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

Product information
Product Name: Diesel Reference Fuel U-32
Material: 1108915, 1024281, 1024280, 1032195, 1024277, 1024279, 1024278
Use: Reference Fuel
Company: Chevron Phillips Chemical Company LP
Specialty 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
EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
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

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 3
- Skin irritation, Category 2
- Carcinogenicity, Category 1B
- Specific target organ toxicity - repeated exposure, Category 2,
  Blood, Liver, thymus gland

SDS Number: 100000100096
Diesel Reference Fuel U-32

Version 6.5

Revision Date 2019-08-05

Aspiration hazard, Category 1

Labeling

Symbol(s): 

Signal Word: Danger

Hazard Statements:
H226: Flammable liquid and vapor.
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
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.
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe dust/fume/gas/mist/vapor/spray.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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:
Diesel Reference Fuel U-32

IARC
Group 2B: Possibly carcinogenic to humans
Light Cycle Oil 64741-59-9

NTP
Known to be human carcinogen
Light Cycle Oil 64741-59-9

SECTION 3: Composition/information on ingredients

Synonyms: Diesel Reference Fuel U
Molecular formula: Mixture

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light Cycle Oil</td>
<td>64741-59-9</td>
<td>60 - 70</td>
</tr>
<tr>
<td>C12-C14 Isoalkanes</td>
<td>68551-19-9</td>
<td>30 - 40</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>91-20-3</td>
<td>0 - 0.7</td>
</tr>
<tr>
<td>Hydrogen Sulfide</td>
<td>7783-06-4</td>
<td>0 - 0.7</td>
</tr>
</tbody>
</table>

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: 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. 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: 48 °C (118 °F)
Method: Tag closed cup
Autoignition temperature: No data available

Suitable extinguishing media: Alcohol-resistant foam. Carbon dioxide (CO2). Dry chemical.
Unsuitable extinguishing media: High volume water jet.
Specific hazards during firefighting: Do not allow run-off from fire fighting to enter drains or water courses.

SDS Number: 100000100096
3/17
## SECTION 6: Accidental release measures

<table>
<thead>
<tr>
<th>Environmental precautions</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methods for cleaning up</td>
<td>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).</td>
</tr>
</tbody>
</table>

## SECTION 7: Handling and storage

### Handling

<table>
<thead>
<tr>
<th>Advice on safe handling</th>
<th>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. Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advice on protection against fire and explosion</td>
<td>Do not spray on an open flame or any other incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Keep away from open flames, hot surfaces and sources of ignition.</td>
</tr>
</tbody>
</table>
Diesel Reference Fuel U-32

Storage

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

Use: Reference Fuel

SECTION 8: Exposure controls/personal protection

Ingredients with workplace control parameters

Chevron Phillips Chemical Company LP

<table>
<thead>
<tr>
<th>Components</th>
<th>Basis</th>
<th>Value</th>
<th>Control parameters</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>C12-C14 Isocycalenes</td>
<td>Manufacturer</td>
<td>TWA</td>
<td>1,200 mg/m³</td>
<td>RCP, Reciprocal Calculation Procedure</td>
</tr>
</tbody>
</table>

US

<table>
<thead>
<tr>
<th>Components</th>
<th>Basis</th>
<th>Value</th>
<th>Control parameters</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naphthalene</td>
<td>ACGIH</td>
<td>TWA</td>
<td>10 ppm,</td>
<td>hemolytic anemia, URT irr, cataract, A3, Skin</td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>STEL</td>
<td>15 ppm,</td>
<td>hematologic eff, URT irr, eye irr, eye dam, (b), A4, Skin</td>
</tr>
<tr>
<td>OSHA Z-1-A</td>
<td>TWA</td>
<td>10 ppm, 50 mg/m³</td>
<td>(b).</td>
<td></td>
</tr>
<tr>
<td>OSHA Z-1-A</td>
<td>STEL</td>
<td>15 ppm, 75 mg/m³</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hydrogen Sulfide

<table>
<thead>
<tr>
<th>Components</th>
<th>Basis</th>
<th>Value</th>
<th>Control parameters</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>TWA</td>
<td>1 ppm,</td>
<td>CNS impair, URT irr,</td>
<td></td>
</tr>
<tr>
<td>ACGIH</td>
<td>STEL</td>
<td>5 ppm,</td>
<td>CNS impair, URT irr,</td>
<td></td>
</tr>
<tr>
<td>OSHA Z-2</td>
<td>CEIL</td>
<td>20 ppm,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OSHA Z-1-A</td>
<td>Peak</td>
<td>50 ppm,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OSHA Z-1-A</td>
<td>TWA</td>
<td>10 ppm, 14 mg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OSHA Z-1-A</td>
<td>STEL</td>
<td>15 ppm, 21 mg/m³</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(b) The value in mg/m³ is approximate.

A3 Confirmed animal carcinogen with unknown relevance to humans
A4 Not classifiable as a human carcinogen
Cataract Cataract
CNS impair Central Nervous System impairment
eye dam Eye damage
eye irr Eye irritation
hematologic eff Hematologic effects
hemolytic Hemolytic anemia
Skin Danger of cutaneous absorption
URT irr Upper Respiratory Tract irritation

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: 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 retardant antistatic protective clothing. Workers should wear antistatic footwear.

**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**

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Yellow</td>
</tr>
<tr>
<td>Odor</td>
<td>Mild</td>
</tr>
</tbody>
</table>

**Safety data**

<table>
<thead>
<tr>
<th>Flash point</th>
<th>48 °C (118 °F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>Tag closed cup</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Thermal decomposition</td>
<td>No data available</td>
</tr>
<tr>
<td>Molecular formula</td>
<td>Mixture</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>Not applicable</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Pour point</td>
<td>No data available</td>
</tr>
</tbody>
</table>
## Diesel Reference Fuel U-32

### Boiling point/boiling range
176 - 317 °C (349 - 603 °F)

### Vapor pressure
No data available

### Relative density
0.869 at 15.6 °C (60.1 °F)

### Density
0.8690 g/cm³

### Bulk density
7.25 L/G

### Water solubility
Negligible

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

### Viscosity, kinematic
1.898 cSt at 40 °C (104 °F)

### Relative vapor density
3 (Air = 1.0)

### Evaporation rate
< 1

### Percent volatile
> 99 %

---

### 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 polymerization does not occur.

Further information: No decomposition if stored and applied as directed.

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.

**Thermal decomposition**: No data available
Diesel Reference Fuel U-32

Hazardous decomposition products: Carbon oxides

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

SECTION 11: Toxicological information

Diesel Reference Fuel U-32
Acute oral toxicity: LD50: > 5,000 mg/kg
Species: Rat
Method: Acute toxicity estimate

Diesel Reference Fuel U-32
Acute inhalation toxicity: LC50: > 20 mg/l
Exposure time: 4 h
Species: Rat
Test atmosphere: dust/mist
Method: Acute toxicity estimate

Diesel Reference Fuel U-32
Acute dermal toxicity: LD50: > 5,000 mg/kg
Species: Rabbit
Method: Acute toxicity estimate

Diesel Reference Fuel U-32
Skin irritation: Skin irritation largely based on animal evidence.

Diesel Reference Fuel U-32
Eye irritation: May irritate eyes.

Diesel Reference Fuel U-32
Sensitization: Does not cause sensitization.

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

C12-C14 Isoalkanes: Species: Rat, male and female
## Diesel Reference Fuel U-32

### Sex:
- Male and female

### Application Route:
- Oral gavage

### Dose:
- 500, 2500, 5000 mg/kg/d

### Exposure time:
- 13 wk

### Number of exposures:
- Daily

### NOEL:
- \( \geq 5000 \) mg/kg/d

### Method:
- OECD Test Guideline 408

No adverse effects expected.

Information given is based on data obtained from similar substances.

### Species:
- Rat, male and female

### Application Route:
- Dermal

### Dose:
- 165, 330, 495 mg/kg

### Exposure time:
- 13 wk

### Number of exposures:
- 5 d/wk

### NOEL:
- > 495 mg/kg/d

### Method:
- OECD Guideline 411

No adverse effects expected.

Information given is based on data obtained from similar substances.

### Application Route:
- Inhalation

### Dose:
- 5, 10, 30 mg/L

### Exposure time:
- 90 d

### Number of exposures:
- 6 h/d

### NOEL:
- > 30 mg/l

### Method:
- OECD Test Guideline 413

No adverse effects expected.

Information given is based on data obtained from similar substances.

### Genotoxicity in vitro

#### 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

#### C12-C14 Isoalkanes
- **Test Type:** Ames test
  - **Metabolic activation:** with and without metabolic activation
  - **Result:** Negative

- **Test Type:** Mouse lymphoma assay
  - **Metabolic activation:** with and without metabolic activation
  - **Result:** Negative

- **Test Type:** Sister Chromatid Exchange Assay
  - **Metabolic activation:** with and without metabolic activation
  - **Result:** Negative

#### Naphthalene
- **Test Type:** Ames test
**Diesel Reference Fuel U-32**

| Result: negative | Test Type: Sister Chromatid Exchange Assay | Result: negative |
| Test Type: Unscheduled DNA synthesis assay | Result: negative |

**Genotoxicity in vivo**

| Light Cycle Oil | Test Type: Cytogenetic assay | Result: negative |
| Naphthalene | Test Type: Mouse micronucleus assay | Result: negative |

**Diesel Reference Fuel U-32**

| Carcinogenicity | Remarks: May cause cancer. |

**Reproductive toxicity**

| C12-C14 Isoalkanes | Species: Rat |
| Sex: male and female | Application Route: oral gavage |
| Dose: 50, 200, 750 mg/kg/bw/d | Number of exposures: daily |
| Test period: 70 d | Method: OECD Test Guideline 416 |
| NOAEL Parent: >750 mg/kg/bw/d | NOAEL F1: >750 mg/kg/bw/d |
| No adverse effects expected | Information given is based on data obtained from similar substances. |

**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 |

| 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 |

**Diesel Reference Fuel U-32**

| Aspiration toxicity | May be fatal if swallowed and enters airways. |

**CMR effects**

| Light Cycle Oil | Carcinogenicity: Possible human carcinogen |
### SECTION 12: Ecological information

#### Ecotoxicity effects

**Toxicity to fish**

<table>
<thead>
<tr>
<th>Compound</th>
<th>LL50 (mg/l)</th>
<th>Exposure time (h)</th>
<th>Method/Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light Cycle Oil</td>
<td>&gt; 0.3</td>
<td>96</td>
<td>OECD Test Guideline 203 Oncorhynchus mykiss (rainbow trout) semi-static test</td>
</tr>
<tr>
<td>C12-C14 Isoalkanes</td>
<td>&gt; 1,000</td>
<td>96</td>
<td>OECD Test Guideline 203 Oncorhynchus mykiss (rainbow trout) semi-static test</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>3.2</td>
<td>96</td>
<td>Pimephales promelas (fathead minnow)</td>
</tr>
</tbody>
</table>

**Toxicity to daphnia and other aquatic invertebrates**

<table>
<thead>
<tr>
<th>Compound</th>
<th>EL50 (mg/l)</th>
<th>Exposure time (h)</th>
<th>Method/Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light Cycle Oil</td>
<td>0.32</td>
<td>48</td>
<td>OECD Test Guideline 202 Daphnia magna (Water flea) Immobilization Method</td>
</tr>
<tr>
<td>C12-C14 Isoalkanes</td>
<td>&gt; 3,000</td>
<td>48</td>
<td>ISO 14669 and PARCOM method Acartia tonsa (Marine Copepod) static test</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>2.16</td>
<td>48</td>
<td>Daphnia magna (Water flea)</td>
</tr>
</tbody>
</table>

**Hydrogen Sulfide**

<table>
<thead>
<tr>
<th>EC50 (mg/l)</th>
<th>Exposure time (h)</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.12</td>
<td>48</td>
<td>Daphnia magna (Water flea)</td>
</tr>
</tbody>
</table>
Exposure time: 48 h
Species: Daphnia magna (Water flea)
static test Analytical monitoring: yes
Test substance: yes
Method: OECD Test Guideline 202

Toxicity to algae

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

C12-C14 Isoalkanes
EL50: > 1,000 mg/l
Exposure time: 72 h
Species: Pseudokirchneriella subcapitata (green algae)
Growth inhibition Method: OECD Test Guideline 201
Information given is based on data obtained from similar substances.

Naphthalene
EC50: 2.96 mg/l
Exposure time: 48 h
Species: Selenastrum capricornutum (algae)

Hydrogen Sulfide
EC50: 1.87 mg/l
Exposure time: 24 h
Species: Selenastrum capricornutum (algae)
static test Test substance: yes

M-Factor
Distillates (petroleum), light catalytic cracked
M-Factor (Acute Aquat. Tox.) 1
M-Factor (Chron. Aquat. Tox.) 1

Toxicity to fish (Chronic toxicity)

C12-C14 Isoalkanes
No data available:

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

C12-C14 Isoalkanes
No data available

Biodegradability
Taking into consideration the properties of several ingredients, the product is estimated not to be readily biodegradable according to OECD classification.

Elimination information (persistence and degradability)

Bioaccumulation
The product may be accumulated in organisms.

Mobility
This product may float or sink in water.
Results of PBT assessment
Light Cycle Oil : Non-classified PBT substance, Non-classified vPvB substance
C12-C14 Isoalkanes : Non-classified PBT substance, Non-classified vPvB substance
Additional ecological information

Ecotoxicology Assessment

Short-term (acute) aquatic hazard
Light Cycle Oil : Very toxic to aquatic life.
C12-C14 Isoalkanes : This product has no known ecotoxicological effects.
Naphthalene : Very toxic to aquatic life.
Hydrogen Sulfide : Very toxic to aquatic life.

Long-term (chronic) aquatic hazard
Light Cycle Oil : Very toxic to aquatic life with long lasting effects.
C12-C14 Isoalkanes : This product has no known ecotoxicological 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.
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**
- Flammable (gases, aerosols, liquids, or solids)
- Skin corrosion or irritation
- Carcinogenicity
- Specific target organ toxicity (single or repeated exposure)
- Aspiration hazard

**CERCLA Reportable Quantity**
- Naphthalene

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

**SARA 302 Threshold Planning Quantity**
- This material does not contain any components with a section 302 EHS TPQ.

**SARA 304 Reportable**
- This material does not contain any components with a section
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).

US State Regulations

Pennsylvania Right To Know: Light Cycle Oil - 64741-59-9
C12-C14 Isoalkanes - 68551-19-9

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.

Naphthalene 91-20-3

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 (USA) TSCA: On or in compliance with the active portion of the TSCA inventory
Switzerland CH INV: On the inventory, or in compliance with the 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: 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.

Philippines PICCS: Not in compliance with the inventory
Diesel Reference Fuel U-32

SECTION 16: Other information

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

Further information
Legacy SDS Number : 664950

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:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>American Conference of Government Industrial Hygienists</td>
</tr>
<tr>
<td>EC50</td>
<td>Effective Concentration</td>
</tr>
<tr>
<td>EINECS</td>
<td>European Inventory of Existing Chemical Substances</td>
</tr>
<tr>
<td>EC50 ELECTRO</td>
<td>Effective Concentration 50%</td>
</tr>
<tr>
<td>EGEST</td>
<td>EOSCA Generic Exposure Scenario Tool</td>
</tr>
<tr>
<td>EOSCA</td>
<td>European Oilfield Specialty Chemicals Association</td>
</tr>
<tr>
<td>EC50 ACCESS</td>
<td>Effective Concentration 50%</td>
</tr>
<tr>
<td>EINECS</td>
<td>PICCS Philippines Inventory of Commercial Chemical Substances</td>
</tr>
<tr>
<td>EC50 STRO</td>
<td>Short-term Exposure Limit</td>
</tr>
<tr>
<td>EC50</td>
<td>No Observed Effect Concentration</td>
</tr>
<tr>
<td>EC50</td>
<td>Presumed Not Toxic</td>
</tr>
<tr>
<td>EC50</td>
<td>No Observable Adverse Effect Level</td>
</tr>
<tr>
<td>EC50</td>
<td>Occupational Safety &amp; Health Administration</td>
</tr>
<tr>
<td>EC50</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>EC50</td>
<td>Resource Conservation Recovery Act</td>
</tr>
<tr>
<td>EINECS</td>
<td>&quot;Non Toxic&quot;</td>
</tr>
<tr>
<td>EC50</td>
<td>Stated Not Toxic</td>
</tr>
<tr>
<td>EC50</td>
<td>Short-Term Exposure Limit</td>
</tr>
<tr>
<td>EC50</td>
<td>&quot;Not Toxic&quot;</td>
</tr>
<tr>
<td>EC50</td>
<td>&quot;Safe and Authorized&quot;</td>
</tr>
<tr>
<td>EC50</td>
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<td>EC50</td>
<td>&quot;Safe and Authorized&quot;</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>IECSC</td>
<td>Inventory of Existing Chemical Substances in China</td>
</tr>
<tr>
<td>ENCS</td>
<td>Japan, Inventory of Existing and New Chemical Substances</td>
</tr>
<tr>
<td>KECI</td>
<td>Korea, Existing Chemical Inventory</td>
</tr>
<tr>
<td>&lt;=</td>
<td>Less Than or Equal To</td>
</tr>
<tr>
<td>LC50</td>
<td>Lethal Concentration 50%</td>
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</table>