SAFETY DATA SHEET
SUNOCO ZF 40W 13 TBN (ZINC FREE)

Section 1 - Identification

1.1 Product Identifiers
Product Name : SUNOCO ZF 40W 13 TBN (ZINC FREE)
Product Code(s) : 7053-055, 7053-016, 7053-000, 7053-005

1.2 Product Usage
Recommended Usage : Railroad Engine Oil
Restricted Usage : Not Intended for any other usage

1.3 Emergency Support
Emergency Support : CHEMTREC
United States/Canada +1(800) 424-9300

1.4 Supplier Information
SUNOCO LUBRICANTS
PO BOX 16270
Philadelphia, PA 19154
United States
Phone : 800-660-0761
Fax : 215-352-0140

Section 2 - Hazards Identification

2.1 Classification of the Substance or the Mixture
GHS Rating(s) : No Classified Hazards
Signal Word : Not Applicable

2.2 Label Elements
No Classified Hazards.

Precautionary
P201 Obtain Special Instructions Before Use.
P202 Do Not Handle Until All Safety Precautions Are Understood.
P281 Use Personal Protective Equipment As Required.

Response : P308 If Exposed Or Concerned: Get Medical Advice/attention.

Storage : P405 Store Locked Up.
Disposal : P501 Dispose Of Container According To Regional Regulations.

2.3 Other Hazards
Section 3 - Composition / Information on Ingredients

3.1 Substance Details

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS #</th>
<th>% Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>LUBRICANT BASE OIL (PETROLEUM)</td>
<td>64742-54-7</td>
<td>30.0</td>
</tr>
<tr>
<td>HIGHLY REFINED MINERAL OIL (C15 - C50)</td>
<td>64741-88-4</td>
<td>29.0</td>
</tr>
<tr>
<td>RESIDUAL OILS, PETROLEUM, SOLVENT-REFINED</td>
<td>647-42-01-4</td>
<td>30.0</td>
</tr>
<tr>
<td>BASE OIL SEVERELY REFINED</td>
<td>64742-65-0</td>
<td>1.0</td>
</tr>
</tbody>
</table>

INERT  The remaining percentage are not listed as Physical or Health Hazards (29 CFR 1910.1200) 10.0

Products containing mineral oil with less than 3% DMSO extract as measured by IP-346.

Section 4 - First Aid Measures

4.1 First Aid Measures

Eye Contact : Immediately flush eyes with plenty of water occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get Medical Attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Maintain an open airway. Get medical attention if symptoms occur.

Ingestion  : Wash mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

4.2 Symptoms & Effects

To Physician  : Treat symptomatically. Contact poison specialist if product has been ingested.

Specific Treatment  : No Specific Treatment.

4.3 Medical Attention

Protection of First Aiders : No action should be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Note To Doctor  : Aspiration during swallowing or vomiting may severely damage the lungs. If evacuation of stomach contents is necessary, use method least likely to cause aspiration.
Section 5 - Fire Fighting

5.1 Extinguishing Media

Suitable Media : CO2, Dry chemical, or Foam. Water can be used to cool and protect product. Do not use water jet as an extinguisher, it will spread the fire.

Unsuitable Media : When heated, hazardous gases may be released including: sulfur dioxide. A solid stream of water will spread the burning material. Material creates a special hazard because it floats on water. This material creates a special hazard because it floats on water. This material is harmful to aquatic life. Any fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

5.3 Firefighters Advice

Special protective equipment : Fire Equipment Information: Fire-fighters should wear appropriate protective equipment and self contained breathing apparatus(SCBA) with a full face-piece operated in positive pressure mode.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment

General Measures : No health affects expect from the cleanup of this material if contact can be avoided. Follow personal protective equipment recommendations found in section 8 of this SDS.

6.2 Environmental Precautions

Non-Emergency Personnel : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform authorities if the product has caused environmental pollution. Water Polluting Material may be harmful to the environment if released in large quantities.

6.3 Materials & Methods to Contain and Cleanup

Reference Section 8 : Follow all protective equipment recommendations provided in Section 8.

Spill Control Measures : Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Dispose of according to Federal, State, Local, or Provincial regulations. Used fluid should be disposed of at a recycling center.

Containment and Cleanup : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillage’s with noncombustible, absorbent material e.g. sand earth vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via licensed waste disposal contractor. Contaminated absorbent material may pose the same threat hazard as the spilled product.
Section 7 - Handling & Storage

7.1 Safe Handling

Personal Protective Equipment: Put on appropriate personal protective equipment (see section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, keep lid tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

7.2 Safe Storage

Required conditions: Odorous and toxic fumes may form from the decomposition of this product if stored at temperatures in excess of 113 deg F (45 deg C) for extended periods of time or if heat sources in excess of 250 deg F (121 deg C) are used. Store away from incompatible materials. See section 10 for incompatible materials.

7.3 Specific End Use

Designed Purpose: This product is designed for use as a Railroad Engine Oil

Section 8 - Exposure Control

8.1 United States Exposure Limits

<table>
<thead>
<tr>
<th>CAS</th>
<th>Chemical Name</th>
<th>Exposure Limits</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>64742-54-7</td>
<td>Distillates, petroleum, hydrotreated heavy</td>
<td>5mg/m3</td>
<td>IUCLID</td>
</tr>
<tr>
<td>64742-65-0</td>
<td>Distillates, petroleum, solvent-dewaxed</td>
<td>5mg/m3</td>
<td>IUCLID</td>
</tr>
<tr>
<td>64741-88-4</td>
<td>Distillates, petroleum, solvent-refined heavy</td>
<td>5mg/m3</td>
<td>IUCLID</td>
</tr>
</tbody>
</table>

8.2 Exposure Controls

Engineering Controls: Material should be handled in enclosed vessels and equipment, in which case general room ventilation should be sufficient. Local exhaust ventilation should be used at points where dust, mist, vapors or gases can escape into the room air. No special requirements under ordinary conditions of use and with adequate ventilation.

Environmental Exposure Controls: General room ventilation should be satisfactory. Local exhaust ventilation may be necessary if misting is generated.

Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

Eye / Face Protection: If contact is likely, safety glasses with side shields are recommended.

Skin / Hand Protection: Butyl rubber. Use nitrile or neoprene gloves. Use good industrial hygiene practices. In case of skin contact, wash hands and arms with soap and water. Use caution when opening manway covers of storage and transportation containers. 3-nitroaniline crystals may be present on the interior surface of these openings. 3-nitroaniline is toxic by dermal exposure.

Respiratory Protection: Use a properly fitted air purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this a necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Section 9 - Physical & Chemical Properties

9.1 Information On Basic Physical and Chemical Properties

- Physical state: Liquid
- Color: B&C
- Odor: Characteristic of Petroleum
- Odor threshold: No Data Available
- pH: No Data Available
- Freezing Point: No Data Available
- Boiling Point / Range: No Data Available
- Flash Point COC: 237°C
- Evaporation rate: No Data Available
- Upper Explosive Limits (% air): No Data Available
- Lower Explosive Limits (% air): No Data Available
- Flammability (solid, gas): Not Applicable
- Vapor pressure: <1 mm Hg
- Vapor density (air=1): >1
- Relative Density: 0.90
- Auto-ignition temperature: Not Determined
- Decomposition temperature: Not Determined
- Solubility in water: Negligible, 0-1%
- Partition coefficient, n-octanol/water: No Data Available
- Viscosity @ 40°C: 176 cst
- Viscosity @ 100°C: 11 cst

Section 10 - Stability & Reactivity

10.1 Material Analysis

- Reactivity: Not Applicable
- Chemical stability: Stable Under Normal Circumstances.
- Possibility of hazardous reactions: Hazardous polymerization will not occur.

10.2 Environmental

- Conditions to avoid: Temperatures above the high flash point of this combustible material in combination with sparks, open flames, or other sources of ignition.
- Incompatible materials: Strong oxidizing agents
- Hazardous decomposition products: Carbon monoxide, Smoke, Carbon monoxide, sulfur oxides, aldehydes, and other petroleum decomposition products in the case of incomplete combustion. Oxides of nitrogen, phosphorus, calcium, copper, magnesium, sodium, and hydrogen sulfide may also be present.

Section 11 - Toxicological Information

11.1 Toxicological Effects

- Ingestion Toxicity: No hazard in normal industrial use.
- Skin Contact: This material is likely to be slightly irritating to skin based on animal data.
- Inhalation Toxicity: Non-hazardous under Respiratory Sensitization category.
- Eye Contact: The material is likely to be irritating to eyes based on animal data.

11.2 Inhalation Toxicity Data

<table>
<thead>
<tr>
<th>CAS</th>
<th>Chemical Name</th>
<th>Test</th>
<th>Value</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>64741-88-4</td>
<td>Distillates, petroleum, solvent-refined heavy paraffinic</td>
<td>Inhalation</td>
<td>2.18mg/L</td>
<td>4h Rat</td>
<td>NLM_CIP</td>
</tr>
</tbody>
</table>
Section 11 - Toxicological Information

11.3 Dermal & Other Toxicity Data

<table>
<thead>
<tr>
<th>CAS</th>
<th>Chemical Name</th>
<th>Test</th>
<th>Value</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>64742-54-7</td>
<td>Distillates, petroleum, hydrotreated heavy paraffinic</td>
<td>LC50</td>
<td>5000mg/L</td>
<td>96h Oncorhynchus</td>
<td>IUCLID</td>
</tr>
<tr>
<td>64742-65-0</td>
<td>Distillates, petroleum, solvent-dewaxed heavy paraffinic</td>
<td>LC50</td>
<td>5000mg/L</td>
<td>96h Oncorhynchus</td>
<td>IUCLID</td>
</tr>
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<td>64741-88-4</td>
<td>Distillates, petroleum, solvent-refined heavy paraffinic</td>
<td>LC50</td>
<td>5000mg/L</td>
<td>96h Oncorhynchus</td>
<td>IUCLID</td>
</tr>
</tbody>
</table>

Sensitizer: No data available to indicate product or components may be a skin sensitizer.

Mutagenicity: No data available to indicate product or any components present at greater than 0.1% is mutagenic or genotoxic.

Carcinogenicity: Not expected to cause cancer. This product meets the IP-346 criteria of <3%.

Reproductive Toxicity: No data available if components greater than 0.1% may cause birth defects.

Section 12 - Ecological Information

12.1 Aquatic Toxicity

Acute Aquatic ecotoxicity: Non-hazardous under Aquatic Acute Environment category.

Chronic Aquatic ecotoxicity: Non-hazardous under Aquatic Chronic Environment category.

Persistence and degradability: Biodegrades slowly.

Bioaccumulative potential: Bioconcentration may occur.

Mobility in soil: This material is expected to have essentially no mobility in soil.

Results of PBT and vPvB assessment: Not determined.

Other adverse effects: No data available.

12.2 Ecological Data

<table>
<thead>
<tr>
<th>CAS</th>
<th>Chemical Name</th>
<th>Test</th>
<th>Value</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>64742-54-7</td>
<td>Distillates, petroleum, hydrotreated heavy paraffinic</td>
<td>EC50</td>
<td>1000mg/L</td>
<td>48h Daphnia magna</td>
<td>IUCLID</td>
</tr>
<tr>
<td>64742-65-0</td>
<td>Distillates, petroleum, solvent-dewaxed heavy paraffinic</td>
<td>EC50</td>
<td>1000mg/L</td>
<td>48h Daphnia magna</td>
<td>IUCLID</td>
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<td>48h Daphnia magna</td>
<td>IUCLID</td>
</tr>
</tbody>
</table>

Section 13 - Disposal Considerations

13.1 Waste treatment

Waste treatment methods: Dispose of according to Federal, State, Local, or Provincial regulations.

Disposal Methods: Recycle used oil.

Waste Disposal: Use material is non-hazardous according to environmental regulations.

Contaminated packaging: Recycle containers whenever possible!

Section 14 - Transportation Information

14.1 U.S. Department of Transportation (DOT)

14.2. Shipping Description: If shipped by land in a packaging having a capacity of 3,500 gallons or more, the provisions of 49 CFR, Part 130 apply. (Contains oil) International Maritime Dangerous Goods (IMDG)

14.2. DOT Compliance Note: U.S. DOT compliance requirements may apply. See 49 CFR 171.22, 23 & 25. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable International Civil Aviation Org. / International Air Transport Assoc. (ICAO/IATA)

14.2. DOT Compliance Requirement: U.S. DOT compliance requirements may apply. See 49 CFR 171.22, 23 & 24
### Section 15 - Regulatory Information

<table>
<thead>
<tr>
<th>Regulatory Agency</th>
<th>Chemical List Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>(TSCA) Toxic Substance Control Act</td>
<td>All components are either listed or not regulated US TSCA Inventory. 64742-54-7 64741-88-4 64742-65-0</td>
</tr>
</tbody>
</table>

**WHMIS Hazard Class**: None

**Canada CPR**: This product has been classified in accordance with the hazard criteria Controlled Products Regulations (CPR) and the SDS contains all the information required by the Regulations.

**CERCLA Sections**

- 302, 313, 372: No
- 311, 312: Acute Health Hazard No Pressure Hazard No Fire Hazard No Chronic Health Hazard No Reactive Hazard No

**New Jersey Right to Know (NJ RTK)**

This material contains the following listed chemicals:

**Massachusetts Right to Know (MA RTK)**

This material contains the following listed chemicals

**Pennsylvania Right to Know (PA RTK)**

This material contains the following listed chemicals

**Rhode Island Right to Know (RI RTK)**

This material contains the following listed chemicals

### Section 16 - Other Information

<table>
<thead>
<tr>
<th>Agency</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>American Conference of Governmental Industrial Hygienists</td>
</tr>
<tr>
<td>CFR</td>
<td>Code of Federal Regulations</td>
</tr>
<tr>
<td>DOT</td>
<td>United States Department of Transportation</td>
</tr>
<tr>
<td>GHS</td>
<td>Globally Harmonized System of Classification and Labeling of Chemicals</td>
</tr>
<tr>
<td>NIOSH</td>
<td>National Institute for Occupational Safety and Health</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety and Health Administration</td>
</tr>
<tr>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>RTK</td>
<td>Right-to-Know</td>
</tr>
<tr>
<td>SARA</td>
<td>Short-term Exposure Limit</td>
</tr>
<tr>
<td>TSCA</td>
<td>Toxic Substances Control Act</td>
</tr>
<tr>
<td>WHMIS</td>
<td>Workplace Hazardous Materials Information System</td>
</tr>
</tbody>
</table>

**Disclaimer**: This safety data sheet and the information it contains is offered to you in good faith as accurate. We have reviewed any information contained in the data sheet which we have received from outside sources and we believe the information to be correct, but cannot guarantee its accuracy or completeness.

Health and safety precautions in this data sheet may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product in a safe manner and to comply with all applicable laws and regulations. No statement made in this data sheet shall be construed as permission or recommendation for the use of any product in a manner that might infringe existing patents. No warranty is made, either expressed or implied.