



Safety Data Sheet

**Material Name: Performance Plus HD Extended Life NMOAT
Pre-diluted Antifreeze/Coolant – 50/50 Blend**

SDS ID: 820291

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

Performance Plus HD Extended Life NMOAT Pre-diluted Antifreeze/Coolant – 50/50 Blend

Product Code

Not available.

Product Use

Antifreeze. Nitrate and molybdate containing organic acid technology (OAT) formulation for newer heavy duty diesel applications. If this product is used in combination with other products, refer to the Safety Data Sheet for those products.

Restrictions on Use

DO NOT ADD WATER. This antifreeze/engine coolant product is pre-diluted 50/50 with de-ionized water and is ready to use. Further dilution may have a negative impact on product performance. DO NOT ADD Supplemental Coolant Additives (SCAs) at initial fill. Product is fully formulated with a minimum combined concentration of nitrite (as NO_2^-) and molybdate (as MoO_4^{-2}) of 780 $\mu\text{g/g}$ (ppm) in order to meet the ASTM D6210 requirements for protecting cylinder liners against cavitation corrosion.

MANUFACTURER/SUPPLIER

Safety-Kleen Systems, Inc.
2600 North Central Expressway
Suite 200
Richardson, TX 75080
www.safety-kleen.com

IMPORTER/DISTRIBUTOR

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Emergency Phone #: 1-800-468-1760

Issue Date

March 2, 2017

Supersedes Issue Date

New Issue SDS

Original Issue Date

March 2, 2017

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with Schedule 1 of Canada's Hazardous Products Regulations (HPR) (SOR/2015-17) and paragraph (d) of 29 CFR 1910.1200 in the United States

Acute Toxicity - Oral - Category 4

Serious Eye Damage/Eye Irritation - Category 2A

Reproductive Toxicity - Category 2

Specific Target Organ Toxicity – Single Exposure – Category 3

Specific Target Organ Toxicity - Repeated Exposure - Category 2

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GHS Label Elements

Symbol(s)



Signal Word

Warning

Hazard Statement(s)

Harmful if swallowed.
Causes serious eye irritation.
Suspected of damaging fertility or the unborn child.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.

Precautionary Statement(s)

Prevention

Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

This product contains 30-50 ppm (0.003-0.005%) denatonium benzoate bittering agent which has been added to help prevent ingestion by humans and animals.

Response

IF exposed or concerned: Get medical advice/attention. IF SWALLOWED: Call a POISON CENTER/doctor. Rinse mouth. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Storage

Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Statement(s) of Unknown Acute Toxicity

0% of the mixture consists of ingredient(s) of unknown acute toxicity.

Other Hazards

None known.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
107-21-1	Ethylene glycol	40-60
7732-18-5	Water	40-60

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111-46-6	Diethylene Glycol	<2.5
3164-85-0	Potassium 2-ethylhexanoate	1-3
64665-57-2	Tolyltriazole, sodium salt	0.01-0.2
7632-00-0	Sodium nitrite	0.01-0.2

This product contains 30-50 ppm denotonium benzoate agent (3734-33-6) which has been added to help prevent ingestion by humans and animals.

Section 4 - FIRST AID MEASURES

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin

IF ON SKIN: Wash with plenty of soap and water. Get medical attention, if needed. Take off contaminated clothing and wash it before reuse.

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor/physician. Rinse mouth.

Most Important Symptoms/Effects

Acute

Harmful if swallowed. Causes serious eye irritation. This product contains 30-50 ppm (0.003-0.005%) denotonium benzoate bittering agent which has been added to help prevent ingestion by humans and animals.

Delayed

Causes reproductive effects, kidney damage, and liver damage.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically and supportively. Treatment may vary with condition of victim and specifics of incident. Call 1-800-468-1760 for additional information. Ethylene glycol is metabolized by alcohol dehydrogenase to various metabolites including glycoaldehyde, glycolic acid, and oxalic acid. The signs and symptoms in ethylene glycol poisoning are those of metabolic acidosis, central nervous system depression, and kidney damage. The currently recommended medical management of ethylene glycol poisoning includes elimination of ethylene glycol and metabolites, correction of metabolic acidosis, and prevention of kidney injury. As a competitive substrate for alcohol dehydrogenase, ethanol is antidotal when given in the early stages of intoxication because it blocks the formation of nephrotoxic metabolites. A more effective intravenous antidote is 4-methylpyrazole, a potent inhibitor of alcohol dehydrogenase, which effectively blocks the formation of toxic metabolites. Pulmonary edema with hypoxia has been described in a number of patients following ethylene glycol poisoning. Respiratory support with mechanical ventilation and positive end expiratory pressure may be required. There may be cranial nerve involvement in the later stages of toxicity from swallowing ethylene glycol. Effects have been reported presenting bilateral facial paralysis, diminished hearing, and dysphagia.

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Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Carbon dioxide, alcohol-resistant foam, dry chemical, water spray, water fog. Water or foam may cause frothing.

Unsuitable Extinguishing Media

Do not use high-pressure water streams.

Special Hazards Arising from the Chemical

Slight fire hazard. Avoid friction, static electricity and sparks.

Hazardous Combustion Products

Decomposition and combustion materials may be toxic. Burning may produce carbon monoxide and unidentified organic compounds.

Fire Fighting Measures

Move container from fire area if it can be done without risk. Keep storage containers cool with water spray. Heated containers may rupture or be thrown into the air. "Empty" containers may retain residue and can be dangerous.

Special Protective Equipment and Precautions for Firefighters

A positive-pressure, self-contained breathing apparatus (SCBA) and full-body protective equipment are required for fire emergencies.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Wear personal protective clothing and equipment. Avoid release to the environment.

Methods and Materials for Containment and Cleaning Up

Remove all ignition sources. Do not touch or walk through spilled product. Stop leak if you can do it without risk. Wear protective equipment and provide engineering controls as specified in SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Ventilate area and avoid breathing vapor or mist. A vapor suppressing foam may be used to reduce vapors. Contain spill away from surface water and sewers. Contain spill as a liquid for possible recovery, or sorb with compatible sorbent material and shovel with a clean tool into a sealable container for disposal. Additionally, for large spills: Water spray may reduce vapor, but may not prevent ignition in closed spaces. Dike far ahead of liquid spill for collection and later disposal.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Wash thoroughly after handling. Wear protective gloves/clothing and eye/face protection. Do not eat, drink or smoke when using this product. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, sparks, or flame. Where flammable mixtures may be present, equipment safe for such locations should be used. Use clean, sparkproof tools and explosion-proof equipment. When transferring product, metal containers, including trucks and tank cars, should be grounded and bonded. Do not breathe vapor or mist. Use in a well ventilated area. Avoid contact with eyes, skin and clothing. Do not smoke while using this product.

Conditions for Safe Storage, Including any Incompatibilities

Store locked up.

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Keep container tightly closed when not in use and during transport. Store in a cool, dry, well-ventilated area. Do not pressurize, cut, heat or weld containers. Empty product containers may contain product residue. Do not reuse empty containers.

Incompatible Materials

Acids, bases, oxidizing materials, reactive metals, reducing agents

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION
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Component Exposure Limits

Ethylene glycol	107-21-1
ACGIH:	100 mg/m3 Ceiling aerosol only
Alberta	100 mg/m3 Ceiling
British Columbia	10 mg/m3 TWA particulate; 100 mg/m3 Ceiling aerosol ; 50 ppm Ceiling vapour 20 mg/m3 STEL particulate
Manitoba, New Brunswick, Northwest Territories, Nova Scotia, Nunavut, Ontario, Prince Edward Island	100 mg/m3 Ceiling aerosol only
Quebec	50 ppm Ceiling mist and vapour ; 127 mg/m3 Ceiling mist and vapour
Saskatchewan	100 mg/m3 Ceiling aerosol
Yukon	10 mg/m3 TWA particulate ; 100 ppm TWA vapour ; 250 mg/m3 TWA vapour 10 ppm STEL particulate ; 20 mg/m3 STEL particulate ; 125 ppm STEL vapour ; 325 mg/m3 STEL vapour

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

There are no biological limit values for any of this product's components.

Engineering Controls

Provide general ventilation needed to maintain concentration of vapor or mist below applicable exposure limits. Where adequate general ventilation is unavailable, use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below applicable exposure limits.

Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection

Safety glasses with side shields should be worn at a minimum. Additional protection like goggles, face shields, or respirators may be needed dependent upon anticipated use and concentrations of mists or vapors. Provide an emergency eye wash fountain and quick drench shower in the immediate work area. Contact lens use is not recommended.

Respiratory Protection

Selection and use of respiratory protective equipment should be in accordance in the USA with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4.

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Glove Recommendations

Where skin contact is likely, wear gloves impervious to product; use of natural rubber (latex) or equivalent gloves is not recommended. To avoid prolonged or repeated contact where spills and splashes are likely, wear appropriate chemical-resistant faceshield, boots, apron, whole body suits, or other protective clothing.

Protective Materials

Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to regulatory requirements. The following PPE should be considered the minimum required: Safety glasses, Gloves, and/or Lab coat or apron.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid	Physical State	Liquid
Odor	Mild	Color	Strawberry
Odor Threshold	Not available	pH	8.0-9.0
Melting Point	Not Applicable	Boiling Point	108°C (226°F) Minimum
Boiling Point Range	Not Applicable	Freezing point	-36.4°C (-33.5°F) max
Evaporation Rate	Not available	Flammability (solid, gas)	Not available
Autoignition Temperature	398 °C (748 °F) [100% Ethylene glycol]	Flash Point	111 °C (232 °F) [100%Ethylene glycol]
Lower Explosive Limit	3.2 vol% (100% Ethylene glycol)	Decomposition temperature	Not available
Upper Explosive Limit	15.3 vol% (100% Ethylene glycol)	Vapor Pressure	Not available
Vapor Density (air=1)	Not available	Specific Gravity at 20°C (water=1)	1.134
Water Solubility	Complete	Partition coefficient: n-octanol/water	Not available
Viscosity	Not available	Solubility (Other)	Not available
Density at 20°C	9.5 lbs/gal	Physical Form	Liquid
Molecular Weight	Not available		

Section 10 - STABILITY AND REACTIVITY

Reactivity

No reactivity hazard is expected.

Chemical Stability

Stable under normal temperatures and pressures.

Possibility of Hazardous Reactions

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Will not polymerize.

Conditions to Avoid

Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials.

Incompatible Materials

Acids, bases, oxidizing materials, reactive metals, reducing agents

Hazardous decomposition products

None under normal temperatures and pressures. See also SECTION 5: HAZARDOUS COMBUSTION PRODUCTS.

Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation

May cause kidney damage, liver damage.

Skin Contact

May cause skin irritation.

Eye Contact

Causes serious eye irritation.

Ingestion

Harmful if swallowed. May cause vomiting and nausea.

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Ethylene glycol (107-21-1)

Oral LD50 Rat 4700 mg/kg; Dermal LD50 Rat 10600 mg/kg

Water (7732-18-5)

Oral LD50 Rat >90 mL/kg

Tolyltriazole, sodium salt (64665-57-2)

Oral LD50 Rat 1980 mg/kg (50% in water); Dermal LD50 Rabbit >2000 mg/kg (no deaths occurred)

Sodium nitrite (7632-00-0)

Oral LD50 Rat 85 mg/kg; Inhalation LC50 Rat 5.5 mg/L 4 h

Product Toxicity Data

Acute Toxicity Estimate

Dermal	> 2000 mg/kg
Inhalation - Vapor	> 20 mg/L

Immediate Effects

Harmful if swallowed. Causes serious eye irritation.

Delayed Effects

Causes reproductive effects, kidney damage, and liver damage.

Irritation/Corrosivity Data

Causes serious eye irritation. May cause skin irritation.

Respiratory Sensitization

No information available for the product.

Dermal Sensitization

No information available for the product.

Component Carcinogenicity

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Ethylene glycol	107-21-1
ACGIH:	A4 - Not Classifiable as a Human Carcinogen

Germ Cell Mutagenicity

No information available for the product.

Tumorigenic Data

No information available for the product.

Reproductive Toxicity

Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity - Single Exposure

No target organs identified.

Specific Target Organ Toxicity - Repeated Exposure

Kidneys, liver

Aspiration hazard

No information available for the product.

Medical Conditions Aggravated by Exposure

No information available for the product.

Additional Data

No additional information is available.

Section 12 - ECOLOGICAL INFORMATION
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Component Analysis - Aquatic Toxicity

Ethylene glycol	107-21-1
Fish:	LC50 96 h Oncorhynchus mykiss 41000 mg/L; LC50 96 h Oncorhynchus mykiss 14 - 18 mL/L [static]; LC50 96 h Lepomis macrochirus 27540 mg/L [static]; LC50 96 h Oncorhynchus mykiss 40761 mg/L [static]; LC50 96 h Pimephales promelas 40000 - 60000 mg/L [static]; LC50 96 h Poecilia reticulata 16000 mg/L [static]
Algae:	EC50 96 h Pseudokirchneriella subcapitata 6500 - 13000 mg/L IUCLID
Invertebrate:	EC50 48 h Daphnia magna 46300 mg/L IUCLID
Sodium nitrite	7632-00-0
Fish:	LC50 96 h Oncorhynchus mykiss 0.19 mg/L [flow-through] (juvenile); LC50 96 h Oncorhynchus mykiss 0.092 - 0.13 mg/L [flow-through]; LC50 96 h Oncorhynchus mykiss 0.4 - 0.6 mg/L [semi-static]; LC50 96 h Oncorhynchus mykiss 0.65 - 1 mg/L [static]; LC50 96 h Pimephales promelas 2.3 mg/L [flow-through]; LC50 96 h Pimephales promelas 20 mg/L [static]

Persistence and Degradability

No information available for the product.

Bioaccumulative Potential

No information available for the product.

Mobility

No information available for the product.

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Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose in accordance with federal, state, provincial, and local regulations. Regulations may also apply to empty containers. The responsibility for proper waste disposal lies with the owner of the waste. Contact Safety-Kleen regarding proper recycling or disposal.

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components

Section 14 - TRANSPORT INFORMATION

US DOT Information:

No Classification assigned.

Additional Information: Bulk Shipments 5000 lbs or greater of ethylene glycol (~1070 gallons blended product):
UN 3082, Environmentally hazardous substance, liquid, n.o.s. (Ethylene glycol), RQ, 9, PGIII

IATA Information:

UN#: Not regulated as a dangerous good.

TDG Information:

UN#: Not regulated as a dangerous good.

Section 15 - REGULATORY INFORMATION

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

Ethylene glycol	107-21-1
SARA 313:	1 % de minimis concentration
CERCLA:	5000 lb final RQ ; 2270 kg final RQ
Sodium nitrite	7632-00-0
SARA 313:	1 % de minimis concentration
CERCLA:	100 lb final RQ ; 45.4 kg final RQ
TSCA 12b:	Section 5 , 1 % de minimis concentration (see 40 CFR 721.4740)

SARA Section 311/312 (40 CFR 370 Subparts B and C) 2016 reporting categories

Acute Health: Yes Chronic Health: Yes Fire: No Pressure: No Reactivity: No

SARA Section 311/312 (40 CFR 370 Subparts B and C) 2017 reporting categories

Acute toxicity; Reproductive Toxicity; Serious Eye Damage/Eye Irritation; Specific Target Organ Toxicity

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
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Ethylene glycol	107-21-1	Yes	Yes	Yes	Yes	Yes
Sodium nitrite	7632-00-0	Yes	Yes	No	Yes	Yes

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product can expose you to chemicals including Ethylene Glycol which is known to the State of California to cause birth defects or other reproductive harm. For more information go to

www.P65Warnings.gov.

Ethylene glycol	107-21-1
Repro/Dev. Tox	developmental toxicity , 6/19/2015 (ingested)

Canada Regulations

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all information required by the CPR. D2A, D2B.

Canadian WHMIS Ingredient Disclosure List (IDL)

Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which meet WHMIS criteria specified in the Controlled Products Regulations and are present above the threshold limits listed on the IDL

Ethylene glycol	107-21-1
	1 %
Sodium nitrite	7632-00-0
	1 %

Component Analysis - Inventory

Ethylene glycol (107-21-1); Water (7732-18-5); Potassium 2-ethylhexanoate (3164-85-0); Tolyltriazole, sodium salt (64665-57-2); Sodium nitrite (7632-00-0)

US	CA
Yes	DSL

Section 16 - OTHER INFORMATION

NFPA Ratings

Health: 2 Fire: 1 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Summary of Changes

New Issue SDS.

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania*; CAS - Chemical Abstracts Service; CFR - Code of Federal Regulations (US); CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CPR - Controlled Products Regulations; DOT - Department of Transportation; DSL - Domestic Substances List; EPA - Environmental Protection Agency; F - Fahrenheit; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International

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Maritime Dangerous Goods; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NDSL – Non-Domestic Substance List (Canada); NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; OSHA - Occupational Safety and Health Administration; PEL- Permissible Exposure Limit; RCRA - Resource Conservation and Recovery Act; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; WHMIS - Workplace Hazardous Materials Information System (Canada).

Other Information

Disclaimer:

User assumes all risks incident to the use of this product. To the best of our knowledge, the information contained herein is accurate. However, Safety-Kleen assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to the information or the product to which the information refers. The data contained on this sheet apply to the product as supplied to the user.