Boss Lubricants: Material Safety Data Sheet

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

IN CASE OF EMERGENCY: Calgary, Alberta: 1-800-844-9457
Product: **BOSS CHILL PG**
Effective Date: January 1, 2012

BOSS Lubricants
112, 6303 30 Street SE, Calgary, Alberta T2C 1R4

2. COMPOSITION / INFORMATION ON INGREDIENTS

Propylene Glycol Antifreeze CAS# 000057-55-6 99%

3. HAZARDS INFORMATION

EMERGENCY OVERVIEW

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* Colorless liquid. Odorless. Toxic fumes are released in fire situations. *
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POTENTIAL HEALTH EFFECTS (See Section 11 for toxicological data.)

EYE: May cause slight transient (temporary) eye irritation. Corneal injury is unlikely. Mists may cause eye irritation.

SKIN: Prolonged contact is essentially nonirritating to skin. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. Repeated exposures may cause flaking and softening of skin. May be absorbed in potentially harmful amounts when applied in large quantities to severe burns (second or third degree) over large areas of the body as part of a cream or other tropical application. Absorption under such circumstances can elevate serum osmolality and may result in osmotic shock.

INGESTION: Single dose oral toxicity is considered to be extremely low. No hazards anticipated from swallowing small amounts incidental to normal handling operations.

INHALATION: At room temperature, vapors are minimal due to physical properties. Mists may cause irritation of upper respiratory tract.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: Repeated excessive ingestion may cause central nervous system effects.

CANCER INFORMATION: Did not cause cancer in long-term animal studies

TERATOLOGY (BIRTH DEFECTS): Birth defects are unlikely. Exposures having no adverse effects on the mother should have no effect on the fetus.

REPRODUCTIVE EFFECTS: In animal studies, has been shown not to interfere with reproduction.

4. FIRST AID

EYE: Flush eyes with plenty of water.

SKIN: Wash off in flowing water or shower.

INGESTION: No adverse effects anticipated by this route of exposure incidental to proper industrial handling.

INHALATION: Remove to fresh air if effects occur. Consult a physician.

NOTE TO PHYSICIAN: No specific antidote. Supportive care. Treatment based on judgement of the physician in response to reactions of the patient.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT: 218 ºF, 103 ºC
METHOD USED: PMCC

AUTOIGNITION TEMPERATURE: Not determined

FLAMMABILITY LIMITS

LFL: 2.6%
UFL: 12.5%

HAZARDOUS COMBUSTION PRODUCTS: During a fire, smoke may contain the original material in addition to unidentified toxic and/or irritating compounds. Hazardous combustion product may include and are not limited to: aldehydes, carbon monoxide.

OTHER FLAMMABILITY INFORMATION: Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Spills of these organic liquids on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

EXTINGUISHING MEDIA: Water fog or fine spray. Carbon dioxide. Dry chemical. Foam. Alcohol resistant foams (ATC type) are preferred if available. General purpose synthetic foams (including AFFF) or protein

foams may function, but much less effectively. Do not use direct water stream. Will spread fire.

MEDIA TO BE AVOIDED: Do not use direct water stream.

FIRE FIGHTING INSTRUCTIONS: Keep people away. Isolate fire area and deny unnecessary entry. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire.

PROTECTIVE EQUIPMENT FORE FIRE FIGHTERS: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. **ACCIDENTAL RELEASE MEASURES** (See Section 15 for Regulatory Information)

PROTECT PEOPLE: Isolate area.

PROTECT THE ENVIRONMENT: Contain liquid to prevent contamination of soil, surface water or ground water.

CLEANUP: For small spills, clean up with absorbent material. Collect material in suitable and properly labeled open containers. For large spills, dike and pump into suitable and properly labeled containers.

7. HANDLING AND STORAGE

HANDLING: Product handled hot may require additional ventilation or local exhaust.

STORAGE: Keep containers tightly closed when not in use. store in stainless steel, aluminum, Plastic 3066 lined containers, or 316 stainless steel.

8. EXPOSORE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION: Use safety glasses. Safety glasses should be sufficient for most operations; however, for misty operations wear chemical goggles.

SKIN PROTECTION: Use gloves impervious to this material.

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use an approved air-purifying respirator. In misty atmospheres, use an approved mist respirator.

EXPOSURE GUIDELINE(S): Propylene glycol: AIHA WEEL is 50 ppm total, 10 mg/m3 aerosol only.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Colorless liquid
ODOR:	Odorless
VAPOR PRESSURE:	0.08 mmHg @ 20C, 68F
VAPOR DENSITY:	2.62
BOILING POINT:	370 ºF, 188 ºC
SOLUBILITY IN WATER:	Complete
SPECIFIC GRAVITY:	1.038 @ 20 ºC, 68 ºF

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable.

CONDITIONS TO AVOID: Product can decompose at elevated temperatures.

INCOMPATIBILITY WITH OTHER MATERIALS: Avoid contact with oxidizing materials.

HAZARDOUS DECOMPOSITION PRODUCTS: When available oxygen is limited, as in a fire or when heated to very high temperatures by hot wire or plate, carbon monoxide and other hazardous compounds such as aldehydes might be generated.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION (See Section 3 for Potential Health Effects. For detailed toxicological data, write or call the address or non-emergency number shown in Section 1)

SKIN: The LD50 for skin absorption in rabbits is >10,000 mg/kg.

INGESTION: The oral LD50 for rats is 20,000-34,000 mg/kg.

MUTAGENICITY: In vitro mutagenicity studies were negative. Animal mutagenicity studies were negative.

12. **ECOLOGICAL INFORMATION** (For detailed Ecological data, write or call the address or non-emergency number shown in Section 1)

ENVIRONMENTAL FATE

MOVEMENT & PARTITIONING: Based largely or completely on information for similar material(s), i.e. propylene glycol. Bioconcentration potential is low (BCF less than 100 or Log Pow less than 3). Log octanol/water partition coefficient (log Pow) is –0.92. Henry's Law Constant (H) is 1.2E-8 atm.m3/mole.

DEGRADATION & PERSISTENCE: Based largely or completely on information for similar material(s), i.e. propylene glycol. Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD greater than 40%). Biodegradation is expected to be achievable in a secondary waste-water treatment plant. 5-Day biochemical oxygen demand (BOD5) is 1.16 p/p. 20-Day biochemical oxygen demand (BOD20) is 1.45 p/p. Theoretical oxygen demand (ThOD) is calculated to be 1.68 p/p. Inhibitory concentration (IC50) in OECD Activated Sludge Respiration Inhibition Test (OECD Test No. 209) is greater than 1gm/L. Degradation is expected in the atmospheric environment within minutes to hours.

ECOTOXICITY: Based largely or completely on information for similar material(s), i.e. propylene glycol. Material is practically non-toxic to aquatic organisms on an acute basis (LC 50 greater than 100mg/L in most sensitive species).
Acute LC50 for fathead minnow (Pimephales promelas) is 46500-54900 mg/L.
Acute LC50 for guppy (Poecilia reticulata) is greater than 10000mg/L.
Acute LC50 for water flea Daphnia magna is 4850-34400 mg/L.
Acute LC50 for rainbow trout (Oncorhynchus mykiss) is 44mL/L (about 44000 mg/L.

13. **DISPOSAL CONSIDERATIONS** (See Section 15 for Regulatory Information)

DISPOSAL: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with

applicable laws are the responsibility solely of the waste generator. BOSS LUBRICANTS HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION 2 (Composition/Information On Ingredients).

FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: recycler, reclaimer, incinerator, waste water treatment system.

14. TRANSPORT INFORMATION

DEPARTMENT OF TRANSPORTATION: This product is not regulated **by D.O.T. when shipped domestically by land.**

CANADIAN TDG INFORMATION: For TDG regulatory information, if required, consult transportation regulations, product shipping papers, or **your BOSS representative.**

15. **REGULATORY INFORMATION** (Not meant to be all-inclusive—selected regulations represented)

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections for health and safety information.

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Not to have met any hazard category

TOXIC SUBSTANCES CONTROL ACT (TSCA):

All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

OSHA HAZARD COMMUNICATION STANDARD:

This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

CANADIAN REGULATIONS

WHMIS INFORMATION: The Canadian Workplace Hazardous Materials Information System (WHMIS) Classification for this product is:

This product is not a "Controlled Product" under WHMIS.

16. OTHER INFORMATION

BOSS LUBRICANTS makes no warranty, representation or guarantee as to the accuracy, sufficiency or completeness of the material set forth herein. It is the user's responsibility to determine the safety, toxicity and suitability of his own use, handling and disposal of this product. Since actual use by others is beyond our control, no warranty, expressed or implied is made by BOSS LUBRICANTS as to the effects of such use, the results to be obtained or the safety and toxicity of this product nor does BOSS LUBRICANTS assume liability arising out of the use by others of this product referred to herein. The data in this MSDS relates only to the specific material designated herein ad does not relate to use in combination with any other material or in any process.

17. SECTION PREPARATION

January 1, 2011

PREPARED BY: Technical Services
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