

SAFETY DATA SHEET

Oil, Synthetic 15W50 Grade

Date of Preparation: 06/24/2014

SDS #: 004-16011-00MSDS

SECTION 1: IDENTIFICATION

Product Identification: Mobil 1 Formula 15W-50

CAS Number: Not applicable

Other Designations: Synthetic Hydrocarbons and Additives

Volumes: None

Recommended Use: Automotive engine oil, lubricant.

Restrictions: For laboratory use only.

Supplier Information:

Micromeritics Instrument Corp.
4356 Communications Drive
Norcross, GA 30093-2901 USA

Contact: Human Resources
Phone: (770) 662-3636
Fax: (770) 662-3696

Manufacturer: Mobil Oil Corp., North America Marketing and Refining, 3225 Gallows Rd., Fairfax, VA, 22037, Phone (800)662-4525, 24-Hr. Emergency (609)737-4411, Chemtrec (800)424-9300.

SECTION 2: HAZARDS IDENTIFICATION

GHS Classification: Category 1 Flammable liquid

Signal word: Not Applicable

Hazard Statements:

H226: Flammable liquid and vapor

H242: Heating may cause a fire

H303: May be harmful if swallowed

H402: Harmful to aquatic life

Pictograms:



Precautionary Statements:

P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking

P262: Do not get in eyes, on skin, or on clothing

P273: Avoid release to the environment

P301+330+331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient Name	CAS Number	% wt
Zinc Dithiophosphate	68649-42-3	1.08 %
Butyl Denzyl Phthalate	85-68-7	>0.96 %
Zinc (elemental analysis)	7440-66-6	0.13%

Please call the Customer Response Center on (800) 662-4525 for formulation disclosure

INGREDIENTS CONSIDERED HAZARDOUS TO HEALTH: This product is not formulated to contain ingredients which have exposure limits established by U.S. agencies. It is not hazardous to health as defined by the European Union Dangerous Substances/Preparations Directives. See Section 15 for a regulatory analysis of the ingredients.

Trace Impurities:

Ingredient	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH
	TWA	STEL	TWA	STEL	TWA	STEL	IDLH
Not Applicable	None estab.	none estab.	None estab.	none estab.	none estab.	none estab.	none estab.

SECTION 4: FIRST-AID MEASURES

Inhalation: Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

Eye Contact: Flush thoroughly with water. If irritation occurs, call a physician.

Skin Contact: Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

Ingestion: First aid is normally not required. Seek medical attention if discomfort occurs.

Note to Physicians: Not Applicable

Special Precautions/Procedures: Not Applicable

SECTION 5: FIRE-FIGHTING MEASURES

Flammability Classification: NE

Extinguishing Media: Use carbon dioxide, foam, dry chemical and water fog.

Unusual Fire or Explosion Hazards: OXIDIZING PROPERTIES: Not Applicable

Hazardous Combustion Products: Smoke, Fume, Aldehydes, Sulfur oxides, Incomplete combustion products, Oxides of carbon.

Fire-Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Fire-Fighting Equipment: For fires in enclosed areas, fire fighters must use self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Spill /Leak Procedures: Absorb on fire retardant treated sawdust, diatomaceous earth, etc. Shovel up and dispose of at an appropriate waste disposal facility in accordance with current applicable laws and regulations, and product characteristics at time of disposal. Prevent spills from entering storm sewers or drains and contact with soil.

Small Spills: Not Applicable

Large Spills

Containment: Not Applicable

Cleanup: Not Applicable

Regulatory Requirements: Not Applicable

Notification Procedures: Report spills as required to appropriate authorities. U.S. Coast Guard regulations require immediate reporting of spills that could reach any waterway including intermittent dry creeks. Report spill to Coast Guard toll free number (800) 424-8802. In case of accident or road spill notify Chemtrec (800) 424-9300.

SECTION 7: HANDLING AND STORAGE

Handling Precautions: Avoid contact with used product. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Storage Requirements: Do not store in open or unlabeled containers. Store away from strong oxidizing agents or combustible material.

Regulatory Requirements: Not Applicable

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following are recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction), 5 mg/m³ - OSHA PEL.

Engineering Controls: The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider: No special requirements under ordinary conditions of use and with adequate ventilation.

Personal Protection: Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include: No special requirements under ordinary conditions of use and with adequate ventilation. For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include: No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include: No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

Environmental Controls: Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Flash Point: > 417 °F (214°C) (ASTM D-92).

Flash Point Method: Not Applicable

Burning Rate: Not Applicable

Autoignition Temperature: NE

LEL: Not Applicable

UEL: Not Applicable

Physical State: Not Applicable

Appearance and Odor: Amber Liquid. Mild odor

Odor Threshold: NE

Vapor Pressure: <0.1 mm Hg at 20 °C

Vapor Density (Air=1): >2.0

Formula Weight: Not Applicable

Density: 15/4 C: 0.86-0.88

Specific Gravity (H₂O=1, at 4 °C): Not Applicable

pH: Not Applicable

Partition Coefficient: > 3.5

Volatile Organic Compound: NE

Water Solubility: Negligible

Other Solubilities: Not Applicable

Boiling Point: > 600°F (316°C)

Freezing/Melting Point: Not Applicable

Viscosity: 120.0 cSt at 40 C, 17.3 cSt at 100 C

Refractive Index: Not Applicable

Surface Tension: Not Applicable

% Volatile: Not Applicable

Evaporation Rate: NE

Pour Point: -65F°(-54C°)

SECTION 10: STABILITY AND REACTIVITY

Stability: Material is stable under normal conditions.

Polymerization: Will not occur.

Chemical Incompatibilities: Strong oxidizers.

Conditions to Avoid: Material is stable under normal conditions.

Hazardous Decomposition Products: Metal Oxides. Carbon monoxide. Elemental oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Eye Effects: (Rabbits): Practically non-irritating. (Draize score: > 6, < 16). Based on testing of similar products and/or the components.

Skin Effects: (Rabbits): Practically non-irritating. (Primary Irritation Index: > 0.5, < 3). Based on testing of similar products and/or the components.

Dermal Toxicity: (Rabbits): Practically non-toxic (LD50: > 2000 mg/kg) Based on testing of similar products and/or the components.

Acute Inhalation Toxicity: (Rats): Not Applicable Harmful concentrations of mists and/or vapors are unlikely to be encountered through any customary or reasonably foreseeable handling, use, or misuse of this product.

Acute Oral Effects: (Rats): Practically non-toxic (LD50: > 2000 mg/kg) Based on testing of similar products and/or the components.

Chronic Effects:

For the product itself:

Diesel engine oils: Not carcinogenic in animal tests. Used and unused diesel engine oils did not produce any carcinogenic effects in chronic mouse skin painting studies. Oils that are used in gasoline engines may become hazardous and display the following properties: Carcinogenic in animal tests. Caused mutations in vitro. Possible allergen and photoallergen. Contains polycyclic aromatic compounds (PAC) from combustion products of gasoline and/or thermal degradation products

Contains: Synthetic base oils: Not expected to cause significant health effects under conditions of normal use, based on laboratory studies with the same or similar materials. Not mutagenic or genotoxic. Not sensitizing in test animals and humans.

Carcinogenicity: Not Applicable

Mutagenicity: Not Applicable

Teratogenicity: Not Applicable

Other Acute Toxicity Data: The acute toxicological results summarized above are based on testing of representative Mobil Products. Representative Mobil formulations have shown no acute effects, administered via the inhalation route, when tested at maximum attainable oil mist or vapor concentrations.

Subchronic Toxicology: Representative Mobil formulations have been tested at the Mobil Environmental and Health Sciences Laboratory by dermal applications to rats 5 days/week for 90 days at doses significantly higher than those expected during normal industrial exposure. Extensive evaluations, including microscopic examination of internal organs and clinical chemistry of body fluids, showed no adverse effects.

Reproductive Toxicology: Dermal exposure of pregnant rats to representative formulations did not cause adverse effects in either the mothers or their offspring.

Sensitization: Representative Mobil formulations have not caused skin sensitization in guinea pigs.

Other Toxicity Data: This product is formulated with a synthetic hydrocarbon as the base stock. The Mobil Environmental and Health Sciences Laboratory has tested representative synthetic base stocks to

assess their potential adverse effects on human health. Assessment of human health effects was based on acute oral, dermal, and inhalation toxicity; eye and skin irritation; subchronic dermal toxicity and reproductive studies; guinea pig sensitization; and mutagenicity and chromosomal damage assays. None of these base stocks appear to pose a health hazard to humans under conditions of expected use. Used gasoline engine oils have shown evidence of skin carcinogenic activity in laboratory tests when no effort was made to wash the oil off between applications. Used oil from diesel engines did not produce this effect.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity: Not Applicable

Environmental Fate: This product is expected to be inherently biodegradable. There is no evidence to suggest bioaccumulation will occur. Acute LC/EC50: Juvenile Rainbow Trout: Practically non-toxic. Based on testing of similar products.

Environmental Degradation: Not Applicable

Soil Absorption/Mobility: Not Applicable

Environmental Precautions: Accidental spillage may lead to penetration in the soil and groundwater. However, there is no evidence that this would cause adverse ecological effects.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal: WASTE DISPOSAL: Product is suitable for burning in an enclosed, controlled burner for fuel value or disposal by supervised incineration. Such burning may be limited pursuant to the Resource Conservation and Recovery Act. In addition, the product is suitable for processing by an approved recycling facility or can be exposed of at an appropriate government waste disposal facility. Use of these methods is subject to user compliance with applicable laws and regulations and consideration of product characteristics at time of disposal.

Disposal Regulatory Requirements: RCRA INFORMATION: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity, or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning: Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, 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.

Container Cleaning and Disposal: Not Available

SECTION 14: TRANSPORT INFORMATION

DOT Transportation Data (49 CFR 172.101):

Shipping Name: Not regulated

Shipping Symbols: Not Applicable

Hazard Class: Not regulated

ID No.: Not regulated

Packing Group: Not Applicable

Label: Not Applicable

Special Provisions (172.102):

Not Applicable

Packaging Authorizations

a) **Exceptions:** Not Applicable

b) **Non-bulk Packaging:** Not Applicable

c) **Bulk Packaging:** Not Applicable

Quantity Limitations

a) **Passenger, Aircraft, or Railcar:** Not Applicable

b) **Cargo Aircraft Only:** Not Applicable

Vessel Stowage Requirements

a) **Vessel Stowage:** Not Applicable

b) **Other:** Not Applicable

Canadian TDG Hazard Class & PIN – Not regulated

SECTION 15: REGULATORY INFORMATION

EPA Regulations: Not Applicable

OSHA Regulations: Product assessed in accordance with OSHA 29 CFR 1910.1200 and determined not to be hazardous.

State Regulations: Not Applicable

Governmental Inventory Status: All components comply with TSCA, EINECS/ELINCS, and MITI.

EU labeling not required.

U.S. Superfund Amendments and Reauthorization Act (SARA) Title III: This product contains no "EXTREMELY HAZARDOUS SUBSTANCES".

SARA (311/312) REPORTABLE HAZARD CATAGORIES: None.

This product contains the following SARA (313) Toxic Release chemicals:

Regulatory Lists Searched:

1=ACGIH ALL	6=IARC 1	11=TSCA 4	16=CA P65 CARC	21=LA RTK
2=ACGIH A1	7=IARC 2A	12=TSCA 5a2	17=CA P65 EPRO	22=MI 293
3=ACGIH A2	8=IARC 2B	13=TSCA 5e	18=CA RTK	23=MN RTK
4=NTP CARC	9=OSHA CARC	14=TSCA 6	19=FL RTK	24=NJ RTK
5=NTP SUS	10=OSHA Z	15=TSCA 12b	20=IL RTK	25=PA RTK

Code Key: CARC=Carcinogen; SUS=Suspected Carcinogen; REPRO=Reproductive

SECTION 16: OTHER INFORMATION

Prepared By: Zuniga, A.

Revision Notes: Not Applicable

Additional Hazard Rating Systems: Not Applicable

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