

BOSS LUBRICANTS: MATERIAL SAFETY DATA SHEET

Skin:	Yes
Ingestion:	Yes
Eyes:	Yes
Target Organs:	Kidneys and Liver
Effects of Overexposure:	
Acute:	Eyes: May cause minimal irritation, experienced as temporary discomfort.
	Skin: Brief contact is not irritating. Prolonged contact, as with clothing wetted with material may cause defatting of skin or irritation, seen as local redness with mild discomfort. Other than the potential skin irritation effects noted above, acute (short term) adverse effects are not expected from brief contact.
	Inhalation: Vapors or mist, in excess or permissible concentrations, or in unusually high concentrations generated from spraying , heating the material or as from exposure in poorly ventilated areas or confined spaces, may cause irritation of the nose and throat, headache, nausea, and drowsiness. Prolonged or repeated overexposure may result in the absorption of potentially harmful amounts of material.
	Ingestion: Contains ethylene glycol and/or diethylene glycol, which are toxic when swallowed. A lethal dose for an adult is 1-2ml per kilogram, or about 4 ounce (one half cup). Symptoms include headache, weakness, confusion, dizziness, staggering, slurred speech, loss of concentration, faintness, nausea and vomiting, increased heart rate, decreased blood pressure, difficulty breathing and seeing, pulmonary edema, unconsciousness, convulsions, collapse and coma. Symptoms may be delayed. Decreased urine output and kidney failure may also occur. Severe poisoning may cause death. Aspiration may occur during swallowing or vomiting, resulting in lung damage.
Sensitization Properties:	Unknown
Signs and Symptoms of Exposure:	See above "Effects of Overexposure."
Medical Conditions Generally Aggravated by Long-Term Exposure:	Repeated overexposure may aggravate existing kidney disease.
Chronic Effects:	Repeated ingestion may cause kidney damage.
Carcinogenicity	
NTP:	Not listed
IARC Monographs:	Not listed
OSHA Regulations:	Not listed
ACGIH	Not listed

SECTION 4: First Aid Measures

Emergency and First Aid Procedures:

BOSS LUBRICANTS EXTENDED LIFE ANTIFREEZE

BOSS LUBRICANTS: MATERIAL SAFETY DATA SHEET

Eye Contact: IMMEDIATELY flush with large quantities of water for at least 15 minutes and

Skin Contact: Remove excess with cloth or paper towel. Wash thoroughly with soap and water, If irritation persists, get medical attention.

Ingestion: Immediately contact a physician, poison control center or emergency treatment center, DO NOT induce vomiting. Aspiration Hazard: Product may be inhaled into lungs if vomited.

Inhalation: Remove to fresh air. Restore and/or support breathing as required, Keep victim warm and at rest.

Note to Physicians: Treat symptomatically
Special Precautions/Procedures: None known

SECTION 5: Fire-Fighting Measures

Unusual Fire Fighting Procedures: None known

Flash Point 254 °F(123 °C)

Flash point Method: Not applicable

Burning Rate: Not applicable

Autoignition Temperature: Not determined

Flammable Limits in air(% by volume):

LEL: Not determined

UEL: Not determined

Flammability Classification: Does not burn, but can emit fumes in a fire.

Extinguishing Media: For large fires use alcohol-type or all purpose foam. For small fires use water spray, dry chemical, foam or carbon dioxide to extinguish.

Unusual Fire or Explosion Hazards: None known

Fire Fighting Instructions: According to the National Fire Protection Association Guide use water spray , dry chemical, foam or carbon dioxide. A direct stream of water or foam may cause frothing. Use water spray to disperse the vapors and to provide protection for person attempting to stop the leak.

Fire-Fighting measures cont'd

Fire-Fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full facepiece operated in pressure-demand or positive-pressure mode.

BOSS LUBRICANTS: MATERIAL SAFETY DATA SHEET

Unusual Fire Fighting procedures: Other Information:	Not required Products evolved when subjected to heat or combustion: carbon monoxide and carbon dioxide may be formed on burning in limited air supply.
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SECTION 6: Accidental release Measures

Spill/Leak Procedures:	Ventilate area, Avoid breathing vapor. Wear appropriate personal protective equipment, including appropriate respiratory protection. Contain spill if possible. Wipe up or absorb on suitable material and shovel up. Prevent entry into sewers and waterways. Avoid contact with skin, eyes or clothing.
Regulatory Requirements:	If more than 10,539 pounds of product is spilled, then report spill according to SARA 304 and/or CERCLA 102(a) requirements, unless product qualifies for petroleum exemption (CERCLA Section 101 (14)).

SECTION 7: Handling and Storage

Handling Precautions:	Minimum feasible handling temperatures should be maintained. Empty containers contain product residue and may become dangerous.
Storage Requirements:	Periods of exposure to high temperature should be minimized. Water contamination should be avoided. Keep containers away from open flames. ETHYLENE GLYCOL BASE-Ethylene Glycol has produced birth defects in rodents. Do not store near food.

SECTION 8: Exposure Controls/Personal Protection

Ventilation:	Normal to maintain exposure below TLV.
Permissible Concentrations in Air:	10mg/cubic meter for particular mist; 50 ppm (125mg/cubic meter) ceiling limit for Ethylene Glycol (ACGIH 1984-1985)
Respiratory Protection:	Supplied air respiratory protection for cleaning large spills or upon entry into tanks, vessels, or other confined spaces. Use a NIOSH approved organic vapor and gas respirator with mist filter.

BOSS LUBRICANTS EXTENDED LIFE ANTIFREEZE

BOSS LUBRICANTS: MATERIAL SAFETY DATA SHEET

Eye Protection:	Chemical type goggles or face shield optional.
Protective Clothing/Equipment:	Wear chemically protective gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. Wear protective eyeglasses or chemical safety goggles.
Work and Hygienic Practices:	Expose employees should exercise reasonable cleanliness; this includes cleansing exposed skin areas several times daily with soap and water, laundering or dry cleaning soiled work clothing at least weekly.
Safety Precautions:	Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.
Contaminated Equipment:	Remove this material from your shoes and clean personal protective equipment.
Comments:	Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

SECTION 9: Physical and Chemical Properties

Appearance and color: several	Clear liquid with a mild odor (may contain dye in one of colors).
Boiling Point (760 mm Hg):	325°F min
Freezing/Melting Point:	-34°F max.
Specific Gravity (water=1)	1.110-1.145
Vapor Density (air=1):	1.8
Percent Volatile by Volume:	NIL
Evaporation Rate (butyl acetate=1)	Not determined
Solubility in Water (%by wt):	100%
Vapor Pressure (at 20°C):	18mm Hg
pH:	7.5-11.0
Viscosity SUS @100°F	Less than 20cst

SECTION 10: Stability and Reactivity

Stability:	Stable
Polymerization:	Does not occur.
Chemical Incompatibilities:	Normally unreactive, but try to avoid strong oxidizers, strong acids and strong bases at high temperatures.
Conditions to Avoid:	High temperatures above 413°C (775°F) (product can decompose)
Hazardous decomposition products:	Carbon dioxide, carbon monoxide

BOSS LUBRICANTS EXTENDED LIFE ANTIFREEZE

BOSS LUBRICANTS: MATERIAL SAFETY DATA SHEET

SECTION 11: Toxicological Information

Eye Effects:	Believed to cause slight eye irritation.
Skin Effects:	Can be irritating to skin upon prolonged contact.
Acute Inhalation Effects:	Drowsiness, narcosis, and unconsciousness possible upon exposure to high concentrations in poorly ventilated confined spaces.
Acute Oral Effects:	Can cause irritation to mouth, throat and stomach.
Chronic Effects:	Liver and kidney damage in a 2 year rat feeding study using 1-2% Ethylene Glycol. Oral administration of very high doses of Ethylene Glycol produced birth defects in laboratory animals.
Carcinogenicity:	Neither product nor its ingredients are listed by IARC, NTD, or OSHA
Mutagenicity:	Not mutagenic
Teratogenicity:	Not Teratogenic

SECTION 12: Ecological Information

Ecotoxicity:	Oral: Believed to be a 4.7-8.5 g/kg (rat); moderately toxic Inhalation: Not determined Dermal: Believed to be 1-3 g/kg (rabbit); slightly toxic Other: Not determined Irritation Index/Estimation of Irritation (Species) Skin: Believed to be 0.5-1.8/8.0 (rabbit) slightly irritating Eyes: Believed to be 15-25/110 (rabbit) slightly irritating
Soil Absorption/Mobility:	Not determined

SECTION 13: Disposal Considerations

Waste Disposal Method:	Dispose of waste in accordance with Federal, State and Local laws.
Disposal Regulatory Requirements:	Under RCRA, it is the responsibility of the user of products to determine, at the time of disposal, whether product meets RCRA criteria for hazardous waste. This is because product uses transformations, mixture, processes etc., may render the resulting material hazardous (see waste classification)
Container Cleaning and Disposal:	Containers should be cleaned of residual product before disposal, and disposed of in accordance with all applicable laws and regulations.

SECTION 14: Transport Information

BOSS LUBRICANTS EXTENDED LIFE ANTIFREEZE

BOSS LUBRICANTS: MATERIAL SAFETY DATA SHEET

DOT Proper Shipping Name:	Not regulated
Shipping Symbols:	Not applicable
Hazard Class:	Not applicable
UN Number:	Not regulated unless shipping container holds at least 10.539 pounds.
Packing Group:	Not applicable
Label:	Not applicable
Special Provisions (172.102):	Not applicable
Bulk Shipments:	
DOT Proper Shipping Name:	Environmentally hazardous substance, liquid, n.o.s. (Ethylene Glycol)
UN Number:	UN 3082
Label Requirement:	Class 9, UN 3082

SECTION 15: Regulatory Information

EPA Regulations	
RCRA Hazardous Waste Number and RCRA Hazardous Waste Classification:	Unused product is not classified as a hazardous waste by RCRA criteria
CERCLA Hazardous Substance and CERCLA Reportable Quantity:	Does not contain and ingredients listed as a CERCLA hazardous substance.

Regulatory Information cont'd

SARA Toxic Chemical and SARA EHS:	Contains following substance which is listed in Title 111: Ethylene Glycol SARA 313 Information: SARA Hazard Category: An immediate health hazard A delayed health hazard
OSHA Regulations:	
State Regulations	
Other:	All components listed on both YSCA (USA) and DSL (Canada) inventory CANADIAN WHMIS CLASSIFICATION: Class D, Division 2, Subdivision n8 (A toxic material causing other chronic effects.

BOSS LUBRICANTS EXTENDED LIFE ANTIFREEZE

BOSS LUBRICANTS: MATERIAL SAFETY DATA SHEET

SECTION 16: Other Information

Additional Hazard Rating Systems: None

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The conditions or methods of handling, storage, use and disposal of this product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not apply.

Consult Company listed in Section 1: FOR FURTHER INFORMATION