Material Safety Data Sheet

Material Name: Elco 393D

*** Section 1 - Chemical Product and Company Identification ***

Chemical Name: Gear Oil Additive

Manufacturer Information
The Elco Corporation
1000 Belt Line Street
Cleveland, OH 44109

Mfg Contact: Kate Skufca

*** Section 2 - Hazards Identification ***

Emergency Overview
Routes of entry primarily by way of eyes and skin.

Potential Health Effects: Eyes
Based on testing of similar materials, acute animal tests indicate this product is not an eye irritant.

Potential Health Effects: Skin
Based on testing of similar materials, acute animal tests indicate this product is not a skin irritant.

Potential Health Effects: Ingestion
Based on testing of similar materials, acute animal tests indicate that this product is practically non-toxic. LD 50 >5g/Kg

Potential Health Effects: Inhalation
Based on testing of similar materials, at ambient temperatures, this product is not considered to be a toxic inhalation hazard. However, at elevated temperatures (60 deg C/140 deg F) trace amounts of hydrogen sulfide (H2S) may be evolved. Indications of overexposure to hydrogen sulfide include respiratory tract irritation, headache, dizziness, coughing, bronchial irritation and dryness, and in sufficient quantities, unconsciousness. For hydrogen sulfide: OSHA STEL is 15 ppm, OSHA PEL is 20 ppm, and ACGIH is 10 ppm.

HMIS Ratings: Health: 0 Fire: 1 Physical Hazard: 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe  * = Chronic hazard

*** Section 3 - Composition / Information on Ingredients ***

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Component</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>68511-50-2</td>
<td>1-Propene, 2-methyl-, sulfurized</td>
<td>60-75</td>
</tr>
<tr>
<td>64051-29-2</td>
<td>Alkyl Phosphate</td>
<td>6-25</td>
</tr>
<tr>
<td>68991-19-5</td>
<td>Fats and Glyceridic oils, animal, mixed with vegetable oils, sulfurized</td>
<td>1-5</td>
</tr>
<tr>
<td>64742-54-7</td>
<td>Petroleum distillates, hydrotreated heavy paraffinic</td>
<td>2-4</td>
</tr>
</tbody>
</table>

Component Related Regulatory Information
This product may be regulated, have exposure limits or other information identified as the following: Sulfur compounds, Untreated and mildly-treated oils.

Component Information/Information on Non-Hazardous Components

*** Section 4 - First Aid Measures ***

First Aid: Eyes
Remove contact lenses immediately. Flush thoroughly with water. If irritation occurs, call a physician.

First Aid: Skin
For skin contact, wash immediately with soap and water.

First Aid: Ingestion
Not expected to be a problem. However, if greater than 1/2 liter (pint) is ingested, immediately give 1 to 2 glasses of water and call a physician, hospital emergency room or poison control center for assistance.

First Aid: Inhalation
Overexposure by inhalation is unlikely, but should it occur, remove individual to fresh air and administer oxygen, if properly trained.
**Section 5 - Fire Fighting Measures**

General Fire Hazards
- See Section 9 for Flammability Properties.
- Not a fire hazard.

Hazardous Combustion Products
- Combustion gases may contain carbon monoxide, carbon dioxide, oxides of sulfur and phosphorus and, depending upon the conditions, hydrogen sulfide.

Extinguishing Media
- Dry chemical, foam, carbon dioxide. Water fogs should be used to cool containers exposed to extreme heat.

Fire Fighting Equipment/Instructions
- Shut off the source of fuel, if possible. Wear self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode when fighting fires. Remove all individuals from area who are not properly trained in fire fighting.

NFPA Ratings:
- Health: 0
- Fire: 1
- Reactivity: 0
- Other: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

---

**Section 6 - Accidental Release Measures**

Personal Precautions
- Remove all individuals from area who have not been properly trained in emergency medical response.

Containment Procedures
- Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible.

Clean-Up Procedures
- Absorb spill with inert material. Shovel material into appropriate container for disposal. Follow all Local, State, Federal and Provincial regulations for disposal.

Evacuation Procedures
- In case of large spills, follow all facility emergency response procedures.

Special Procedures
- This product may be classified as an oil under section III of the Clean Water Act. Spills entering surface waters or any water courses or sewers entering surface waters that cause a sheen, must be reported to the Coast Guard toll free number (800) 424-8802. In case of accident or road spill, notify Chemtrec, (800) 424-9300.

---

**Section 7 - Handling and Storage**

Handling Procedures
- Keep this product from heat, sparks, or open flame.

Storage Procedures
- Store in a cool (<60 deg. C) area. Trace amounts of hydrogen sulfide may be present.

---

**Section 8 - Exposure Controls / Personal Protection**

A: Component Exposure Limits
- ACGIH, OSHA, NIOSH or the provinces of Canada have not developed exposure limits for any of this product's components.

Engineering Controls
- Ventilation should be designed in accordance with good engineering practices.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment: Eyes/Face
- Wear chemical goggles or a full face shield.

Personal Protective Equipment: Skin
- Protect all exposed skin from contact. Wear impervious (neoprene) gloves, impervious apron.

Personal Protective Equipment: Respiratory
- Respiratory protection; not normally required for ambient air concentrations not exceeding the Occupational Exposure Limit.

Personal Protective Equipment: General
- Eye wash fountain and emergency showers are recommended.
*** Section 9 - Physical & Chemical Properties ***

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Amber</td>
</tr>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Amaran Pistachio</td>
</tr>
<tr>
<td>Odor</td>
<td>Sulfur-like</td>
</tr>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>N/A</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>N/A</td>
</tr>
<tr>
<td>Solubility (H2O)</td>
<td>Negligible</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.06</td>
</tr>
<tr>
<td>Viscosity</td>
<td>42 cSt @ 40° C</td>
</tr>
<tr>
<td>Upper Flammability Limit</td>
<td>N/D</td>
</tr>
<tr>
<td>(UFL)</td>
<td>N/D</td>
</tr>
<tr>
<td>Flash Point Method</td>
<td>PMCC</td>
</tr>
<tr>
<td>Auto Ignition</td>
<td>N/D</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>N/A</td>
</tr>
<tr>
<td>Melting Point</td>
<td>N/A</td>
</tr>
<tr>
<td>Solubility</td>
<td>N/A</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>N/A</td>
</tr>
<tr>
<td>Octanol/H2O Coeff.</td>
<td>N/A</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>105° C min</td>
</tr>
<tr>
<td>Flash Point Method</td>
<td>N/A</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>N/A</td>
</tr>
</tbody>
</table>

*** Section 10 - Chemical Stability & Reactivity Information ***

Chemical Stability
This is a stable material.

Chemical Stability: Conditions to Avoid
Keep away from heat, sparks, or open flame.

Incompatibility
Avoid contact with strong acids, strong bases and strong oxidizing agents.

Hazardous Decomposition
Combustion gases may contain Carbon Monoxide, Carbon Dioxide and Oxides of Sulfur. Depending upon the conditions, hydrogen sulfide.

Possibility of Hazardous Reactions

*** Section 11 - Toxicological Information ***

Acute Dose Effects
A: General Product Information
No additional information available.

B: Component Analysis - LD50/LC50
1-Propene, 2-methyl-, sulfurized (68511-50-2)
Oral LD50 Rat: 5000 mg/kg

Petroleum distillates, hydrotreated heavy paraffinic (64742-54-7)
Inhalation LC50 Rat: >2.18 mg/L/4H; Oral LD50 Rat: >2000 mg/kg; Dermal LD50 Rabbit: >2000 mg/kg

Carcinogenicity
A: General Product Information
No carcinogenicity data available for this product.

B: Component Carcinogenicity
Petroleum distillates, hydrotreated heavy paraffinic (64742-54-7)
IARC: Supplement 7 [1987], Monograph 33 [1984] (related to Mineral oils, untreated and mildly treated)
(related to mineral oils, untreated or mildly treated) (Group 1 (carcinogenic to humans))

*** Section 12 - Ecological Information ***

Ecotoxicity
A: General Product Information
No data available for this product.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity
1-Propene, 2-methyl-, sulfurized (68511-50-2)
Test & Species | Conditions
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>96 Hr LC50 Pimephales promelas</td>
<td>250-500 mg/L [static]</td>
</tr>
</tbody>
</table>
**Section 13 - Disposal Considerations**

US EPA Waste Number & Descriptions

Component Waste Numbers
No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions
Reclaim material if possible. Waste must be handled in accordance with all federal, state, provincial, and local regulations.
See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

**Section 14 - Transportation Information**

International Transportation Regulations
Not regulated for transport by ground within Canada.

US DOT Information
Shipping Name: Not regulated
UN/NA #: N/A  Hazard Class: N/A  Packing Group: N/A

**Section 15 - Regulatory Information**

US Federal Regulations
A: General Product Information
Not subject to the 40 CFR Part 268.30 land ban on the disposal of certain Hazardous wastes.

B: Component Analysis
None of this product's components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), or CERCLA (40 CFR 302.4).

State Regulations

Component Analysis - State
The following components appear on one or more of the following state hazardous substances lists:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>CA</th>
<th>MA</th>
<th>MN</th>
<th>NJ</th>
<th>PA</th>
<th>RI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum distillates, hydrotreated heavy paraffinic</td>
<td>64742-54-7</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Component Analysis - WHMIS IDL
No components are listed in the WHMIS IDL.

WHMIS Classification: Not regulated

Additional Regulatory Information
A: General Product Information
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the Controlled Products Regulations.
This product has been classified hazardous under OSHA regulations (29 CFR 1910.1200).
B: Component Analysis - Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>TSCA</th>
<th>CAN</th>
<th>EEC</th>
<th>AUST</th>
<th>PHIL</th>
<th>MITI</th>
<th>KOREA</th>
<th>CHINA</th>
<th>Inv:8192</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Propene, 2-methyl-, sulfurized</td>
<td>68511-50-2</td>
<td>Yes</td>
<td>DSL</td>
<td>EINECS</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Alkyl Phosphate</td>
<td>64051-29-2</td>
<td>Yes</td>
<td>NDSL</td>
<td>EINECS</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Petroleum distillates, hydrotreated heavy paraffinic</td>
<td>64742-54-7</td>
<td>Yes</td>
<td>DSL</td>
<td>EINECS</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Fats and Glyceridic oils, animal, mixed with vegetable oils, sulfurized</td>
<td>68991-19-5</td>
<td>Yes</td>
<td>DSL</td>
<td>EINECS</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*** Section 16 - Other Information ***

Other Information
Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use.

Key/Legend
N/A = Not Applicable
N/D = Not Determined
N/E = Not Established
S = Suspected
ST = Short Term Exposure Limit

Contact: Kate Skufca
Contact Phone: 216-749-2605 ext. 231

End of Sheet E 393D