

SAFETY DATA SHEET

1 PRODUCT AND COMPANY IDENTIFICATION

Product Name : Internal Hub Maintenance Oil

Identification of Substance/Preparation

Grease and Oil

SDS No. : IHMO20120718-Eng

Company Identification

Manufacture & Distributor : SHIMANO NORTH AMERICA BICYCLE, INC.

Address : One Holland, Irvine, California 92618, U.S.A

Emergency and Phone number : +1-949-951-5003 (Business Hours Only)

Manufacture & Distributor : SHIMANO EUROPE B.V.

Address : High Tech Campus 92, 5656 AG Eindhoven, The Netherlands

Emergency and Phone number : +31-402-612222 (Business Hours Only)

E-mail : shimano.eu.sds@shimano-eu.com

Manufacture & Distributor : SHIMANO INC.

Address : 3-77 Oimatsu-cho Sakaiku Sakai OSAKA 5908577, JAPAN

Emergency and Phone number : 0570-031961 (Business Hours Only)

2. HAZARDS IDENTIFICATION

GHS Classification

<Physical hazards> : Not classified

<Health hazards> : Not classified

<Environmental hazards> : Not classified

<Hazards symbol> : No symbol

<Signal word> : No signal word

<Hazard statement> : No hazard statement by the GHS classification

**When there is not mention by the GHS classification, perform enough consideration about the safety measures / emergency measures / storage / disposal in reference to following*

Cautions

- <Safety measurements>
- Do not handle until all safety precautions have been read and understood.
 - Keep away from ignition sources such as heat, sparks, or open flame.
 - Use only non-sparking tools.
 - Do not breath mist and vapor.
 - Use only in a outdoor or well-ventilated area.
 - Avoid release to the environment.
 - Do not eat, drink or smoke when using this product.
 - Wear appropriate protective gloves, glasses, clothes, face shield, or mask.
 - Wash hands thoroughly after handling.
- <First-aid measures>
- If inhaled : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical treatment if you feel unwell.
 - If swallowed : Rinse mouth, do not induce vomiting. Immediately get medical treatment.
 - If eye contact : Rinse cautiously with water for at least 15 minutes. Get medical treatment.
 - If skin contact : Wash hands thoroughly after handling. Remove contaminated clothing and the substance. Get medical treatment, if you feel unwell.
- <Storage>
- Store in cool, dry, well-ventilated location. Keep away from heat and all possible source of ignition (temperature below 40°C) and keep away from sunlight.
 - Follow all regulation in your country.
- <Disposal>
- Follow all regulation in your country.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Mixture Mixture
Chemical Product Name Lubricating Oil
Composition

	CAS No.	EC number (EINECS)	Registration number	Composition Mass %
Refined Mineral Oils	64742-52-5	265-155-0	Registered	90 - 99 %
Additives	Confidential	Confidential	Registered	1 - 9 %
Dyestuff(blue)	Confidential	Confidential	Registered	< 0.1 %

※ DMSO extraction of less than 3% by the IP346 method

4. FIRST-AID MEASURES

Eye contact: Gently rinse the affected eyes with clean water for at least 15 minutes. And refer for medical attention.

Skin contact: Remove all contamination with clothes and wash the affected area with water and soap. If irritation persists, or abnormal conditions are found, arrange examination and treatment by a physician.

Inhalation: In case of large inhalation, remove the victim from the contamination to fresh air. Keep the victims warm and quiet. If breathing is weak, irregular or has stopped, administer artificial respiration.
Arrange examination and treatment by a physician as soon as possible.
In case of vapor, gas, remove the victim from the contamination to fresh air and arrange examination and treatment by a physician as soon as possible.

Ingestion: Rinse mouth with water and dilute with water. Do not induce vomiting as this may increase the risk of aspiration of the liquid into the lungs causing chemical pneumonitis.
Consumption of non-oily liquids (such as milk) may assist in delaying absorption of the liquid. Arrange examination and treatment by a physician as soon as possible.

5. FIRE-FIGHTING MEASURES

Fire-Fighting 1. Shut off fuel to fire.
2. In case of small fire, use dry chemical powder or carbon dioxide.
3. In case of large fire, foam spray is effective to stop flow-in of air.
4. Watering may enlarge fire and increase risks.
5. Water the neighbors for cooling.
6. Keep personnel removed from and upwind fire.
7. Firefighters should wear proper protective equipment.
8. Evacuate personnel to safe area.
9. Use extreme caution, as aerosol containers may rupture.
10. Water heated containers for cooling.

Special hazards with regards to Fire-Fighting measures

Toxic gases (carbon monoxide) will form upon combustion. Pay attention to burst of container due to heat.

Extinguishing media

Dry chemical powder, foam or carbon dioxide.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

1. Provide advice related to accidental spills and release of the substance or mixture such as: the wearing of suitable protective equipment (including personal protective equipment, see Section 8 of the SDS) to prevent any contamination of skin, eyes and personal clothing;
2. Provide advice related to accidental spills and release of the substance or mixture such as: removal of ignition sources and provision of sufficient ventilation;
3. Provide advice related to accidental spills and release of the substance or mixture such as: emergency procedures such as the necessity to evacuate the danger area or to consult an expert.

Environmental precautions : Provide advice on any environmental precautions related to accidental spills and release of the substance or mixture, such as keeping away from drains, surface and ground water.

Methods and materials for containment and cleaning up

1. Provide appropriate advice on how to contain and clean up a spill. Appropriate containment techniques may include: bonding, covering of drains; and capping procedures.
2. Appropriate clean up procedures may include: equipment required for containment/clean up (include the use of non-sparking tools and equipment where applicable).

Provide any other issues relating to spills and releases. For example, including advice on inappropriate containment or clean up techniques.

7. HANDLING AND STORAGE

Handling

Precautions for safehandling:

- 1 Provide advice that: allows safe handling of the substance or mixture; prevents handling of incompatible substances or mixtures; and minimizes the release of the substance or mixture to the environment.
- 2 It is good practice to provide advice on general hygiene. For example: "eating, drinking and smoking in work areas is prohibited"; "wash hands after use"; and "remove contaminated clothing and protective equipment before entering eating

Storage

Conditions for safe storage, including any incompatibilities:

Ensure that the advice provided is consistent with the physical and chemical properties in Section 9 . Physical and chemical properties of the SDS.

If relevant, provide advice on specific storage requirements including:

- (a) How to avoid: explosive atmospheres; corrosive conditions; flammability hazards; incompatible substances or mixtures; evaporative conditions; and potential ignition sources (including electrical equipment).
- (b) How to control the effects of: weather conditions; ambient pressure; temperature; sunlight; humidity; and vibration.
- (c) How to maintain the integrity of the substance or mixture by the use of: stabilizers; and anti-oxidants.
- (d) Other advice including: ventilation requirements; specific designs for storage rooms/vessels; quantity limits under storage conditions (if relevant); and packaging compatibilities.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering measures:

1. For prolong works inside, provide ventilation equipment or close the source of ignition.
2. For use of large quantity outside, electric equipment shall be of explore-proof and earthed.
3. Make available in work area emergency shower, hand wash, eye wash and clearly indicate the location thereof.

Control parameters:	Composition	Refined Mineral Oils
	ACGIH TLV-TWA	5mg/m ³

Personal protective equipment (PPE)

Eye/face protection: Specify the type of eye protection and/or face shield required, based on the hazard of the substance or mixture and potential for contact;

Skin protection: Specify the protective equipment to be worn (e.g. type of gloves, boots, bodysuit) based on the hazards associated with the substance or mixture and the potential for contact;

Respiratory protection: Specify appropriate types of respiratory protection based on the hazard and potential for exposure, including air-purifying respirators and the proper purifying element (cartridge or canister) or breathing apparatus;

Thermal hazards: When specifying protective equipment to be worn for materials that represent a thermal hazard, special consideration should be given to the construction of the PPE.

Consistent with good occupational hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures, including engineering controls, ventilation and isolation. See also Section 5 . Fire- fighting measures of the SDS for specific fire/chemical PPE advice.

9. PHYSICAL AND CHEMICAL PROPERTIES Typical Values

Physical state

form:	Liquid
Color:	Blue
Odor:	Mineral oil odor
pH:	None
Boiling point:	No data
Melting point:	No data
Flash point:	Over 160°C (Refined mineral oil)
Auto-ignition point:	No data
Exposition characteristic	upper 7.0vol%
explosion limit:	lower 1.0vol%(Refined mineral oil)
Density:	Nearly 0.91 @15°C
Solubility in organic solvent:	Miscible with many kind of organic solvents
Solubility in water:	Insoluble

10. STABILITY AND REACTIVITY

Reactivity:	Describe the reactivity hazards of the substance or mixture in this section. Provide specific test data for the substance or mixture as a whole, where available. However, the information may also be based on general data for the class or family of chemical if such data adequately represent the anticipated hazard of the substance or mixture.
Chemical stability:	Indicate if the substance or mixture is stable or unstable under normal ambient and anticipated storage and handling conditions of temperature and pressure. Describe any stabilizers which are, or may need to be, used to maintain the product. Indicate the safety significance of any change in the physical appearance of the product.
Possibility of hazardous reactions:	If relevant, state if the substance or mixture will react or polymerize, releasing excess pressure or heat, or creating other hazardous conditions. Describe under what conditions the hazardous reactions may occur.
Conditions to avoid:	List conditions such as heat, pressure, shock, static discharge, vibrations or other physical stresses that might result in a hazardous situation.
Incompatible materials:	List classes of chemicals or specific substances with which the substance or mixture could react to produce a hazardous situation (e.g. explosion, release of toxic or flammable materials, liberation of excessive heat).
Hazardous decomposition products:	List known and reasonably anticipated hazardous decomposition products produced as a result of use, storage and heating. Hazardous combustion products should be included in Section 5 . Fire-fighting measures of the SDS.

11. TOXICOLOGICAL INFORMATION

Corrosively and irritant properties:	No relevant information found					
Allergenic and sensitizing effects:	No relevant information found					
Acute toxicity:	<table><tr><td>COMPOSITION</td><td>Oral,Rat LD50</td></tr><tr><td>Refined Mineral Oils</td><td>Over 5g/kg</td></tr></table>	COMPOSITION	Oral,Rat LD50	Refined Mineral Oils	Over 5g/kg	
COMPOSITION	Oral,Rat LD50					
Refined Mineral Oils	Over 5g/kg					
Chronic toxicity:	No relevant information found					
Carcinogenic effects:	<table><tr><td>Refined mineral oil</td><td>IARC Group3</td></tr></table>	Refined mineral oil	IARC Group3			
Refined mineral oil	IARC Group3					
Mutagenic effects:	No relevant information found					
Effects on the reproductive system:	No relevant information found					
Teratogenic effects:	No relevant information found					
Other information:	Other relevant information on adverse health effects should be included even when not required by the GHS classification criteria.					

12. ECOLOGICAL INFORMATION

Bio degradability:	This substance is not biodegradable.
Bio accumulation:	No relevant information found
Fish toxicity:	No relevant information found

13. DISPOSAL CONSIDERATIONS

1. Do not throw the container into fire.
2. Do not dump into sewers, on the ground or into any body of water.
3. Disposal shall be in accordance with the concerned rules and regulation.
4. Follow all regulation in your country.

14. TRANSPORT INFORMATION

UN Class:	Not classified
UN No.:	Not classified
	Specific precautionary transport measures and conditions.
	Follow all regulation in your country.

15. REGULATORY INFORMATION

Follow all regulation in your country.

16. OTHER INFORMATION

Complied by:	Shimano Inc.
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Disclaimer

The information above is believed to be accurate and represents the best information currently available to us. We have reviewed any information contained herein which we received from sources outside SHIMANO INC.. However, no warranty or representation, express or implied is made as to the accuracy or completeness of the data and information contained in this data sheet.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations.

No statement made in this data sheet shall be construed as a permission, recommendation or authorization given or implied to practise any patented invention without a valid licence.

SHIMANO INC. shall not be responsible for any damage or injury resulting from abnormal use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material.

All materials may present unknown hazard and should be used in caution.

Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.