Date of Issue:
19 May 2015

SAFETY DATA SHEET

1. SUBSTANCE AND SOURCE IDENTIFICATION

Product Identifier

SRM Number: 1083
SRM Name: Wear-Metals in Lubricating Oil
Other Means of Identification: Not Applicable.

Recommended Use of This Material and Restrictions of Use

This Standard Reference Material (SRM) is intended for use as a diluent base oil for SRMs 1084a and 1085a. A unit of SRM 1083 consists of 150 mL of base oil number 245 that is contained in a polyethylene bottle.

Company Information

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

Telephone: 301-975-2200
FAX: 301-948-3730
E-mail: SRMMSDS@nist.gov
Website: http://www.nist.gov/srm

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

2. HAZARDS IDENTIFICATION

Classification

Physical Hazard: Not classified.
Health Hazard: Not classified.

Label Elements

Symbol

No hazard pictograms.

Signal Word

No signal word

Hazard Statement(s)

Precautionary Statement(s):

Hazards Not Otherwise Classified: Not applicable.

Ingredients(s) with Unknown Acute Toxicity: Not applicable.

3. COMPOSITION AND INFORMATION ON HAZARDOUS INGREDIENTS

Substance: Lubricating oil base stocks.

Other Designations: Lubricating oil (petroleum); hydrotreated neutral oil-based, high viscosity; crankcase oil; petrolatum liquid; mineral oil; paraffin oil.

Components are listed below are in compliance with OSHA 29 CFR 1910.1200.

Hazardous Components	CAS Number	EC Number (EINECS)	Nominal Mass Concentration (%)
Lubricating oil base stocks	72623-85-9	276-736-3	100

4. First Aid Measures

Description of First Aid Measures:

Inhalation: If adverse effects occur, remove to uncontaminated area. If not breathing, give artificial respiration or oxygen by qualified personnel. Seek immediate medical attention.

Skin Contact: Wash exposed skin with soap and water for at least 15 minutes. Seek medical attention if needed.

Eye Contact: Immediately flush eyes, including under the eyelids with copious amounts of water for at least 15 minutes. Seek immediate medical attention.

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

Most Important Symptoms/Effects, Acute and Delayed: Skin and/or eye irritation.

Indication of any immediate medical attention and special treatment needed, if necessary: Not applicable.

5. Fire Fighting Measures

Fire and Explosion Hazards: Slight fire hazard. See Section 9, "Physical and Chemical Properties" for flammability properties.

Extinguishing Media:

Suitable: Regular dry chemical, carbon dioxide, and regular foam.
Unsuitable: Water may cause splattering.

Specific Hazards Arising from the Chemical: None listed.

Special Protective Equipment and Precautions for Fire-Fighters: Avoid inhalation of material or combustion by-products. Wear full protective clothing and NIOSH approved self-contained breathing apparatus (SCBA).

NFPA Ratings (0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe)

Health = 1 Fire = 1 Reactivity = 0

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Use suitable protective equipment; see Section 8, "Exposure Controls and Personal Protection".

Methods and Materials for Containment and Clean up: Absorb spilled material with sand or non-combustible material and collect in appropriate container for disposal.

7. Handling and Storage

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

Storage: Store and handle in accordance with all current regulations and standards. The storage floor must be impermeable and form a collecting basin so that, in the event of an accident spillage, the liquid cannot spread beyond the storage area.

8. Exposure Controls and Personal Protection

Exposure Limits: There are no occupational exposure limits established for lubricating base oil. The exposure limits for mineral oil (CAS No. 8012-95-1) are provided below as a reference.

OSHA (PEL):	5 mg/m^3 (TWA)
NIOSH (REL):	5 mg/m^3 (TWA) 10 mg/m^3 (STEL) 2.5 g/m^3 (IDLH)
ACGIH (TLV):	5 mg/m^3 (TWA, excluding metal working fluids, highly and severely refined, inhalable fractions)

Engineering Controls: Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Personal Protection Measures: In accordance with OSHA 29 CFR 1910.132, subpart I, wear appropriate Personal Protective Equipment (PPE) to minimize exposure to this material.

Respiratory Protection: If workplace conditions warrant a respirator, a respiratory protection program that meets OSHA 29CFR 1910.134 must be followed. Refer to NIOSH 42 CFR 84 for applicable certified respirators.

Eye/Face Protection: Wear splash resistant safety goggles with a face shield. An eye wash station should be readily available near areas of use.

Skin and Body Protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Chemical-resistant gloves should be worn at all times when handling chemicals.

9. PHYSICAL AND CHEMICAL PROPERTIES

Descriptive Properties:	
Appearance (physical state, color, etc.):	clear to opaque liquid
Molecular Formula:	not applicable
Molar Mass (g/mol):	not applicable
Odor:	petroleum odor
Odor threshold:	not available
pH:	not available
Evaporation rate:	not available
Melting point/freezing point:	not available
Relative Density (water=1):	0.86 – 0.94
Vapor Pressure:	not available
Vapor Density:	not available
Viscosity (at 40 °C):	112 cSt
Solubility(ies):	insoluble in water
Partition coefficient (n-octanol/water):	not available
Thermal Stability Properties:	
Autoignition Temperature (°C):	260 – 371 (500 - 700°F)
Thermal Decomposition:	not available
Initial boiling point (°C):	302 - 593 (576 - 1099°F)
Explosive Limits, LEL (%):	not available
Explosive Limits, UEL (%):	not available
Flash Point:	>143°C (>289.4 °F)
Flammability (solid, gas):	not applicable

10. STABILITY AND REACTIVITY

Reactivity: Stable at normal temperatures and pressure.

Stability: X Stable _____ Unstable

Possible Hazardous Reactions: None listed.

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

Incompatible Materials: Oxidizing materials.

Fire/Explosion Information: See Section 5, "Fire Fighting Measures".

Hazardous Decomposition: Oxides of carbon.

Hazardous Polymerization: _____ Will Occur X Will Not Occur

11. TOXICOLOGICAL INFORMATION

Route of Exposure: X Inhalation X Skin X Ingestion

Symptoms Related to the Physical, Chemical and Toxicological Characteristics: Skin and/or eye irritation.

Potential Health Effects (Acute, Chronic and Delayed):

Inhalation: Acute exposure to mists or sprays of insoluble mineral oils are usually not harmful to the respiratory tract; however, discomfort may occur at concentrations above 5 mg/m^3. Prolonged or repeated exposure may cause fibrotic nodules, lipid pneumonia, and lipid granuloma.

Skin Contact: Acute exposure may cause oil folliculitis due to the mechanical plugging of the hair follicles. Some people may develop sensitivity to petroleum products or additives used in petroleum products. Chronic skin exposure may cause defatting and drying of the skin resulting in irritation and dermatitis.

Eye Contact: Acute exposure to liquid or mist may cause irritation. Repeated exposure may cause conjunctivitis.

Ingestion: Acute exposure by ingestion may cause gastrointestinal disturbances such as diarrhea.

Numerical Measures of Toxicity:

Acute Toxicity: Not classified.

Lubricating base oil stocks: Rat, Oral LD50: >5000 mg/kg
Rat, Inhalation LC 50: 2.18 mg/L (4h)
Rabbit, Dermal LD50: >2000 mg/kg

Skin Corrosion/Irritation: Not classified; no data available.

Serious Eye Damage/Eye Irritation: Not classified; no data available.

Respiratory Sensitization: Not classified; no data available.

Skin Sensitization: Not classified; no data available.

Germ Cell Mutagenicity: Not classified; no data available.

Carcinogenicity: Not classified.

Listed as a Carcinogen/Potential Carcinogen ____ Yes X No

Hazardous components listed in this SDS are not listed by NTP, IARC, or OSHA as a carcinogen/potential carcinogen.

Reproductive Toxicity: Not classified; no data available.

Specific Target Organ Toxicity, Single Exposure: Not classified; no data available.

Specific Target Organ Toxicity, Repeated Exposure: Not classified; no data available.

Aspiration Hazard: Not classified.

12. ECOLOGICAL INFORMATION

Ecotoxicity Data:

Lubricating base oil stocks:
Fish, Rainbow Trout (*Oncorhynchus mykiss*) >5000 mg/L
Invertebrate, Water flea (*Daphnia magna*) >1000 mg/L

Persistence and Degradability: No data available

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

Other Adverse effects: No data available.

13. DISPOSAL CONSIDERATIONS

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

14. TRANSPORTATION INFORMATION

U.S. DOT and IATA: This material is not regulated by IATA or DOT.

15. REGULATORY INFORMATION

U.S. Regulations:

CERCLA Sections 102a/103 (40 CFR 302.4): Not regulated.

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

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

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

OSHA Process Safety (29 CFR 1910.119): Not regulated.

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

ACUTE HEALTH:	No.
CHRONIC HEALTH:	No.
FIRE:	No.
REACTIVE:	No.
PRESSURE:	No.

State Regulations:

California Proposition 65: Not listed.

U.S. TSCA Inventory: Lubricating oil base stocks is listed.

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

Canadian Regulations:

WHMIS Information: Not provided for this material.

16. OTHER INFORMATION

Issue Date: 19 May 2015

Sources: ChemADVISOR, Inc., SDS, *Lubricating Oil Base Stocks*, 20 March 2015.

ChemADVISOR, Inc., SDS, *Oil Mist, Mineral*, 20 March 2015.

Key of Acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists	NRC	Nuclear Regulatory Commission
ALI	Annual Limit on Intake	NTP	National Toxicology Program
CAS	Chemical Abstracts Service	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
CFR	Code of Federal Regulations	RCRA	Resource Conservation and Recovery Act
DOT	Department of Transportation	REL	Recommended Exposure Limit
EINECS	European Inventory of Existing Commercial Chemical Substances	RQ	Reportable Quantity
EPCRA	Emergency Planning and Community Right-to-Know Act	RTECS	Registry of Toxic Effects of Chemical Substances
IARC	International Agency for Research on Cancer	SARA	Superfund Amendments and Reauthorization Act
IATA	International Air Transportation Agency	SCBA	Self-Contained Breathing Apparatus
IDLH	Immediately Dangerous to Life and Health	SRM	Standard Reference Material
LC50	Lethal Concentration	STEL	Short Term Exposure Limit
LD50	Median Lethal Dose or Lethal Dose, 50 %	TLV	Threshold Limit Value
LEL	Lower Explosive Limit	TPQ	Threshold Planning Quantity
MSDS	Material Safety Data Sheet	TSCA	Toxic Substances Control Act
NFPA	National Fire Protection Association	TWA	Time Weighted Average
NIOSH	National Institute for Occupational Safety and Health	UEL	Upper Explosive Limit
NIST	National Institute of Standards and Technology	WHMIS	Workplace Hazardous Materials Information System

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

Users of this SRM should ensure that the SDS in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail srmmsds@nist.gov; or via the Internet at http://www.nist.gov/srm.