

**Diesel Reference Fuel U-32**

Version 6.5

Revision Date 2019-08-05

**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

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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:**

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<b>IARC</b>	Group 2B: Possibly carcinogenic to humans
	Light Cycle Oil 64741-59-9
<b>NTP</b>	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

Component	CAS-No.	Weight %
Light Cycle Oil	64741-59-9	60 - 70
C12-C14 Isoalkanes	68551-19-9	30 - 40
Naphthalene	91-20-3	0 - 0.7
Hydrogen Sulfide	7783-06-4	0 - 0.7

**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 (CO<sub>2</sub>). Dry chemical.

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.

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- |  |   |  |
|--|---|--|
| 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 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.  |
| Hazardous decomposition products               | : | Carbon oxides.   |

**SECTION 6: Accidental release measures**

- |                           |   |   |
|---------------------------|---|---|
| Personal precautions      | : | Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. |
| 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).       |

**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. 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. |
| Advice on protection against fire and explosion | : | 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.   |

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**Storage**

Requirements for storage : 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**

Components	Basis	Value	Control parameters	Note
C12-C14 Isoalkanes	Manufacturer	TWA	1,200 mg/m3	RCP,

RCP Reciprocal Calculation Procedure

**US**

Components	Basis	Value	Control parameters	Note
Naphthalene	ACGIH	TWA	10 ppm,	hemolytic anemia, URT irr, cataract, A3, Skin,
	ACGIH	STEL	15 ppm,	hematologic eff, URT irr, eye irr, eye dam, (), A4, Skin,
	OSHA Z-1	TWA	10 ppm, 50 mg/m3	(b),
	OSHA Z-1-A	TWA	10 ppm, 50 mg/m3	
	OSHA Z-1-A	STEL	15 ppm, 75 mg/m3	
Hydrogen Sulfide	ACGIH	TWA	1 ppm,	CNS impair, URT irr,
	ACGIH	STEL	5 ppm,	CNS impair, URT irr,
	OSHA Z-2	CEIL	20 ppm,	
	OSHA Z-2	Peak	50 ppm,	
	OSHA Z-1-A	TWA	10 ppm, 14 mg/m3	
	OSHA Z-1-A	STEL	15 ppm, 21 mg/m3	

(i) Adopted values or notations enclosed are those for which changes are proposed in the NIC

(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

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

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	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**

Physical state	: Liquid
Color	: Yellow
Odor	: Mild

**Safety data**

Flash point	: 48 °C (118 °F) Method: Tag closed cup
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Oxidizing properties	: No
Autoignition temperature	: No data available
Thermal decomposition	: No data available
Molecular formula	: Mixture
Molecular weight	: Not applicable
pH	: Not applicable
Pour point	: No data available

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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/cm<sup>3</sup>

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 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

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**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

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**Acute inhalation toxicity** : LC50: > 20 mg/l  
Exposure time: 4 h  
Species: Rat  
Test atmosphere: dust/mist  
Method: Acute toxicity estimate

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**Acute dermal toxicity** : LD50: > 5,000 mg/kg  
Species: Rabbit  
Method: Acute toxicity estimate

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**Skin irritation** : Skin irritation  
largely based on animal evidence.

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**Eye irritation** : May irritate eyes.

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**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



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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  
 Sex: 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.

Species: Rat, male and female  
 Sex: male and female  
 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

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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

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**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

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**Aspiration toxicity** : May be fatal if swallowed and enters airways.

**CMR effects**

Light Cycle Oil : Carcinogenicity: Possible human carcinogen

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C12-C14 Isoalkanes

Carcinogenicity: Not available

Mutagenicity: Tests on bacterial or mammalian cell cultures did not show mutagenic effects., In vivo tests did not show mutagenic effects

Teratogenicity: Animal testing did not show any effects on fetal development.

Reproductive toxicity: Animal testing did not show any effects on fertility.

Naphthalene

Carcinogenicity: Limited evidence of carcinogenicity in animal studies

**Diesel Reference Fuel U-32****Further information**

: Solvents may degrease the skin.

**SECTION 12: Ecological information****Ecotoxicity effects****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

C12-C14 Isoalkanes

LL50: > 1,000 mg/l  
Exposure time: 96 h  
Species: Oncorhynchus mykiss (rainbow trout)  
semi-static test Method: OECD Test Guideline 203  
Information given is based on data obtained from similar substances.

Naphthalene

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

C12-C14 Isoalkanes

LL50: > 3,000 mg/l  
Exposure time: 48 h  
Species: Acartia tonsa (Marine Copepod)  
static test Method: ISO 14669 and PARCOM method  
Information given is based on data obtained from similar substances.

Naphthalene

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

Hydrogen Sulfide

EC50: 0.12 mg/l

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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 : EL50: 0.51 mg/l  
 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.

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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	: Very toxic to aquatic life with long lasting effects.
<b>Ecotoxicology Assessment</b>	
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.

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**US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)**

UN1202, DIESEL FUEL, 3, III

**IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)**

UN1202, DIESEL FUEL, 3, III, (48 °C), MARINE POLLUTANT, (LIGHT CYCLE OIL)

**IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)**

UN1202, DIESEL FUEL, 3, III

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

UN1202, DIESEL FUEL, 3, III, (D/E), ENVIRONMENTALLY HAZARDOUS, (LIGHT CYCLE OIL)

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

UN1202, DIESEL FUEL, 3, III, ENVIRONMENTALLY HAZARDOUS, (LIGHT CYCLE OIL)

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

UN1202, DIESEL FUEL, 3, III, ENVIRONMENTALLY HAZARDOUS, (LIGHT CYCLE OIL)

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

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Quantity 304 EHS RQ.

**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](http://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

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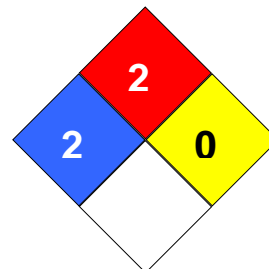
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China IECSC : On the inventory, or in compliance with the inventory  
 Taiwan TCSI : On the inventory, or in compliance with the inventory

**SECTION 16: Other information**

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

**Further information**

Legacy SDS Number : 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**

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



**Diesel Reference Fuel U-32**

Version 6.5

Revision Date 2019-08-05

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%		