MATERIAL SAFETY DATA SHEET

SRM Supplier: National Institute of Standards and Technology
Standard Reference Materials Program
Bldg. 202 RM 211
Gaithersburg, Maryland 20899

SRM Number: 1848
MSDS Number: 1848
SRM Name: Lubricating Oil Additive Package
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SECTION I. MATERIAL IDENTIFICATION

Material Name: Lubricating Oil Additive Package

Description: Lubricant oil with chemical additives

Other Designations: Lube Oil

Name	Chemical Formula	CAS Registry Number
Lubricating Oil Additive Package	Not applicable	Not applicable

DOT Classification: Not regulated by DOT

Manufacturer/Supplier: Available from a number of suppliers

SECTION II. HAZARDOUS INGREDIENTS

Hazardous Component	Nominal Concentration	Exposure Limits and Toxicity Data
Lubicating Oil Additive Package	~ 99	No exposure limits established *

* This product is not hazardous as defined in 29 CFR1910.1200. Supplier recommends the following occupational exposure limits: Due to the oil-based components of this mixture, if misting occurs, exposures are recommended to be controlled at 5 mg/m^3 or lower.

SECTION III. PHYSICAL/CHEMICAL CHARACTERISTICS

Residual Fuel Oil No. 6	
Appearance and Odor: a black liquid to heavy paste with a petroleum odor	**Viscosity of Liquid:** variable
Specific Gravity (@ 60 °F): 0.90 to 1.20	**Sp. Grav. of Vapor:** greater than air
Vapor Pressure: negligible	**Freezing/Melting Point:** less than ambient
Boiling Point: 500 °F initial boiling point	**Evaporation Rate:** negligible
Solubility in Water: negligible	

SECTION IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point: 350 °F **Method Used:** Pensky-Martens Closed Cup **Autoignition Temperature:** Not available

Flammability Limits in Air (Volume %): **UPPER:** Not available
LOWER: Not available

Fire and Explosion: Low hazard, liquid can burn upon heating to temperatures at or above the flashpoint.

Extinguishing Media: Use water spray to cool fire-exposed surfaces and to protect personnel. Isolate "fuel" supply from fire. Use foam, dry chemical, or water spray to extinguish fire.

Unusual Fire and Explosion Hazards: "Empty" containers retain product residue (liquid and/or vapor) and can be dangerous.

Special Fire Procedures: Respiratory and eye protection required for fire-fighting personnel. Avoid spraying water directly into storage containers due to danger of boilover.

SECTION V. REACTIVITY DATA

Stability: __X__ **Stable** ____ **Unstable**

Conditions to Avoid: Avoid heat, flames, and sources of ignition. Containers may rupture or explode if exposed to heat. Dangerous gases may accumulate in confined spaces.

Incompatibility (Materials to Avoid): This material is a fire and explosion hazard when exposed to strong oxidizing agents.

See Section IV: *Fire and Explosion Hazard Data*

Decomposition Products Under Fire Conditions: Thermal decomposition will produce fumes, smoke, and carbon monoxide.

Hazardous Polymerization: _____ **Will Occur** __X__ **Will Not Occur**

SECTION VI. HEALTH HAZARD DATA

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

HEALTH HAZARDS:

Eyes: Slightly irritating but does not injure eye tissue.

Skin: Low order of toxicity. Frequent or prolonged contact may irritate.

Inhalation: Negligible hazard at ambient (-18 °C to 38 °C; 0 °F to 100 °F) or recommended blending temperature. Avoid breathing vapors or mists. Repeated and prolonged overexposure to oil mists may result in droplet deposition, oil granuloma formation, inflammation and increased incidence of infection.

Ingestion: Minimal toxicity.

Medical Conditions Generally Aggravated by Exposure: Acne and dermatitis.

Listed as a Carcinogen/Potential Carcinogen:*

	Yes	No
In the National Toxicology Program (NTP) Report on Carcinogens		X
In the International Agency for Research on Cancer (IARC) Monographs	X*	
By the Occupational Safety and Health Administration (OSHA)		X

*The IARC lists residual (heavy) fuel oils as Group 2B; possibly carcinogenic to humans.

EMERGENCY AND FIRST AID PROCEDURES:

Skin Contact: Flush with large amounts of water; use soap if available. Remove grossly contaminated clothing, including shoes, and launder before reuse.

Eye Contact: Flush eyes with large amounts of water until irritation subsides. If irritation persists, obtain medical assistance.

Inhalation: Using proper respiratory protection, immediately remove the affected victim from exposure. Administer artificial respiration if breathing is stopped. Keep at rest. Obtain medical attention immediately.

Ingestion: **DO NOT** induce vomiting. If individual is conscious, give milk or water to dilute stomach contents. Keep warm and quiet. Obtain prompt medical attention immediately. **DO NOT** attempt to give anything by mouth to an unconscious person.

TARGET ORGAN(S) OF ATTACK: skin, eyes, and upper respiratory tract

SECTION VII. PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material Is Released: Notify safety personnel of leaks and spills. Remove sources of heat or ignition and provide adequate ventilation. Personnel performing the clean-up should use protection against contact with the liquid, vapor, or mist inhalation. Small spills can be contained by absorbents, such as rags, straw, polyurethane foam, activated carbon, and sand. Clean up spills promptly to reduce fire or vapor hazards.

Waste Disposal: The material may be disposed of by a licensed waste disposal company, by controlled incineration, or burial in an approved landfill. Follow all federal, state, and local laws governing disposal.

Handling and Storage: Keep containers closed. Handle and open containers with care. Store in a cool, well ventilated place away from incompatible materials. **DO NOT** handle or store near an open flame, heat, or other sources of ignition. Protect material from direct sunlight. This material is not a static accumulator, but use proper bonding and/or grounding procedures. **DO NOT** pressurize, cut, heat, or weld containers. Empty product containers may contain product residue. **DO NOT** reuse empty containers without commercial cleaning or reconditioning.

> **NOTE:** Contact lenses pose a special problem; soft lenses may absorb irritants and all lenses concentrate them. **DO NOT** wear contact lenses in the laboratory.

Exposure Controls: The use of local exhaust ventilation is recommended to control process emissions near the source. Laboratory samples should be handled in a laboratory hood. Provide mechanical ventilation of confined spaces. See Personal Protection recommendations below.

Personal Protection: For open systems where contact is likely, wear safety glasses with side shields, long sleeves, and chemical resistant gloves. Where contact may occur, wear safety glasses with side shields. Where concentrations in air may exceed the limits given in Section II, and engineering, work practice, or other means of exposure reduction are not adequate, NIOSH/MSHA approved respirators may be necessary to prevent overexposure by inhalation.

SECTION VIII. SOURCE DATA/OTHER COMMENTS

Sources: Exxon Chemical Company, MSDS *No. XLTCOIL3*, 28 March 1998.

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