

Molyflo® Flotation Oil

Version 1.4

Revision Date 2016-02-11

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

Product Name : Molyflo® Flotation Oil
Material : 1117265, 1113924, 1106088, 1096191, 1104322, 1016849,
1016848

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

Responsible Department : Product Safety and Toxicology Group
E-mail address : SDS@CPChem.com
Website : www.CPChem.com

SECTION 2: Hazards identification**Classification of the substance or mixture**

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

Emergency Overview**Danger**

Form: Liquid **Physical state:** Liquid **Color:** Amber **Odor:** petroleum

OSHA Hazards : Combustible Liquid, Aspiration hazard, Carcinogen, Toxic by inhalation., Moderate skin irritant, Mutagen

Classification

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

Labeling

Symbol(s)



Signal Word

: Danger

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.
- 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.
- P260 Do not breathe dust/fume/gas/mist/vapor/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 or doctor/ physician.
- 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 or doctor/ physician 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.
- Storage:**
- P405 Store locked up.
- Disposal:**
- P501 Dispose of contents/ container to an approved waste disposal plant.

Carcinogenicity:**IARC**

Group 2B: Possibly carcinogenic to humans

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NTP

Light Cycle Oil

64741-59-9

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

SECTION 3: Composition/information on ingredients

Synonyms : Flotation Oil
Light Cycle Oil
LCO

Molecular formula : UVCB

Component	CAS-No.	Weight %
Light Cycle Oil	64741-59-9	100

SECTION 4: First aid measures

General advice : Move out of dangerous area. Show this material safety data sheet to the doctor in attendance. Symptoms of poisoning may appear several hours later. Do not leave the victim unattended.

If inhaled : If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

In case of skin contact : If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.

In case of eye contact : Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

SECTION 5: Firefighting measures

Flash point : 82.2 °C (180.0 °F)
Method: closed cup

Autoignition temperature : No data available

Unsuitable extinguishing media : High volume water jet.

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|--|---|--|
| Specific hazards during fire fighting | : | Do not allow run-off from fire fighting to enter drains or water courses. |
| Special protective equipment for fire-fighters | : | Wear self-contained breathing apparatus for firefighting if necessary. |
| Further information | : | Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. |
| Fire and explosion protection | : | Normal measures for preventive fire protection. |
| Hazardous decomposition products | : | Hydrocarbons. Carbon oxides. |

SECTION 6: Accidental release measures

- | | | |
|---------------------------|---|---|
| Personal precautions | : | Use personal protective equipment. Ensure adequate ventilation. |
| Environmental precautions | : | Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities. |
| Methods for cleaning up | : | Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. |

SECTION 7: Handling and storage**Handling**

- | | | |
|---|---|--|
| Advice on safe handling | : | 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. Dispose of rinse water in accordance with local and national regulations. |
| Advice on protection against fire and explosion | : | Normal measures for preventive fire protection. |

Storage

- | | | |
|---|---|--|
| Requirements for storage areas and containers | : | Keep container tightly closed in a dry and well-ventilated place. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards. |
|---|---|--|

SECTION 8: Exposure controls/personal protection**Personal protective equipment**

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|--------------------------|---|---|
| Respiratory protection | : | Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure. Wear a NIOSH approved respirator that provides protection when working with this material if exposure to harmful levels of airborne material may occur, such as: Air-Purifying Respirator for Organic Vapors. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection. |
| Hand protection | : | The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. |
| Eye protection | : | Eye wash bottle with pure water. Tightly fitting safety goggles. |
| Skin and body protection | : | Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Flame retardant antistatic protective clothing. Safety shoes. |
| Hygiene measures | : | When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday. |

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

- | | | |
|----------------|---|-----------|
| Form | : | Liquid |
| Physical state | : | Liquid |
| Color | : | Amber |
| Odor | : | petroleum |

Safety data

- | | | |
|--------------------------|---|--|
| Flash point | : | 82.2 °C (180.0 °F)
Method: closed cup |
| Lower explosion limit | : | 1 %(V) |
| Upper explosion limit | : | 6 %(V) |
| Oxidizing properties | : | no |
| Autoignition temperature | : | No data available |
| Molecular formula | : | UVCB |
| Molecular weight | : | Not applicable |
| pH | : | Not applicable |

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Pour point : -38 °C (-36 °F)
Method: ASTM D5972

Boiling point/boiling range : 148.89 °C (300.00 °F)

Vapor pressure : 0.13 kPa

Relative density : 0.93

Water solubility : Negligible

Partition coefficient: n-octanol/water : No data available

Viscosity, kinematic : 2.5 cSt
at 40 °C (104 °F)

Relative vapor density : No data available

Evaporation rate : 1

Percent volatile : 1 %

SECTION 10: Stability and reactivity

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

Possibility of hazardous reactions

Conditions to avoid : No data available.

Materials to avoid : May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

Hazardous decomposition products : Hydrocarbons
Carbon oxides

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

SECTION 11: Toxicological information**Acute oral toxicity**

Light Cycle Oil : LD50: 3,200 - 4,660 mg/kg
Species: Rat
Sex: male and female

Acute inhalation toxicity

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Light Cycle Oil : LC50: 4.65 mg/l
Exposure time: 4 h
Species: Rat
Sex: male and female
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

Acute dermal toxicity

Light Cycle Oil : LD50: > 2,000 mg/kg
Species: Rabbit
Sex: male and female

Skin irritation

Light Cycle Oil : Skin irritation

Eye irritation

Light Cycle Oil : No eye irritation

Sensitization

Light Cycle Oil : Did not cause sensitization on laboratory animals.

Repeated dose toxicity

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

Developmental Toxicity

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

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Molyflo® Flotation Oil**Aspiration toxicity** : May be fatal if swallowed and enters airways.**CMR effects**

Light Cycle Oil : Carcinogenicity: Possible human carcinogen

Molyflo® Flotation Oil**Further information** : Solvents may degrease the skin.**SECTION 12: Ecological information****Toxicity to fish**

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

Toxicity to daphnia and other aquatic invertebrates

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

Toxicity to algae

Light Cycle Oil : EL50: 0.51 mg/l
 Exposure time: 72 h
 Species: Pseudokirchneriella subcapitata (green algae)
 Growth inhibition Method: OECD Test Guideline 201

M-Factor

Distillates (petroleum), light
 catalytic cracked : 1

Biodegradability

Light Cycle Oil : aerobic
 56.32 %
 Testing period: 28 d
 Method: OECD Test Guideline 301F
 Expected to be inherently biodegradable.

Ecotoxicology Assessment**Acute aquatic toxicity**

Light Cycle Oil : Very toxic to aquatic life.

Chronic aquatic toxicity

Light Cycle Oil : Very toxic to aquatic life with long lasting effects.

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Results of PBT assessment
 Light Cycle Oil : Non-classified PBT substance, Non-classified vPvB substance

Additional ecological information : 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 : Do not dispose of waste into sewer. 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.

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)

UN1268, PETROLEUM DISTILLATES, N.O.S., COMBUSTIBLE LIQUID, III

IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (LIGHT CYCLE OIL), 9, III, (82.2 °C), MARINE POLLUTANT, (LIGHT CYCLE OIL)

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

UN3334, AVIATION REGULATED LIQUID, N.O.S., (LIGHT CYCLE OIL), 9, III

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

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

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

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

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

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

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

SECTION 15: Regulatory information**National legislation**

SARA 311/312 Hazards : Fire Hazard
Chronic Health Hazard
Acute Health Hazard

CERCLA Reportable Quantity : This material does not contain any components with a CERCLA RQ.

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

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

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

SARA 313 Ingredients : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

Ozone-Depletion Potential : This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

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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**

: No components are subject to the Pennsylvania Right to Know Act.

New Jersey Right To Know

: No components are subject to the New Jersey Right to Know Act.

**California Prop. 65
Ingredients**

: This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

Notification status**Europe REACH**

: This mixture contains only ingredients which have been registered according to Regulation (EU) No. 1907/2006 (REACH).

United States of America TSCA

: On TSCA Inventory

Canada DSL

: All components of this product are on the Canadian DSL

Australia AICS

: On the inventory, or in compliance with the inventory

New Zealand NZIoC

: Not in compliance with the inventory

Japan ENCS

: On the inventory, or in compliance with the inventory

Korea KECI

: On the inventory, or in compliance with the inventory

Philippines PICCS

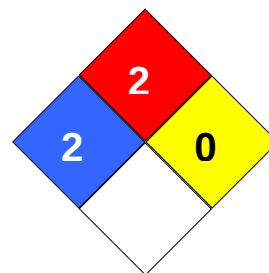
: On the inventory, or in compliance with the inventory

China IECSC

: On the inventory, or in compliance with the inventory

SECTION 16: Other information**NFPA Classification**

: Health Hazard: 2
Fire Hazard: 2
Reactivity Hazard: 0



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Further information

Legacy SDS Number : 59560

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

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

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
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%		