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# SAFETY DATA SHEET

#### SECTION 1

# PRODUCT AND COMPANY IDENTIFICATION

# PRODUCT

Product Name:MOBIL 1 ESP 5W-30Product Description:Synthetic Base Stocks and AdditivesProduct Code:2015101010U2Recommended Use:Engine oil

COMPANY IDENTIFICATION

Supplier:

**EMG Lubricants GodoKaisha** 1-8-15, Kohnan, Minato-ku Tokyo 〒 108-8005 Japan

Supplier General Contact

0120-016-313

SECTION 2

HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

Contains: TRIS(BRANCHED-ALKYL) BORATE May produce an allergic reaction.

Other hazard information:

## 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



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which may vary from person to person.

#### COMPOSITION / INFORMATION ON INGREDIENTS

# Chemical Substance or Mixture Identification

This material is defined as a mixture.

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

Name	CAS#	Concentration*	GHS Hazard Codes
2-PENTANOL, 4-METHYL-, HYDROGEN PHOSPHORODITHIOATE, ZINC	2215-35-2	0.1 - < 1%	H303, H315, H318, H401,
SALT			H411
ALKARYLAMINE	36878-20-3	1 - < 5%	H316
BENZENE PROPANOIC ACID, 3, 5-BIS(1, 1-DIMETHYLETHYL)-4-	125643-61-0	1 - < 5%	H413
HYDROXY-, C7-9 BRANCHED ALKYL ESTERS			
PHOSPHORODITHIOIC ACID, MIXED 0,0 BIS (1,3-DIMETHYLBUTYL AND	84605-29-8	0.1 - < 1%	H303, H315, H318, H401,
ISO-PR)ESTERS, ZINC SALTS			H411
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	64742-54-7	40 - < 50%	H304
SOLVENT DEWAXED HEAVY PARAFFINIC DISTILLATE	64742-65-0	1 - < 5%	H304
TRIS (BRANCHED-ALKYL) BORATE	CONFIDENTIAL	0.1 - < 1%	H317

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

# SECTION 4

SECTION 3

#### 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 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.

## NOTE TO PHYSICIAN

None



#### 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 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.

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

#### FLAMMABILITY PROPERTIES

Flash Point [Method]:234° C(453° F) [Typical ASTM D-92]Flammable Limits (Approximate volume % in air):LEL:0.9Outoignition 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.

## PERSONAL PRECAUTIONS

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 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.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not



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water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

#### SPILL MANAGEMENT

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

**Water Spill:** Stop leak if you can do it 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: Dike 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 (Technical Measures; Safety Handling Precautions; Contact Avoidance)

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).

**Static Accumulator:** This material is a static accumulator.

#### STORAGE (Safe Storage Conditions; Safe Containers and Packaging Materials)

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



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## **SECTION 8**

#### EXPOSURE CONTROLS / PERSONAL PROTECTION

# EXPOSURE LIMIT VALUES

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

Substance Name	Form	Limit /	Standard	NOTE	Source
SEVERELY HYDROTREATED HEAVY	Mist.	TWA	3 mg/m3		Japan OELs - JSOH
PARAFFINIC DISTILLATE					
SEVERELY HYDROTREATED HEAVY		TWA	5 mg/m3		ACGIH
PARAFFINIC DISTILLATE	Inhalabl				
	е				
	fraction				
SOLVENT DEWAXED HEAVY	Mist.	TWA	3 mg/m3		Japan OELs - JSOH
PARAFFINIC DISTILLATE					
SOLVENT DEWAXED HEAVY		TWA	5 mg/m3		ACGIH
PARAFFINIC DISTILLATE	Inhalabl				
	е				
	fraction				

**Exposure limits/standards for materials that can be formed when handling this product:** When mists/aerosols can occur the following is recommended: 5 mg/m<sup>3</sup> - ACGIH TLV (inhalable fraction).

## Biological limits

No biological limits allocated.

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.

**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



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> 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/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. 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.

BASIC PHYSICAL AND CHEMICAL PROPERTIES Physical State: Liquid Color: Brown



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> Odor: Characteristic Melting Point: N/A Freezing Point: N/D Initial Boiling Point / Range:  $> 316^{\circ}$  C (601° F) Flammability: Ignitable Lower and Upper Explosion Limit/Flammability Limit: LEL: 0.9 UEL: 7.0 234° C (453° F) [Typical ASTM D-92] Flash Point [Method]: Autoignition Temperature: N/D Decomposition Temperature: N/D pH: N/A Kinematic Viscosity: 67.1 cSt (67.1 mm2/sec) at 40 °C [Typical] | 11.9 cSt (11.9 mm2/sec) at 100° C [ASTM D 445] **Solubility in Water:** Negligible Partition Coefficient: n-Octanol/water (log value): > 3.5 Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20  $^{\circ}$  C Relative Density (at 15.6 °C): 0.852 [Typical] [ASTM D4052] **Relative Vapor Density (Air = 1):** > 2 at 101 kPa Particle Characteristics: Median Size: N/A Size Range: N/A

OTHER INFORMATION

Pour Point:-36° C (-33° F) [ASTM D97]Evaporation Rate (n-butyl acetate = 1):N/DOxidizing Properties:See Hazards Identification Section.

SECTION 10

# STABILITY AND REACTIVITY

**REACTIVITY:** See sub-sections below.

**STABILITY:** Material is stable under normal conditions.

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

MATERIALS TO AVOID: Strong oxidizers

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



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Userand Olass	Ornaliusian / Remarks
Hazard Class	<u>Conclusion / Remarks</u>
Inhalation	
Acute Toxicity: No end point data for	Minimally Toxic. Based on assessment of the components.
material.	
Irritation: No end point data for	Negligible hazard at ambient/normal handling temperatures.
material.	
Ingestion	
Acute Toxicity: No end point data for	Minimally Toxic. Based on assessment of the components.
material.	
Skin	
Acute Toxicity: No end point data for	Minimally Toxic. Based on assessment of the components.
material.	
Skin Corrosion/Irritation: No end point	Negligible irritation to skin at ambient temperatures.
data for material.	Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end	May cause mild, short-lasting discomfort to eyes. Based on
point data for material.	assessment of the components.
Sensitization	
Respiratory Sensitization: No end point	Not expected to be a respiratory sensitizer.
data for material.	
Skin Sensitization: No end point data	Not expected to be a skin sensitizer. Based on assessment
for material.	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	Not expected to be a germ cell mutagen. Based on assessment
data for material.	of the components.
Carcinogenicity: No end point data for	Not expected to cause cancer. Based on assessment of the
material.	components.
Reproductive Toxicity: No end point	Not expected to be a reproductive toxicant. Based on
data for material.	assessment of the components.
Lactation: No end point data for	Not expected to cause harm to breast-fed children.
material.	
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	Not expected to cause organ damage from prolonged or
for material.	repeated exposure. Based on assessment of the components.

# TOXICITY FOR SUBSTANCES

NAME	ACUTE TOXICITY
2-PENTANOL, 4-METHYL-, HYDROGEN	Oral Lethality: LD50 2230 mg/kg (Rat)
PHOSPHORODITHIOATE, ZINC SALT	

OTHER INFORMATION

For the product itself:



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Component concentrations in this formulation would not be expected to cause skin sensitization, based on tests of the components, this formulation, or similar formulations. Diesel engine oils: Not carcinogenic in animals 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.

See Section 16 for a description of sources for reference data.

# IARC Classification:

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

--REGULATORY LISTS SEARCHED--1 = IARC 12 = IARC 2A3 = 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.

PERSISTENCE AND DEGRADABILITY Not determined.

BIOACCUMULATIVE POTENTIAL Not determined.

Hazard to the Ozone Layer Not Applicable



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See Section 16 for a description of sources for reference data.

# SECTION 13

DISPOSAL CONSIDERATIONS

Information on Safe and Environmentally Desirable Disposal or Recycling of Chemicals, Contaminated Containers and Packaging

## DISPOSAL METHODS

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 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 - Precautionary Transportation Measures & Conditions:

Do not co-load together with dangerous substances categorized in Fire Cat. 1 and/or 6, and/or High Pressure Gases.

- NOTE: Comply with applicable laws and regulations.
- **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



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This material is not considered hazardous according to the Classification of Chemicals based on Globally Harmonized System of Classification and Labelling of Chemicals (GHS) (JIS Z 7252-2019).

# REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

Listed or exempt from listing/notification on the following chemical inventories : AIIC, DSL, ENCS, ISHL, KECI, TCSI, TSCA Special Cases:

Inventory	Status	
IECSC	Restrictions Apply	
PICCS	Restrictions Apply	

#### National Laws and Regulations:

Chemical Substances Control Law: Existing Chemicals

Chemical Substances Control Law substances:

Chemical Name	Referenced List	ENCS Number
2, 6-DI-TERT-BUTYL-P-CRESOL	Priority Assessment	3–540, 9–1805

Fire Service Law: Category 4, Flammable Liquids, Class III (#4 Petroleum)
ISHL: Notified Substances
ISHL: Labeling Substances
Maritime Pollution Prevention Law: Regulated
Mariners Labour Safety and Health Regulation: Regulated
Poisonous and Deleterious Substances Control Law (PDSCL): Not Regulated
Pollutant Release and Transfer Register (PRTR): Not Regulated
Sewage Water Law: Mineral oil (5mg/l max.)
Waste Treatment Law : Controlled Industrial Waste
Water Pollution Control Law: Effluent Regulation (5mg/l max.)

# JAPANESE COMPOSITION INFORMATION

# Industrial Safety and Health Law: Article 57, Chemical substances to be labelled:

Name	Concentration
Mineral Oil	80-90 wt%

Industrial Safety and Health Law: Article 57-2, Chemical Substances to be notified:NameISHL Ordinance NumberConcentration



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Mineral Oil	168	80-90 %weight
ISHL Enforcement Order, Table 3-1, M	anufacturing Permit C	hemical Substances: None.
PRTR Class 1 Designated Chemical Sub	stances: None.	
PRTR Class 2 Designated Chemical Sub	stances: None.	
PDSCL Chemical Substances: None.		
SECTION 16	OTHER INFORMATION	

**SOURCE OF REFERENCE MATERIAL:** Sources of information used in preparing this SDS included one or more of the following: results from in house or supplier toxicology studies, CONCAWE Product Dossiers, publications from other trade associations, such as the EU Hydrocarbon Solvents REACH Consortium, U.S. HPV Program Robust Summaries, the EU IUCLID Data Base, U.S. NTP publications, and other sources, as appropriate.

N/D = Not determined, N/A = Not applicable KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only): H3O3: May be harmful if swallowed; Acute Tox Oral, Cat 5 H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1 H315: Causes skin irritation; Skin Corr/Irritation, Cat 2 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 H401: Toxic to aquatic life; Acute Env Tox, Cat 2 H411: Toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 2 H413: May cause long lasting harmful effects to aquatic life; Chronic Env Tox. Cat 4 THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS: Composition: Component Table information was modified. Composition: ISHL LABEL Table information was modified. Composition: ISHL information was modified. Section 02: GHS Sensitizer Statement information was modified. Section 06: Protective Measures information was modified. Section 08: Exposure Limits Table information was modified. Section 08: Hand Protection CEN Standards - AP information was added. Section 08: Respiratory CEN Standards - AP information was added. Section 09: Japan Flash Point C(F) information was modified. Section 09: Pour Point C(F) information was modified. Section 09: Relative Density information was modified. Section 09: Vapor Pressure information was added. Section 09: Viscosity information was modified. Section 15: CSCL Chemicals from Specified, Monitoring and PAC Chemical Substance lists information was



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added. Section 15: National Chemical Inventory Listing information was modified. Section 15: Special Cases Table information was added. Section 16: HCode Key information was modified. Section 16: MSN. MAT ID information was modified.

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