

Philflo® Flotation Oil

Version 1.2

Revision Date 2011-08-29

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**Product information**

Trade name : Philflo® Flotation Oil
Material : 1098607, 1089915, 1016850, 1016851

Use : Mineral Processing Aide

Company : Mining Chemicals
10001 Six Pines Drive
The Woodlands, TX 77380

Emergency telephone:**Health:**

866.442.9628 (North America)

1.832.813.4984 (International)

Transport:

North America: CHEMTREC 800.424.9300 or 703.527.3887

Asia: +800 CHEMCALL (+800 2436 2255) China: 0532.8388.9090

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

Chemcare Asia: Tel: +65 6848 9048 - Mob: +65 8382 9188 - Fax: +65 6848

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 : MSDS@CPChem.com

Website : www.CPChem.com

2. HAZARDS IDENTIFICATION**Emergency Overview**

Physical state: Liquid **Color:** Dark Brown

OSHA Hazards : Combustible Liquid, Moderate skin irritant, Carcinogen

GHS Classification

: Flammable liquids, Category 4
Skin irritation, Category 2
Germ cell mutagenicity, Category 1B
Carcinogenicity, Category 1A
Specific target organ systemic toxicity - single exposure,
Category 3
Specific target organ systemic toxicity - repeated exposure,
Category 2, Dermal, Liver

GHS-Labeling

Symbol(s) :



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Signal Word : Danger

Hazard Statements : H227: Combustible liquid
H315: Causes skin irritation.
H336: May cause drowsiness or dizziness.
H340: May cause genetic defects.
H350: May cause cancer.
H373: May cause damage to organs (Liver) through prolonged or repeated exposure in contact with skin.

Precautionary Statements : **Prevention:**
P210: Keep away from heat/sparks/open flames/hot surfaces.
- No smoking.
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:
P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P370 + P378: In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
Storage:
P403 + P233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up.
Disposal:
P501: Dispose of contents/ container to an approved waste disposal plant.

Carcinogenicity:**IARC**

Group 2B: Possibly carcinogenic to humans

Decant (clarified) Oils 64741-62-4

Light Cycle Oil 64741-59-9

NTP

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

ACGIH

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.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Flotation Oil

Molecular formula : Mixture

Component	CAS-No.	Weight %
Decant (clarified) Oils	64741-62-4	60.00 - 100.00
Light Cycle Oil	64741-59-9	60.00 - 100.00
Distillates (petroleum), heavy catalytic	64741-61-3	60.00 - 100.00

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cracked		
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	60.00 - 100.00
Distillates (petroleum), hydrotreated light naphthenic	64742-53-6	60.00 - 100.00
Polynuclear Aromatics		0.10 - 1.00

4. FIRST AID MEASURES

- General advice : Move out of dangerous area. Show this material safety data sheet to the doctor in attendance.
- If inhaled : Call a physician or poison control center immediately. 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. If symptoms persist, call a physician. Induce vomiting immediately and call a physician. Keep respiratory tract clear. 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.

5. FIRE-FIGHTING MEASURES

- Flash point : 91 °C (196 °F)
Method: PMCC
- Autoignition temperature : 260 °C (500 °F)
- 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 fire fighting 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

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- containments. Use a water spray to cool fully closed containers.
- Fire and explosion protection : Do not spray on an open flame or any other incandescent material. Keep away from open flames, hot surfaces and sources of ignition.
- Hazardous decomposition products : Hydrocarbons. Carbon oxides.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions : Use personal protective equipment.
- 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.

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 an open flame or any other incandescent material. Keep away from open flames, hot surfaces and sources of ignition.

Storage

- Requirements for storage areas and containers : No smoking. Keep container tightly closed in a dry and well-ventilated place. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Engineering measures**

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

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

Personal protective equipment

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

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties****Appearance**

- | | | |
|----------------|---|------------|
| Physical state | : | Liquid |
| Color | : | Dark Brown |

Safety data

- | | | |
|--------------------------|---|--------------------------------|
| Flash point | : | 91 °C (196 °F)
Method: PMCC |
| Lower explosion limit | : | 0.4 %(V) |
| Upper explosion limit | : | 8 %(V) |
| Autoignition temperature | : | 260 °C (500 °F) |

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Molecular formula	: Mixture
Molecular Weight	: Not applicable
pH	: Not applicable
Freezing point	: -7 °C (19 °F)
Boiling point/boiling range	: 166 °C (331 °F)
Vapor pressure	: 5.00 MMHG at 21 °C (70 °F) estimated
Relative density	: 0.95, 15.6 °C(60.1 °F)
Density	: 0.9 g/cm3
Water solubility	: Negligible
Partition coefficient: n-octanol/water	: No data available
Viscosity, kinematic	: 115 cSt at 25 °C (77 °F)
Relative vapor density	: No data available
Evaporation rate	: 1

10. STABILITY AND REACTIVITY

Reactivity	: No decomposition if stored and applied as directed.
Chemical stability	: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure. No decomposition if stored and applied as directed.

Possibility of hazardous reactions

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

11. TOXICOLOGICAL INFORMATION

Philflo® Flotation Oil Acute oral toxicity	: LC50: > 5,000 mg/kg
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Method: Estimated based on individual component values.

**Philflo® Flotation Oil
Acute inhalation toxicity**: LC50: 6.75 mg/l
Exposure time: 4 HR
Method: Acute toxicity estimate**Philflo® Flotation Oil
Acute dermal toxicity**: LD50 Dermal: > 5,000 mg/kg
Method: Estimated based on individual component values.**Philflo® Flotation Oil
Skin irritation**

: Irritating to skin.

May cause skin irritation in susceptible persons.

**Philflo® Flotation Oil
Eye irritation**

: No eye irritation

**Philflo® Flotation Oil
Sensitization**

: No adverse effects expected.

Repeated dose toxicity

Decant (clarified) Oils

: Species: rat
Application Route: Dermal
Dose: 0, 8, 30, 125, 500 mg/kg
Exposure time: 13 wk
Lowest observable effect level: 8 mg/kg
Target Organs: Liver

Light Cycle Oil

Species: rabbit
Application Route: Dermal
Dose: 0, 200, 1000, 2000 mg/kg
Exposure time: 28 day
Number of exposures: 3 times/wk
NOEL: 200 mg/kg
Lowest observable effect level: 1,000 mg/kg**Philflo® Flotation Oil
Carcinogenicity**: Method: Estimated based on individual component values.
Remarks: Suspect cancer hazard**Teratogenicity**

Decant (clarified) Oils

: Species: rat
Application Route: Dermal
Dose: 0, 4, 8, 30, 125, 250 mg/kg
Number of exposures: daily
Test period: GD 0-19
NOAEL Teratogenicity: 4 mg/kg
NOAEL Maternal: 4 mg/kg

Light Cycle Oil

Species: rat
Application Route: Dermal

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Dose: 0, 25, 50, 125, 250, 500, 1...

Number of exposures: daily

Test period: GD 0-19

NOAEL Maternal: 125 mg/kg

**Philflo® Flotation Oil
Aspiration toxicity**

: No aspiration toxicity classification.

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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.

12. ECOLOGICAL INFORMATION**Ecotoxicity effects****Toxicity to fish** : No data available**Toxicity to daphnia and other aquatic invertebrates.** : No data available**Toxicity to algae** : No data available

Elimination information (persistence and degradability)

Biodegradability : Not applicable

Further information on ecology

Additional ecological information : No data available

13. DISPOSAL CONSIDERATIONS

The information in this MSDS 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. Do not burn, or use a cutting torch on, the empty drum.

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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 MSDS 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)

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

IATA (International Air Transport Association)

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

ADR (Agreement on Dangerous Goods by Road (Europe))

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

RID (Regulations concerning the International Transport of Dangerous Goods (Europe))

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

ADN (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)

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

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

15. REGULATORY INFORMATION**National legislation**

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

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

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Quantity	RQ.
SARA 302 Reportable Quantity	: This material does not contain any components with a SARA 302 RQ.
SARA 302 Threshold Planning Quantity	: SARA 302: 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	: SARA 313: 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).
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US State Regulations

Pennsylvania Right To Know	: Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5
	: Distillates (petroleum), hydrotreated light naphthenic	64742-53-6
New Jersey Right To Know	: Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5
	: Distillates (petroleum), hydrotreated light naphthenic	64742-53-6
California Prop. 65 Ingredients	: WARNING! This product contains a chemical known in the State of California to cause cancer.	

Notification status

Europe REACH	: Not in compliance with the inventory
United States of America US.TSCA	: On the inventory, or in compliance with the inventory
Canada DSL	: All components of this product are on the Canadian DSL list.
Australia AICS	: On the inventory, or in compliance with the inventory
New Zealand NZIoC	: Not in compliance with the inventory
Japan ENCS	: Not in compliance with the inventory
Korea KECI	: On the inventory, or in compliance with the inventory
Philippines PICCS	: Not in compliance with the inventory
China IECSC	: On the inventory, or in compliance with the inventory

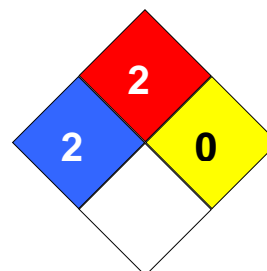
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16. OTHER INFORMATION

NFPA Classification : Health Hazard: 2
 Fire Hazard: 2
 Reactivity Hazard: 0

**Further information**

Legacy MSDS Number : 59530

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

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

The information provided in this Material 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	TWA	Time Weighted Average

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	TWA	Time Weighted Average

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	Substances in China		
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%		