

## Safety Data Sheet

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

<b>Material Name</b>	:	<b>Diesel (ULSD/Gasoil)</b>
<b>Recommended Use / Restrictions of Use</b>	:	Fuel for on-road diesel-powered engines. Fuel for use in off-road diesel engines, boilers, gas turbines and other combustion equipment.
<b>Supplier</b>	:	<b>Shell Eastern Trading (PTE) Ltd</b>  9 North Buona Vista Drive, #07-01, Tower 1, The Metropolis Singapore 138588 Singapore
<b>Telephone</b>	:	+65-6384 8000
<b>Emergency Telephone Number</b>	:	+44 (0) 151 350 4595

### 2. HAZARDS IDENTIFICATION

<b>GHS Classification</b>	:	Flammable liquids, Category 3 Aspiration hazard, Category 1 Acute toxicity, Category 4, Inhalation Skin corrosion/irritation, Category 2 Carcinogenicity, Category 2 Specific target organ toxicity - repeated exposure, Category 2, Blood., Thymus., Liver Hazardous to the aquatic environment - Long-term Hazard, Category 2 Acute hazards to the aquatic environment, Category 2
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<b>GHS Label Elements Symbol(s)</b>	:
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<b>Signal Words</b>	:	Danger
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<b>Hazard Statement</b>	:	PHYSICAL HAZARDS: H226: Flammable liquid and vapour.
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HEALTH HAZARDS:

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H304: May be fatal if swallowed and enters airways.  
H315: Causes skin irritation.  
H332: Harmful if inhaled.  
H351: Suspected of causing cancer.  
H373: May cause damage to organs or organ systems through prolonged or repeated exposure.

### ENVIRONMENTAL HAZARDS:

H411: Toxic to aquatic life with long lasting effects.

H401: Toxic to aquatic life.

### GHS Precautionary Statements

- Prevention** : P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.
- Response** : P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
P331: Do NOT induce vomiting.
- Disposal:** : P501: Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.
- Other Hazards which do not result in classification** : Vapour in the headspace of tanks and containers may ignite and explode at temperatures exceeding auto-ignition temperature, where vapour concentrations are within the flammability range.  
May ignite on surfaces at temperatures above auto-ignition temperature.  
This material is a static accumulator. Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur.
- Additional Information** : This product is intended for use in closed systems only.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

- Mixture Description** : Complex mixture of hydrocarbons consisting of paraffins, cycloparaffins, aromatic and olefinic hydrocarbons with carbon

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numbers predominantly in the C9 to C25 range. May also contain several additives at <0.1% v/v each. May contain cetane improver (Ethyl Hexyl Nitrate) at <0.2% v/v.

May contain catalytically cracked oils in which polycyclic aromatic compounds, mainly 3-ring but some 4- to 6-ring species are present.

### Classification of components according to GHS

Chemical Identity	Synonyms	CAS	Hazard Class (category)	Hazard Statement	Conc.
Fuels, diesel	Fuels, diesel	68334-30-5	Flam. Liq., 3; Asp. Tox., 1; Acute Tox., 4; Skin Corr., 2; Carc., 2; STOT RE, 2; Aquatic Chronic, 2; Aquatic Acute, 2;	H226; H304; H332; H315; H351; H373; H411; H401;	60.00 - 100.00 %
Distillates (Fischer-Tropsch) C8-26 - Branched and Linear	Distillates (Fischer-Tropsch) C8-26 - Branched and Linear	848301-67-7	Asp. Tox., 1; Flam. Liq., 4;	H304; H227;	0.00 - 30.00 %
Kerosine (Fischer Tropsch), Full range, C8-C16 branched and linear alkanes	Kerosine (Fischer Tropsch), Full range, C8-C16 branched and linear alkanes	848301-66-6	Asp. Tox., 1; Flam. Liq., 3;	H304; H226;	0.00 - 10.00 %

**Additional Information** : Dyes and markers can be used to indicate tax status and prevent fraud. Contains Cumene, CAS# 98-82-8 Contains Naphthalene, CAS # 91-20-3.

Refer to Ch 16 for full text of H phrases.

#### 4. FIRST-AID MEASURES

**Inhalation** : Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.

**Skin Contact** : Remove contaminated clothing. Immediately flush skin with

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<b>Eye Contact</b>	: large amounts of water for at least 15 minutes, and follow by washing with soap and water if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment. When using high pressure equipment, injection of product under the skin can occur. If high pressure injuries occur, the casualty should be sent immediately to a hospital. Do not wait for symptoms to develop.
<b>Ingestion</b>	: Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.
<b>Most Important Symptoms/Effects, Acute &amp; Delayed</b>	: If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing. Give nothing by mouth.
<b>Immediate medical attention, special treatment</b>	: If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever. The onset of respiratory symptoms may be delayed for several hours after exposure. Skin irritation signs and symptoms may include a burning sensation, redness, or swelling.
	: Treat symptomatically.

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### 5. FIRE-FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

<b>Specific hazards arising from Chemicals</b>	: Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Oxides of sulphur. Unidentified organic and inorganic compounds. Carbon monoxide may be evolved if incomplete combustion occurs. Will float and can be reignited on surface water. Flammable vapours may be present even at temperatures below the flash point. The vapour is heavier than air, spreads along the ground and distant ignition is possible.
<b>Suitable Extinguishing Media</b>	: Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
<b>Unsuitable Extinguishing Media</b>	: Do not use direct water jets on the burning product as they could cause a steam explosion and spread of the fire. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

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- Protective Equipment & Precautions for Fire Fighters** : Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).
- Additional Advice** : Keep adjacent containers cool by spraying with water. If possible remove containers from the danger zone. If the fire cannot be extinguished the only course of action is to evacuate immediately. Contain residual material at affected sites to prevent material from entering drains (sewers), ditches, and waterways.

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### 6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. See Chapter 13 for information on disposal. Observe the relevant local and international regulations. Evacuate the area of all non-essential personnel. Ventilate contaminated area thoroughly. Take precautionary measures against static discharges.

- Personal Precautions, Protective Equipment and Emergency Procedures** : Do not breathe fumes, vapour. Do not operate electrical equipment. Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area and evacuate all personnel. Attempt to disperse the gas or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Monitor area with combustible gas meter.
- Environmental Precautions** : Take measures to minimise the effects on groundwater. Contain residual material at affected sites to prevent material from entering drains (sewers), ditches, and waterways. Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers.
- Methods and Material for Containment and Cleaning Up** : Take precautionary measures against static discharges. For small liquid spills (< 1 drum), transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate

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- absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. Shovel into a suitable clearly marked container for disposal or reclamation in accordance with local regulations.
- Additional Advice** : Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. Local authorities should be advised if significant spillages cannot be contained. Maritime spillages should be dealt with using a Shipboard Oil Pollution Emergency Plan (SOPEP), as required by MARPOL Annex 1 Regulation 26.

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### 7. HANDLING AND STORAGE

- General Precautions** : Avoid breathing vapours or contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material. Air-dry contaminated clothing in a well-ventilated area before laundering. Prevent spillages. Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Never siphon by mouth. Contaminated leather articles including shoes cannot be decontaminated and should be destroyed to prevent reuse.  
Maintenance and Fuelling Activities - Avoid inhalation of vapours and contact with skin.
- Precautions for Safe Handling** : Avoid inhaling vapour and/or mists. Avoid prolonged or repeated contact with skin. When using do not eat or drink. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Earth all equipment. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires. Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. The vapour is heavier than air, spreads along the ground and distant ignition is possible.
- Conditions for Safe Storage** : Drum and small container storage: Drums should be stacked to a maximum of 3 high. Use properly labelled and closeable containers. Tank storage: Tanks must be specifically designed for use with this product. Bulk storage tanks should be diked (bunded). Locate tanks away from heat and other sources of ignition. Must be stored in a diked (bunded) well-ventilated area, away from sunlight, ignition sources and other sources of heat. Vapours from tanks should not be released to

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atmosphere. Breathing losses during storage should be controlled by a suitable vapour treatment system. The vapour is heavier than air. Beware of accumulation in pits and confined spaces. Keep container tightly closed and in a cool, well-ventilated place. Keep in a cool place. Electrostatic charges will be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to reduce the risk. The vapours in the head space of the storage vessel may lie in the flammable/explosive range and hence may be flammable. Refer to section 15 for any additional specific legislation covering the packaging and storage of this product. Keep in a bunded area with a sealed (low permeability) floor, to provide containment against spillage. Prevent ingress of water.

### Product Transfer

: Avoid splash filling. Wait 2 minutes after tank filling (for tanks such as those on road tanker vehicles) before opening hatches or manholes. Wait 30 minutes after tank filling (for large storage tanks) before opening hatches or manholes. Keep containers closed when not in use. Contamination resulting from product transfer may give rise to light hydrocarbon vapour in the headspace of tanks that have previously contained gasoline. This vapour may explode if there is a source of ignition. Partly filled containers present a greater hazard than those that are full, therefore handling, transfer and sampling activities need special care. Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur. Be aware of handling operations that may give rise to additional hazards that result from the accumulation of static charges. These include but are not limited to pumping (especially turbulent flow), mixing, filtering, splash filling, cleaning and filling of tanks and containers, sampling, switch loading, gauging, vacuum truck operations, and mechanical movements. These activities may lead to static discharge e.g. spark formation. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge ( $\leq 1$  m/s until fill pipe submerged to twice its diameter, then  $\leq 7$  m/s). Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations.

### Recommended Materials

: For containers, or container linings use mild steel, stainless steel. Aluminium may also be used for applications where it does not present an unnecessary fire hazard. Examples of suitable materials are: high density polyethylene (HDPE) and Viton (FKM), which have been specifically tested for compatibility with this product. For container linings, use

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- amine-adduct cured epoxy paint. For seals and gaskets use: graphite, PTFE, Viton A, Viton B.
- Unsuitable Materials** : Some synthetic materials may be unsuitable for containers or container linings depending on the material specification and intended use. Examples of materials to avoid are: natural rubber (NR), nitrile rubber (NBR), ethylene propylene rubber (EPDM), polymethyl methacrylate (PMMA), polystyrene, polyvinyl chloride (PVC), polyisobutylene. However, some may be suitable for glove materials.
- Container Advice** : Containers, even those that have been emptied, can contain explosive vapours. Do not cut, drill, grind, weld or perform similar operations on or near containers.
- Other Advice** : Ensure that all local regulations regarding handling and storage facilities are followed. See additional references that provide safe handling practices for liquids that are determined to be static accumulators: American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practices on Static Electricity). CENELEC CLC/TR 50404 (Electrostatics – Code of practice for the avoidance of hazards due to static electricity).

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

If the American Conference of Governmental Industrial Hygienists (ACGIH) value is provided on this document, it is provided for information only.

#### Occupational Exposure Limits

Material	Source	Type	ppm	mg/m3	Notation
Naphthalene	ACGIH	TWA	10 ppm		
	ACGIH	STEL	15 ppm		
	ACGIH	SKIN_DES			Can be absorbed through the skin.
	SG OEL	TWA	10 ppm	52 mg/m3	
	SG OEL	STEL	15 ppm	79 mg/m3	



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Fuels, diesel	ACGIH	SKIN_DES(Inhalable fraction and vapor.)			Can be absorbed through the skin.as total hydrocarbons
	ACGIH	TWA(Inhalable fraction and vapor.)		100 mg/m3	as total hydrocarbons
Cumene	ACGIH	TWA	50 ppm		
	SG OEL	TWA	50 ppm	246 mg/m3	

**Additional Information** : Skin notation means that significant exposure can also occur by absorption of liquid through the skin and of vapour through the eyes or mucous membranes.

**Biological Exposure Index (BEI)**

Material	Determinant	Sampling Time	BEI	Reference
Naphthalene	1-Naphthol, with hydrolysis + 2-Naphthol, with hydrolysis	Sampling time: End of shift.		ACGIH BEL (02 2013)

**Appropriate Engineering Controls** : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Use sealed systems as far as possible. Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits. Local exhaust ventilation is recommended. Eye washes and showers for emergency use. Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping. Define procedures for safe handling and maintenance of controls.

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Educate and train workers in the hazards and control measures relevant to normal activities associated with this product. Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation. Firewater monitors and deluge systems are recommended. Drain down system prior to equipment break-in or maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle.

- Individual Protection Measures** : Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.
- Respiratory Protection** : If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus. All respiratory protection equipment and use must be in accordance with local regulations. Select a filter suitable for combined particulate/organic gases and vapours [boiling point >65°C(149 °F)].
- Hand Protection** : Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same, but recognise that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time may be acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Select gloves tested to a relevant standard (e.g. Europe EN374, US F739). When prolonged or frequent repeated contact occurs, Nitrile gloves may be suitable. (Breakthrough

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<b>Eye Protection</b>	: time of > 240 minutes.) For incidental contact/splash protection Neoprene, PVC gloves may be suitable.
<b>Protective Clothing</b>	: Chemical splash goggles (chemical monogoggles). If a local risk assessment deems it so, then chemical splash goggles may not be required and safety glasses may provide adequate eye protection.
<b>Thermal Hazards</b>	: Chemical resistant gloves/gauntlets, boots, and apron (where risk of splashing).
<b>Monitoring Methods</b>	: Not applicable.
<b>Environmental Exposure Controls</b>	: Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory. Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available. National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods <a href="http://www.cdc.gov/niosh/">http://www.cdc.gov/niosh/</a> Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods <a href="http://www.osha.gov/">http://www.osha.gov/</a> : Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour. Information on accidental release measures are to be found in section 6. Take appropriate measures to fulfil the requirements of relevant environmental protection legislation. Avoid contamination of the environment by following advice given in Chapter 6. If necessary, prevent undissolved material from being discharged to waste water. Waste water should be treated in a municipal or industrial waste water treatment plant before discharge to surface water.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	: Colourless to yellowish. Liquid.
<b>Odour</b>	: May contain a reodorant
<b>Odour threshold</b>	: Data not available
<b>pH</b>	: Not applicable
<b>Initial Boiling Point and Boiling Range</b>	: 170 - 390 °C / 338 - 734 °F
<b>Pour point</b>	: ≤ 6 °C / 43 °F
<b>Flash point</b>	: > 55 °C / 131 °F
<b>Upper / lower Flammability or</b>	: 1 - 6 %(V)

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### Explosion limits

<b>Auto-ignition temperature</b>	: > 220 °C / 428 °F
<b>Vapour pressure</b>	: 1 hPa at 20 °C / 68 °F
<b>Relative Density</b>	: Data not available
<b>Density</b>	: 0.8 - 0.89 g/cm <sup>3</sup> at 15 °C / 59 °F
<b>Water solubility</b>	: Data not available
<b>Solubility in other solvents</b>	: Data not available

**n-octanol/water partition coefficient (log Pow)** : 3 - 6

**Dynamic viscosity** : Data not available

**Kinematic viscosity** : 1.5 - 6 mm<sup>2</sup>/s at 40 °C / 104 °F

**Vapour density (air=1)** : Data not available

**Electrical conductivity** : Low conductivity: < 100 pS/m, The conductivity of this material makes it a static accumulator., A liquid is typically considered nonconductive if its conductivity is below 100 pS/m and is considered semi-conductive if its conductivity is below 10 000 pS/m., Whether a liquid is nonconductive or semi-conductive, the precautions are the same., A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid.

**Evaporation rate (nBuAc=1)** : Data not available

**Decomposition Temperature** : Data not available

**Flammability** : Not applicable.

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## 10. STABILITY AND REACTIVITY

**Chemical stability** : Stable under normal use conditions.

**Possibility of Hazardous Reactions** : No hazardous reaction is expected when handled and stored according to provisions.

**Conditions to Avoid** : Avoid heat, sparks, open flames and other ignition sources.

**Incompatible Materials** : Strong oxidising agents.

**Hazardous Decomposition Products** : Hazardous decomposition products are not expected to form during normal storage. Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases, including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

**Sensitivity to Static Discharge** : Yes, in certain circumstances product can ignite due to static electricity.

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### 11. TOXICOLOGICAL INFORMATION

#### Information on Toxicological effects

- Basis for Assessment** : Information given is based on product data, a knowledge of the components and the toxicology of similar products. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).
- Likely Routes of Exposure** : Exposure may occur via inhalation, ingestion, skin absorption, skin or eye contact, and accidental ingestion.
- Acute Oral Toxicity** : Low toxicity: LD50 > 5000 mg/kg , Rat
- Acute Dermal Toxicity** : Low toxicity: LD50 >2000 mg/kg , Rabbit
- Acute Inhalation Toxicity** : Harmful if inhaled. LC50 > 1.0 - <= 5.0 mg/l , 4 h, Rat  
High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death.
- Skin corrosion/irritation** : Irritating to skin.
- Serious eye damage/irritation** : Expected to be slightly irritating.
- Respiratory Irritation** : Inhalation of vapours or mists may cause irritation to the respiratory system.
- Respiratory or skin sensitisation** : Not expected to be a sensitiser.
- Aspiration Hazard** : Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.
- Germ cell mutagenicity** : Positive in in-vitro, but negative in in-vivo mutagenicity assays.
- Carcinogenicity** : Limited evidence of carcinogenic effect.  
Repeated skin contact has resulted in irritation and skin cancer in animals.

Material	:	Carcinogenicity Classification
Naphthalene	:	ACGIH Group A4: Not classifiable as a human carcinogen.
Naphthalene	:	NTP: Reasonably Anticipated to be a Human Carcinogen.
Naphthalene	:	IARC 2B: Possibly carcinogenic to humans.
Naphthalene	:	GHS / CLP: Carcinogenicity Category 2

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Fuels, diesel	:	ACGIH Group A3: Confirmed animal carcinogen with unknown relevance to humans.
Fuels, diesel	:	GHS / CLP: Carcinogenicity Category 2
Distillates (Fischer-Tropsch) C8-26 - Branched and Linear	:	GHS / CLP: No carcinogenicity classification
Kerosine (Fischer Tropsch), Full range, C8-C16 branched and linear alkanes	:	GHS / CLP: No carcinogenicity classification
Cumene	:	IARC 2B: Possibly carcinogenic to humans.
Cumene	:	GHS / CLP: No carcinogenicity classification

<b>Reproductive and Developmental Toxicity</b>	:	Not expected to impair fertility. Not expected to be a developmental toxicant.
<b>Specific target organ toxicity - single exposure</b>	:	Not classified.
<b>Specific target organ toxicity - repeated exposure</b>	:	May cause damage to organs or organ systems through prolonged or repeated exposure. Blood. Thymus. Liver.
<b>Additional Information</b>	:	Classifications by other authorities under varying regulatory frameworks may exist.

## 12. ECOLOGICAL INFORMATION

<b>Basis for Assessment</b>	:	Information given is based on a knowledge of the components and the ecotoxicology of similar products. Fuels are typically made from blending several refinery streams. Ecotoxicological studies have been carried out on a variety of hydrocarbon blends and streams but not those containing additives. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).
<b>Acute Toxicity</b>	:	Expected to be toxic: LL/EL/IL50 > 1 <= 10 mg/l (to aquatic organisms) LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract.
<b>Fish</b>	:	Expected to be toxic: LL/EL/IL50 > 1 <= 10 mg/l
<b>Aquatic crustacea</b>	:	Expected to be toxic: LL/EL/IL50 > 1 <= 10 mg/l
<b>Algae/aquatic plants</b>	:	Expected to be toxic: LL/EL/IL50 > 1 <= 10 mg/l
<b>Microorganisms</b>	:	Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l
<b>Chronic Toxicity</b>	:	
<b>Fish</b>	:	NOEC/NOEL expected to be > 0.01 - <= 0.1 mg/l (based on

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<b>Aquatic crustacea</b>	: modeled data)
<b>Mobility</b>	: NOEC/NOEL expected to be > 0.1 - <= 1.0 mg/l (based on modeled data)
<b>Persistence/degradability</b>	: Partly evaporates from water or soil surfaces, but a significant proportion will remain after one day. If product enters soil, one or more constituents will be mobile and may contaminate groundwater. Large volumes may penetrate soil and could contaminate groundwater. Floats on water.
<b>Bioaccumulative Potential</b>	: Major constituents are inherently biodegradable. The volatile constituents will oxidize rapidly by photochemical reactions in air.
<b>Other Adverse Effects</b>	: Contains constituents with the potential to bioaccumulate. Log Kow > =4
	: Films formed on water may affect oxygen transfer and damage organisms.

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### 13. DISPOSAL CONSIDERATIONS

<b>Material Disposal</b>	: Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses. Do not dispose of tank water bottoms by allowing them to drain into the ground. This will result in soil and groundwater contamination. Waste arising from a spillage or tank cleaning should be disposed of in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.
<b>Container Disposal</b>	: Send to drum recoverer or metal reclaimer. Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard if heated above the flash point. Do not puncture, cut or weld uncleaned drums. Do not pollute the soil, water or environment with the waste container. Comply with any local recovery or waste disposal regulations.
<b>Local Legislation</b>	: Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be in compliance.

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### 14. TRANSPORT INFORMATION

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### Land (as per ADR classification): Regulated

Class : 3  
Packing group : III  
Hazard identification no. : 30  
UN number : 1202  
Danger label (primary risk) : 3  
Proper shipping name : DIESEL FUEL  
Environmentally Hazardous : Yes

### IMDG

Identification number : UN 1202  
Proper shipping name : DIESEL FUEL  
Class / Division : 3  
Packing group : III  
Environmental hazards: Yes

### IATA (Country variations may apply)

UN number : 1202  
Proper shipping name : Diesel fuel  
Class / Division : 3  
Packing group : III

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

Pollution Category : Not applicable.  
Ship Type : Not applicable.  
Product Name : Not applicable.  
Special Precaution : Not applicable.  
**Additional Information** : MARPOL Annex 1 rules apply for bulk shipments by sea.

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## 15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

### Local Regulations

Workplace Safety and Health Act & Workplace Safety and Health (General Provision) Regulations : This product is subject to the requirement in the Act/Regulations.  
Environmental Protection and Management Act and Environmental Protection and Management : This product is subject to the requirement in the Act/Regulations.



## Safety Data Sheet

(Hazardous Substances)

Regulations

Maritime and Port Authority : This product is subject to the requirement in the Act/  
of Singapore (Dangerous Regulations.

Goods, Petroleum and  
Explosives) Regulations

Fire Safety Act and Fire : This product is subject to the requirement in the Act/  
Safety (Petroleum & Regulations.

Flammable Materials)

Regulations

**Classification triggering components** : Contains fuels, diesel.

**Other Information** : IARC has classified diesel exhaust emissions as a Class 1  
carcinogen - carcinogenic to humans. Steps should be taken  
to prevent personal exposure to diesel exhaust emissions.

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### 16. OTHER INFORMATION

#### Hazard Statement

H226 Flammable liquid and vapour.

H227 Combustible liquid.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H332 Harmful if inhaled.

H351 Suspected of causing cancer.

H373 May cause damage to organs or organ systems through prolonged or repeated  
exposure.

H401 Toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects.

**Additional Information** : This document contains important information to ensure the  
safe storage, handling and use of this product. The information  
in this document should be brought to the attention of the  
person in your organisation responsible for advising on safety  
matters.

**SDS Version Number** : 1.1

**SDS Effective Date** : 10.03.2014

**SDS Revisions** : A vertical bar (|) in the left margin indicates an amendment  
from the previous version.

**Uses and Restrictions** : This product must not be used in applications other than those  
recommended in Section 1, without first seeking the advice of  
the supplier.  
This product is not to be used as a solvent or cleaning agent;

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for lighting or brightening fires; as a skin cleanser.

**SDS Distribution** : The information in this document should be made available to all who may handle the product.

**Key/Legend to Abbreviations used in this SDS** : The standard abbreviations and acronyms used in this document can be looked up in reference literature (e.g. scientific dictionaries) and/or websites.

Flam. Liq.	Flammable liquids
Asp. Tox.	Aspiration hazard
Acute Tox.	Acute toxicity
Skin Corr.	Skin corrosion/irritation
Carc.	Carcinogenicity
STOT RE	Specific target organ toxicity - repeated exposure

**Key Literature References** : The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU IUCLID date base, EC 1272 regulation, etc).

**Disclaimer** : This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.