

# MATERIAL SAFETY DATA SHEET

---

## 1. SUBSTANCE AND SOURCE IDENTIFICATION

---

National Institute of Standards and Technology  
Standard Reference Materials Program  
100 Bureau Drive, Stop 2300  
Gaithersburg, Maryland 20899-2300

SRM Number: 1836  
MSDS Number: 1836  
SRM Name: Nitrogen in Lubricating  
Base Oil  
Date of Issue: 05 November 2007

MSDS Coordinator: Mario Cellarosi  
Telephone: 301-975-6776  
FAX: 301-926-4751  
E-mail: SRMMSDS@nist.gov

Emergency Telephone ChemTrec:  
1-800-424-9300 (North America)  
+1-703-527-3887 (International)

**Description:** A unit of SRM 1836 consists of four 5 ml vials each of four different lubricating base oils. Each vial contains approximately 4 g of liquid.

**Substance:** Lubricating Base Oil

**Other Designations:** Lubricating Base Oil (mineral oil; distillates [petroleum], hydrotreated middle).

---

## 2. COMPOSITION AND INFORMATION ON HAZARDOUS INGREDIENTS

---

| Component            | CAS Registry | EC Number (EINECS) | Mass Fraction (%) |
|----------------------|--------------|--------------------|-------------------|
| Lubricating Base Oil | 64742-46-7   | 265-148-2          | 100 %             |

<sup>(a)</sup> Hazardous components 1 % or greater; carcinogens 0.1 % or greater are listed in compliance with OSHA 29 CFR 1910.1200.

**EC Classification (assigned):** Carcinogen Category 2

**EC Hazard Symbol:** T

**EC Risk (R):** R45

**EC Safety (S):** S45, S53

**EC Risk/Safety Phrases:** See Section 15 "Regulatory Information"

---

## 3. HAZARDS IDENTIFICATION

---

**NFPA Ratings (Scale 0–4):** Health = 1 Fire = 1 Reactivity = 0

**Major Health Hazards:** None listed.

### Potential Health Effects

**Inhalation:** Acute exposure by inhalation of mists of insoluble oils are not usually harmful to the respiratory tract. Chronic exposure may cause fibrotic nodules and lipid pneumonia.

**Skin Contact:** Prolonged or repeated contact may result in irritation or dermatitis.

**Eye Contact:** Slight irritation with acute exposure.

**Ingestion:** Ingestion of this material is unlikely under normal laboratory conditions. Lung damage may occur if aspirated into the lungs and may be fatal. Symptoms include coughing, difficulty breathing and pulmonary edema. Mineral oils may cause gastrointestinal disturbances such as diarrhea.

**Listed as a Carcinogen/Potential Carcinogen:**

|   | Yes   | No           |
|---|-------|--------------|
| In the National Toxicology Program (NTP) Report on Carcinogens.       | _____ | <u>  X  </u> |
| In the International Agency for Research on Cancer (IARC) Monographs. | _____ | <u>  X  </u> |
| By the Occupational Safety and Health Administration (OSHA).          | _____ | <u>  X  </u> |

---

**4. FIRST AID MEASURES**

---

**Inhalation:** If adverse effects occur, remove to uncontaminated area. If not breathing have qualified personnel give artificial respiration. Get immediate medical attention.

**Skin Contact:** Wash exposed skin with soap and water for at least 15 minutes. Remove any contaminated clothing.

**Eye Contact:** Immediately flush eyes with copious amounts of water for at least 15 minutes. Get immediate medical attention.

**Ingestion:** Aspiration hazard. If swallowed DO NOT induce vomiting. If vomiting occurs, keep head lower than hips to prevent aspiration. Seek immediate medical attention. If not breathing have qualified personnel give artificial respiration.

---

**5. FIRE FIGHTING MEASURES**

---

**Fire and Explosion Hazards:** Slight fire hazard.

**Extinguishing Media:** Regular dry chemical, carbon dioxide, regular foam.

**Fire Fighting:** Wear full protective clothing and NIOSH-approved self-contained breathing apparatus (SCBA).

**Flash Point (°C):** 184 °C to 204 °C

**Method Used:** TCC

**Autoignition Temp. (°C):** > 210 °C.

**Flammability Limits in Air**

**UPPER (Volume %):** Not applicable.

**LOWER (Volume %):** Not applicable.

---

**6. ACCIDENTAL RELEASE MEASURES**

---

**Occupational Release:** Absorb small spills with sand or other non-combustible materials. Collect spilled material and place in an appropriate container for disposal

**Disposal:** Refer to Section 13, "Disposal Considerations".

---

**7. HANDLING AND STORAGE**

---

**Storage:** Store and handle in accordance with all current regulations and standards. Store in a cool dry place.

**Safe Handling Precautions:** See Section 8, "Exposure Controls and Personal Protection".

---

**8. EXPOSURE CONTROLS AND PERSONAL PROTECTION**

---

**Exposure Limits:**

**Mineral Oil Mist:**

OSHA (PEL): 5 mg/m<sup>3</sup> TWA (oil mist)

NIOSH: 5 mg/m<sup>3</sup> recommended TWA (10 hours)

NIOSH: 10 mg/m<sup>3</sup> recommended STEL

ACGIH STEL: 10 mg/m<sup>3</sup>

**Ventilation:** Use a local exhaust ventilation system. Ensure compliance with applicable exposure limits

**Respirator:** A respiratory protection program that meet OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed if workplace conditions warrant a respirator. Refer to the “NIOSH Guide to the Selection and Use of Particulate Respirators Certified under 42 CFR 84” for selection and use of respirators certified by NIOSH.

**Eye Protection:** Wear safety goggles. An eye wash station should be readily available near areas of use.

**Personal Protection:** Wear appropriate protective clothing and chemically resistant gloves to prevent skin exposure.

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

---

**Component:** Lubricating Base Oil

**Appearance and Odor:** Clear, colorless, oily liquid. Faint petroleum odor.

**Specific Gravity:** 0.80 – 0.87

**Boiling Point:** 205 °C to 400 °C

**Volatility:** 19.2 %

**Water Solubility:** < 0.01 % @ 25 °C

**Solvent Solubility:** Soluble in hydrocarbons.

---

## 10. STABILITY AND REACTIVITY

---

**Stability:**   X   Stable        Unstable

**Conditions to Avoid:** Avoid contact with incompatible materials, heat, flame, sparks and other sources of ignition.

**Incompatible Materials:** Oxidizers.

**Fire/Explosion Information:** See Section 5, “Fire Fighting Measures”.

**Hazardous Decomposition:** Thermal decomposition produces oxide of carbon and aldehydes.

**Hazardous Polymerization:**        Will Occur   X   Will Not Occur

---

## 11. TOXICOLOGICAL INFORMATION

---

**Route of Entry:**   X   Inhalation        Skin   X   Ingestion

**Toxicity Data:** Not available

**Health Effects (Acute and Chronic):** See section 3: “Hazards Identification” for potential health effects.

---

## 12. ECOLOGICAL INFORMATION

---

**Ecotoxicity Data:** Not available.

**Environmental Summary:** The material is NOT expected to leach through the soil and accumulates very little in the bodies of living organisms.

---

## 13. DISPOSAL CONSIDERATIONS

---

**Waste Disposal:** Dispose in accordance with all applicable federal, state, and local regulations.

---

## 14. TRANSPORTATION INFORMATION

---

**U.S. DOT and ICAO/IATA:** This material is not regulated.

---

## 15. REGULATORY INFORMATION

---

### U.S. REGULATIONS

CERCLA Sections 102a/1103 (40 CFR 302.4): Not regulated.

SARA Title III Sections 302 (40 CFR 355.30): Not regulated.

SARA Title III Sections 304 (40 CFR 355.40): Not regulated.

SARA Title III Sections 313 (40 CFR 372.65): Not regulated.

SARA Title III Sections 311/312 Hazardous Categories (40 CFR 370.21):

ACUTE: Yes

CHRONIC: Yes

FIRE: No

REACTIVE: No

SUDDEN RELEASE: No

OSHA Process Safety (29 CFR 1910.119): Not regulated

### STATE REGULATIONS

California Proposition 65: Not regulated.

### CANADIAN REGULATIONS

WHMIS Classification: Not determined

### EUROPEAN REGULATIONS

**EC Classification (Assigned):** Carcinogen Category 2.

(EC Classification may be inconsistent with independently researched data).

**Danger/Hazard Symbol:** T – Toxic.

**EC Risk Phrases:**

R45 May cause cancer.

**EC Safety Phrases:**

S45 In case of accident or if you feel unwell, seek medical advice immediately (show label if possible).

S53 Avoid exposure – obtain special instructions before use.

### National Inventory Status

**U.S. Inventory (TSCA):** Listed on inventory.

**TSCA 12 (b) Export Notification:** Not listed.

---

## 16. OTHER INFORMATION

---

**Sources:** MDL Information Systems, Inc., MSDS *Hydrotreated Middle Distillate*, 14 June 2007

**Disclaimer:** Physical and chemical data contained in this MSDS are provided only for use as a guide in assessing the hazardous nature of the material. The MSDS was prepared carefully, using current references; however, NIST does not certify the data in the MSDS. The certified values for this material are given in the NIST Certificate of Analysis.