

Product Name: MOBILUBE 1 SHC 75W-90
Revision Date: 19 Nov 2019
Page 1 of 12

SAFETY DATA SHEET

SECTION 1	PRODUCT AND COMPANY IDENTIFICATION
-----------	------------------------------------

PRODUCT

Product Name: MOBILUBE 1 SHC 75W-90
Product Description: Synthetic Base Stocks and Additives
Product Code: 201520501010, 511261-84
Intended Use: Gear oil

COMPANY IDENTIFICATION

Supplier: ExxonMobil Hong Kong Limited
23/F, Central Plaza
18 Harbour Road
Wanchai Hong Kong

24 Hour Emergency Telephone 800-968-793 / +1-703-527-3887
Supplier General Contact (852) 2172 8300

Supplier: BRENNTAG CHEMICALS (HK) PTE LTD
Room 505-508,5/F, Block A
Vigor Industrial Building
14-20 Cheung Tat Road
Tsing Yi Hong Kong

Supplier General Contact (852) 3590 3909

SECTION 2	HAZARDS IDENTIFICATION
-----------	------------------------

This material is not hazardous according to UN GHS Revision 4 Criteria. Classification includes all GHS hazard classes and all GHS hazard categories. For hazard categories with two cut-off/concentration limits, classification was based on the higher limit.

Contains: MAGNESIUM METABORATE, OLEFIN SULPHIDE, PHOSPHORIC ACID ESTERS, AMINE SALT May produce an allergic reaction.

Other hazard information:

Product Name: MOBILUBE 1 SHC 75W-90

Revision Date: 19 Nov 2019

Page 2 of 12

PHYSICAL / CHEMICAL HAZARDS

No significant hazards.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

ENVIRONMENTAL HAZARDS

No significant hazards.

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
1-DECENE, HOMOPOLYMER HYDROGENATED	68037-01-4	50 - < 60%	H304
BIS(2-ETHYLHEXYL) ESTER NONANEDIOIC ACID	103-24-2	5 - < 10%	None
MAGNESIUM METABORATE	13703-82-7	0.1 - < 1%	H317
OLEFIN SULPHIDE	68937-96-2	1 - < 5%	H227, H317, H316, H402, H412
PHOSPHORIC ACID ESTERS, AMINE SALT		1 - < 5%	H227, H302, H317, H318, H401, H411
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	1 - < 5%	H304
TRIPHENYL PHOSPHOROTHIONATE	597-82-0	0.1 - < 1%	H361(D), H361(F)

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

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.

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

Product Name: MOBILUBE 1 SHC 75W-90

Revision Date: 19 Nov 2019

Page 3 of 12

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.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

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

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

Inappropriate Extinguishing Media: Straight streams of water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters 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.

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

FLAMMABILITY PROPERTIES

Flash Point [Method]: >180 C (356 F) [ASTM D-92]

Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0

Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8

Product Name: MOBILUBE 1 SHC 75W-90

Revision Date: 19 Nov 2019

Page 4 of 12

for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do so without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do so without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7

HANDLING AND STORAGE

HANDLING

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 earthing procedures. However, bonding and earthing 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).

Static Accumulator: This material is a static accumulator.

STORAGE

The type of container used to store the material may affect static accumulation and dissipation. Do not store in open or unlabelled containers.

SECTION 8

EXPOSURE CONTROLS / PERSONAL PROTECTION

Product Name: MOBILUBE 1 SHC 75W-90

Revision Date: 19 Nov 2019

Page 5 of 12

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit/Standard			Note	Source	Year
1-DECENE, HOMOPOLYMER HYDROGENATED	Aerosols (thoracic fraction)	TWA	5 mg/m ³			ExxonMobil	2019
MAGNESIUM METABORATE	Inhalable fraction	STEL	6 mg/m ³			ACGIH	2019
MAGNESIUM METABORATE	Inhalable fraction	TWA	2 mg/m ³			ACGIH	2019
Distillates (petroleum), hydrotreated heavy paraffinic	Mist.	STEL	10 mg/m ³			Hong Kong OELS	2002
Distillates (petroleum), hydrotreated heavy paraffinic	Mist.	TWA	5 mg/m ³			Hong Kong OELS	2002
Distillates (petroleum), hydrotreated heavy paraffinic	Inhalable fraction	TWA	5 mg/m ³			ACGIH	2019

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

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

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.

Product Name: MOBILUBE 1 SHC 75W-90

Revision Date: 19 Nov 2019

Page 6 of 12

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.
Particulate

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/vapour 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. Nitrile, Viton

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
-----------	----------------------------------

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid

Product Name: MOBILUBE 1 SHC 75W-90

Revision Date: 19 Nov 2019

Page 7 of 12

Colour: Amber
 Odour: Characteristic
 Odour Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 C): 0.868 [ASTM D1298]
 Flash Point [Method]: >180 C (356 F) [ASTM D-92]
 Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
 Flammability (Solid, Gas): N/A
 Autoignition Temperature: N/D
 Boiling Point / Range: > 316 C (600 F) [Estimated]
 Vapour Density (Air = 1): > 2 at 101 kPa [Estimated]
 Vapour Pressure: < 0.013 kPa (0.1 mm Hg) at 20 C [Estimated]
 Evaporation Rate (n-butyl acetate = 1): N/D
 pH: N/A
 Log Pow (n-Octanol/Water Partition Coefficient): > 3.5 [Estimated]
 Solubility in Water: Negligible
 Viscosity: 102 cSt (102 mm²/sec) at 40 C | 15.5 cSt (15.5 mm²/sec) at 100 C [ASTM D 445]
 Freezing Point: N/D
 Melting Point: N/A
 Decomposition Temperature: N/D
 Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Pour Point: -48 C (-54 F) [ASTM D97]

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidisers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

<u>Hazard Class</u>	<u>Conclusion / Remarks</u>
Inhalation	

Product Name: MOBILUBE 1 SHC 75W-90

Revision Date: 19 Nov 2019

Page 8 of 12

Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitisation	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

OTHER INFORMATION

For the product itself:

Repeated and/or prolonged exposure may cause irritation to the skin, eyes, or respiratory tract. Component concentrations in this formulation would not be expected to cause skin sensitization, based on tests of the components, this formulation, or similar formulations.

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 sensitising in test animals and humans. Aryl thiophosphate: Effects on the liver, adrenals, thyroid, blood and reproductive organs were seen in rats after repeated oral gavage at high doses. In a

Product Name: MOBILUBE 1 SHC 75W-90

Revision Date: 19 Nov 2019

Page 9 of 12

reproduction/developmental toxicity screening study, repeated oral gavage of rats with the aryl thiophosphate at high doses that produced maternal toxicity resulted in litter loss, decreased number of implantation sites and decreased number of live pups. However, when the aryl thiophosphate was tested in a subsequent, identical reproduction/developmental screening study in rats at a concentration higher than in this lubricant product, there were no reproductive/developmental effects or maternal toxicity.

IARC Classification:

The following ingredients are cited on the lists below: None.

1 = IARC 1

--REGULATORY LISTS SEARCHED--

2 = IARC 2A

3 = IARC 2B

SECTION 12

ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

SECTION 13

DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by

Product Name: MOBILUBE 1 SHC 75W-90

Revision Date: 19 Nov 2019

Page 10 of 12

supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

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.

SECTION 14	TRANSPORT INFORMATION
-------------------	------------------------------

LAND (ADR) : Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15	REGULATORY INFORMATION
-------------------	-------------------------------

Material is not hazardous according to UN GHS Revision 4 Criteria.

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

Listed or exempt from listing/notification on the following chemical inventories (May contain substance(s) subject to notification to the EPA Active TSCA inventory prior to import to USA): AICS, ENCS, IECSC, ISHL, KECI, PICCS, TCSI, TSCA

Special Cases:

Inventory	Status
NDSL	Restrictions Apply

SECTION 16	OTHER INFORMATION
-------------------	--------------------------

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):

Product Name: MOBILUBE 1 SHC 75W-90

Revision Date: 19 Nov 2019

Page 11 of 12

H227: Combustible liquid; Flammable Liquid, Cat 4
H302: Harmful if swallowed; Acute Tox Oral, Cat 4
H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1
H316: Causes mild skin irritation; Skin Corr/Irritation, Cat 3
H317: May cause allergic skin reaction; Skin Sensitization, Cat 1
H318: Causes serious eye damage; Serious Eye Damage/Irr, Cat 1
H361(D): Suspected of damaging the unborn child; Repro Tox, Cat 2 (Develop)
H361(F): Suspected of damaging fertility; Repro Tox, Cat 2 (Fertility)
H401: Toxic to aquatic life; Acute Env Tox, Cat 2
H402: Harmful to aquatic life; Acute Env Tox, Cat 3
H411: Toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 2
H412: Harmful to aquatic life with long lasting effects; Chronic Env Tox, Cat 3

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

Composition: Component Table information was modified.
GHS Environmental Classification information was added.
GHS Environmental Classification information was deleted.
GHS Environmental Hazards information was added.
GHS Environmental Hazards information was deleted.
GHS Precautionary Statements - Disposal information was added.
GHS Precautionary Statements - Disposal information was deleted.
GHS Precautionary Statements - Prevention information was added.
GHS Precautionary Statements - Prevention information was deleted.
GHS Signal Word information was added.
GHS Signal Word information was deleted.
Hazard Identification: HK - Hazards Statement - GHS information was added.
Hazard Identification: HK - Hazards Statement - GHS information was deleted.
Hazard Identification: Physical/Chemical Hazard information was modified.
Section 02: GHS Sensitizer Statement information was modified.
Section 08: Exposure Limits Table information was modified.
Section 09: Relative Density information was modified.
Section 09: Vapour Pressure information was added.
Section 09: Viscosity information was modified.
Section 12: Ecological Information - Acute Aquatic Toxicity information was added.
Section 12: Ecological Information - Acute Aquatic Toxicity information was deleted.
Section 15: Hong Kong Hazard Statement information was modified.
Section 15: National Chemical Inventory Listing information was modified.
Section 16: HCode Key information was modified.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this

Product Name: MOBILUBE 1 SHC 75W-90

Revision Date: 19 Nov 2019

Page 12 of 12

document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, republication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

DGN: 7049077XHK (1013618)

