1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: WHITE OIL HEAVY
Chemical Family: Petroleum Hydrocarbon
Responsible Party: Panama Petrochem Ltd.

MANUFACTURER ADDRESS:
Regd. Office & Plant: Plot-No. 3303, GIDC Estate, Ankleshwar, Gujarat- 393002, INDIA
Corp. Office: 4th Floor, Aza House, Turner Road, Opp. Andhra Bank, Near Tava Restaurant, Bandra (West) Mumbai - 400050

EMERGENCY NUMBER: +91 2646 250281, 221068
For non-emergency and all other information call

Health Hazards/Precautionary Measures: Not Anticipated
Physical Hazards / Precautionary Measures: Keep away from all sources of ignition.

Appearance: Transparent, water-white
Physical form: Liquid
Odor: Odorless

NFPA Hazard Class:  
Health: 0 (Least)  
Flammability: 1 (Slight)  
Reactivity: 0 (Least)

HMIS Hazard Class:  
Health: 0 (Least)  
Flammability: 1 (Slight)  
Physical Hazard: 0 (Least)

2. COMPOSITION/INFORMATION ON INGREDIENTS

No hazardous components identified per 29 CFR 1910.1200.

<table>
<thead>
<tr>
<th>OTHER COMPONENTS</th>
<th>% WEIGHT</th>
<th>EXPOSURE GUIDELINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Mineral Oil</td>
<td>100</td>
<td>(See: oil mist, If Generated)</td>
</tr>
</tbody>
</table>
REFERENCE

EXPOSURE GUIDELINE

<table>
<thead>
<tr>
<th>Limits</th>
<th>Agency</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 mg/m^3</td>
<td>ACGIH</td>
<td>TWA</td>
</tr>
<tr>
<td>10 mg/m^3</td>
<td>ACGIH</td>
<td>STEL</td>
</tr>
<tr>
<td>5 mg/m^3</td>
<td>OSHA</td>
<td>TWA</td>
</tr>
<tr>
<td>2500 mg/m^3</td>
<td>NIOSH</td>
<td>IDLH</td>
</tr>
<tr>
<td>5 mg/m^3</td>
<td>NOHSC</td>
<td>TWA</td>
</tr>
</tbody>
</table>

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

1% = 10,000 PPM.

All components are listed on the TSCA inventory.

3. HAZARDS IDENTIFICATION

Potential Health Effects:

**Skin**: Not known to be a skin irritant. No harmful effects from skin absorption have been reported.

**Eye**: Not known to be an eye irritant.

**Inhalation (Breathing)**: No harmful effects reported.

**Ingestion (Swallowing)**: No harmful effects reported from ingestion.

**Signs and Symptoms**: Effects of overexposure may include irritation of the nose and throat, irritation of the digestive tract and diarrhea.

**Cancer**: No evidence of cancer has been demonstrated in several well conducted animal studies.

**Target Organs**: No data available for this material.

**Developmental**: No data available for this material.

**Pre-Existing Medical Conditions**: None Known

4. FIRST AID MEASURES

**Eye**: If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water. If symptoms persist, seek medical attention.

**Skin**: First aid is not normally required. However, it is good practice to
Inhalation (Breathing): First aid is not normally required. If breathing difficulties develop, move victim away from source of exposure and into fresh air. Seek immediate medical attention.

Ingestion (Swallowing): First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

Note To Physicians: Acute aspirations of large amounts of oil-laden material may produce a serious aspiration pneumonia. Patients who aspirate these oils should be followed for the development of long-term sequelae. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities.

5. FIRE FIGHTING MEASURES

Flammable Properties:

- Flash Point: >200°C ASTM D-92(COC)
- OSHA Flammability Class: Not applicable
- LEL/UEL%: No Data
- Autoignition Temperature: > 250°C

Unusual Fire & Explosion Hazards: This material may burn, but will not ignite readily. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire.

Extinguishing Media: Dry chemical, carbon dioxide, foam, or water spray is recommended. Water or foam may cause frothing of materials heated above 212°F. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Fire Fighting Instructions: For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area, keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk.

Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.
WHITE OIL HEAVY

6. ACCIDENTAL RELEASE MEASURES

This material may burn, but will not ignite readily. Keep all sources of ignition away from spill/release. Stay upwind and away from spill/release. Notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant (see Section 8).

Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Dike far ahead of spill for later recovery or disposal. Spilled material may be absorbed into an appropriate absorbent material.

Notify fire authorities and appropriate federal, state, and local agencies. Immediate cleanup of any spill is recommended. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, notify the National Response Center (phone number 800-424-8802).

7. HANDLING AND STORAGE

Handling: Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Sections 2 and 8).

Do not wear contaminated clothing or shoes. Use good personal hygiene practices.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1 and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

Storage
Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat and all sources of ignition. Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits (see Section 2), additional engineering controls may be required.

Personal Protective Equipment (PPE):

Respiratory: A NIOSH certified air purifying respirator with a Type 95 (R or P) particulate filter may be used in conjunction with an organic vapor cartridge under conditions where airborne concentrations are expected to exceed exposures limits (See Section 2.)

Protection provided by air purifying respirators is limited (see manufacturer's respirator selection guide). Use a NIOSH approved self-contained breathing apparatus (SCBA) or equivalent operated in a pressure demand or other positive pressure mode if there is potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Skin: Not required based on the hazards of the material. However, it is considered good practice to wear gloves when handling chemicals.

Eye/face: While contact with this material is not expected to cause irritation, the use of approved eye protection to safeguard against potential eye contact is considered good practice.

Other Protective Equipment: A source of clean water should be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed.

Suggestions for the use of specific protective materials are based on readily available published data. Users should check with specific manufacturers to confirm the performance of their products.

9. PHYSICAL AND CHEMICAL PROPERTIES

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm).

Appearance: Transparent, water-white
Panama Petrochem Ltd.
Plot-No.3303, GIDC Estate,
Ankleshwar, Gujarat-393002.
INDIA

WHITE OIL HEAVY

Filename: MSDS Mineral Oil (HLP)
Revision Date: 06.03.2010
Printed on: 06.03.2010

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Ph</td>
<td>NEUTRAL</td>
</tr>
<tr>
<td>Vapor Pressure (mm Hg)</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Vapor Density (air=1)</td>
<td>&gt;1</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>290°C (approximate)</td>
</tr>
<tr>
<td>Freezing/Melting Point</td>
<td>&lt; -12 C</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.855-0.880</td>
</tr>
<tr>
<td>Evaporation Rate (nBuAc=1)</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Bulk Density</td>
<td>7.17 lbs/gal</td>
</tr>
<tr>
<td>Flash Point</td>
<td>&gt;200°C ASTM D-92(COC)</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability : Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Conditions To Avoid : Avoid all possible sources of ignition (see Sections 5 and 7).

Hazardous Decomposition Products : carbon, nitrogen and sulfur oxides
Hazardous Polymerization : Will not occur.
Materials to Avoid (Incompatible Materials): Avoid contact with strong oxidizing agents.

11. TOXICOLOGICAL INFORMATION

Non Carciogenic. PCA Content is less than 100ppm, it is pharmaceutical grade while mineral so toxicity is not expected.

12. ECOLOGICAL INFORMATION

Aquatic Release: Advise authorities if product has entered or may enter watercourses or sewer drains. Ecotoxicity: Available data indicate this product is not acutely toxic. 96 hr. acute static toxicity for Pimephales promelas (Fathead Minnow) LC50 mortality is greater than 30,000 mg/L. Other similar products have shown 48 hr EL50 for Daphnia magna greater than 1000 mg/L, and 96 hr LR50 for Scenedesmus subspicatus (Alga) greater than 1000 mg/L. Biodegradability: This product reaches less than 10% biodegradation in standard 28-day test and is not readily biodegradable in the environment.

13. DISPOSAL CONSIDERATIONS

This material, if discarded as produced, is not a RCRA "listed" hazardous waste. However, it should be fully characterized for toxicity prior to disposal (40 CFR 261). Use which results in chemical or physical change or contamination may subject it to regulation as a hazardous waste.
Along with properly characterizing all waste materials, consult state and local regulations regarding the proper disposal of this material.

Container contents should be completely used and containers should be emptied prior to discard. Container rinsate could be considered a RCRA hazardous waste and must be disposed of with care and in full compliance with federal, state and local regulations. Larger empty containers, such as drums, should be returned to the distributor or to a drum reconditioner. To assure proper disposal of smaller empty containers, consult with state and local regulations and disposal authorities.

14. TRANSPORT INFORMATION

Proper Shipping Name: Not regulated by DOT
Hazard Class: Not Applicable
DOT ID No.: Not Applicable
DOT Shipping Label: Not regulated by DOT

Note: Material is unregulated unless in container of 3500 gal or more then provisions of 49 CFR Part 130 apply for land shipment.

15. REGULATORY INFORMATION

EPA SARA 311/312 (Title III Hazard Categories):

CERCLA / SARA
302/303/304 Categories (40 CFR 355 Appendix A): Extremely Hazardous Substances No
311/312 Categories (40 CFR 370):
  : Immediate (Acute) Health Effects No
  : Delayed (Chronic) Health Effects No
  : Fire Hazard No
  : Sudden Release of Pressure Hazard No
  : Reactivity Hazard No
313 Categories:
  : Toxic Chemicals (40 CFR 372) No
Clean Air Act:
  : Hazardous Air Pollutants (HAPS) No
  : Ozone Depleting Compounds (ODC) No
Clean Water Act:
  : If spilled into navigable waters it is reportable to National Response Center, 800-424-8802
(40 CFR 116; 401.15)
  : Reportable Quantity = Oil Sheen present on navigable water surface OSHA
(29 CFR 1910)
  : This product is not hazardous under Hazard Communication Standard 29 CFR 1910.1200
RCRA (40 CFR 261.33)
  : This product does not meet hazardous waste
WHITE OIL HEAVY

Filename: MSDS Mineral Oil (HLP)  Revision Date: 06.03.2010
Printed on: 06.03.2010

EPA/TSCA Inventory: The components of this product are listed on the EPA/TSCA inventory of chemicals.

16. OTHER INFORMATION

Disclaimer of Expressed and Implied Warranties:

The information presented in this Material Safety Data Sheet is based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.