

Orfom® MCO (Flotation Oil)

Version 2.10

Revision Date 2024-04-08

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

Product Name : Orfom® MCO (Flotation Oil)
 Material : 1119702, 1119671, 1119669, 1119668, 1119693, 1119692,
 1119650, 1117263, 1114151, 1108013, 1104301, 1096190,
 1086158, 1016847, 1016846

Use : Mineral Processing Aide

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

Emergency telephone:**Health:**

866.442.9628 (North America)

1.832.813.4984 (International)

Transport:

CHEMTREC 800.424.9300 or 703.527.3887(int'l)

Asia: CHEMWATCH (+612 9186 1132) China: 0532 8388 9090

Mexico CHEMTREC 01-800-681-9531 (24 hours)

South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600

Argentina: +(54)-1159839431

EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Austria: VIZ +43 1 406 43 43 (24 hours/day, 7 days/week)

Belgium: 070 245 245 (24 hours/day, 7 days/week)

Bulgaria: +359 2 9154 233

Croatia: +3851 2348 342 (24 hours/day, 7 days/week)

Cyprus: 1401

Czech Republic: Toxicological Information Center +420 224 919 293, +420 224 915 402

Denmark: Danish Poison Center (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)

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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;

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**Classification of the substance or mixture**

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

Classification

: Flammable liquids, Category 4
 Acute toxicity, Category 4, Inhalation
 Skin irritation, Category 2
 Carcinogenicity, Category 1B
 Reproductive toxicity, Category 2
 Specific target organ toxicity - repeated exposure, Category 2,
 Blood, Liver, thymus gland
 Aspiration hazard, Category 1

Labeling

Symbol(s) :



Signal Word :

: Danger

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Hazard Statements : H227: Combustible liquid.
 H304: May be fatal if swallowed and enters airways.
 H315: Causes skin irritation.
 H332: Harmful if inhaled.
 H350: May cause cancer.
 H361: Suspected of damaging fertility or the unborn child.
 H373: May cause damage to organs (Blood, Liver, thymus gland) through prolonged or repeated exposure.

Precautionary Statements : **Prevention:**
 P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
 P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
 P264 Wash skin thoroughly after handling.
 P271 Use only outdoors or in a well-ventilated area.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
 P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
 P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
 P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
 P308 + P313 IF exposed or concerned: Get medical advice/ attention.
 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 to extinguish.
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**

Group 2A: Probably carcinogenic to humans
 Polynuclear Aromatics 130498-29-2
 Group 2B: Possibly carcinogenic to humans
 Decant (clarified) Oils 64741-62-4
 Light Cycle Oil 64741-59-9
 Naphthalene 91-20-3

NTP

Known to be human carcinogen
 Light Cycle Oil 64741-59-9
 Reasonably anticipated to be a human carcinogen
 Naphthalene 91-20-3

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Polynuclear Aromatics

130498-29-2

SECTION 3: Composition/information on ingredients

Synonyms : Collector

Molecular formula : Mixture

Component	CAS-No.	Weight %
Decant (clarified) Oils	64741-62-4	0 - 80
Light Cycle Oil	64741-59-9	0 - 80
Naphthalene	91-20-3	0 - 4
Polynuclear Aromatics	130498-29-2	0 - 0.8

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. 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 : >60°C (>140°F)
Method: PMCC

Autoignition temperature : No data available

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.

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- 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 : Carbon oxides. Sulfur 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.
- 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 in a 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.
- Use : Mineral Processing Aide

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SECTION 8: Exposure controls/personal protection**Ingredients with workplace control parameters****US**

Components	Basis	Value	Control parameters	Note
Naphthalene	ACGIH	TWA	10 ppm,	A3, Skin,
	ACGIH	STEL	15 ppm,	hematologic eff, URT irr, eye irr, eye dam, (), A4, Skin,
	OSHA Z-1	TWA	10 ppm, 50 mg/m3	
	OSHA Z-1-A	TWA	10 ppm, 50 mg/m3	
	OSHA Z-1-A	STEL	15 ppm, 75 mg/m3	

- () Adopted values or notations enclosed are those for which changes are proposed in the NIC
- A3 Confirmed animal carcinogen with unknown relevance to humans
- A4 Not classifiable as a human carcinogen
- eye dam Eye damage
- eye irr Eye irritation
- hematologic eff Hematologic effects
- Skin Danger of cutaneous absorption
- URT irr Upper Respiratory Tract irritation

Immediately Dangerous to Life or Health Concentrations (IDLH)

Substance name	CAS-No.	Control parameters	Update
Naphthalene	91-20-3	Immediately Dangerous to Life or Health Concentration Value 250 parts per million	1995-03-01
		Immediately Dangerous to Life or Health Concentration Value 250 parts per million	1995-03-01

Biological exposure indices**US**

Substance name	CAS-No.	Control parameters	Sampling time	Update
Polynuclear Aromatics	130498-29-2	1-Hydroxypyrene: 2.5 µg/l Adjusted for the Pyrene to Benzo(a)pyrene ratio of the PAH mixture to which workers are exposed (Urine) Background () With hydrolyses ()	End of shift at end of workweek	2018-03-20
		3-hydroxybenzo(a)pyrene: Nonquantitative (Urine) With hydrolyses ()	End of shift at end of workweek	2018-03-20

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

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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. 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 : Black
 Odor : Mild

Safety data

- Flash point : >60°C (>140°F)
 Method: PMCC
- Lower explosion limit : No data available
- Upper explosion limit : No data available
- Autoignition temperature : No data available
- Molecular formula : Mixture
- Molecular weight : Not applicable
- pH : Not applicable
- Pour point : No data available
- Boiling point/boiling range : 165-538°C (329-1,000°F)
- Vapor pressure : 1.00 MMHG
 at 21°C (70°F)
 estimated
- Relative density : 1.01

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at 15.6 °C (60.1 °F)

Density	:	8.41 L/G
Water solubility	:	negligible
Partition coefficient: n-octanol/water	:	No data available
Viscosity, kinematic	:	16 - 22 cSt at 40°C (104°F)
Relative vapor density	:	3 (Air = 1.0)
Evaporation rate	:	1

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: Hazardous polymerization does not occur. Hazardous reactions: Vapors may form explosive mixture with air.
Conditions to avoid	:	Heat, flames and sparks.
Materials to avoid	:	May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Hazardous decomposition products	:	Carbon oxides Sulfur oxides
Other data	:	No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

Orfom® MCO (Flotation Oil) Acute oral toxicity	:	Acute toxicity estimate: 2,500 mg/kg Method: Calculation method
Orfom® MCO (Flotation Oil) Acute inhalation toxicity	:	Acute toxicity estimate: 2.72 mg/l

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Exposure time: 4 h
 Test atmosphere: dust/mist
 Method: Calculation method

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Acute dermal toxicity : Acute toxicity estimate: > 2,000 mg/kg
 Method: Calculation method

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Skin irritation : Skin irritation
 largely based on animal evidence.

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

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Sensitization : Did not cause sensitization on laboratory animals.

Repeated dose toxicity

Decant (clarified) Oils : Species: Rat, male and female
 Sex: male and female
 Application Route: Dermal
 Dose: 1.06, 10.6, 53, 106, 530 mg/kg
 Exposure time: 13 wk
 Number of exposures: 6h;5d/wk
 NOEL: 1.06 mg/kg
 Method: OPPTS 870.3250
 Target Organs: Liver, Blood, Thymus
 Information given is based on data obtained from similar
 substances.

Light Cycle Oil

Species: Rat, males
 Sex: males
 Application Route: Dermal
 Dose: 0, 8, 25, 125, 500, 1250 mg/kg
 Exposure time: 90 day
 Number of exposures: 5 days/wk
 NOEL: 25 mg/kg
 Target Organs: Blood, Liver, Thymus

Species: Rat, females
 Sex: females
 Application Route: Dermal
 Dose: 0, 8, 25, 125, 500, 1250 mg/kg
 Exposure time: 90 day
 Number of exposures: 5 days/wk
 NOEL: 125 mg/kg
 Target Organs: Blood, Liver, Thymus

Genotoxicity in vitro

Decant (clarified) Oils : Test Type: Modified Ames test
 Result: positive

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	Test Type: Mouse lymphoma assay Result: positive
	Test Type: Sister Chromatid Exchange Assay Result: positive
	Test Type: Unscheduled DNA synthesis assay Result: positive
	Test Type: Cell transformation assay Result: Ambiguous
Light Cycle Oil	Test Type: Modified Ames test Result: positive
	Test Type: Mouse lymphoma assay Result: positive
	Test Type: Sister Chromatid Exchange Assay Result: negative
Naphthalene	Test Type: Ames test Result: negative
	Test Type: Sister Chromatid Exchange Assay Result: negative
	Test Type: Unscheduled DNA synthesis assay Result: negative

Genotoxicity in vivo

Decant (clarified) Oils	: Test Type: Sister Chromatid Exchange Assay Result: positive
Light Cycle Oil	Test Type: Cytogenetic assay Result: negative
Naphthalene	Test Type: Mouse micronucleus assay Result: negative

Carcinogenicity

Naphthalene	: Species: Mouse Sex: male Dose: 10, 30 ppm Exposure time: 105 weeks Number of exposures: 6 hours/day, 5 days/week Test substance: yes Print Date: No information available. Remarks: No evidence of carcinogenicity
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Species: Mouse
 Sex: female
 Dose: 10, 30 ppm
 Exposure time: 105 weeks
 Number of exposures: 6 hours/day, 5 days/week
 Test substance: yes
 Print Date: No information available.
 Remarks: increased incidence of alveolar/bronchiolar adenomas

Species: Rat
 Sex: male and female
 Dose: 10, 30, 60 ppm
 Exposure time: 105 weeks
 Number of exposures: 6 hours/day, 5 days/week
 Test substance: yes
 Print Date: No information available.
 Remarks: nose respiratory epithelial adenoma, increased incidence of olfactory neuroblastomas

Developmental Toxicity

Decant (clarified) Oils : Species: Rat
 Application Route: Dermal
 Dose: 0, 0.05, 1, 50, 250 mg/kg/bw/d
 Exposure time: 6h/d
 Number of exposures: daily
 Test period: GD 0-19
 NOAEL Teratogenicity: 0.05 mg/kg
 NOAEL Maternal: 0.05 mg/kg
 Suspected of damaging fertility or the unborn child.

Light Cycle Oil : Species: Rat
 Application Route: Dermal
 Dose: 1, 50, 250 mg/kg/d
 Number of exposures: once daily
 Test period: GD 0-19
 Method: OECD Guideline 414
 NOAEL Teratogenicity: 1 mg/kg
 NOAEL Maternal: 1 mg/kg

Naphthalene : Species: Rabbit
 Application Route: oral gavage
 Dose: 40, 200, 400 mg/kg
 Test period: 29 d, GD 6-18
 NOAEL Teratogenicity: 400 mg/kg

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Aspiration toxicity**

: May be fatal if swallowed and enters airways.

CMR effects

Decant (clarified) Oils : Carcinogenicity: Possible human carcinogen
 Reproductive toxicity: Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

Light Cycle Oil : Carcinogenicity: Possible human carcinogen

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Naphthalene Carcinogenicity: Limited evidence of carcinogenicity in animal studies

Polynuclear Aromatics Carcinogenicity: Human carcinogen.
Mutagenicity: In vivo tests showed mutagenic effects

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Further information**

: Solvents may degrease the skin. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

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

Decant (clarified) Oils : LL50: 79 mg/l
Exposure time: 96 h
semi-static test Method: OECD Test Guideline 203
Information given is based on data obtained from similar substances.

Light Cycle Oil LL50: > 0.3 mg/l
Exposure time: 96 h
Species: Oncorhynchus mykiss (rainbow trout)
semi-static test Method: OECD Test Guideline 203

Naphthalene LC50: 3.2 mg/l
Exposure time: 96 h
Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates

Decant (clarified) Oils : EL50: 0.22 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)
static test Method: OECD Test Guideline 202

Light Cycle Oil EL50: 0.32 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)
Immobilization Method: OECD Test Guideline 202

Naphthalene LC50: 2.16 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)

Toxicity to algae

Decant (clarified) Oils : EL50: 0.32 mg/l
Exposure time: 72 h
static test Method: OECD Test Guideline 201

Light Cycle Oil EL50: 0.51 mg/l
Exposure time: 72 h
Species: Pseudokirchneriella subcapitata (green algae)

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Growth inhibition Method: OECD Test Guideline 201

Naphthalene

EC50: 2.96 mg/l

Exposure time: 48 h

Species: *Selenastrum capricornutum* (algae)**M-Factor**Clarified oils (petroleum),
catalytic cracked

: M-Factor (Acute Aquat. Tox.) 1

M-Factor (Chron. Aquat. Tox.) 1

M-FactorDistillates (petroleum), light
catalytic cracked

: M-Factor (Acute Aquat. Tox.) 1

M-Factor (Chron. Aquat. Tox.) 1

Biodegradability

Decant (clarified) Oils

: This material is not expected to be readily biodegradable.
Expected to be inherently biodegradable.

Light Cycle Oil

: aerobic
56.32 %

Testing period: 28 d

Method: OECD Test Guideline 301F

Expected to be inherently biodegradable.

Bioaccumulation

Decant (clarified) Oils

: The product may be accumulated in organisms.

Light Cycle Oil

: The product may be accumulated in organisms.

Mobility

Decant (clarified) Oils

: No data available

Light Cycle Oil

: No data available

Results of PBT assessment

Decant (clarified) Oils

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

Light Cycle Oil

: 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., Very toxic to aquatic life
with long lasting effects.**Ecotoxicology Assessment**

Short-term (acute) aquatic hazard

Decant (clarified) Oils

: Very toxic to aquatic life.

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Light Cycle Oil	: Very toxic to aquatic life.
Naphthalene	: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard Decant (clarified) Oils	: Very toxic to aquatic life with long lasting effects.
Light Cycle Oil	: Very toxic to aquatic life with long lasting effects.
Naphthalene	: Very 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.

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., (DECANT (CLARIFIED) OILS, LIGHT CYCLE OIL), 9, III, (> 60 °C c.c.), MARINE POLLUTANT, (DECANT (CLARIFIED) OILS, LIGHT CYCLE OIL)

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IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (DECANT (CLARIFIED) OILS, LIGHT CYCLE OIL), 9, III

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

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (DECANT (CLARIFIED) OILS, LIGHT CYCLE OIL), 9, III, (-)

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

90, UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (DECANT (CLARIFIED) OILS, LIGHT CYCLE OIL), 9, III

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

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (DECANT (CLARIFIED) OILS, LIGHT CYCLE OIL), 9, III

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

SARA 311/312 Hazards	: Flammable (gases, aerosols, liquids, or solids) Acute toxicity (any route of exposure) Carcinogenicity Reproductive toxicity Specific target organ toxicity (single or repeated exposure) Skin corrosion or irritation Aspiration hazard
CERCLA Reportable Quantity	: 2500 lbs Naphthalene
SARA 302 Reportable Quantity	: Calculated RQ exceeds reasonably attainable upper limit. Pyrene
SARA 302 Threshold Planning Quantity	: This material does not contain any components with a section 302 EHS TPQ.
SARA 304 Reportable Quantity	: Calculated RQ exceeds reasonably attainable upper limit. Pyrene 129-00-0 5000 lbs

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SARA 313 Components : The following components are subject to reporting levels established by SARA Title III, Section 313:

: Naphthalene - 91-20-3

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 112 (40 CFR 61):

: 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).

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

US State Regulations**Pennsylvania Right To Know**

: Decant (clarified) Oils - 64741-62-4
 Light Cycle Oil - 64741-59-9
 Naphthalene - 91-20-3
 Polynuclear Aromatics - 130498-29-2
 Xylenes - 1330-20-7
 p-xylene - 106-42-3
 m-xylene - 108-38-3
 Toluene - 108-88-3
 o-xylene - 95-47-6
 Phenanthrene - 85-01-8
 Ethylbenzene - 100-41-4

California Prop. 65 Components : WARNING: This product can expose you to chemicals including [listed below], which is [are] known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov/food.

Decant (clarified) Oils
 Naphthalene

64741-62-4
 91-20-3

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Polynuclear Aromatics	130498-29-2
Phenanthrene	85-01-8
Ethylbenzene	100-41-4
Pyrene	129-00-0
Fluorene	86-73-7
Benzene	71-43-2

WARNING: This product can expose you to chemicals including [listed below], which is [are] known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

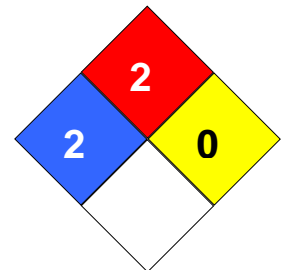
Toluene	108-88-3
Benzene	71-43-2

Notification status

Europe REACH	:	Not in compliance with the inventory
Switzerland CH INV	:	Not in compliance with the inventory
United States of America (USA) TSCA	:	On or in compliance with the active portion of the TSCA inventory
Canada DSL	:	All components of this product are on the Canadian DSL
Australia AIC	:	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	:	Not 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 : 59730

Orfom® MCO (Flotation Oil)

Version 2.10

Revision Date 2024-04-08

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