1. IDENTIFICATION

1.1. PRODUCT IDENTIFIER USED ON LABEL:

<table>
<thead>
<tr>
<th>Finished Product Item Number</th>
<th>Customer Item Number</th>
<th>LABEL DESCRIPTION ACTUAL</th>
<th>BRAND</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM5919EC</td>
<td>6650001</td>
<td>ECHO RED ARMOR 2 STROKE ENGINE OIL</td>
<td>ECHO</td>
</tr>
<tr>
<td>SM6005EC</td>
<td>6550250</td>
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<td>ECHO</td>
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<td>SM6001EC</td>
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<td>ECHO</td>
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<td>SM6041EC</td>
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<td>SM6033EC</td>
<td>6550005</td>
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<td>SM6046EC</td>
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<td>SM6034EC</td>
<td>6650050</td>
<td>ECHO RED ARMOR 1 LITER MIX</td>
<td>ECHO</td>
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<tr>
<td>SM6002EC</td>
<td>6550001</td>
<td>ECHO RED ARMOR</td>
<td>ECHO</td>
</tr>
</tbody>
</table>

1.2. RECOMMENDED USE OF THE CHEMICAL AND RESTRICTIONS ON USE;
1.2.1. PETROLEUM LUBRICATING OIL
1.2.2. NO OTHER USES RECOMMENDED

1.3. NAME, ADDRESS, AND TELEPHONE NUMBER OF THE CHEMICAL MANUFACTURER, IMPORTER, OR OTHER RESPONSIBLE PARTY:
1.3.1.

Spectrum Lubricants Corporation

500 Industrial Park Drive
Selmer, TN 38375-3276
United States of America

Product Information

MSDS Requests: (800) 264-6457 or +17316454972
Technical Information: (800) 264-6457 or +17316454972
General Information: vswedley@spectrumcorporation.com

1.4. EMERGENCY PHONE NUMBER:
1.4.1.

Emergency Response
North America: CHEMTREC (800) 424-9300 after 5:00pm CST  Or +17035273887
Health Emergency
2. HAZARD(S) IDENTIFICATION

2.1. CLASSIFICATION OF THE CHEMICAL IN ACCORDANCE WITH PARAGRAPH (d) of §1910.1200:
   2.1.1. Skin Irritant Category 2
   2.1.2. Eye Irritant Category 2B
   2.1.3. Flammable Liquid Category 4

2.2. Signal Word:
   2.2.1. Warning

2.3. Symbol:

2.4. Hazard Statements:
   2.4.1. Causes skin irritation.
   2.4.2. Causes eye irritation.
   2.4.3. Combustible Liquid.

2.5. Precautionary Statements:
   2.5.1. Prevention:
      2.5.1.1. Wash hands thoroughly after handling.
      2.5.1.2. Wear protective gloves.
      2.5.1.3. Keep away from flames and hot surfaces.-No smoking.
      2.5.1.4. Wear protective gloves/eye protection/face protection.
   2.5.2. Response:
      2.5.2.1. If on skin: Wash with plenty of water.
      2.5.2.2. If irritation occurs: Get medical advice/attention.
      2.5.2.3. Take off contaminated clothing before reuse.
      2.5.2.4. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
      2.5.2.5. If eye irritation persists: Get medical advice/attention.
   2.5.3. In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

3. Composition/ information on ingredients

3.1. The chemical name and concentration (exact percentage) or concentration ranges of all ingredients which are classified as health hazards in accordance with paragraph (d) of §1910.1200
   3.1.1.
4. FIRST AID MEASURES

4.1. 

<table>
<thead>
<tr>
<th>Skin:</th>
<th>Wash with plenty of water. If irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye:</td>
<td>Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.</td>
</tr>
<tr>
<td>Inhalation:</td>
<td>Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.</td>
</tr>
<tr>
<td>Ingestion:</td>
<td>If ingested, do not induce vomiting. Aspiration hazard. Call a physician.</td>
</tr>
</tbody>
</table>

5. FIRE FIGHTING MEASURES

5.1. Flash Point: 163.4°F (73°C)

5.2. Protective Equipment/Fire Fighting Instructions:
   5.2.1.1. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus. Wear protective gloves/eye protection/face protection.

5.3. Extinguishing Media:
   5.3.1. Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

5.4. Special Firefighting Procedures:
   5.4.1. Cool exposed containers with water spray.

5.5. Unusual Fire and Explosion Hazards:
   5.5.1. Pressure increase in over heated closed containers. Cool containers with water spray.

6. ACCIDENTAL RELEASE MEASURES

6.1. Spill Procedures:
6.1.1. Remove ignition sources. Recover Liquid. Add absorbent to spill area. Ventilate confined spaces. Advise authorities if product enters sewers, etc.

6.2. Waste Disposal:
6.2.1. Assure conformity with applicable disposal regulations. Dispose of absorbed material at approved waste site

6.3. Precautionary Measures:
6.3.1. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Wash thoroughly after handling.
6.3.2. Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

7. HANDLING AND STORAGE

7.1. HANDLING
7.1.1. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum re-conditioner or disposed of properly.

7.2. STORAGE
7.2.1. Keep container closed when not in use. Do not store with strong oxidizing agents. Do not store at elevated temperatures.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

8.1. Component Exposure Limits:
8.1.1. Petroleum naptha
8.1.1.1. ACGIH TLV: 5mg/m³ (oil mist) TWA
8.1.1.2. OSHA PEL: 5mg/m³ (oil mist) TWA
8.1.2. Polyisobutylene
8.1.2.1. ACGIH TLV: 5mg/m³ (oil mist) TWA
8.1.2.2. OSHA PEL: 5mg/m³ (oil mist) TWA
8.1.3. Residual oils (petroleum), solvent refined
8.1.3.1. ACGIH TLV: 5mg/m³ (oil mist) TWA
8.1.3.2. OSHA PEL: 5mg/m³ (oil mist) TWA
8.1.4. Solvent-dewaxed heavy paraffinic distillates (petroleum)
8.1.4.1. ACGIH TLV: 5mg/m³ (oil mist) TWA
8.1.4.2. OSHA PEL: 5mg/m³ (oil mist) TWA
8.1.5. Distillates (petroleum), hydrotreated light
8.1.5.1. ACGIH TLV: 5mg/m³ (oil mist) TWA
8.1.5.2. OSHA PEL: 5mg/m³ (oil mist) TWA

8.2. Engineering Controls:
8.2.1. Ventilate as needed to comply with exposure limit

8.3. Eye Protection:
8.3.1. Use goggles/face shield to avoid eye contact

8.4. Glove Protection:
8.4.1. Use impervious gloves to avoid repeated/prolonged skin contact.

8.5. Work/Hygiene Practices:
8.5.1. If clothing becomes contaminated, change to fresh clean clothing. Do not wear until thoroughly laundered.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Appearance/Odor: Dark red colored liquid with mild hydrocarbon odor.
9.2. Odor Threshold: No data available

9.3. pH: No data available
9.4. Boiling Point: Wide range

9.5. Melting Point: -42°C (-43.6°F)
9.6. Solubility (H₂O): Negligible

9.7. Specific Gravity: 0.8888 @ 15.6°C

9.9. Octanol/H₂O Coeff.: No data available
9.10. Evaporation Rate (BUAC=1): <1

9.11. Molecular Weight: No data available
9.12. Decomposition Temp: No data available

9.13. Auto Ignition: No data available
9.14. Lower Flammability Limit: No data available

9.15. Flash Point: 163.4°F (73°C)
9.16. Upper Flammability Limit: No data available

9.17. Vapor Density (Air=1): >1
9.18. Vapor Pressure: <1mmHg @ 20°C

9.19. VOC: 196 g/L
9.20. Flammability Class: Not classified

9.21. Viscosity @ 40°C: 64.34 cSt (64.34 mm²/s)
9.22. Viscosity @ 100°C: 10.9 cSt (10.9 mm²/s)

10. STABILITY AND REACTIVITY

10.1. Reactivity:
10.1.1. Material does not pose a significant reactivity hazard.

10.2. **Chemical Stability:**
   10.2.1. Stable

10.3. **Incompatibility/Conditions to avoid:**
   10.3.1. Avoid strong oxidants

10.4. **Possibility of Hazardous Reactions:**
   10.4.1. Will not undergo hazardous polymerization.

10.5. **Hazardous Decomposition Products:**
   10.5.1. Partial burning produces fumes, smoke and carbon monoxide

### 11. TOXICOLOGY INFORMATION

11.1. **Likely Routes of Exposure:**
   11.1.1. Ingestion, Inhalation, Eye contact, Skin contact.

11.2. **Acute Effects:**
   11.2.1. Inhalation: Aspiration hazard. May cause respiratory irritation.
   11.2.2. Eye Contact: Causes eye irritation.
   11.2.3. Causes skin irritation.
   11.2.4. Ingestion: Expected to be low ingestion hazard.

11.3. **Component Data/Analysis**
   11.3.1. Petroleum naptha:
      11.3.1.1. Oral (LD50) (Rat): Acute: >5000 mg/kg
      11.3.1.2. Inhalation (LC50) (Rat): Acute: >5.2 mg/l (4hr)
      11.3.1.3. Dermal (LD50) (Rabbit): >2000 mg/kg
   11.3.2. Residual oils (petroleum), solvent refined:
      11.3.2.1. Oral (LD50) (Rat): Acute: >5000 mg/kg
      11.3.2.2. Inhalation (LC50) (Rat): Acute: 8.72 mg/l (4hr)
      11.3.2.3. Dermal (LD50) (Rabbit): 2000-5000 mg/kg
   11.3.3. Solvent-dewaxed heavy paraffinic distillates:
      11.3.3.1. Oral (LD50) (Rat): Acute: >5000 mg/kg
      11.3.3.2. Inhalation (LC50) (Rat): Acute: 2.18 mg/l (4hr)
      11.3.3.3. Dermal (LD50) (Rabbit): >2000 mg/kg
   11.3.4. Distillates (petroleum), hydrotreated light:
      11.3.4.1. Oral (LD50) (Rat): Acute: >15000 mg/kg
      11.3.4.2. Inhalation (LC50) (Rat): Acute: 5.2 mg/l (4hr)
      11.3.4.3. Dermal (LD50) (Rabbit): >2000 mg/kg

11.4. **Sensitization:**
   11.4.1. Based on best current information, there are no known human effects.

11.5. **Carcinogenicity:**
   11.5.1. There is no known information on carcinogenic components.

11.6. **Mutagenicity:**
   11.6.1. Not expected to be mutagenicity.

11.7. **Reproductive Toxicity:**
   11.7.1. Based on best current information, there are no known human effects.

11.8. **Teratogenicity:**
   11.8.1. Based on best current information, there are no known human effects.
12. ECOLOGICAL INFORMATION

12.1. Ecotoxicity
12.1.1. An environmental fate analysis is not available for this specific product. Plants and animals may experience harmful or fatal effects when coated with petroleum products. Petroleum-based (mineral) lubricating oils normally will float on water. In stagnant or slow-flowing waterways, an oil layer can cover a large surface area. As a result, this oil layer might limit or eliminate natural atmospheric oxygen transport into the water. With time, if not removed, oxygen depletion in the waterway may be sufficient to cause a fish kill or create an anaerobic environment.

12.2. Environmental Fate
12.2.1. Analysis for ecological effects has not been conducted on this product. However, if spilled, this product and any contaminated soil or water may be harmful to human, animal, and aquatic life. Also, the coating action associated with petroleum and petroleum products can be harmful or fatal to aquatic life and waterfowl.

13. DISPOSAL CONSIDERATIONS

13.1. Waste Disposal:
13.1.1. Assure conformity with applicable disposal regulations. Dispose of absorbed material at approved waste site.

14. TRANSPORTATION INFORMATION

The shipping description below may not represent requirements for all modes of transportation, shipping methods or locations outside of the United States.

14.1. ROAD AND RAIL
14.1.1. DOT: NOT REGULATED

14.2. VESSEL
14.2.1. IMDG: NOT REGULATED

14.3. AIR
14.3.1. IATA: NOT REGULATED

15. REGULATORY INFORMATION

15.1. TSCA Inventory
15.1.1. This product and/or its components are listed on the Toxic Substances Control Act (TSCA) inventory.

15.2. SARA 302/304 Emergency Planning and Notification
15.2.1. No components were identified.

15.3. SARA 311/312 Hazard Identification
15.3.1. Acute (Immediate) Health Hazard
15.3.2. Combustible liquid fire hazard.

15.4. SARA 313 Toxic Chemical Notification and Release Reporting
15.4.1. Contains: <0.1% Naphthalene
15.5. CERCLA
   15.5.1. Contains: <0.1% Naphthalene

15.6. Clean Water Act (CWA)
   15.6.1. This material is classified as an oil under Section 311 of the Clean Water Act (CWA) and the Oil Pollution Act of 1990 (OPA). Discharges or spills which produce a visible sheen on waters of the United States, their adjoining shorelines, or into conduits leading to surface waters must be reported to the EPA’s National Response Center at (800) 424-8802.

15.7. California Proposition 65:
   15.7.1. WARNING: This product contains chemicals known to the state of California to cause cancer, or birth defects or other reproductive harm.

15.8. New Jersey Right-to-Know Label
   15.8.1. Petroleum Oil

16. OTHER INFORMATION

16.1. HAZARD RANKINGS

<table>
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<tr>
<th>HAZARD RANKINGS</th>
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<th>NFPA</th>
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<td>HEALTH HAZARD</td>
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<td>FIRE HAZARD</td>
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16.2. Date of preparation: 12/04/2013
16.3. MANUFACTURER DISCLAIMER:
   16.3.1. The data presented herein is based upon tests and information, which we believe to be reliable. However, users should make their own investigations to determine the suitability of the information for their particular purpose.