources of ignition.
- Hazardous decomposition products : Hydrocarbons. Carbon oxides.

Orfom® MCS

Version 1.7

Revision Date 2015-05-07

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 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.
- Advice on protection against fire and explosion : Do not spray on an open flame or any other 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****US**

Ingredients	Basis	Value	Control parameters	Note
Distillates (petroleum), Hydrotreated light	OSHA Z-1	TWA	500 ppm, 2,000 mg/m ³	(b),
	OSHA Z-1-A	TWA	400 ppm, 1,600 mg/m ³	
	ACGIH	TWA	200 mg/m ³	P, A3, Skin, varies,

(b) The value in mg/m³ is approximate.

A3 Confirmed animal carcinogen with unknown relevance to humans

P Application restricted to conditions in which there are negligible aerosol exposures

Skin Danger of cutaneous absorption

varies varies

Engineering measures

Adequate ventilation to control airborne concentrations below the exposure guidelines/limits.

Orfom® MCS

Version 1.7

Revision Date 2015-05-07

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, 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-resistant clothing. 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**

- | | | |
|----------------|---|------------------|
| Physical state | : | Liquid |
| Color | : | Clear, Colorless |
| Odor | : | characteristic |

Safety data

- | | | |
|--------------------------|---|----------------|
| Flash point | : | 77 °C (170 °F) |
| Lower explosion limit | : | Not applicable |
| Upper explosion limit | : | Not applicable |
| Autoignition temperature | : | Not applicable |

Orfom® MCS

Version 1.7

Revision Date 2015-05-07

Molecular formula	: UVCB
Molecular weight	: Not applicable
pH	: Not applicable
Pour point	: -21 °C (-6 °F)
Boiling point/boiling range	: 207 - 274 °C (405 - 526 °F) Method: ASTM D 86
Vapor pressure	: 0.28 PSI Method: ASTM D5191
Relative density	: 0.8238 at 15 °C (59 °F)
Density	: 6.8 L/G
Water solubility	: Negligible
Partition coefficient: n-octanol/water	: No data available
Viscosity, kinematic	: 2.12 cSt at 40 °C (104 °F) Method: ASTM D 445
Relative vapor density	: Not applicable
Evaporation rate	: No data available

SECTION 10: Stability and reactivity

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

Possibility of hazardous reactions

Conditions to avoid	: Heat, flames and sparks.
Materials to avoid	: May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Hazardous decomposition products	: Hydrocarbons Carbon oxides
Other data	: No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

Orfom® MCS

Version 1.7

Revision Date 2015-05-07

Orfom® MCS**Acute oral toxicity**

: LD50 Oral: > 5,000 mg/kg
 Species: Rat
 Method: Acute toxicity estimate

Orfom® MCS**Acute inhalation toxicity**

: LC50: > 20 mg/l
 Species: Rat
 Test atmosphere: vapor
 Method: Acute toxicity estimate

Orfom® MCS**Acute dermal toxicity**

: LD50 Dermal: > 5,000 mg/kg
 Species: Rabbit
 Method: Acute toxicity estimate

Orfom® MCS**Skin irritation**

: Irritating to skin.
 May cause skin irritation in susceptible persons.

Orfom® MCS**Eye irritation**

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

Orfom® MCS**Sensitization**

: Did not cause sensitization on laboratory animals.
 Information refers to the main ingredient.

Repeated dose toxicity

Distillates (petroleum),
 Hydrotreated light

: Sex: male
 Application Route: inhalation (vapor)
 Dose: 0 , 500, 1000 mg/m3
 Exposure time: 13 wks
 Number of exposures: 24 h/d
 Lowest observable effect level: 500 mg/m3
 Method: OECD Guideline 413
 Target Organs: Liver

Application Route: inhalation (vapor)
 Dose: 0 , 500, 1000 mg/m3
 Exposure time: 13 wks
 Number of exposures: 24 h/d
 NOEL: > 1000 mg/m3
 Method: OECD Guideline 413
 No adverse effect has been observed in chronic toxicity tests.

Orfom® MCS**Carcinogenicity**

: Method: Estimated based on individual component values.
 Remarks: Not expected to be carcinogenic based on individual component data.

Developmental Toxicity

Distillates (petroleum),

: Species: Rat

Orfom® MCS

Version 1.7

Revision Date 2015-05-07

Hydrotreated light

Application Route: Inhalation
 Dose: 0, 106, 364 mg/l
 Exposure time: 6h/d
 Test period: GD 6 - 20
 NOAEL Teratogenicity: ≥ 364 mg/l
 NOAEL Maternal: ≥ 364 mg/l

Species: Rat
 Application Route: oral gavage
 Dose: 500, 1000, 1500, 2000 mg/kg/d
 Exposure time: 10 d
 Test period: GD 6 - 15
 Method: OECD Guideline 414
 NOAEL Teratogenicity: 1,000 mg/kg
 NOAEL Maternal: 500 mg/kg

Orfom® MCS**Aspiration toxicity**

: May be fatal if swallowed and enters airways.
 Substances known to cause human aspiration toxicity hazards or to be regarded as if they cause human aspiration toxicity hazard.

Orfom® MCS**Further information**

: Solvents may decrease the skin. Inhalation of high vapor concentrations can cause CNS-depression and narcosis.
 Solvents may decrease the skin.

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

Distillates (petroleum),
 Hydrotreated light : NOEC: 2 mg/l
 Exposure time: 96 h
 Species: *Salmo gairdneri* (Rainbow trout)
 Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates

Distillates (petroleum),
 Hydrotreated light : EL50: 1.4 mg/l
 Exposure time: 48 h
 Species: *Daphnia magna* (Water flea)
 static test Method: OECD Test Guideline 202

Toxicity to algae

Distillates (petroleum),
 Hydrotreated light : EL50: 1 - 3 mg/l
 Exposure time: 72 h
 Species: *Pseudokirchneriella subcapitata* (green algae)
 Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

Distillates (petroleum),
 Hydrotreated light : NOEC: 0.48 mg/l
 Exposure time: 21 Days

Orfom® MCS

Version 1.7

Revision Date 2015-05-07

Species: *Daphnia magna* (Water flea)

Elimination information (persistence and degradability)

Biodegradability : Taking into consideration the properties of several ingredients, the product is estimated to be biodegradable according to OECD classification.

Ecotoxicology Assessment

Acute aquatic toxicity : Toxic to aquatic life.

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

Toxicity Data on Soil : No data available

Other organisms relevant to the environment : No data available

Impact on Sewage Treatment : No data available

Results of PBT assessment : This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).

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

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., 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 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.

Orfom® MCS

Version 1.7

Revision Date 2015-05-07

US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)

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

Testing (ASTM D4206) has shown product does not sustain combustion.

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (DISTILLATES (PETROLEUM), HYDROTREATED LIGHT), 9, III, (77 °C), MARINE POLLUTANT, (DISTILLATES (PETROLEUM), HYDROTREATED LIGHT)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

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

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

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

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

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

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

SECTION 15: Regulatory information**National legislation**

SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard

CERCLA Reportable Quantity : Calculated RQ exceeds reasonably attainable upper limit.
Naphthalene

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

Orfom® MCS

Version 1.7

Revision Date 2015-05-07

Quantity 302 RQ.

SARA 302 Threshold Planning Quantity : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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

SARA 313 Ingredients : 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).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

- : Ethylbenzene - 100-41-4
- Benzene, dimethyl- - 1330-20-7
- Naphthalene - 91-20-3

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).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

- : Ethylbenzene - 100-41-4
- Benzene, dimethyl- - 1330-20-7

US State Regulations**Pennsylvania Right To Know**

- : Distillates (petroleum), Hydrotreated light - 64742-47-8
- Naphthalene - 91-20-3
- Ethylbenzene - 100-41-4
- Benzene, dimethyl- - 1330-20-7

New Jersey Right To Know

- : Distillates (petroleum), Hydrotreated light - 64742-47-8

Orfom® MCS

Version 1.7

Revision Date 2015-05-07

California Prop. 65 : WARNING! This product contains a chemical known in the
Ingredients State of California to cause cancer.

Notification status

Europe REACH : This mixture contains only ingredients which have been
subject to a pre-registration according to Regulation
(EU) No. 1907/2006 (REACH).

United States of America TSCA : On 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

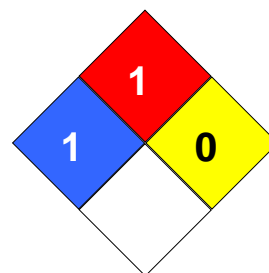
Korea KECI : On the inventory, or in compliance with the inventory

Philippines PICCS : 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: 1
Fire Hazard: 1
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%
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

Orfom® MCS

Version 1.7

Revision Date 2015-05-07

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%		