1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Product Name : Marine Gas Oil S
Tradename/synonyms : Marine Gas Oil (MGO)
MSDS Code : MGO-001-RUV
CAS Number : 68476-30-2
Date : Juli 1, 2009    Revised : 1
Manufacturer : PT. PERTAMINA (Persero) RU V
               Balikpapan Refinery, Indonesia
               Jl. Yos Sudarso No.1, Balikpapan 76111, KALTIM

Distributor : PT. PERTAMINA (Persero)
              Marketing & Trading - Industrial & Marine Fuel,
              Key Account Marine
              Jl. Medan Merdeka Timur 1A,
              Jakarta Pusat 10110, Indonesia
              Phone : 62-21-79173000 – Facs : 62-21-7972177

Product Information : PT. PERTAMINA (Persero)
                      Marketing & Trading - Industrial & Marine Fuel,
                      Key Account Marine
                      Jl. Medan Merdeka Timur 1A,
                      Jakarta Pusat 10110, Indonesia
                      Phone : 62-21-79173000 – Facs : 62-21-7972177

Medical Emergency : 62-21-3816732

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component : Middle Distillate
CAS Number : 68476-30-2

3. HAZARDS IDENTIFICATION

EMERGENCY REVIEW

Appearance/odor : Dark brown liquid with hydrocarbon odor
OSHA hazard determination : Not Establish
POTENTIAL HEALTH EFFECTS

Primary Routes of Exposure/Entry:
Route of entry – Inhalation : Yes
Route of entry – Skin : Yes
Route of entry – Ingestion : Yes

HEALTH HAZARDS ACUTE AND CHRONIC

Eye : Can cause eye irritation. Additional symptoms of eye exposure may include blurred vision.

Skin : May cause mild skin irritation. Prolonged or repeated contact may dry and crack the skin.

Swallowing : Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful. This material can get into the lungs during swallowing or vomiting. This results in lung inflammation and other lung injury.

Inhalation : Breathing of vapor or mist is possible.

CARCINOGENICITY INFORMATION

Diesel engine exhaust is listed as carcinogenic by the International Agency for Research on Cancer (IARC). Excess lung and bladder cancers have been reported in workers exposed to these emissions. In addition, exposure to diesel exhaust particulates is listed as carcinogenic by the National Toxicology Program.

SIGN/SYMPTOM OF OVER EXPOSURE

Stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness), and death. Eye irritation, gastrointestinal disturbances, drowsiness, narcosis, skin irritation/burns/ blistering

4. FIRST AID MEASURES

FIRST AID PROCEDURE

Eyes : If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate medical attention.

Skin : Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.

Ingestion : Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth, place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

Inhalation : If symptoms develop, immediately move individual away from
exposure and into fresh air. Seek immediate medical attention; keep person warm and quiet. If person is not breathing, begin artificial respiration. If breathing is difficult, administer oxygen.

Note to Physicians: This material is an aspiration hazard. Potential danger from aspiration must be weighed against possible oral toxicity (See Ingestion) when deciding whether to induce vomiting. Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material skin.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash Point</td>
<td>min. 60°C</td>
</tr>
<tr>
<td>Hazardous Product of Combustion</td>
<td>Carbon dioxide and carbon monoxide, various hydrocarbons.</td>
</tr>
<tr>
<td>Fire Extinguishing Media</td>
<td>Regular foam, carbon dioxide, dry chemical.</td>
</tr>
<tr>
<td>Special Fire Fighting Instructions</td>
<td>Water or foam may cause frothing which can be violent and possibly endanger the life of the firefighter. Wear a self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment. Refer to the personal protective equipment section of this MSDS.</td>
</tr>
<tr>
<td>Fire and Explosive Hazards</td>
<td>Vapors are heavier than air and may travel along the ground or be moved by ventilation and ignited by heat, pilot lights, other flames and ignition sources at locations distant from material handling point. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.</td>
</tr>
</tbody>
</table>

6. ACCIDENTAL RELEASE MEASURE

Small Spill: Absorb liquid on vermiculite, floor absorbent, or other absorbent material and transfer to hood. Eliminate all sources of ignition such as flares, flames (including pilot lights), and electrical sparks.

Large Spill: Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source. Prevent from entering drains, sewers, streams or other bodies of water. Prevent from spreading. If runoff occurs, notify authorities as required. Pump or vacuum transfer spilled product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other materials to containers for disposal.
7. HANDLING AND STORAGE

Handling / Storage : Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. All five gallon pails and larger metal containers including tank cars and tank trucks should be grounded and/or bonded when material is transferred.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

PERSONAL PROTECTIVE EQUIPMENT

Eye Protection : Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. Consult your safety representative.

Skin Protection : Wear resistant gloves such as: neoprene, nitrile rubber, to prevent repeated or prolonged skin contact, wear impervious clothing and boots.

Respiratory Protections : If workplace exposure limit(s) of product or any component is exceeded (See Exposure Guidelines), a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions (consult your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure.

SUPPL. SAFETY AND HEALTH DATA

Fire fight procedure : Use water for cooling the fired container, move undamaged containers from fire area if you can do so without risk.
9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DATA

Appearance and odor : Dark brown liquid with hydrocarbon odor
Density at 15 °C (kg/l) : 0.865 max
Vapor Density (air = 1) : N/A
Sulphur Content (%wt) : Max. 0.35
Pour Point (°C) : Max. -6
Solubility in Water : Nil

10. STABILITY AND REACTIVITY

Stability : Yes
Condition to avoid (stability) : None Specified
Material to avoid : Strong oxidizing agents
Hazardous polymerization : No
Condition to avoid polymerization : None, will not occur

11. DISPOSAL CONSIDERATIONS

Waste disposal method : Discard any product, residue, disposal container or liner in accordance with local regulation.

12. TRANSPORTATION INFORMATION

Not Regulated

13. REGULATORY INFORMATION

There may be specific regulation at the local or regional level that pertain to this product

14. OTHER INFORMATION

The data in this Material Safety Data Sheet relates only to specific material designated herein and does not related to use in combination with any other material or in any process.