



## MATERIAL SAFETY DATA SHEET

### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: BOSS MOTORCYCLE ENGINE OIL

Company Identification

BOSS LUBRICANTS

112, 6303 – 30 ST S.E.

CALGARY, AB T2C 1R4

Date Prepared: August 28, 2014

Product Information 800-844-9457

www.bosslubricants.com

### SECTION 2: COMPOSITION/ INFORMATION ON INGREDIENTS

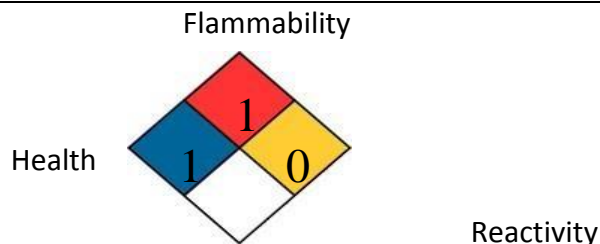
COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	41 %weight
Zinc dialkyldithiophosphate	68649-42-3	9 %weight
01154100-5031P	Trade secret	2 %weight
01154100-5111P	Trade secret	1 %weight

Note that the chemical identity of some or all of the above components is considered confidential business information and is being withheld as permitted by 29 CFR 1910.1200 and various Provincial Right-To-Know Laws.

### SECTION 3: HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

- MAY CAUSE AN ALLERGIC SKIN REACTION
- CAUSES SKIN IRRITATION
- TOXIC TO AQUATIC ORGANISMS



#### IMMEDIATE HEALTH EFFECTS

- Eye:** Not expected to cause prolonged or significant eye irritation. If this material is heated, thermal burns may result from eye contact.
- Skin:** Contact with the skin causes irritation. Contact with the skin may cause an allergic skin reaction. Symptoms may include pain, itching, discoloration, swelling, and blistering. Not expected to be harmful to internal organs if absorbed through the skin. If this material is heated, thermal burns may result from skin contact.
- Ingestion:** May be irritating to mouth, throat, and stomach. Symptoms may include pain, nausea, vomiting, and diarrhea.
- Inhalation:** Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

#### SECTION 4: FIRST AID MEASURES

- Eye:** No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water. If heated material should splash into eyes, flush eyes immediately with fresh water for 15 minutes while holding the eyelids open. Remove contact lenses, if worn. Get immediate medical attention.
- Skin:** Wash skin with water immediately and remove contaminated clothing and shoes. Get medical attention if any symptoms develop. To remove the material from skin, apply a waterless hand cleaner, mineral oil, or petroleum jelly. Then wash with soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse. If the hot material gets on skin, quickly cool in water. See a doctor for extensive burns. Do not try to peel the solidified material from the skin, or use solvents or thinners to dissolve it. The use of vegetable oil or mineral oil is recommended for removal of this material from the skin.
- Ingestion:** If swallowed, get medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.
- Inhalation:** No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

#### SECTION 5: FIRE FIGHTING MEASURES

**FIRE CLASSIFICATION:**

OSHA Classification (29 CFR 1910.1200): Not classified by OSHA as flammable or combustible.

**NFPA RATINGS:**



FLAMMABLE

PROPERTIES:

**Flashpoint:** (Cleveland Open Cup) 182 °C (360 °F) Minimum

**Auto-ignition:** No Data Available

**Flammability (Explosive) Limits (% by volume in air):** Lower: No data available Upper: No data available

**EXTINGUISHING MEDIA:** Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish flames.

**PROTECTION OF FIRE FIGHTERS:** Fire Fighting Instructions: This material will burn although it is not easily ignited.

For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

**Combustion Products:** Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion. Combustion may form oxides of: Nitrogen, Phosphorus, Sulfur, Zinc, Molybdenum, Calcium, and Boron.



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## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Protective Measures:** Eliminate all sources of ignition in vicinity of spilled material.

**Spill Management:** Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying noncombustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. If heated material is spilled, allow it to cool before proceeding with disposal methods.

**Reporting:** Report spills to local authorities as appropriate or required.

## SECTION 7: HANDLING AND STORAGE

**Note:** The NPCA specifically recommends that "preparers of MSDSs should not place HMIS® PPE designation codes on the MSDSs or labels that leave the facility, as they do not know the conditions under which their customers use those products."

**Precautionary Measures:** If adequate engineering controls are used, short term activities such as loading, unloading and in-line blending may occur at temperatures ranging from 80-85°C (176-185°F). During shipment by railcar or tank truck, loading temperatures as high as 80-85°C (176-185°F) may be used and are expected to drop to 66°C (150°F) or lower within 7 days. Storage temperatures for up to 2 weeks should not exceed 66°C (150°F). The recommended long-term (2 weeks or more) storage temperature is ambient to 45°C (113°F) maximum. Do not get in eyes, on skin, or on clothing. Avoid contact of heated material with eyes, skin, and clothing. Do not taste or swallow. Wash thoroughly after handling. General Handling Information: The recommended reheating medium is hot water or regulated low pressure steam. Care must be taken not to exceed the temperatures stated above when reheating this material in order to avoid decomposition that releases hazardous fumes. Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

**Static Hazard:** Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.

**Container Warnings:** Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, 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. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.



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## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**GENERAL CONSIDERATIONS:** Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

**ENGINEERING CONTROLS:** Use in a well-ventilated area.

### PERSONAL PROTECTIVE EQUIPMENT

**Eye/Face Protection:** No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice. If this material is heated, wear chemical goggles or safety glasses or a face shield.

**Skin Protection:** Wear protective clothing to prevent skin contact. Selection of protective clothing may include gloves, apron, boots, and complete facial protection depending on operations conducted. Suggested materials for protective gloves include: Nitrile Rubber, Silver Shield, and Viton. If this material is heated, wear insulated clothing to prevent skin contact if engineering controls or work practices are not adequate to prevent skin contact.

**Respiratory Protection:** No respiratory protection is normally required. If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection. Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	--	--
Highly refined mineral oil (C15 - C50)	OSHA Z-1	5 mg/m <sup>3</sup>	--	--	--

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

<b>Color:</b>	Brown	<b>Solubility:</b>	Insoluble in water.
<b>Physical State:</b>	Liquid	<b>Freezing Point:</b>	No Data Available
<b>Odor:</b>	No Data Available	<b>Specific Gravity:</b>	0.9783 @ 15°C (59°F)
<b>pH:</b>	Not Applicable	<b>Density:</b>	0.9773 kg/l @ 15°C (59°F)
<b>Vapor Pressure:</b>	.0001 torr (Estimated) @	<b>Viscosity:</b>	4070 cSt @ 40°C (104°F)
20 °C (68 °F)		<b>Coefficient of Therm. Expansion / °F:</b>	No Data
<b>Vapor Density (Air = 1):</b>	No data available		Available
<b>Boiling Point:</b>	No Data Available		

## SECTION 10: STABILITY AND REACTIVITY

**Chemical Stability:** This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**Conditions to Avoid:** Do not exceed handling and storage temperatures listed in MSDS Section 7 (Handling and Storage).

**Incompatibility With Other Materials:** May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

**Hazardous Decomposition Products:** Alkyl Mercaptans (See Section 7), Hydrogen Sulfide (See Section 7)

**Hazardous Polymerization:** Hazardous polymerization will not occur.

## SECTION 11: TOXICOLOGICAL INFORMATION

### IMMEDIATE HEALTH EFFECTS

**Eye Irritation:** The eye irritation hazard is based on an evaluation of the data for similar products.

These data show that a specific component present in this product antagonizes (or decreases the severity of) the eye irritation of the ZnDTP.

**Skin Irritation:** The skin irritation hazard is based on evaluation of data for similar materials or product components.

**Skin Sensitization:** The skin sensitization hazard is based on evaluation of data for similar materials or product components. This material is not expected to cause allergic skin reactions when formulated in a finished oil at the prescribed treatment rate of: 14.93 wt. %.

**Acute Dermal Toxicity:** The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.

**Acute Oral Toxicity:** The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.

**Acute Inhalation Toxicity:** The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components.

### ADDITIONAL TOXICOLOGY INFORMATION:

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B). These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

**Contains an over-based calcium branched alkyl phenate sulfide.**

**Skin Absorption:** In an in vitro study using a structurally-related radio-labeled material and human skin, skin absorption was 0.1µg/cm<sup>2</sup>/hr. Skin absorption was also minimal in in vitro and in vivo studies with rats.

**Repeated Dose Toxicity:** In a 28-day oral toxicity study in rats at 50, 300, or 1000 mg/kg/day, systemic toxicity (reduced body weight gain, increased adrenal gland weight) was observed only at the high dose. In a 28-day dermal toxicity study in rats at approximately 21.5, 107, or 269 mg/kg/day, no toxicity was observed.

**Reproductive Toxicity:** No adverse reproductive effects were observed in a reproduction screening study of two finished lubricating oils containing 5% and 25% of this material and up to 1.68% branched alkylphenol, although male body weight was reduced.



**Contains a branched alkylphenol and a calcium branched alkylphenol.**

**Repeated Dose Toxicity:** In female rats dosed orally at 5, 20, 60, 250 or 1000 mg/kg/day for 20 days, time to sexual maturation was decreased and organ weights (ovary, uterus, liver and adrenal) were altered at  $\geq 60$  mg/kg/day. In a 28-day oral study in rats at 5, 20, 60, 180 and 300 mg/kg/day, body weight gain was decreased in males and food consumption was decreased in both sexes at  $\geq 180$  mg/kg/day. At  $\geq 180$  mg/kg/day, effects on reproductive organs in both sexes did not completely recover by 14 days post treatment. Liver and adrenal changes occurred at  $\geq 20$  mg/kg/day. Thyroid hypertrophy occurred in males in all treated groups but did not persist through 14 days post-treatment.

**Developmental Toxicity:** In an oral rat developmental study at 20, 100, and 300 mg/kg/day, maternal weight gains were reduced during gestation and post-dosing at 300 mg/kg/day. At 300 mg/kg/day, there were increased incidences of fetal structural effects and reduced fetal body weights.

## SECTION 12: ECOLOGICAL INFORMATION

**ECOTOXICITY:** This material is expected to be toxic to aquatic organisms. The Ecotoxicity hazard is based on an evaluation of data for the components or a similar material.

**ENVIRONMENTAL FATE:** Ready Biodegradability: This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.

## SECTION 13: DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

## SECTION 14: TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode specific or quantity-specific shipping requirements.

**DOT Shipping Description:** NOT REGULATED AS HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR

**IMO/IMDG Shipping Description:** NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

**ICAO/IATA Shipping Description:** NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

## SECTION 15: REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:

- |                                       |     |
|---------------------------------------|-----|
| 1. Immediate (Acute) Health Effects:  | YES |
| 2. Delayed (Chronic) Health Effects:  | NO  |
| 3. Fire Hazard:                       | NO  |
| 4. Sudden Release of Pressure Hazard: | NO  |
| 5. Reactivity Hazard:                 | NO  |



REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

The following components of this material are found on the regulatory lists indicated.

Zinc dialkyldithiophosphate 03, 06

THIS MATERIAL IS NOT INTENDED OR REGISTERED TO BE SOLD OR USED IN JAPAN. IT IS NOT TO BE USED AS AN INGREDIENT IN OR TO BE USED TO PRODUCE OTHER MATERIALS INTENDED FOR SALE OR USE IN JAPAN.

CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: IECSC (China), TSCA (United States).

One or more components has been notified but may not be listed in the following chemical inventories:

AICS (Australia), DSL (Canada), KECI (Korea). Secondary notification by the importer may be required.

One or more components is listed on ELINCS (European Union). Secondary notification by the importer may be required. All other components are listed or exempted from listing on EINECS.

One or more components does not comply with the following chemical inventory requirements: ENCS (Japan), PICCS (Philippines).

**WHMIS CLASSIFICATION:**

**Class D, Division 2, Subdivision B: Toxic Material - Skin or Eye Irritation  
Skin Sensitization**

**SECTION 16: OTHER INFORMATION**

NFPA RATINGS: Health: 1 Flammability: 1 Reactivity: 0

(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE: - Personal Protection Equipment Index recommendation, \*-Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

REVISION STATEMENT: N/A

Revision Date: Initial Issue



ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	PEL - Permissible Exposure Limit
STEL - Short-term Exposure Limit	CAS - Chemical Abstract Service Number
	IMO/IMDG - International Maritime Dangerous Goods Code
ACGIH - American Conference of Government Industrial Hygienists	MSDS - Material Safety Data Sheet
API - American Petroleum Institute	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
TWA - Time Weighted Average	

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.