

**Orfom® MCO (Flotation Oil)**

Version 2.12

Revision Date 2024-04-08

according to GB/T 16483 and GB/T 17519

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

Product Name : Orfom® 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**

**GHS Classification and Labeling: Follow GB 13690, GB 15258 and GB 30000.2 to GB 30000.29 (GHS 2011)**

**Emergency Overview****Danger**

**Physical state:** liquid    **Color:** Black    **Odor:** Mild

**Hazards** : Combustible liquid. May be harmful if swallowed. Harmful if inhaled. Causes skin irritation. May cause cancer. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. May be fatal if swallowed and enters airways. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

**Classification**

: Flammable liquids, Category 4  
 Acute toxicity, Category 5, Oral  
 Acute toxicity, Category 4, Inhalation  
 Skin corrosion/irritation, Category 2  
 Carcinogenicity, Category 1B

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Reproductive toxicity, Category 2  
 Specific target organ toxicity - repeated exposure, Category 2,  
 Blood, Liver, thymus gland  
 Aspiration hazard, Category 1  
 Short-term (acute) aquatic hazard, Category 1  
 Long-term (chronic) aquatic hazard, Category 1

**Labeling**

Symbol(s)



Signal Word

: Danger

Hazard Statements

: H227: Combustible liquid.  
 H303: May be harmful if swallowed.  
 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.  
 H410: Very toxic to aquatic life with long lasting effects.

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.  
 P273: Avoid release to the environment.  
 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 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.  
 P312: Call a POISON CENTER/doctor if you feel unwell.  
 P331: Do NOT induce vomiting.  
 P332 + P313: If skin irritation occurs: Get medical advice/ attention.  
 P362+P364: Take off contaminated clothing and wash it before reuse.  
 P370+P378: In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.  
 P391: Collect spillage.  
**Storage:**  
 P403 + P235: Store in a well-ventilated place. Keep cool.  
 P405: Store locked up.  
**Disposal:**

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

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

Synonyms : Collector

Molecular formula : Mixture

Chemical name	CAS-No. / EINECS-No.	Concentration [wt%]
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 (CO<sub>2</sub>).

Unsuitable extinguishing media : High volume water jet.

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

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fighting	courses.
Special protective equipment for fire-fighters	: Wear self-contained breathing apparatus for firefighting if necessary.
Further information	: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.
Fire and explosion protection	: Do not spray on a naked flame or any incandescent material. Keep away from open flames, hot surfaces and sources of ignition.
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
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installations / working materials must comply with the technological safety standards.

Use : Mineral Processing Aide

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

Components	Basis	Value	Control parameters	Note
Naphthalene	CN OEL	PC-TWA	50 mg/m3	G2B, Skin,
	CN OEL	PC-STEL	75 mg/m3	G2B, Skin,
G2B Skin G2B - Possibly carcinogenic to humans Skin				

Not applicable

**CN**

Substance name	CAS-No.	Control parameters	Sampling time	Update

**Engineering measures**

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

**Personal protective equipment**

Respiratory protection : If ventilation or other engineering controls are not adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure, a supplied-air NIOSH approved respirator may be appropriate. If exposure to harmful levels of airborne material may occur, a NIOSH approved respirator that provides protection may be appropriate, such as:. A positive pressure, air-supplying respirator may be appropriate if there is potential for uncontrolled release, aerosolization, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.

Hand protection : The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Eye protection : Eye wash bottle with pure water. Tightly fitting safety goggles.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Wear as appropriate:. Flame retardant protective clothing. Footwear protecting against chemicals.

Hygiene measures : When using do not eat or drink. When using do not smoke.

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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  
 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**

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<b>Reactivity</b>	: Stable under recommended storage conditions.
<b>Chemical stability</b>	: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
<b>Possibility of hazardous reactions</b>	
<b>Hazardous reactions</b>	: Hazardous reactions: Hazardous polymerization does not occur.  Hazardous reactions: Vapors may form explosive mixture with air.
<b>Conditions to avoid</b>	: Heat, flames and sparks.
<b>Materials to avoid</b>	: May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
<b>Hazardous decomposition products</b>	: Carbon oxides Sulfur oxides
<b>Other data</b>	: No decomposition if stored and applied as directed.

**SECTION 11: Toxicological information**

<b>Orfom® MCO (Flotation Oil) Acute oral toxicity</b>	: Acute toxicity estimate: 2,500 mg/kg Method: Calculation method
<b>Orfom® MCO (Flotation Oil) Acute inhalation toxicity</b>	: Acute toxicity estimate: 2.72 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
<b>Orfom® MCO (Flotation Oil) Acute dermal toxicity</b>	: Acute toxicity estimate: > 2,000 mg/kg Method: Calculation method
<b>Orfom® MCO (Flotation Oil) Skin irritation</b>	: Skin irritation largely based on animal evidence.
<b>Orfom® MCO (Flotation Oil) Eye irritation</b>	: Vapors may cause irritation to the eyes, respiratory system and the skin.
<b>Orfom® MCO (Flotation Oil) Sensitization</b>	: Did not cause sensitization on laboratory animals.
<b>Repeated dose toxicity</b>	



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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

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

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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

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

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	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
<b>Orfom® MCO (Flotation Oil)</b>	
<b>Aspiration toxicity</b>	: May be fatal if swallowed and enters airways.
<b>CMR effects</b>	
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
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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<b>Further information</b>	: 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

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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)  
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-Factor**

Distillates (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.

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**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.

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.

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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)

**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**

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**SECTION 15: Regulatory information****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 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	:	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

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

**SECTION 16: Other information****Further information**

Legacy SDS Number : 59730

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

**Orfom® MCO (Flotation Oil)**

Version 2.12

Revision Date 2024-04-08

			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