Sonneborn, LLC urges the recipient of this Safety Data Sheet to study it carefully to become aware of hazards, if any, of the product involved. In the interest of safety you should (1) notify your employees, agents and contractors of the information of this sheet, (2) furnish a copy to each of your customers for the product and (3) request your customers to inform their employees and customers as well.

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

Identification of the substance or preparation
Sodium Petroleum Sulfonate

Use of substance/preparation:
This oil soluble Sulfonate is used in soluble oils and semi-synthetic fluids to improve emulsion properties.

Company identification
Sonneborn, LLC
600 Parsippany Road, Suite 100
Parsippany, NJ 07054 USA

Emergency telephone number
Chemtrec (24hrs): 800-424-9300
Sonneborn: 724-756-2210

2. HAZARDS IDENTIFICATION

GHS Classification: Category 2: Serious eye irritation, Label: GHS 07, Signal word: Warning
Human Health Hazards: H319; causes serious eye irritation
Physico-chemical and environmental hazards and effects: None

WARNING!
CAUSES EYE IRRITATION.

HMIS RATING USA

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
<th>PPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>INGREDIENT</th>
<th>% BY WEIGHT</th>
<th>CAS #</th>
<th>HAZARD</th>
<th>DANGER SYMBOL(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Petroleum Sulfonate</td>
<td>30 – 70</td>
<td>68608-26-4</td>
<td>H319</td>
<td>GHS07</td>
</tr>
</tbody>
</table>
4. FIRST AID MEASURES

Swallowing
Do not induce vomiting. Rinse mouth with water. Obtain medical attention immediately. This is not a toxic substance.

Inhalation
Remove to fresh air. Obtain medical attention.

Skin
Remove contaminated clothing. Wash thoroughly with warm water using a mild soap. Obtain medical attention if irritation persists.

Eye contact
Immediately flush eyes with water for several minutes. Obtain medical attention if discomfort persists.

5. FIRE-FIGHTING MEASURES

Flash Point: >93.4°C (>200°F) PMCC ASTM D93, This product contains water and may cause foaming when heated above 200°F.

NFPA CLASSIFICATION USA

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
<th>Special provisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

Extinguishing media
Suitable: Extinguish with:
- dry chemical
- carbon dioxide (in case of small fires)
- foam
- water spray or fog (large fires only)

Unsuitable: Do not use water jet. Oil will float on water and can spread any fire.

Special firefighting procedures
Do not discharge extinguishing waters into streams, rivers and lakes. This product may emulsify with water.

Special protective equipment for firefighters
Body covering protective clothing, full “turn-out” gear. Self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Wear suitable protective equipment. Avoid contact with eyes and skin.

Environmental precautions
Avoid runoff to sewers or waterways. Dike area of spill to prevent spreading and pump liquid to salvage tank. Waste: avoid washing into watercourses. Use methods consistent with local regulations or incinerate.
Methods for cleaning up
Observe government regulations.

Small Spills  Absorb on inert material such as sand, earth, vermiculite. Collect for disposal.

Large Spills  Dike to contain spill. Pump excess material into suitable container (metal drums, metal tank, or such)

7. HANDLING AND STORAGE

HANDLING
Do not get in eyes. Avoid prolonged or repeated contact with skin. Avoid breathing vapor. Use with adequate ventilation. Wash thoroughly after handling. Do not handle at temperatures >+40°C, unless wearing appropriate protective equipment.

Ventilation
General (mechanical) room ventilation is expected to be satisfactory for use at room temperature. When hot, special local ventilation may be required at points where vapors can be expected to escape into the workplace air.

STORAGE
Storage requirements
Keep away from heat, sparks and flame. Do not store at temperatures: >+40°C without proper safety review of storage equipment. Store protected from light.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>COUNTRY</th>
<th>TYPE/REMARK</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mineral Oil Mist</td>
<td></td>
<td>If used in a way that generates</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>A “mist” observe the limits for</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mineral Oil Mist.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (mist), ACGIH</td>
<td>5mg/m3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL (mist), ACGIH</td>
<td>10mg/m3</td>
</tr>
</tbody>
</table>

OCCUPATIONAL EXPOSURE CONTROLS

Respiratory protection
Self-contained breathing apparatus in high vapor concentrations.

Hand protection/protective gloves
Chemical resistant protective gloves.

Eye protection
Safety glasses with side shields. Face shield for elevated temperature handling.

Skin protection
Wear protective clothing, such as long sleeves to minimize skin contact.
Other protective equipment
Eye wash, safety shower

Environmental Exposure Controls:
Store in a second containment to catch leakages

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical State: Viscous Liquid
Color: Brown
Odor: Mild Petroleum
Odor Threshold: N/A

Important health, safety and environmental information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>No Data</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No Data</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No Data</td>
</tr>
<tr>
<td>Flash Point</td>
<td>&gt;93.4°C (&gt;200°F) PMCC ASTM D93, This product contains water and may cause foaming when heated above 200°F</td>
</tr>
<tr>
<td>Upper explosion limits</td>
<td>Not determined</td>
</tr>
<tr>
<td>Lower explosion limits</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Negligible</td>
</tr>
<tr>
<td>Bulk Density</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>May emulsify</td>
</tr>
<tr>
<td>Solubility in organic solvents</td>
<td>Partially soluble</td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>&gt; 30 mm²/s at 40°C</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>100°C water present</td>
</tr>
<tr>
<td>PH</td>
<td>Not determined</td>
</tr>
<tr>
<td>Specific gravity (H₂O=1)</td>
<td>&gt; 1.00 @ 16°C</td>
</tr>
<tr>
<td>Partitioning coefficient</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>N/A</td>
</tr>
<tr>
<td>Percent volatiles</td>
<td>&lt; 5%(m) water</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>Not determined</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability: This product is stable under normal storage and handling conditions.

Conditions/Materials to avoid: Extreme temperatures.

Incompatible materials
Strong acids, Strong bases, Oxidizing agents.
Hazardous combustion products
Irritating fumes, Oxides of carbon, Oxides of nitrogen, oxides of sulfur.

Hazardous polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

SWALLOWING

Chronic effects
No data available

Test results
Acute toxicity: LD50-Rat
Result: >6,000 mg/kg
Remark: Test results are based on analogy with a similar material.

SKIN CONTACT

Acute effects
May cause irritation

EYE CONTACT

Acute effects
May cause serious eye irritation.

12. ECOLOGICAL INFORMATION

No information available

13. DISPOSAL CONSIDERATIONS

General: Incinerate in a furnace where permitted under national and local regulations. Avoid discharge to sewers and natural waters.

Non-cleaned packages
Empty drums should be decontaminated and either passed to an approved drum reconditioner or destroyed. Containers that cannot be cleaned must be treated as waste.

14. TRANSPORT INFORMATION

ADR/RID/IMDG/ICAO
This product is not regulated by ADR / RID / IMDG / ICAO.

DOT Classification
Not regulated by ground or rail if shipped or transported at temperatures under 212°F (100°C) or in containers less than 450 liters (119 US gal). If shipped or transported at temperatures over 100°C (212°F) and in containers greater than 450 liters (119 gal) regulated as: ELEVATED TEMPERATURE LIQUID, N.O.S, Class 9, UN 3257, PGIII, ERG 128

Freight description road: 65 PETROLEUM OIL, N.O.I.B.N.

15. REGULATORY INFORMATION

GHS classification

Danger symbol(s): GHS – classification: Category 2: Serious eye irritation, Label: GHS 07, Signal word: Warning

Risk phrases: H319: Causes serious eye irritation

Safety phrases: P264: Wash hands thoroughly after handling
P280: Wear eye protection
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313: If eye irritation persists: Get medical advice/attention.

Contains: Oil Soluble Sodium Sulfonate

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual reports of release of toxic chemicals that appear in 40CFR372 (for SARA 313). This information must be included in SDS's that are copied and distributed for this material.

Components present in this product at a level which could require reporting under the statute are:

****NONE****

New Jersey Worker and Community Right-To-Know Act (Labeling Requirements)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS#</th>
<th>New Jersey TS Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Sulfonate</td>
<td>68608-26-4</td>
<td></td>
</tr>
</tbody>
</table>

EPA Hazard Categories (SARA 311, 312): None

WHMIS Classification: This product is not a WHMIS controlled product.

Chemical Inventory

Canada: The ingredients of this product are on the DSL.
Europe: The ingredients of this product are on the EINECS inventory.
United States: The ingredients of this product are on the TSCA inventory.
Australia: The ingredients of this product are on the AICS inventory.
China: This product is on the IECSC inventory.
Japan: The ingredients of this product are on the ENCS inventory.
Korea: This product is listed on the Existing Chemicals List (ECL).
Philippines: This product is on the PICCS.
New Zealand This product is on the New Zealand Chemical Inventory (NZIoC)
16. OTHER INFORMATION

Recommended uses and restrictions
Please consult the product and/or application information bulletins for this product.

Further information, Europe
Where appropriate, use CE approved personal protection equipment.

Further information
MAY BE ON THE INVENTORY LIST BUT NOT NECESSARILY REGISTERED, (Korea, China and New Zealand) CONSULT REGULATORY SPECIALIST.

This Safety Data Sheet conforms to EC Directive 1907/2006 and amendments.

The opinions expressed herein are those of qualified experts within Sonneborn, LLC. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and of these opinions and the conditions of use of this product are not within the control of Sonneborn, LLC it is the user’s obligation to determine the conditions of safe use of the products.