

**Orfom® MCS**

Version 1.5

Revision Date 2022-12-06

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

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier****Product information**

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

EC-No.Registration number

Chemical name	CAS-No. EC-No. Index No.	Legal Entity Registration number
Hydrocarbons, C12- C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)		Chevron Phillips Chemical Company LP 01-2120787012-59-0000

1.2**Relevant identified uses of the substance or mixture and uses advised against**

Relevant Identified Uses : Use in mining – industrial
 Supported

1.3**Details of the supplier of the safety data sheet**

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

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

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

1.4**Emergency telephone:**

Orfom® MCS

Version 1.5

Revision Date 2022-12-06

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: 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

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

Specific target organ toxicity - single exposure, Category 3, Central nervous system	H336: May cause drowsiness or dizziness.
Specific target organ toxicity - repeated	H372:

Orfom® MCS

Version 1.5

Revision Date 2022-12-06

exposure, Category 1 Causes damage to organs through prolonged or repeated exposure.
 Aspiration hazard, Category 1 H304:
 May be fatal if swallowed and enters airways.
 Long-term (chronic) aquatic hazard, H411:
 Category 2 Toxic to aquatic life with long lasting effects.

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

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H304 May be fatal if swallowed and enters airways.
 H336 May cause drowsiness or dizziness.
 H372 Causes damage to organs through prolonged or repeated exposure.
 H411 Toxic to aquatic life with long lasting effects.

Precautionary Statements : **Prevention:**
 P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
 P273 Avoid release to the environment.
Response:
 P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
 P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
 P331 Do NOT induce vomiting.
 P391 Collect spillage.

Hazardous ingredients which must be listed on the label:

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

2.3**Other hazards**

Results of PBT and vPvB assessment : This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT). This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Orfom® MCS

Version 1.5

Revision Date 2022-12-06

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

Synonyms : Low Aromatic Solvent
Solvent
Solvent Extraction Diluent

Molecular formula : UVCB

Hazardous ingredients

Chemical name	CAS-No. EC-No. Index No.	Classification (REGULATION (EC) No 1272/2008)	Concentration [wt%]	Specific Conc. Limits, M-factors and ATEs
Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)		STOT SE 3; H336 STOT RE 1; H372 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	100	

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

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

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

If inhaled : 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. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

4.2 Most important symptoms and effects, both acute and delayed**Notes to physician**

Symptoms : No data available.

Risks : No data available.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : No data available.

Orfom® MCS

Version 1.5

Revision Date 2022-12-06

SECTION 5: Firefighting measures

Flash point : 79-80°C (174-176°F)

Autoignition temperature : 227°C (441°F)

5.1**Extinguishing media**Suitable extinguishing media : Carbon dioxide (CO₂).

Unsuitable extinguishing media : High volume water jet.

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

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

5.3**Advice for firefighters**

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

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

Fire and explosion protection : Do not spray on a naked flame or any incandescent material. Keep away from open flames, hot surfaces and sources of ignition.

Hazardous decomposition products : Hydrocarbons. Carbon oxides.

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

Personal precautions : Use personal protective equipment. Ensure adequate ventilation.

6.2**Environmental precautions**

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

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

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

Orfom® MCS

Version 1.5

Revision Date 2022-12-06

6.4 **Reference to other sections**

local / national regulations (see section 13). Keep in suitable, closed containers for disposal.

Reference to other sections

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

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

Advice on safe handling : Avoid formation of aerosol. Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. 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 a naked flame or any incandescent material. Keep away from open flames, hot surfaces and sources of ignition.

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

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

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

Zložky	Podstata	Hodnota	Kontrolné parametre	Poznámka
Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	SK OEL	NPEL priemerný	50 ppm, 300 mg/m ³	
	SK OEL	NPEL krátkodobý	100 ppm, 600 mg/m ³	
	SK OEL	NPEL priemerný	5 ppm, 1 mg/m ³	13,
	SK OEL	NPEL krátkodobý	15 ppm, 3 mg/m ³	13,
	SK OEL	NPEL krátkodobý	15 ppm, 3 mg/m ³	kvapalný aerosól
	SK OEL	NPEL priemerný	5 ppm, 1 mg/m ³	kvapalný aerosól
	SK OEL	NPEL priemerný	5 ppm, 1 mg/m ³	Dymy
	SK OEL	NPEL krátkodobý	15 ppm, 3 mg/m ³	Dymy

13 Limit sa vzťahuje na hydraulické a obrábacie kvapaliny a mazivá. Niektoré oleje môžu obsahovať polycyklické aromatické uhľovodíky a pri zahrievaní ich môžu uvoľňovať. Treba to brať do úvahy pri meraní a hodnotení rizika.

SI

Sestavine	Osnova	Vrednost	Parametri nadzora	Pripomba
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Orfom® MCS

Version 1.5

Revision Date 2022-12-06

Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	SI OEL	MV	300 mg/m3	
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SE

Beståndsdelar	Grundval	Värde	Kontrollparametrar	Anmärkning
Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	SE AFS	NGV	350 mg/m3	19,
	SE AFS	KGV	500 mg/m3	19,
	SE AFS	NGV	30 ppm, 175 mg/m3	H,
	SE AFS	KGV	60 ppm, 350 mg/m3	V, H,
	SE AFS	NGV	1 mg/m3	Dimma
	SE AFS	KGV	3 mg/m3	V, Dimma

19 Gränsvärdet avser kolväten i ångform dvs. upp till 12 kolatomer. Vid exponering för kolväten med mer än 12 kolatomer som förekommer i form av aerosol, partiklar eller vätskedroppar, tillämpas gränsvärdet för organiskt damm och dimma, 5 mg/m3. Gränsvärdet gäller inte för aromatfri lacknafta (< 2 viktsprocent) som har eget gränsvärde.

H Ämnet kan lätt upptas genom huden.

V Vägledande korttidsgränsvärde ska användas som ett rekommenderat högsta värde som inte bör överskridas

RO

Componente	Sursă	Valoare	Parametri de control	Notă
Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	RO OEL	TWA	5 mg/m3	
	RO OEL	STEL	10 mg/m3	

PT

Componentes	Bases	Valor	Parâmetros de controlo	Nota
Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	PT OEL	VLE-MP	200 mg/m3	P, A3, (P), irritação do TRS, afeção do SNC,
	PT OEL	VLE-MP	5 mg/m3	(O), (),
	PT OEL	VLE_CD	10 mg/m3	(),

() Os valores ou características encontram-se propostos para alteração

(O) A amostragem deve ser realizada com um método que não recolha vapor.

(P) Aplicação restrita às condições nas quais são negligenciáveis as exposições a aerossóis

A3 Agente carcinogénico confirmado nos animais de laboratório com relevância desconhecida no Homem.

afeção do SNC afeção do sistema nervoso central

irritação do TRS irritação do trato respiratório superior

TRS

P Perigo de absorção cutânea

PL

Składniki	Podstawa	Wartość	Parametry dotyczące kontroli	Uwaga
Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	PL NDS	NDS	5 mg/m3	Aerosol
	PL NDS	NDSch	10 mg/m3	Aerosol
	PL NDS	NDS	300 mg/m3	
	PL NDS	NDSch	900 mg/m3	

NO

Komponenter	Grunnlag	Verdi	Kontrollparametrer	Nota
Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	FOR-2011-12-06-1358	GV	50 ppm, 275 mg/m3	
	FOR-2011-12-06-1358	GV	40 ppm, 275 mg/m3	
	FOR-2011-12-06-1358	GV	50 mg/m3	Damp
	FOR-2011-12-06-1358	GV	1 mg/m3	Tåke - partikler

NL

Bestanddelen	Basis	Waarde	Controleparameters	Opmerking
Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	NL WG	TGG-8 uur	5 mg/m3	
	NL WG	TGG-8 uur	5 mg/m3	Nevels

LV

Sastāvdaļas	Bāze	Vērtība	Pārvaldības parametri	Piezīme
Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	LV OEL	AER 8 st	5 mg/m3	

SDS Number:100000101815

7/20

Orfom® MCS

Version 1.5

Revision Date 2022-12-06

LT

Komponentai	Šaltinis	Vertė	Kontrolės parametrai	Pastaba
Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	LT OEL	IPRD	350 mg/m ³	
	LT OEL	TPRD	500 mg/m ³	

IS

Komponenter	Grunnlag	Verdi	Kontrollparametrer	Nota
Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	IS OEL	TWA	1 mg/m ³	Particles (mist)

HU

Komponensek	Bázis	Érték	Ellenőrzési paraméterek	Megjegyzés
Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	HU OEL	MK-érték	5 mg/m ³	k, Kód
k Rákkeltő				

HR

Sastojci	Temelj	Vrijednost	Nadzorni parametri	Bilješka
Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	HR OEL	GVI	100 ppm, 400 mg/m ³	

GR

Συστατικά	Βάση	Τιμή	Παράμετροι ελέγχου	Σημείωση
Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	GR OEL	TWA	5 mg/m ³	Ομίχλη

FI

Aineosat	Peruste	Arvo	Valvontaa koskevat muuttujat	Huomautus
Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	FI OEL	HTP-arvot 8h	5 mg/m ³	Sumu

ES

Componentes	Base	Valor	Parámetros de control	Nota
Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	ES VLA	VLA-ED	5 mg/m ³	Niebla
	ES VLA	VLA-EC	10 mg/m ³	Niebla

EE

Komponendid, osad	Alused	Väärtus	Kontrolliparameetrid	Märkused
Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	EE OEL	Piirnorm	350 mg/m ³	11,
	EE OEL	Lühiajalise kokkupuute piirnorm	500 mg/m ³	11,
	EE OEL	Piirnorm	5 mg/m ³	
	EE OEL	Piirnorm	1 mg/m ³	Aur

11 Süsivesinike piirnormid on arvutatud auru faasile. Üle 12 süsinikuaatomiga alifaatsetel süsivesinikel (tridekaanid ja kõrgemad) on 20 °C juures küllastussisaldus < 350 mg/m³. Aerosoolsete süsivesinike piirnorm on 5 mg/m³.

DK

Komponenter	Basis	Værdi	Kontrolparametre	Note
Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	DK OEL	GV	1 mg/m ³	tåge og partikler

CZ

Složky	Základ	Hodnota	Kontrolní parametry	Poznámka
Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	CZ OEL	PEL	5 mg/m ³	Aerosol
	CZ OEL	NPK-P	10 mg/m ³	Aerosol

CY

Συστατικά	Βάση	Τιμή	Παράμετροι ελέγχου	Σημείωση
Hydrocarbons, C12-C16, n-alkanes,	CY OEL 2	M.E.Σ.	5 mg/m ³	

Orfom® MCS

Version 1.5

Revision Date 2022-12-06

isoalkanes, cyclics, aromatics (2-25%)				
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CH

Inhaltsstoffe	Grundlage	Wert	Zu überwachende Parameter	Bemerkung
Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	CH SUVA	MAK-Wert	100 ppm, 525 mg/m3	OSHA,
	CH SUVA	MAK-Wert	5 mg/m3	OSHA, SSc, einatembare Aerosole
	CH SUVA	KZGW	100 ppm, 700 mg/m3	OSHA, SSc, Dampf
	CH SUVA	MAK-Wert	50 ppm, 350 mg/m3	OSHA, SSc, Dampf

OSHA Occupational Safety and Health Administration

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

BG

Съставки	Основа	Стойност	Параметри на контрол	Бележка
Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	BG OEL	TWA	5 mg/m3	

BE

Bestanddelen	Basis	Waarde	Controleparameters	Opmerking
Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	BE OEL	TGG 8 hr	200 mg/m3	D,

D Opname van het agens via de huid, de slijmvliezen of de ogen vormt een belangrijk deel van de totale blootstelling. Deze opname kan het gevolg zijn van zowel direct contact als zijn aanwezigheid in de lucht.

8.2

Exposure controls Engineering measures

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

Personal protective equipment

Respiratory protection : 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.

Orfom® MCS

Version 1.5

Revision Date 2022-12-06

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

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

Physical state	: liquid
Color	: Clear, Colorless
Odor	: characteristic

Safety data

Flash point	: 79-80°C (174-176°F)
Lower explosion limit	: Not applicable
Upper explosion limit	: Not applicable
Autoignition temperature	: 227°C (441°F)
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	: < 1,00 PSI at 20°C (68°F) Method: Reid < 1,00 PSI at 38°C (100°F) Method: Reid
Relative density	: 0,810 - 0,850 at 15 °C (59 °F)
Density	: 6,8 - 7,1 L/G
Water solubility	: negligible
Partition coefficient: n-octanol/water	: No data available

Orfom® MCS

Version 1.5

Revision Date 2022-12-06

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**10.1**

Reactivity : Stable under recommended storage conditions.

10.2

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

10.3**Possibility of hazardous reactions**

Hazardous reactions : Hazardous reactions: Hazardous polymerization does not occur.

Hazardous reactions: Vapors may form explosive mixture with air.

10.4

Conditions to avoid : Heat, flames and sparks.

10.5

Materials to avoid : Strong oxidizing agents.

10.6

Hazardous decomposition products : Hydrocarbons
Carbon oxides

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

SECTION 11: Toxicological information**11.1****Information on toxicological effects****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

Orfom® MCS

Version 1.5

Revision Date 2022-12-06

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

Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)

: 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® MCS

Version 1.5

Revision Date 2022-12-06

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

Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)

: 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.

Orfom® MCS

Version 1.5

Revision Date 2022-12-06

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

Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%) : Test Type: Micronucleus test
 Species: Mouse
 Route of Application: Intraperitoneal injection
 Method: OECD Test Guideline 474
 Result: negative

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Carcinogenicity**

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

Reproductive toxicity

Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%) : 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

Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%) : 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

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Aspiration toxicity**

: May be fatal if swallowed and enters airways.

11.2**Information on other hazards**

Orfom® MCS

Version 1.5

Revision Date 2022-12-06

Orfom® MCS**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.

Endocrine disrupting properties

: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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

Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%) : LL50: 10 - 30 mg/l
Exposure time: 96 h
Species: Fish
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates

Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%) : EL50: 10 - 22 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)
static test Method: OECD Test Guideline 202

Toxicity to algae

Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%) : 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)

Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%) : NOEC: 0,48 mg/l
Exposure time: 21 Days
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211

12.2**Persistence and degradability**

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

12.3**Bioaccumulative potential**

Elimination information (persistence and degradability)

Orfom® MCS

Version 1.5

Revision Date 2022-12-06

Bioaccumulation

Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%) : This material is not expected to bioaccumulate.

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

Hydrocarbons, C12-C16, n-alkanes, isoalkanes, cyclics, aromatics (2-25%) : Medium: Air
Method: Calculation, Mackay Level III Fugacity Model
Content: 96 %

: 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 %

12.5**Results of PBT and vPvB assessment**

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

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6**Endocrine disrupting properties**

Endocrine disrupting properties : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7**Other adverse effects**

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.

Orfom® MCS

Version 1.5

Revision Date 2022-12-06

12.8**Additional Information****Ecotoxicology Assessment**

Short-term (acute) aquatic hazard : Toxic to aquatic life.

Long-term (chronic) aquatic hazard : Toxic to aquatic life with long lasting effects.

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

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

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

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

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

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

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

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

US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)

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, (79 - 80 °C c.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, (-)

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
TANK VESSELS: ID9003, SUBSTANCES WITH A FLASH-POINT ABOVE 60°C AND NOT MORE THAN 100°C, 9"

Other information	:	This product is being carried under the scope of MARPOL Annex I
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Maritime transport in bulk according to IMO instruments

SECTION 15: Regulatory information**15.1****Safety, health and environmental regulations/legislation specific for the substance or mixture
National legislation**

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

Water hazard class (Germany) : WGK 1 slightly water endangering
VwVwS
Not classified as carcinogenic (H350)

15.2

Major Accident Hazard Legislation : 96/82/EC Update:
Not applicable

: ZEU_SEVES3 Update:
ENVIRONMENTAL HAZARDS
E2
Quantity 1: 200 t

Orfom® MCS

Version 1.5

Revision Date 2022-12-06

Quantity 2: 500 t

: ZEU_SEVES3 Update:

Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams),(d) heavy fuel oils (e) alternative fuels serving the same purposes and with similar properties as regards flammability and environmental hazards as the products referred to in points (a) to (d)

34

Quantity 1: 2.500 t

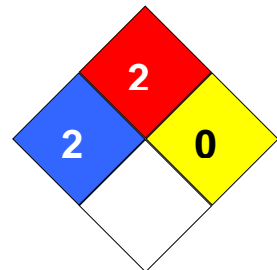
Quantity 2: 25.000 t

Notification status

Europe REACH	:	This product is in full compliance according to REACH regulation 1907/2006/EC.
Switzerland CH INV	:	On the inventory, or in compliance with the inventory
United States of America (USA) TSCA	:	On or in compliance with the active portion of the TSCA inventory
Canada DSL	:	All components of this product are on the Canadian DSL
Australia 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
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**

Legacy SDS Number : 98120

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 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
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

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

H304	May be fatal if swallowed and enters airways.
H336	May cause drowsiness or dizziness.
H372	Causes damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.