

# FREE HUB LUBE BICYCLE LUBRICATION

## Material Safety Data Sheet

Dumonde Design Group Inc.

### 1. Product and Company Identification

Product Name:	Dumonde Tech Freehub Lube
MSDS Number:	9334
Synonyms:	Dumonde Tech Bicycle FreeHub Lubrication
Intended Use:	Bicycle Freehub Lubrication
Manufacturer/Supplier:	Dumonde Tech P.O. 3262 Kirkland Wash. 98083-3262
Emergency Health and Safety Number:	Dumonde Design Group Inc. 425-806-0948
Customer Service:	Dumonde 425-806-0948, or Hgmr 503-285-2322
Technical Information:	503-285-2322
MSDS Information:	Internet: <a href="http://www.dumondetech.com">www.dumondetech.com</a>

### 2. Hazards Identification

#### Emergency Overview

This material is not considered hazardous according to OSHA criteria.

#### NFPA



**Appearance:** Clear, brown

**Physical Form:** Liquid

**Odor:** Petroleum

#### **Potential Health Effects**

**Eye:** Contact may cause mild eye irritation including stinging, watering, and redness.

**Skin:** Contact may cause mild skin irritation including redness and a burning sensation. Prolonged or repeated contact can defat the skin, causing drying and cracking of the skin, and possibly dermatitis (inflammation). No harmful effects from skin absorption are expected.

**Inhalation (Breathing):** No information available on acute toxicity.

**Ingestion (Swallowing):** Low degree of toxicity by ingestion.

**Signs and Symptoms:** Effects of overexposure may include irritation of the digestive tract, nausea and diarrhea. Inhalation of oil mist or vapors at elevated temperatures may cause respiratory irritation.

**Pre-Existing Medical Conditions:** Conditions which may be aggravated by exposure include skin disorders.

See Section 11 for additional Toxicity Information.

### 3. Composition / Information on Ingredients

Component	CASRN	Concentration*
Lubricant Base Oil (Petroleum)	VARIOUS	>45
Synthetic Lubricant Base Oil	PROPRIETARY	>30
Additives	PROPRIETARY	<25
Zinc Compound(s)	PROPRIETARY	1.0 - 1.5

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

### 4. First Aid Measures

**Eye Contact:** If irritation or redness develops from exposure, flush eyes with clean water. If symptoms persist, seek medical attention.

**Skin Contact:** Remove contaminated shoes and clothing and cleanse affected area(s) thoroughly by washing with mild soap and water or a waterless hand cleaner. If irritation or redness develops and persists, seek medical attention.

**Inhalation (Breathing):** If respiratory symptoms develop, move victim away from source of exposure and into fresh air in a position comfortable for breathing. If symptoms persist, seek medical attention.

**Ingestion (Swallowing):** First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

**Notes to Physician:** Acute aspirations of large amounts of oil-laden material may produce a serious aspiration pneumonia. Patients who aspirate these oils should be followed for the development of long-term sequelae. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities.

### 5. Fire-Fighting Measures

#### NFPA 704 Hazard Class

**Health:** 0    **Flammability:** 1    **Instability:** 0    (0-Minimal, 1-Slight, 2-Moderate, 3-Serious, 4-Severe)

**Unusual Fire & Explosion Hazards:** This material may burn, but will not ignite readily. If container is not properly cooled, it can rupture in the heat of a fire.

**Extinguishing Media:** Dry chemical, carbon dioxide, foam, or water spray is recommended. Water or foam may cause frothing of materials heated above 212°F. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

**Fire Fighting Instructions:** For fires beyond the initial stage, emergency responders in the immediate hazard area should wear protective clothing. When the potential chemical hazard is unknown, in enclosed or confined spaces, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done safely. Avoid spreading burning liquid with water used for cooling purposes.

**Hazardous Combustion Products:** Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Oxides of sulfur, nitrogen or phosphorus may also be formed.

See Section 9 for Flammable Properties including Flash Point and Flammable (Explosive) Limits

### 6. Accidental Release Measures

**Personal Precautions:** This material may burn, but will not ignite readily. Keep all sources of ignition away from spill/release. The use of explosion-proof electrical equipment is recommended. Stay upwind and away from spill/release. Notify persons and shipping down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

**Environmental Precautions:** Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Use water sparingly to minimize environmental contamination and reduce disposal requirements. Spills into or upon navigable waters, the contiguous zone, or adjoining shorelines that cause a sheen or discoloration on the surface of the water, may require notification of the National Response Center (phone number 800-424-8802).

**Methods for Containment and Clean-Up:** Notify relevant authorities in accordance with all applicable regulations. Immediate cleanup of any spill is recommended. Dike far ahead of spill for later recovery or disposal. Absorb spill with inert material such as sand or vermiculite, and place in suitable container for disposal. If spilled on water remove with appropriate methods (e.g. skimming, booms or absorbents).

## 7. Handling and Storage

**Precautions for safe handling:** Wash thoroughly after handling. Use good personal hygiene practices and wear appropriate personal protective equipment. Keep away from flames and hot surfaces.

Used motor oils have been shown to cause skin cancer in mice after repeated application to the skin without washing. Brief or intermittent skin contact with used motor oil is not expected to cause harm if the oil is thoroughly removed by washing with soap and water.

Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. Do not wear contaminated clothing or shoes.

**Conditions for safe storage:** Use and store this material in cool, dry, well-ventilated area away from heat and all sources of ignition. Keep container(s) tightly closed. Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1, and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

## 8. Exposure Controls / Personal Protection

Component	US-ACGIH	OSHA	Other
Lubricant Base Oil (Petroleum)	TWA: 5mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup> as Oil Mist, if generated	TWA: 5 mg/m <sup>3</sup> as Oil Mist, if generated	---
Synthetic Lubricant Base Oil	5mg/m <sup>3</sup> TWA 10 mg/m <sup>3</sup> STEL as Oil Mist, if Generated	5 mg/m <sup>3</sup> TWA as Oil Mist, if Generated	---

**Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.**

**Engineering controls:** If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

**Eye/Face Protection:** The use of eye protection that meets or exceeds ANSI Z.87.1 is recommended to protect against potential eye contact, irritation, or injury. Depending on conditions of use, a face shield may be necessary.

**Skin/Hand Protection:** The use of gloves impervious to the specific material handled is advised to prevent skin contact. Users should check with manufacturers to confirm the breakthrough performance of their products. Suggested protective materials: Nitrile.

**Respiratory Protection:** Where there is potential for airborne exposure above the exposure limit a NIOSH certified air purifying respirator equipped with R or P95 filters may be used.

A respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed whenever workplace conditions warrant a respirator's use. Air purifying respirators provide limited protection and cannot be used in atmospheres that exceed the maximum use concentration (as directed by regulation or the manufacturer's instructions), in oxygen deficient (less than 19.5 percent oxygen) situations, or under conditions that are immediately dangerous to life and health (IDLH).

Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.

## 9. Physical and Chemical Properties

**Note:** Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm). Data represent typical values and are not intended to be specifications.

Appearance:	Clear, brown
Physical Form:	Liquid
Odor:	Petroleum
Odor Threshold:	No data
pH:	Not applicable
Vapor Pressure:	<1 mm Hg
Vapor Density (air=1):	>1
Boiling Point/Range:	No data
Melting/Freezing Point:	No data
Solubility in Water:	Negligible
Partition Coefficient (n-octanol/water) (Kow):	No data
Specific Gravity:	0.85 @ 60°F (15.6°C)
Bulk Density:	7.08 lbs/gal
Viscosity:	11.2-11.8 cSt @ 100°C; 60-68 cSt @ 40°C
Percent Volatile:	Negligible
Evaporation Rate (nBuAc=1):	<1
Flash Point:	399°F / 204°C
Test Method:	Cleveland Open Cup (COC), ASTM D92
LEL (vol % in air):	No data
UEL (vol % in air):	No data
Autoignition Temperature:	No data

## 10. Stability and Reactivity

**Stability:** Stable under normal ambient and anticipated conditions of use.

**Conditions to Avoid:** Extended exposure to high temperatures can cause decomposition.

**Materials to Avoid (Incompatible Materials):** Avoid contact with strong oxidizing agents and strong reducing agents.

**Hazardous Decomposition Products:** Not anticipated under normal conditions of use. During use in engines, contamination of oil with low levels of hazardous fuel combustion by-products (e.g. polycyclic aromatic hydrocarbons) may occur.

**Hazardous Polymerization:** Not known to occur.

## 11. Toxicological Information

### Chronic Toxicity:

#### Lubricant Base Oil (Petroleum)

**Carcinogenicity:** The petroleum base oils contained in this product have been highly refined by a variety of processes including severe hydrocracking/hydroprocessing to reduce aromatics and improve performance characteristics. All of the oils meet the IP-346 criteria of less than 3 percent PAH's and are not considered carcinogens by NTP, IARC, or OSHA.

#### Phenol, (tetrapropenyl) derivatives (<1%)

**Reproductive Toxicity:** This product contains low levels of phenol, (tetrapropenyl) derivatives. Rats given high, repeated daily doses of phenol, (tetrapropenyl) derivatives by oral intubation experienced adverse reproductive effects. Pregnant rats given high, repeated daily doses of phenol, (tetrapropenyl) derivatives by oral intubation gave birth to pups with cleft palate and skeletal malformations at dose levels that caused maternal toxicity. Follow-up studies of phenol, (tetrapropenyl) derivatives in finished lubricating fluids demonstrated a no-observed effect level of 1.78 wt%.

### Acute Toxicity:

Component	Oral LD50	Dermal LD50	Inhalation LC50
Lubricant Base Oil (Petroleum)	>5 g/kg	>2 g/kg	No data

Component	Oral LD50	Dermal LD50	Inhalation LC50
Synthetic Lubricant Base Oil	LD50 (rat) >5,000 mg/kg (similar material)	LD50 (rat) >2,000 mg/kg (similar material)	No data

## 12. Ecological Information

**Ecotoxicity:** Experimental studies with rainbow trout, daphnia, and fresh water algae indicate that petroleum and synthetic base oils are not expected to be harmful to aquatic organisms.

**Mobility:** Volatilization to air is not expected to be a significant fate process due to the low vapor pressure of this material. In water, this material will float and spread over the surface at a rate dependent upon viscosity. The main fate process is expected to be slow biodegradation of individual components in soil and sediment.

**Persistence and degradability:** The hydrocarbons in this material are not readily biodegradable, but since they can be degraded by microorganisms, they are regarded as inherently biodegradable. Synthetic base oils are not considered to be readily biodegradable but may be inherently biodegradable. They are expected to completely biodegrade over extended periods of time.

**Bioaccumulation Potential:** Log Kow values measured for the hydrocarbon components of this material range from 4 to over 6, and therefore regarded as having the potential to bioaccumulate. In practice, metabolic processes may reduce bioconcentration. Synthetic base oil components are not expected to bioaccumulate.

## 13. Disposal Considerations

The generator of a waste is always responsible for making proper hazardous waste determinations and needs to consider state and local requirements in addition to federal regulations.

This material, if discarded as produced, would not be a federally regulated RCRA "listed" hazardous waste and is not believed to exhibit characteristics of hazardous waste. See Sections 7 and 8 for information on handling, storage and personal protection and Section 9 for physical/chemical properties. It is possible that the material as produced contains constituents which are not required to be listed in the MSDS but could affect the hazardous waste determination. Additionally, use which results in chemical or physical change of this material could subject it to regulation as a hazardous waste.

This material under most intended uses would become "Used Oil" due to contamination by physical or chemical impurities. Whenever possible, Recycle Used Oil in accordance with applicable federal and state or local regulations. Container contents should be completely used and containers should be emptied prior to discard.

## 14. Transportation Information

### U.S. Department of Transportation (DOT)

Shipping Description: *Not regulated*

Note: *If shipped by land in a packaging having a capacity of 3,500 gallons or more, the provisions of 49 CFR, Part 130 apply. (Contains oil)*

### International Maritime Dangerous Goods (IMDG)

Shipping Description: *Not regulated*

Note: *U.S. DOT compliance requirements may apply. See 49 CFR 171.22, 23 & 25.*

### International Civil Aviation Org. / International Air Transport Assoc. (ICAO/IATA)

UN/ID #: *Not regulated*

	LTD. QTY	Passenger Aircraft	Cargo Aircraft Only
Packaging Instruction #:	---	---	---
Max. Net Qty. Per Package:	---	---	---

## 15. Regulatory Information

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### **CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs (in pounds):**

This material does not contain any chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

### **CERCLA/SARA - Section 311/312 (Title III Hazard Categories)**

Acute Health:	No
Chronic Health:	No
Fire Hazard:	No
Pressure Hazard:	No
Reactive Hazard:	No

### **CERCLA/SARA - Section 313 and 40 CFR 372:**

This material contains the following chemicals subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR 372:

Component	Concentration*	de minimis
Zinc Compound(s)	1.0 - 1.5	1.0%

### **EPA (CERCLA) Reportable Quantity (in pounds):**

This material does not contain any chemicals with CERCLA Reportable Quantities.

### **California Proposition 65:**

This material does not contain any chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm at concentrations that trigger the warning requirements of California Proposition 65.

### **Canadian Regulations:**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the Regulations.

WHMIS Hazard Class  
None

### **National Chemical Inventories:**

All components are either listed on the US TSCA Inventory, or are not regulated under TSCA.  
All components are either on the DSL, or are exempt from DSL listing requirements.

**U.S. Export Control Classification Number:** EAR99

## 16. Other Information

<b>Date of Issue:</b>	07/02/2010
<b>Status:</b>	Final
<b>Previous Issue Date:</b>	None
<b>Revised Sections or Basis for Revision:</b>	NFPA ratings (Sections 2&5) Toxicological (Section 11) Environmental hazards (Section 12)
<b>MSDS Number:</b>	9334

### **Guide to Abbreviations:**

ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; IARC = International Agency for Research on Cancer; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada)

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