Diesel Dogs Companies
2091 Energy Park Drive
St. Paul, MN, 55108

MATERIAL SAFETY DATA SHEET

Dakota HD Poly-Organic Antifreeze/Coolant

Heavy-Duty Extended Life Coolant
(Prediluted, 50/50)

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product/Chemical Name:	Dakota HD Poly-Organic Antifreeze/Coolant
Product Description:	Ethylene Glycol Based Antifreeze, Precharged, Fully-formulated Extended Life Coolant (50/50) with Dye
Chemical Family:	Inhibited Ethylene Glycol and Water Solution
CAS Registry:	Mixture
Manufacturer:	

SECTION 2 – COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT	CAS NO	WT. RANGE %	EXPOSURE LIMIT
*1,2-ethanediol (Ethylene Glycol)	107-21-1	46-51%	50ppm Ceiling-ACGIH
Other glycols	Not applicable	0-3%	None established
Proprietary Additives and Inhibitors	Not applicable	<2%	Not applicable
Dye	Not applicable	<1%	Not applicable
Water	7732-18-5	Balance	Not applicable

*Hazardous according to OSHA (1910.1200) or one or more state Right-to-Know lists.

SECTION 3 – HAZARDOUS IDENTIFICATION

Health:	2
Flammability:	0
Reactivity:	0
Special:	None

0 = minimal 1= slight 2=moderate 3= serious 4= severe

HMIS
H # 2
F # 0
R # 0
PPE†
†Sec. 8

Route(s) of Entry

Inhalation:	Yes
Skin:	Yes
Ingestion:	Yes
Eyes:	Yes
Target Organs:	Kidneys and Liver

Effects of overexposure:

Acute: Eyes: May cause minimal irritation, experienced as temporary discomfort.

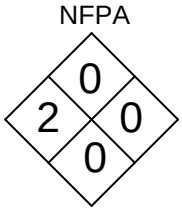
Effects of overexposure (con't)		
Acute:	Skin:	Brief contact is not irritating. Prolonged contact, as with clothing wetted with material may cause defatting of skin or irritation, seen as local redness with possible mild discomfort. Other than the potential skin irritation effects noted above, acute (short term) adverse effects are not expected from brief skin contact.
	Inhalation:	Vapors or mist, in excess of 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 1-2 ml per kilogram, or about 4 ounces (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:	**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:	None
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 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.
Unusual Fire Fighting procedures:	Not required
Other Information:	Products evolved when subjected to heat or combustion: carbon monoxide and carbon dioxide may be formed on burning in limited air supply.



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 be 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 particulate mist; 50 ppm (125 mg/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.
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:	Exposed employees should exercise reasonable personal cleanliness; this includes cleansing exposed skin areas several times daily with soap and water, and laundering or dry cleaning soiled work clothing at least weekly.

Safety Stations:	Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.
Contaminated Equipment:	Separate contaminated work clothes from street clothes. Launder before reuse. 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 odor:	
Boiling Point):	
Freeze Point:	
pH:	
Specific Gravity:	
Solubility in Water:	
Vapor Density (Air=1):	2.1
Vapor Pressure	0.06 mm Hg @ 20ºC (68 ºF)

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 413ºC (775ºF) (product can decompose)
Hazardous decomposition products:	Carbon dioxide, carbon monoxide

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 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

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 any ingredients listed as a CERCLA hazardous substance.
SARA Toxic Chemical and SARA EHS:	Contains following substance which is listed in Title III: 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 TSCA (USA) and DSL (Canada) inventory. CANADIAN WHMIS CLASSIFICATION: Class D, Division 2, Subdivision B (A toxic material causing other chronic effects)

SECTION 16 – OTHER INFORMATION

Additional Hazard Rating Systems: None

Disclaimer: THE INFORMATION GIVEN HEREIN IS GIVEN IN GOOD FAITH AND FROM SOURCES WE BELIEVE RELIABLE. BUT NO WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS IS MADE.

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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.