Safety Data Sheet

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

Material Name: Shell Marine Fuel Oil
Recommended Use / Restrictions of Use: Fuel for use in marine diesel engines, boilers, furnaces and other combustion equipment.
Supplier: Shell Trading Rotterdam B.V.
Weena 70
3012 CM Rotterdam
Netherlands
+31 10 441 5000

Contact Telephone: +1 703-527-3887

Emergency Telephone Number: +1 703-527-3887

MARPOL Annex I Category: Fuel and Residual Oils (Including Ship's Bunker)
Description on Bill of Lading (B/L)/Bunker delivery note/Shipping document: Oils (Annex I, Appendix I)
Other Information: See Section 14 for transportation information related to the Bill of Lading, other shipping documents.

2. HAZARDS IDENTIFICATION

GHS Classification: Flammable liquids, Category 4
CARCINOGENICITY, Category 1B
ACUTE TOXICITY - INHALATION, Category 4
TOXIC TO REPRODUCTION, Category 2
Specific target organ toxicity - repeated exposure, Category 2,
Blood., Liver., Thymus.
AQUATIC TOXICITY (ACUTE), Category 1
AQUATIC TOXICITY (CHRONIC), Category 1

GHS Label Elements Symbol(s):

Signal Words: Danger
Hazard Statement: PHYSICAL HAZARDS:
H227: Combustible liquid.

HEALTH HAZARDS:
H332: Harmful if inhaled.
H361: Suspected of damaging fertility or the unborn child.
H373: May cause damage to organs or organ systems through prolonged or repeated exposure.
Blood.
Thymus.
Liver.
Safety Data Sheet

H350: May cause cancer.

ENVIRONMENTAL HAZARDS:
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.

GHS Precautionary Statements

Prevention:
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P260: Do not breathe dust/fume/gas/mist/vapours/spray.
P271: Use only outdoors or in a well-ventilated area.
P273: Avoid release to the environment.
P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response:
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P308+P313: IF exposed or concerned: Get medical advice/attention.
P314: Get medical advice/attention if you feel unwell.
P391: Collect spillage.
P370: In case of fire:
P378: Use appropriate media for extinction.

Storage:
P405: Store locked up.
P403+P235: Store in a well-ventilated place. Keep cool.

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:
Repeated exposure may cause skin dryness or cracking.
Contact with hot material can cause thermal burns.
Hydrogen sulphide is highly toxic and may be fatal if inhaled.
Hydrogen sulphide (H2S), an extremely flammable and toxic gas, and other hazardous vapours may evolve and collect in the headspace of storage tanks, transport vessels and other enclosed containers. H2S has a broad range of effects dependent on the airborne concentration and length of exposure: 0.02 ppm odour threshold, smell of rotten eggs; 10 ppm eye and respiratory tract irritation; 100 ppm coughing, headache, dizziness, nausea, eye irritation, loss of sense of smell in minutes; 200 ppm potential for pulmonary oedema after >20-30 minutes; 500 ppm loss of consciousness after short exposures, potential for respiratory arrest; >1000ppm immediate loss of consciousness, may lead rapidly to death, prompt cardiopulmonary resuscitation may be required. Do not depend on sense of smell for warning. H2S causes rapid olfactory fatigue (deadens sense of smell). There is no
Safety Data Sheet

evidence that H2S will accumulate in the body tissue after repeated exposure. May dull the sense of smell, so do not rely on odour as an indication of hazard.

May ignite on surfaces at temperatures above auto-ignition temperature.

Electrostatic charges may be generated during pumping.

Electrostatic discharge may cause fire.

Flammable vapours may be present even at temperatures below the flash point. Persistent per IMO criteria.

Additional Information: This product is intended for use in closed systems only.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture Description: Streams obtained from distillation and cracking processes and containing a mixture of saturated, aromatic and olefinic hydrocarbons with carbon numbers predominantly in the C9 to C50 range. Contains cracked components in which polycyclic aromatic compounds, mainly 3-ring but some 4 to 6 ring species, are present. Contains sulphur, oxygen, nitrogen compounds, vanadium and other metals at >10 ppm <500ppm w/w.

CAS No.: 68476-33-5

Hazardous Components

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>CAS</th>
<th>Conc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel oil, residual</td>
<td>68476-33-5</td>
<td>95.50 - 100.00 %</td>
</tr>
<tr>
<td>Sulphur</td>
<td>7704-34-9</td>
<td>0.00 - 4.50 %</td>
</tr>
</tbody>
</table>

Additional Information: Hydrogen sulphide may be present both in the liquid and the vapour. Composition is complex and varies with the source of the crude oil. Residues and their blends with distillates can be used as heavy fuel oils and need to be heated for use. Contains hydrogen sulphide, CAS # 7783-06-4. Contains sulphur, oxygen and nitrogen compounds.

4. FIRST AID MEASURES

General Information: Vaporisation of H2S that has been trapped in clothing can be dangerous to rescuers. Maintain respiratory protection to avoid contamination from the victim to rescuer. Mechanical ventilation should be used to resuscitate if at all possible.

Inhalation: Remove to fresh air. Do not attempt to rescue the victim unless proper respiratory protection is worn. If the victim has difficulty breathing or tightness of the chest, is dizzy, vomiting, or unresponsive, give 100% oxygen with rescue breathing or CPR as required and transport to the nearest medical facility.

Skin Contact: Wash skin with water using soap if available. Contaminated clothing must be removed as soon as possible. It must be relaundered before reuse.

Eye Contact: Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.

Ingestion: If vomiting occurs spontaneously, keep head below hips to
Most Important Symptoms/Effects, Acute & Delayed

H2S has a broad range of effects dependent on the airborne concentration and length of exposure: 0.02 ppm odour threshold, smell of rotten eggs; 10 ppm eye and respiratory tract irritation; 100 ppm coughing, headache, dizziness, nausea, eye irritation, loss of sense of smell in minutes; 200 ppm potential for pulmonary oedema after >20-30 minutes; 500 ppm loss of consciousness after short exposures, potential for respiratory arrest; >1000ppm immediate loss of consciousness, may lead rapidly to death, prompt cardiopulmonary resuscitation may be required. Do not depend on sense of smell for warning. H2S causes rapid olfactory fatigue (deadens sense of smell). There is no evidence that H2S will accumulate in the body tissue after repeated exposure. Defatting dermatitis signs and symptoms may include a burning sensation and/or a dried/cracked appearance.

Immediate medical attention, special treatment

Hydrogen sulphide (H2S) - CNS asphyxiant. May cause rhinitis, bronchitis and occasionally pulmonary oedema after severe exposure. CONSIDER: Oxygen therapy. Consult a Poison Control Center for guidance. Exposure to hydrogen sulphide at concentrations above the recommended occupational exposure standard may cause headache, dizziness, irritation of the eyes, upper respiratory tract, mouth and digestive tract, convulsions, respiratory paralysis, unconsciousness and even death. Call a doctor or poison control center for guidance.

5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

Specific hazards arising from Chemicals

Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Oxides of nitrogen. Oxides of sulphur. Unidentified organic and inorganic compounds. 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. Sinks in fresh water, floats on sea water and may reignite on water surface. Hydrogen sulphide (H2S) and toxic sulphur oxides may be given off when this material is heated. Do not depend on sense of smell for warning.

Suitable Extinguishing Media

Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable Extinguishing Media

Do not use water in a jet.

Protective Equipment & Precautions for Fire Fighters

Wear full protective clothing and self-contained breathing apparatus.

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.

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. Remove contaminated clothing. Evacuate the area of all non-essential personnel. Avoid contact with skin, eyes and clothing. Ventilate contaminated area thoroughly.

**Personal Precautions, Protective Equipment and Emergency Procedures**

- May ignite on surfaces at temperatures above auto-ignition temperature. 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. Use appropriate containment (of product and fire fighting water) to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour 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.

**Environmental Precautions**

- 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 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.

**Methods and Material for Containment and Cleaning Up**

- 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.

**Additional Advice**

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
Safety Data Sheet

Shell Marine Fuel Oil
Version 1.3
Effective Date 16.01.2013

IMO (International Maritime Organization) MSDS
per SOLAS regulation VI/5-1

local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires. Prevent spillages. Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols.

Maintenance and Fuelling Activities - Avoid inhalation of vapours and contact with skin.

Precautions for Safe Handling:
The inherent toxic and olfactory (sense of smell) fatiguing properties of hydrogen sulphide require that air monitoring alarms be used if concentrations are expected to reach harmful levels such as in enclosed spaces, heated transport vessels and spill or leak situations. If the air concentration exceeds 50 ppm, the area should be evacuated unless respiratory protection is in use. 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. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire. Earth all equipment.

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. Prevent ingress of water. 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. Tanks should be fitted with heating coils. Ensure heating coils are always covered with product (minimum 15 cm).

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. Do not use compressed air for filling, discharging or handling.

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 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. Hydrogen sulphide (H2S) and toxic
sulphur oxides may be given off when this material is heated. Do not depend on sense of smell for warning.

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

<table>
<thead>
<tr>
<th>Material</th>
<th>Source</th>
<th>Type</th>
<th>ppm</th>
<th>mg/m³</th>
<th>Notation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen Sulphide</td>
<td>ACGIH</td>
<td>TWA</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Biological Exposure Index (BEI) - See reference for full details**

No biological limit allocated.

#### 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 ventilation to control airborne concentrations below the exposure guidelines/limits. Local exhaust ventilation is recommended. Eye washes and showers for emergency use.

#### 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 unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. All respiratory protection equipment and use must be in accordance with local regulations.

#### 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
## Eye Protection
- Chemical splash goggles (chemical monogoggles).

## Protective Clothing
- Chemical resistant gloves/gauntlets, boots, and apron (where risk of splashing).

## Thermal Hazards
- When handling heated product, wear heat resistant gloves, safety hat with visor, and heat resistant coveralls (with cuffs over gloves and legs over boots), and heavy-duty boots, e.g. leather for heat resistance.

## Monitoring Methods
- 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.

## Environmental Exposure Controls
- Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Brown to black. Liquid.</td>
</tr>
<tr>
<td>Odour</td>
<td>Characteristic</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Data not available</td>
</tr>
<tr>
<td>pH</td>
<td>Data not available</td>
</tr>
<tr>
<td>Initial Boiling Point and Boiling Range</td>
<td>150 - 600 °C / 302 - 1,112 °F</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 60 °C / 140 °F (Pensky-Martens Closed Cup)</td>
</tr>
<tr>
<td>Upper / lower</td>
<td>Typical 0.50 - 5.00 % (V)</td>
</tr>
<tr>
<td>Flammability or Explosion limits</td>
<td></td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>&gt; 220 - 300 °C / 428 - 572 °F</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>&lt; 0.1 kPa</td>
</tr>
<tr>
<td>Relative Density</td>
<td>1.01</td>
</tr>
<tr>
<td>Density</td>
<td>&lt; 800 - 900 kg/m3 at 15 °C / 59 °F</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Negligible.</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>Data not available</td>
</tr>
<tr>
<td>n-octanol/water partition coefficient (log Pow)</td>
<td>Data not available</td>
</tr>
<tr>
<td>Dynamic viscosity</td>
<td>Data not available</td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>&lt; 60 mm2/s</td>
</tr>
<tr>
<td>Vapour density (air=1)</td>
<td>&gt; 5</td>
</tr>
<tr>
<td>Evaporation rate (nBuAc=1)</td>
<td>Data not available</td>
</tr>
<tr>
<td>Flammability</td>
<td>Combustible liquid.</td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Chemical stability</th>
<th>Stable under normal conditions of use.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Possibility of Hazardous</td>
<td>Data not available</td>
</tr>
<tr>
<td>Reactions</td>
<td></td>
</tr>
<tr>
<td>Conditions to Avoid</td>
<td>Avoid heat, sparks, open flames and other ignition sources.</td>
</tr>
<tr>
<td>Incompatible Materials</td>
<td>Strong oxidising agents.</td>
</tr>
<tr>
<td>Hazardous</td>
<td>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, sulphur oxides and unidentified organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation. Hydrogen sulphide.</td>
</tr>
<tr>
<td>Decomposition Products</td>
<td></td>
</tr>
<tr>
<td>Hazardous</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Polymerisation</td>
<td></td>
</tr>
</tbody>
</table>

11. TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Basis for Assessment</th>
<th>Information given is based on product data, a knowledge of the components and the toxicology of similar products.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Likely Routes of Exposure</td>
<td>Skin and eye contact are the primary routes of exposure although exposure may occur through inhalation or following accidental ingestion.</td>
</tr>
<tr>
<td>Acute Oral Toxicity</td>
<td>Low toxicity: LD50 &gt; 5000 mg/kg, Rat</td>
</tr>
<tr>
<td>Acute Dermal Toxicity</td>
<td>Low toxicity: LD50 &gt;2000 mg/kg, Rabbit</td>
</tr>
<tr>
<td>Acute Inhalation Toxicity</td>
<td>Extremely toxic: LC100 = 600ppm(v), 0.5 h, Man (Hydrogen Sulphide) Harmful if inhaled. LC50 &gt; 1.0 - &lt;= 5.0 mg/l, 4 h, Rat</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Expected to be slightly irritating. Contact with hot material can cause thermal burns which may result in permanent skin damage.</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Expected to be slightly irritating. Hot product may cause severe eye burns and/or blindness.</td>
</tr>
<tr>
<td>Respiratory Irritation</td>
<td>Inhalation of vapours or mists may cause irritation to the respiratory system.</td>
</tr>
<tr>
<td>Respiratory or skin</td>
<td>Not expected to be a sensitiser.</td>
</tr>
<tr>
<td>sensitisation</td>
<td></td>
</tr>
<tr>
<td>Aspiration Hazard</td>
<td>Not considered an aspiration hazard.</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Positive in in-vitro, but negative in in-vivo mutagenicity assays.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Causes cancer in laboratory animals.</td>
</tr>
<tr>
<td>Reproductive and</td>
<td>Causes foetotoxicity in animals at doses which are maternally</td>
</tr>
</tbody>
</table>
Safety Data Sheet

Developmental Toxicity: toxic.

Specific target organ toxicity - single exposure: Not expected to be a hazard.

Specific target organ toxicity - repeated exposure: May cause damage to organs or organ systems through prolonged or repeated exposure. Blood. Thymus. Liver.

12. ECOLOGICAL INFORMATION

Basis for Assessment: 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. Information given is based on a knowledge of the components and the ecotoxicology of similar products.

Acute Toxicity: Very toxic: LL/EL/IL50 < 1 mg/l (to aquatic organisms) LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract.

Fish: Harmful: LL/EL/IL50 10-100 mg/l

Aquatic crustacea: Toxic: LL/EL/IL50 1-10 mg/l

Algae/aquatic plants: Very toxic: LL/EL/IL50 < 1 mg/l

Microorganisms: Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l

Mobility: Partly evaporates from water or soil surfaces, but a significant proportion will remain after one day. Large volumes may penetrate soil and could contaminate groundwater. Sinks in fresh water, but will float on sea water and form a slick. Contains volatile constituents.

Persistence/degradability: Persistent per IMO criteria. International Oil Pollution Compensation (IOPC) Fund definition: “A non-persistent oil is oil, which, at the time of shipment, consists of hydrocarbon fractions, (a) at least 50% of which, by volume, distills at a temperature of 340°C (645°F) and (b) at least 95% of which, by volume, distils at a temperature of 370°C (700°F) when tested by the ASTM Method D-86/78 or any subsequent revision thereof.”

Bioaccumulative Potential: Contains constituents with the potential to bioaccumulate.

Other Adverse Effects: Films formed on water may affect oxygen transfer and damage organisms.

13. DISPOSAL CONSIDERATIONS

Material Disposal: 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.

MARPOL - see International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) which provides technical aspects at controlling pollutions from ships.

**Container Disposal**

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 uncleared drums. Do not pollute the soil, water or environment with the waste container. Comply with any local recovery or waste disposal regulations.

**Local Legislation**

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.

14. **TRANSPORT INFORMATION**

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

- **Class**: 9
- **Packing group**: III
- **Hazard indentification no.**: 90
- **UN number**: 3082
- **Danger label (primary risk)**: 9
- **Proper shipping name**: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

**IMDG**

- **Identification number**: UN 3082
- **Proper shipping name**: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
- **Class / Division**: 9
- **Packing group**: III
- **Environmental hazards**: Yes

**IATA (Country variations may apply)**

- **UN number**: 3082
- **Proper shipping name**: Environmentally hazardous substance, liquid, n.o.s.
- **Class / Division**: 9
- **Packing group**: III

**Additional Information**

This product is being carried under the scope of MARPOL Annex I.

Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.
15. REGULATORY INFORMATION

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

**Classification triggering components**: Contains fuel oil, residual.

16. OTHER INFORMATION

**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**: 1.3

**SDS Effective Date**: 16.01.2013

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

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

**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 database, 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.