SECTION 1) Chemical Product and Supplier's Identification

Product ID: Steam Cylinder Oil 180
Product Name: Steam Cylinder Oil 180
Revision Date: 10/06/2014
Manufacturer's Name: Martin Lubricants
Address: 484 East 6th Street Smackover, AR, US, 71762

Emergency Phone: CHEMTREC: 1-800-424-9300
Information Phone: 903-988-4211
Date Printed: 10/06/2014

Product/Recommended Uses: Cylinder oil.

SECTION 2) Hazards Identification

Classification:
Not classified under GHS.

Pictograms:
None.

Signal Word:
No Signal Word.

Hazard Statements:
No GHS Hazard Statements.

Precautionary Statements - General:
Read label before use.
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.

Precautionary Statements - Prevention:
No specific precautionary statement.

Precautionary Statements - Response:
No specific precautionary statement.

Precautionary Statements - Storage:
No specific precautionary statement.

Precautionary Statements - Disposal:
No specific precautionary statement.
Under RCRA it is the responsibility of the user of the product to determine at the time of disposal whether the product meets RCRA criteria for hazardous waste.
SECTION 3) Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>CAS</th>
<th>Chemical Name</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIXTURE</td>
<td>HYDRO-TREATED PARAFFINIC DISTILLATES</td>
<td>83% - 100%</td>
</tr>
<tr>
<td>MIXTURE</td>
<td>PROPRIETARY ADDITIVES</td>
<td>1% - 3%</td>
</tr>
</tbody>
</table>

SECTION 4) First-aid Measures

Inhalation:

If overcome by inhalation of vapors from hot product, immediately remove from exposure to fresh air. Use oxygen if there is difficulty or irregular breathing; or artificial respiration if breathing has stopped. Do not leave victim unattended. Seek immediate medical attention if symptoms persist.

Eye Contact:

Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for a duration of 15-20 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. If eye irritation persists: Get medical advice/attention.

If material is hot, treat for thermal burns and take victim to hospital immediately.

Skin Contact:

Rinse/wash with lukewarm, gently flowing water and mild soap for 5 minutes or until product is removed. If skin irritation occurs or you feel unwell: Get medical advice/attention.

If material is hot, submerge injured area in cold water. If victim is severely burned, remove to a hospital immediately.

Ingestion:

If swallowed, DO NOT INDUCE VOMITING due to aspiration hazard. Immediately give 2 glasses of water. Never give anything by mouth to an unconscious person. Should vomiting occur; lower head below knees to avoid aspiration. Seek immediate medical attention.

SECTION 5) Fire-fighting Measures

Suitable Extinguishing Media:

Dry chemical, foam, carbon dioxide, water spray or fog is recommended. Water spray is recommended to cool or protect exposed materials or structures. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam. Water or foam may cause frothing. If leak or spill has not ignited, use water spray to cool the containers and to provide protection for personnel attempting to stop the leak.

Unsuitable Extinguishing Media:

Do not use water in a jet.

Specific Hazards in Case of Fire:

Oxides of C, P and S. Additional byproducts include hydrogen sulfide, alkyl mercaptan and other sulfides.

Dense smoke may be generated while burning. Toxic fumes, gases or vapors may evolve on burning. Heavy flammable vapors may settle along ground level and low spots to create an invisible fire hazard. The vapors may extend to sources of ignition and flash back.

Fire-fighting Procedures:

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel.

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid.

Special protective actions:

Wear protective pressure self-contained breathing apparatus (SCBA) and full turnout gear.
SECTION 6) Accidental Release Measures

Emergency Procedure:
Keep unnecessary people away; isolate hazard area and deny entry. Do not touch or walk through spilled material.
Stay upwind; keep out of low areas.
Contain spill immediately with inert materials (sand, earth, chemical spill pads of cotton) by forming dikes. Dikes should be placed to contain spill in a manner that will prevent material from entering sewers and waterways. Large spill, once contained, may be picked up using explosion proof, non-sparking vacuum pumps, shovels or buckets and disposed of in suitable containers for disposal. If a large spill occurs, notify appropriate authorities.
Ventilate area.
Spill procedures (water): Remove from surface by skimming or with suitable adsorbents. If a large spill occurs notify appropriate authorities.
If spilled material is cleaned up using a regulated solvent, the resulting waste mixture may be regulated.

Recommended equipment:
Positive pressure, full-facepiece self-contained breathing apparatus (SCBA), or positive pressure supplied air respirator with escape SCBA (NIOSH approved).

Personal Precautions:
ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
Avoid breathing vapor. Avoid contact with skin, eye or clothing. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing.

Environmental Precautions:
Prevent further leakage or spillage if safe to do so. Do not let product enter drains/surface waters/groundwater or confined areas.

SECTION 7) Handling and Storage

General:
Wash hands after use.
Do not get in eyes, on skin or on clothing.
Do not breathe vapors or mists.
Use good personal hygiene practices.
Eating, drinking and smoking in work areas is prohibited.
Remove contaminated clothing and protective equipment before entering eating areas.
Eyewash stations and showers should be available in areas where this material is used and stored.

Ventilation Requirements:
Use only with adequate ventilation to control air contaminants to their exposure limits. The use of local ventilation is recommended to control emissions near the source.

Storage Room Requirements:
Keep container(s) tightly closed and properly labeled. Store in cool, dry, well-ventilated areas away from heat, sources of ignition and incompatibilities. Protect containers against physical damage. Keep containers securely sealed when not in use. Indoor storage should meet OSHA standards and appropriate fire codes. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Empty container retain residue and may be dangerous.
Do not cut, drill, grind, weld or perform similar operations on or near containers.

SECTION 8) Exposure Controls/Personal Protection

Appropriate Engineering Controls:
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.
Mechanical methods such as fume hoods or area fans may be used to reduce localized vapor/mist areas.
If vapor or mist is generated when material is heated or handled, provide adequate ventilation to keep the airborne concentrations of vapors below their respective threshold limit value.

Eye protection:
Wear eye protection with side shields or goggles. Wear indirect-vent, impact and splash resistant goggles when working with liquids. If additional protection is needed for entire face, use in combination with a face shield.

Skin protection:
Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Use of an apron and over-boots of chemically impervious materials such as neoprene or nitrile rubber is recommended to avoid skin sensitization. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Launder soiled clothes or properly disposed of contaminated material, which cannot be decontaminated.
If handling hot material, use insulated protective equipment.
Respiratory protection:

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed. Check with respiratory protective equipment suppliers.

Where misting may occur, wear an MSHA/NIOSH approved (or equivalent) half-mask form dust/mist air-purifying respirator.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>OSHA TWA (ppm)</th>
<th>OSHA TWA (mg/m³)</th>
<th>OSHA STEL (ppm)</th>
<th>OSHA STEL (mg/m³)</th>
<th>OSHA-Tables-Z1,2,3</th>
<th>OSHA Skin designation</th>
<th>NIOSH TWA (ppm)</th>
<th>NIOSH TWA (mg/m³)</th>
<th>NIOSH STEL (ppm)</th>
<th>NIOSH STEL (mg/m³)</th>
<th>NIOSH Carcinogen</th>
<th>ACGIH TWA (ppm)</th>
<th>ACGIH TWA (mg/m³)</th>
<th>ACGIH STEL (ppm)</th>
<th>ACGIH STEL (mg/m³)</th>
<th>ACGIH Carcinogen</th>
<th>ACGIH Notations</th>
<th>ACGIH TLV Basis</th>
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<tbody>
<tr>
<td>Hydro-treated paraffinic distillates</td>
<td>5</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proprietary Additives</td>
<td>5</td>
<td>10</td>
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</table>

SECTION 9) Physical and Chemical Properties

Physical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density [lb/gal]</td>
<td>7.365</td>
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<tr>
<td>% Solids By Weight</td>
<td>100.000%</td>
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<tr>
<td>Density VOC</td>
<td>0.000</td>
</tr>
<tr>
<td>% VOC</td>
<td>0.000%</td>
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<tr>
<td>VOC Actual [lb/gal]</td>
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<tr>
<td>VOC Actual [g/l]</td>
<td>0.000</td>
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<tr>
<td>Specific Gravity</td>
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<tr>
<td>VOC Regulatory [lb/gal]</td>
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<tr>
<td>VOC Regulatory [g/l]</td>
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<tr>
<td>Appearance</td>
<td>Amber, clear fluid</td>
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<tr>
<td>Odor Threshold</td>
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<tr>
<td>Odor Description</td>
<td>Mild petroleum hydrocarbon odor</td>
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<tr>
<td>pH</td>
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<tr>
<td>Flammability</td>
<td>Flash Point at or above 200 °F</td>
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<tr>
<td>Flash Point Symbol</td>
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<td>Flash Point</td>
<td>442 °F</td>
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<tr>
<td>Lower Explosion Level</td>
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<tr>
<td>Upper Explosion Level</td>
<td>N.A.</td>
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<tr>
<td>Vapor Pressure</td>
<td>Negligible at STP</td>
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<tr>
<td>Vapor Density</td>
<td>&gt;1 at STP</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Slight</td>
</tr>
<tr>
<td>Viscosity</td>
<td>185.16 cSt at 40°C (104°F), 16.99 cSt at 100°C (212°F)</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>N.A.</td>
</tr>
<tr>
<td>Melting Point</td>
<td>N.A.</td>
</tr>
<tr>
<td>Low Boiling Point</td>
<td>Expected to be &gt; 260°C (500°F)</td>
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<tr>
<td>High Boiling Point</td>
<td>N.A.</td>
</tr>
<tr>
<td>Auto Ignition Temp</td>
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</tr>
<tr>
<td>Evaporation Rate</td>
<td>Negligible at STP</td>
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<tr>
<td>Decomposition Pt</td>
<td>N.A.</td>
</tr>
<tr>
<td>Coefficient Water/Oil</td>
<td>N.A.</td>
</tr>
</tbody>
</table>
SECTION 10) Stability and Reactivity

Stability:
Material is stable at room temperature and pressure.

Hazardous Polymerization:
Will not occur.

Incompatible Materials:
Avoid contact with acids and oxidizing materials.

Conditions to Avoid:
Avoid heat, flame, and contact with incompatible materials. Avoid high temperatures and product contamination.

Hazardous Decomposition Products:
Smoke, carbon monoxide and dioxide and other aldehydes of incomplete combustion. Oxides of C, P and S. Hydrogen sulfide and alkyl mercaptans and other sulfides may be released.

SECTION 11) Toxicological Information

Acute Toxicity:
If inhaled: Overexposure by inhalation of hot material may cause nonspecific discomfort, such as nausea, headache, or weakness. Prolonged and repeated exposure to oil mist poses a risk of pulmonary disease such as chronic lung inflammation. If ingested, due to the expected concentration of oil (70-100%) ingestion is expected to be relatively non-toxic unless lung aspiration occurs. Gastrointestinal discomfort may develop, followed by vomiting with a further risk of aspiration. This product has laxative properties and may result in abdominal cramps and diarrhea.

Skin Corrosion/Irritation:
No data available.

Serious Eye Damage/Irritation:
Avoid prolonged contact with the eyes, which may cause mild eye discomfort, tearing, or blurring of vision.

Carcinogenicity:
No data available.

Germ Cell Mutagenicity:
No data available.

Reproductive Toxicity:
No data available.

Respiratory or Skin Sensitization:
Prolonged or repeated contact may lead to an allergic skin sensitization in some people and dermatitis (dryness, chapping and reddening of skin).

Specific Target Organ Toxicity - Single Exposure:
No data available.

Specific Target Organ Toxicity - Repeated Exposure:
No data available.

Aspiration Hazard:
Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

SECTION 12) Ecological Information

Toxicity:
This material may be toxic to aquatic organisms and should be kept out of sewage and drainage systems and all bodies of water.

Persistence and Degradability:
No data available.
**Bio-accumulative Potential:**
No data available.

**Mobility in Soil:**
No data available.

**Other Adverse Effects:**
No data available.

**SECTION 13) Disposal Considerations**

**Waste Disposal:**
Under RCRA it is the responsibility of the user of the product to determine at the time of disposal whether the product meets RCRA criteria for hazardous waste. Waste management should be in full compliance with federal, state and local laws.

Empty Containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes. Return drums to reclamation centers for proper cleaning and reuse.

**SECTION 14) Transport Information**

**U.S. DOT Information:**
- Bulk Shipping Description: Does not apply to bulk oil shipping.
- Non-Bulk Shipping Description: Does not apply to non-bulk oil shipping.
- Identification Number: Not applicable.
- Hazard Classification: Not applicable.
- Other: See 49 CFR for additional requirements for descriptions, allowed modes of transport and packaging. For more information concerning spills during transport, consult latest DOT Emergency Response Guidebook for Hazardous Materials Incidents, DOT P 5800.3.

**IMDG Information:**
This material is not classified as dangerous under IMDG regulations.

**IATA Information:**
This material is not classified as dangerous under IATA regulations.

**SECTION 15) Regulatory Information**

<table>
<thead>
<tr>
<th>CAS</th>
<th>Chemical Name</th>
<th>% By Weight</th>
<th>Regulation List</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIXTURE</td>
<td>Hydro-treated paraffinic distillates</td>
<td>83% - 100%</td>
<td>SARA312, TSCA</td>
</tr>
</tbody>
</table>

**SECTION 16) Other Information Including Information on Preparation and Revision of the SDS**

**Glossary:**
ACGIH- American Conference of Governmental Industrial Hygienists; ANSI- American National Standards Institute; Canadian TDG- Canadian Transportation of Dangerous Goods; CAS- Chemical Abstract Service; Chemtrec- Chemical Transportation Emergency Center (US); CHIP- Chemical Hazard Information and Packaging; DSL- Domestic Substances List; EC- Equivalent Concentration; EH40 (UK)- HSE Guidance Note EH40 Occupational Exposure Limits; EPCRA- Emergency Planning and Community Right-To-Know Act; ESL- Effects screening levels; HMIS- Hazardous Material Information Service; LC- Lethal Concentration; LD- Lethal Dose; NFPA- National Fire Protection Association; OEL- Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL- Permissible Exposure Limit; SARA (Title III)- Superfund Amendments and Reauthorization Act; SARA 313- Superfund Amendments and Reauthorization Act, Section 313; SCBA- Self-Contained Breathing Apparatus; STEL- Short Term Exposure Limit; TCEQ- Texas Commission on Environmental Quality; TLV- Threshold Limit Value; TSCA- Toxic Substances Control Act Public Law 94-469; TWA- Time Weighted Value; US DOT- US Department of Transportation; WHMIS- Workplace Hazardous Materials Information System.
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