CITGO Petroleum Corporation  
P.O. Box 3758  
Tulsa, Oklahoma 74102

Material Safety Data Sheet

Trade Name: CITGO Extra Range Two-Cycle Engine Oil  
Commodity Code: 21-608  
Synonyms: Lubricating Oil  
CAS No.: Mixture  
(Refer to Section 1)  
Citgo Index No.: 1119  
Date: March 26, 1991

Material Hazard Evaluation


Health: Non-Hazardous (OHCS).

Precautionary Statement: CAUTION: Combustible Liquid. Do not inhale vapors nor permit direct dermal contact.

HMIS Rating1: Health 0 Flammability 2 Reactivity 0

1.0 Generic Composition / Components

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS #</th>
<th>%</th>
<th>Hazard Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refined Petroleum Oil(s)</td>
<td>64741-88-4</td>
<td>60-80</td>
<td>Oral LD50(rat): &gt; 15g/kg</td>
</tr>
<tr>
<td></td>
<td>64742-01-4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mineral Spirits</td>
<td>8052-41-3</td>
<td>&lt; 25</td>
<td>Oral LDLo(hm): &gt; 10ml</td>
</tr>
<tr>
<td>Ashless Dispersant and Anti-oxidant</td>
<td>Mixture</td>
<td>&lt; 15</td>
<td>Eye: Minor Irritant</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin: Minor Irritant</td>
</tr>
<tr>
<td>Rust Inhibitor</td>
<td>Mixture</td>
<td>&lt; 1</td>
<td>Eye: Minor Irritant</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin: Minor Irritant</td>
</tr>
<tr>
<td>Dye</td>
<td>Mixture</td>
<td>&lt; 1</td>
<td>Skin: Irritant</td>
</tr>
</tbody>
</table>

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1 Hazard Rating: least-0; slight-1; moderate-2; high-3; extreme-4  
Citgo assignment based on our evaluation per NFPA and NPCA guidelines.

NA - Not Applicable  ND - No Data  NE - Not Established
2.0 Physical Data

Physical Hazard Classification (Per 29 CFR Part 1910.1200)

<table>
<thead>
<tr>
<th>Yes</th>
<th>Combustible</th>
<th>No</th>
<th>Flammable</th>
<th>No</th>
<th>Pyrophoric</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>Compressed Gas</td>
<td>No</td>
<td>Organic Peroxide</td>
<td>No</td>
<td>Reactivity</td>
</tr>
<tr>
<td>No</td>
<td>Explosive</td>
<td>No</td>
<td>Oxidizer</td>
<td>Yes</td>
<td>Stable</td>
</tr>
</tbody>
</table>

Boiling Point, 760 mmHg, °C(°F): > 149 (> 300)
Specific Gravity (60/60°F) (H₂O = 1): 0.86
Vapor Density (Air = 1): > 1
% Volatiles by Volume: ND
Melting Point, °C(°F): NA
Vapor Pressure, mmHg (25°C): ND
Solubility in H₂O, % by Weight: Negligible
Evaporation Rate (Butyl Acetate = 1): < 1
pH of Undiluted Product: ND
Appearance and Odor: Blue-green liquid, slight odor of petroleum distillate.

3.0 Fire and Explosion Data

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash Point, COC, °C(°F)</td>
<td>74(165)</td>
</tr>
<tr>
<td>Flash Point, PMC, °C(°F)</td>
<td>62(144)</td>
</tr>
<tr>
<td>Fire Point, COC, °C(°F)</td>
<td>84(183)</td>
</tr>
</tbody>
</table>

NFPA Rating: Health: 0 Flammability: 2 Reactivity: 0

Flammable Limits (% by volume in air): Lower: 1.0 Upper: 6.0
Extinguishing Media: CO₂, dry chemical, foam, water fog
Special Fire Fighting Procedure: None.
Unusual Fire or Explosion Hazard: Water may cause frothing.

4.0 Reactivity Data

Stability: Stable.

Conditions Contributing to Instability: None.

Incompatibility: Strong oxidants.

Hazardous Decomposition Products: CO₂ (CO under incomplete combustion)
(thermal, unless otherwise specified)

Conditions Contributing to Hazardous Polymerization: None.

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* Hazard Rating: least-0; slight-1; moderate-2; high-3; extreme-4
  * CITGO assignment based on our evaluation per NFPA guidelines.

NA - Not Applicable ND - No Data NE - Not Established
5.0 Spill or Leak Procedures

Procedures if Material is Spilled:
- Remove sources of heat or ignition, provide adequate ventilation, contain leak.
- **Small Spills**: Absorb with suitable material such as rags, straw or sand.
- **Large Spills**: Contain spill in earthen dikes for later recovery.
- Report spills as required to appropriate authorities.

Waste Disposal:
- It is the responsibility of the user to determine if the material is a hazardous waste at the time of disposal.
- Check before disposing to be sure you are in compliance with all applicable laws and regulations.
- Chemtrec/RCRA Emergency Hotline Number: 800-424-9346.

Protective Measures During Repair and Maintenance of Contaminated Equipment:
- Refer to Section VII - Special Protection Information.
- Avoid prolonged contact with oil.
- Wash exposed skin thoroughly with soap and water.
- Remove soiled clothing.
- Use polymer gloves if extended, direct contact is expected.

6.0 Health Hazard Data

**Health Hazard Classification**

(Per 29 CFR Part 1910.1200)

<table>
<thead>
<tr>
<th>No Carcinogen</th>
<th>No Corrosive</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Animal Carcinogen</td>
<td>No Irritant</td>
</tr>
<tr>
<td>No Suspect Carcinogen</td>
<td>No Sensitizer</td>
</tr>
<tr>
<td>No Mutagen</td>
<td>No Teratogen</td>
</tr>
<tr>
<td>No Highly Toxic</td>
<td>No Target Organ</td>
</tr>
<tr>
<td>No Toxic</td>
<td></td>
</tr>
</tbody>
</table>

Product listed as Carcinogen or Potential Carcinogen by:

NTP No IARC No OSHA No Other No

Toxicity Summary: Slightly to moderately toxic. Lethal dose for 150 lb. human adult may be 10 to 250 ml.

Major Route(s) of Entry: Inhalation of incidental mists or vapors, slight dermal absorbability.
Acute Exposure Symptoms

**Inhalation:**
Low risk of inhalation. In enclosed spaces or when hot, vapors may reach concentrations sufficient to cause drowsiness, dizziness, headache, nausea, or lung irritation. Mists above TLV may cause chemical pneumonitis.

**Dermal Contact:**
Mild irritant.

**Eye Contact:**
Mildly irritating.

**Ingestion:**
Toxicity is relatively low, however, of a Saybolt viscosity of about 165 (100°F), there exists still some risk of aspiration into the lungs. On ingestion of large quantities, slight GI discomfort, diarrhea, and headache may occur. Small doses may produce irritation and diarrhea.

**Injection:**
Subcutaneous or intramuscular injection should be considered as a medical emergency.

Chronic Exposure

Prolonged and/or frequent dermal contact may cause drying, cracking (dermatitis) or folliculitis. Repeated, excessive exposure to mists or fumes may induce pulmonary irritation or chronic bronchitis.

Other Special Effects

None expected.

Medical Conditions Aggravated by Exposure

None.

**First Aid and Emergency Procedures for Acute Effect**

**Inhalation:**
Remove to fresh air. Respiratory support, if necessary. Seek medical aid.

**Dermal:**
Wash with soap and water. Do not wear heavily contaminated clothing before laundering.

**Eyes:**
Flush with large volumes of water. Seek physician if any complications arise.

**Ingestion:**
Do not induce vomiting. Seek medical aid.

**Injection:**
Subcutaneous injection is a medical emergency. Seek medical aid immediately.

Notes to Physician: Following ingestion at a Saybolt viscosity of about 165 SUS (100°F), there exists still some risk of aspiration into the lungs. Removal by cuffed tube lavage may be considered. Aspirated material may cause chemical pneumonitis or lipoid pneumonia. Subcutaneous or intramuscular injection requires prompt surgical debridement. If not familiar with technique, seek skilled advice.
7.0 Special Protection Information

Ventilation Requirements: Use in well ventilated area. In confined space, mechanical ventilation may be required to keep levels of certain components below mandated standards, as evaluated by designated personnel.

Permitted Air Threshold Concentration:

<table>
<thead>
<tr>
<th>Mineral</th>
<th>TWA:</th>
<th>5 mg/m³</th>
<th>5 mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil Mist</td>
<td>STEL:</td>
<td>10 mg/m³</td>
<td>ND</td>
</tr>
<tr>
<td></td>
<td>Ceil., Peak:</td>
<td>ND</td>
<td>ND</td>
</tr>
</tbody>
</table>

Specific Personal Protective Equipment:

Respiratory: Normally none required. If high vapor or mist concentrations expected, use respirator approved for organic vapors and mists.

Eyes: Safety goggles, or chemical splash goggles if splashing is anticipated.

Dermal: Oil impervious gloves if frequent or prolonged contact is expected.

Other Clothing or Equipment: Wear body-covering work clothes to avoid prolonged or repeated exposure. Launder soiled work clothes before reuse.

8.0 Transportation and Special Precautions

Storage: Store below 150°F. Do not apply high heat or flame to container. Keep separate from strong oxidizing agents.

Caution: Empty containers may contain product residue which could include flammable or explosive vapors.

Consult appropriate Federal, State and Local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers and/or waste residues of this product.

DOT Information

<table>
<thead>
<tr>
<th>Proper Shipping Name:</th>
<th>Petroleum Lubricating Oil.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Class:</td>
<td>Combustible Liquid.</td>
</tr>
<tr>
<td>Hazard Identification Number:</td>
<td>NA 1270</td>
</tr>
<tr>
<td>Placard:</td>
<td>Combustible Liquid.</td>
</tr>
<tr>
<td>Coast Guard, CHRIS Code:</td>
<td>OMT</td>
</tr>
<tr>
<td>Compatability Category:</td>
<td>Group 33.</td>
</tr>
</tbody>
</table>
9.0 Environmental Data

Product Name: CITGO Extra Range Two-Cycle Engine Oil
Commodity Code: 21-608

SARA TITLE III

Section 313 - Toxic Chemicals

This product does not contain toxic chemicals of Section 313 of Title III of Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR Part 372.

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

Section 311 - Hazard Categories

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>

Section 302/(A) - Extremely Hazardous Substances

(RQ = Reportable Quantity)
(TPQ = Threshold Planning Quantity)

This product does not contain Extremely Hazardous Substances of Section 302/(A).

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS#</th>
<th>%</th>
<th>RQ lbs.</th>
<th>TPQ lbs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
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</table>

Clean Water Act

Under Section 311 (b) (4) of the Clean Water Act, discharges of crude oil and petroleum products in any kind or form to surface waters must be immediately reported to the National Response Center: 800-424-8802.

Comprehensive Environmental, Response, Compensation & Liability Act (CERCLA) - Section 102 Hazardous Substances

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS#</th>
<th>%</th>
<th>RQ lbs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Petroleum and petroleum fractions are excluded from the list of CERCLA hazardous substances by Section 101(14) of CERCLA.

New Jersey Worker & Community Right-to-Know Act

Petroleum Oil
10.0 Labeling

**CAUTION**
Combustible liquid.
Contains petroleum distillates.
Keep away from heat and flame.

Harmful or fatal if swallowed.
Do not induce vomiting.
Call a physician immediately.

Keep out of reach of children.