

1. Identification

Product identifier KLONDIKE HD Diesel Extended Life Antifreeze Premix

Other means of identification

Product code HD ELC Premix

Recommended use Antifreeze / Coolant

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name	KLONDIKE Lubricants Corporation	
Address	3078 275th Street Langley, BC V4W 3L4 Canada	
Telephone	General Information	1-877-293-4691
Website	www.klondikelubricants.com	
E-mail	info@klondikelubricants.com	
Emergency phone number	Chemtrec (Within US)	1-800-424-9300
	Chemtrec (International)	1-703-527-3887

Supplier Refer to Manufacturer

2. Hazard(s) identification

Physical hazards This mixture does not meet the classification criteria according to OSHA HazCom 2012.

Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, inhalation	Category 3
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2
	Reproductive toxicity	Category 2
	Specific target organ toxicity, single exposure	Category 2
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, repeated exposure	Category 2

Environmental hazards This mixture does not meet the classification criteria according to OSHA HazCom 2012.

OSHA defined hazards This mixture does not meet the classification criteria according to OSHA HazCom 2012.

Label elements



Signal word Danger

Hazard statement Harmful if swallowed. Toxic if inhaled. May cause respiratory irritation. Suspected of damaging fertility or the unborn child. May cause damage to organs. May cause damage to organs through prolonged or repeated exposure.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

Response If swallowed: Call a poison center/doctor if you feel unwell. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor. Specific treatment (see this label). Rinse mouth.

Storage Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	Human poison by ingestion (lethal dose of Ethylene glycol for humans reported to be 100 mL). Symptoms of poisoning may include cyanosis (bluish discolouration of the skin), nausea, dizziness, rapid heartbeat, irregular breathing, coma and death. Initially, the central nervous system is stimulated, followed by depression. Ingestion of extremely large amounts of nitrites or nitrates may affect oxygen transport in the blood and blood system, causing methemoglobinemia.
Supplemental information	86.48% of the mixture consists of component(s) of unknown acute inhalation toxicity.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Ethylene Glycol	Not Available	107-21-1	80 - < 90
Diethylene Glycol	Not Available	111-46-6	10 - < 20
Potassium Hydroxide	CAUSTIC POTASH POTASSIUM HYDRATE Lye Potash Potash Lye	1310-58-3	< 1
Sodium Nitrite	Not Available	7632-00-0	< 1

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a POISON CENTER or doctor/physician.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
Most important symptoms/effects, acute and delayed	Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire-fighting equipment/instructions	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Evacuate area and fight fire from a safe distance.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.
Hazardous combustion products	Carbon oxides. Nitrogen oxides (NOx). Carbonyl compounds. Other irritating fumes and smoke.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Immediately evacuate personnel to safe areas. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.

Environmental precautions

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Do not taste or swallow. Avoid contact during pregnancy/while nursing. Avoid prolonged exposure. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
ETHYLENE GLYCOL (CAS 107-21-1)	Ceiling	100 mg/m ³	Aerosol.
POTASSIUM HYDROXIDE (CAS 1310-58-3)	Ceiling	2 mg/m ³	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
POTASSIUM HYDROXIDE (CAS 1310-58-3)	TWA	2 mg/m ³

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
Diethylene Glycol (CAS 111-46-6)	TWA	10 mg/m ³

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection

Wear protective gloves.

Other

Wear appropriate chemical resistant clothing.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties**Appearance**

Physical state Liquid.

Form Liquid.

Color Red.

Odor Sweet.

Odor threshold Not available.

pH 9.8 - 10.8

Melting point/freezing point -36.7 °C (-34°F)

Initial boiling point and boiling range Not available.

Flash point 116.0 °C (240°F)

Evaporation rate Not Available

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure Not available.

Vapor density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Not available.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity Not available.

Other information

Partition coefficient (oil/water) Not Available

Specific gravity 1.07

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.

Conditions to avoid Avoid temperatures exceeding the flash point. Contact with incompatible materials.

Incompatible materials Strong acids. Strong oxidizing agents. Strong bases.

Hazardous decomposition products Carbon oxides. Nitrogen oxides (NOx). Carbonyl compounds. Other irritating fumes and smoke.

11. Toxicological information**Information on likely routes of exposure**

Ingestion Harmful if swallowed. May cause discomfort if swallowed.

Inhalation Toxic by inhalation. May cause irritation to the respiratory system.

Skin contact	Causes skin irritation.
Eye contact	Causes eye irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Causes mild to moderate skin and eye irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Symptoms may include coughing, choking and wheezing. Human poison by ingestion (lethal dose of Ethylene glycol for humans reported to be 100 mL). Symptoms of poisoning may include cyanosis (bluish discolouration of the skin), nausea, dizziness, rapid heartbeat, irregular breathing, coma and death. Initially, the central nervous system is stimulated, followed by depression.

Information on toxicological effects

Acute toxicity Toxic by inhalation. Harmful if swallowed. May cause respiratory irritation. May cause eye irritation. May cause skin irritation. May cause respiratory irritation.

Components	Species	Test Results
Diethylene Glycol (CAS 111-46-6)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	13300 mg/kg
<i>Inhalation</i>		
LC50	Rat	> 5.08 mg/l > 4.6 mg/l, 4 Hours
<i>Oral</i>		
LD50	Rat	25300 mg/kg
ETHYLENE GLYCOL (CAS 107-21-1)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	9530 mg/kg
<i>Inhalation</i>		
LC50	Rat	> 2.5 mg/l, 6 Hours 10.92 mg/l/4h
<i>Oral</i>		
LD50	Human	1110 - 1665 mg/kg
	Rat	4000 mg/kg
POTASSIUM HYDROXIDE (CAS 1310-58-3)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 1260 mg/kg
<i>Inhalation</i>		
LC50	Rat	No Data in Literature
<i>Oral</i>		
LD50	Rat	205 mg/kg
Sodium Nitrite (CAS 7632-00-0)		
Acute		
<i>Dermal</i>		
		No data in literature
<i>Inhalation</i>		
		No data in literature
<i>Oral</i>		
LD50	Rat	85 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes eye irritation.

Respiratory or skin sensitization**Respiratory sensitization** This product is not expected to cause respiratory sensitization.**Carcinogenicity** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

Reproductive toxicity Suspected of damaging fertility or the unborn child.**Specific target organ toxicity - single exposure** Specific Target Organ Toxicity (STOT), Single Exposure: Category 2; Category 3
Causes damage to organs. May cause irritation to the respiratory system.**Specific target organ toxicity - repeated exposure** Specific Target Organ Toxicity (STOT), Repeated Exposure:
Causes damage to organs through prolonged or repeated exposure.**Chronic effects** Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
Prolonged or repeated overexposure may cause kidney damage.**Aspiration toxicity** Not expected to be an aspiration hazard.**12. Ecological information****Ecotoxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product	Species	Test Results
---------	---------	--------------

KLONDIKE HD Diesel Extended Life Antifreeze Premix (CAS Mixture)

Aquatic*Acute*

Crustacea	EC50	Daphnia	1391.985 mg/l, 48 Hours estimated
Fish	LC50	Fish	9122.9385 mg/l, 96 hours estimated

Components	Species	Test Results
------------	---------	--------------

Diethylene Glycol (CAS 111-46-6)

Aquatic*Acute*

Algae	EC10	Green plankton algae (Chlorococcales)	1000 mg/l, 24 Hours
Crustacea	EC50	Water flea (Daphnia magna)	48900 mg/l, 48 Hours
Fish	LC50	Fathead minnow (Pimephales promelas)	77900 mg/l, 96 hours

ETHYLENE GLYCOL (CAS 107-21-1)

Acute

LC50	Rainbow trout (Oncorhynchus mykiss)	22810 mg/l, 96 Hours
------	-------------------------------------	----------------------

Aquatic

Crustacea	LC50	Water flea (Daphnia magna)	46300 - 57000 mg/l, 48 hours
-----------	------	----------------------------	------------------------------

Acute

Algae	IC50	Green algae (Selenastrum capricornutum)	10940 mg/l, 96 Hours
	NOEC	Green algae (Selenastrum capricornutum)	10000 mg/l, 96 Hours

POTASSIUM HYDROXIDE (CAS 1310-58-3)

Aquatic*Acute*

Crustacea	EC50	Water flea (Ceriodaphnia dubia)	56 mg/l, 48 hours
Fish	LC50	Western mosquitofish (Gambusia affinis)	80 mg/l, 96 hours

Sodium Nitrite (CAS 7632-00-0)

Acute

LC50	Rainbow trout (Oncorhynchus mykiss)	0.54 mg/l, 96 hours
------	-------------------------------------	---------------------

Aquatic*Acute*

Algae	EC50	Green Algae (Scenedesmus subspicatus)	> 100 mg/l, 72 hours
-------	------	---------------------------------------	----------------------

Components		Species	Test Results
Crustacea	EC50	Water flea (Daphnia magna)	15.4 mg/l, 48 hours
<i>Chronic</i>			
Algae	NOEC	Green Algae (Scenedesmus subspicatus)	100 mg/l, 72 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

Diethylene Glycol -1.5
ETHYLENE GLYCOL -1.36

Bioconcentration factor (BCF)

Diethylene Glycol 3
ETHYLENE GLYCOL 10

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This substance/mixture is not intended to be transported in bulk.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Sodium Nitrite (CAS 7632-00-0) 1.0 % One-Time Export Notification only.

CERCLA Hazardous Substance List (40 CFR 302.4)

ETHYLENE GLYCOL (CAS 107-21-1) Listed.
POTASSIUM HYDROXIDE (CAS 1310-58-3) Listed.
Sodium Nitrite (CAS 7632-00-0) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
 Delayed Hazard - Yes
 Fire Hazard - No
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
ETHYLENE GLYCOL	107-21-1	80 - < 90
Sodium Nitrite	7632-00-0	< 1

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

ETHYLENE GLYCOL (CAS 107-21-1)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations**US. Massachusetts RTK - Substance List**

ETHYLENE GLYCOL (CAS 107-21-1)
 POTASSIUM HYDROXIDE (CAS 1310-58-3)
 Sodium Nitrite (CAS 7632-00-0)

US. New Jersey Worker and Community Right-to-Know Act

ETHYLENE GLYCOL (CAS 107-21-1)
 POTASSIUM HYDROXIDE (CAS 1310-58-3)
 Sodium Nitrite (CAS 7632-00-0)

US. Pennsylvania Worker and Community Right-to-Know Law

Diethylene Glycol (CAS 111-46-6)
 ETHYLENE GLYCOL (CAS 107-21-1)
 POTASSIUM HYDROXIDE (CAS 1310-58-3)
 Sodium Nitrite (CAS 7632-00-0)

US. Rhode Island RTK

ETHYLENE GLYCOL (CAS 107-21-1)
 POTASSIUM HYDROXIDE (CAS 1310-58-3)
 Sodium Nitrite (CAS 7632-00-0)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	05-07-2014
Revision date	05-14-2014
Version #	02
Disclaimer	The information in this document was written based on the best knowledge and experience currently available, and is offered for your consideration and guidance when exposed to this product. KLONDIKE Lubricants Corporation disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this document does not apply to use with any other product or in any other process. This document may not be changed, or altered in any way without the expressed knowledge and permission of KLONDIKE Lubricants Corporation.
Revision Information	Physical & Chemical Properties: Multiple Properties Toxicological information: Specific target organ toxicity - single exposure Toxicological information: Symptoms related to the physical, chemical and toxicological characteristics