



## SAFETY DATA SHEET

ZEREX™ HD EXTENDED LIFE 50/50  
Antifreeze Coolant

Version: 2.0

Revision Date: 2023/06/19

Print Date: 06/21/2023

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : ZEREX™ HD EXTENDED LIFE 50/50  
Antifreeze Coolant

Product code : ZXEDRU1

#### Manufacturer or supplier's details

Company : Valvoline Global Operations

Address : 100 Valvoline Way  
Lexington, KY 40509  
United States of America (USA)

Telephone : 1-800-TEAMVAL (1-800-832-6825)

Emergency telephone number : +1-800-VALVOLINE (+1-800-825-8654)

E-mail address : SDS@valvolineglobal.com

#### Recommended use of the chemical and restrictions on use

Recommended use : Antifreeze Coolant

### 2. HAZARDS IDENTIFICATION

#### GHS Classification

Acute toxicity (Oral) : Category 4

#### GHS label elements

Hazard pictograms :



Signal word : Warning



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Hazard statements : H302 Harmful if swallowed.

Precautionary statements : **Prevention:**  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.

**Response:**  
P301 + P317 + P330 IF SWALLOWED: Get medical help.  
Rinse mouth.

**Disposal:**  
P501 Dispose of contents/ container to an approved waste disposal plant.

### Other hazards which do not result in classification

None known.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

#### Components

Chemical name	CAS-No.	Concentration (% w/w)
ETHYLENE GLYCOL	107-21-1	$\geq 30 - < 50$
POTASSIUM HYDROXIDE	1310-58-3	$\geq 1 - < 2.5$
SODIUM NITRITE	7632-00-0	$\geq 0.1 - < 0.25$

### 4. FIRST AID MEASURES

General advice : Move out of dangerous area.  
Show this safety data sheet to the doctor in attendance.  
Do not leave the victim unattended.

If inhaled : If unconscious, place in recovery position and seek medical advice.  
If symptoms persist, call a physician.

In case of eye contact : Flush eyes with water as a precaution.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.  
Do NOT induce vomiting.  
Do not give milk or alcoholic beverages.



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Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed : No symptoms known or expected.  
Harmful if swallowed.

Notes to physician : No hazards which require special first aid measures.  
Treat symptomatically.

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### 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media : High volume water jet

Hazardous combustion products : No hazardous combustion products are known

Specific extinguishing methods : Standard procedure for chemical fires.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

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### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Refer to protective measures listed in sections 7 and 8.  
Use personal protective equipment.

Environmental precautions : Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Keep in suitable, closed containers for disposal.

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### 7. HANDLING AND STORAGE



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- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Advice on safe handling : Do not breathe vapours/dust.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Dispose of rinse water in accordance with local and national regulations.
- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.  
Electrical installations / working materials must comply with the technological safety standards.
- Further information on storage stability : No decomposition if stored and applied as directed.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
ETHYLENE GLYCOL	107-21-1	TWA (Vapour)	25 ppm	ACGIH
		STEL (Vapour)	50 ppm	ACGIH
		STEL (Inhalable fraction, Aerosol only)	10 mg/m3	ACGIH
POTASSIUM HYDROXIDE	1310-58-3	C	2 mg/m3	ACGIH

#### Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.

Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water  
Tightly fitting safety goggles



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- Skin and body protection : Impervious clothing  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Hygiene measures : When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and at the end of workday.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : liquid
- Colour : dark orange
- Odour : No data available
- Odour Threshold : No data available
- pH : 8 - 10
- Melting point/freezing point : < -36 °C
- Boiling point/boiling range : 107 °C
- Flash point : > 121.11 °C
- Evaporation rate : No data available
- Flammability (solid, gas) : No data available
- Self-ignition : No data available
- Upper explosion limit / Upper flammability limit : 15.3 %(V)
- Lower explosion limit / Lower flammability limit : 1 %(V)
- Vapour pressure : 23.3333333 hPa (20 °C)  
Calculated Vapor Pressure
- Relative vapour density : No data available



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Relative density	:	1.0745 (15.6 °C)
Density	:	1.0745 g/cm <sup>3</sup> (15.6 °C)
Solubility(ies)	:	
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Decomposition temperature	:	No data available
Viscosity	:	
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Oxidizing properties	:	No data available

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### 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed.
Conditions to avoid	:	excessive heat Exposure to moisture
Incompatible materials	:	Acids Alcohols Aldehydes Alkali metals Alkaline earth metals aluminum Amines Bases chlorinated solvents Fluorine Hydrogen fluoride Lead lithium sodium



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strong bases  
Strong oxidizing agents  
Sulphur compounds  
Zinc  
Peroxides

Hazardous decomposition products : No hazardous decomposition products are known.

### 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

Harmful if swallowed.

#### Product:

Acute oral toxicity : Acute toxicity estimate: 965.85 mg/kg  
Method: Calculation method

#### Components:

##### ETHYLENE GLYCOL:

Acute oral toxicity : LD0 (Human): estimated 1.56 g/kg  
Assessment: The component/mixture is moderately toxic after single ingestion.

Acute inhalation toxicity : LC50 (Rat): 10.9 mg/l  
Exposure time: 1 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): 9,530 mg/kg

Acute toxicity (other routes of administration) : LD50 (Rat): 5,010 mg/kg  
Application Route: Intraperitoneal

LD50 (Rat): 3,260 mg/kg  
Application Route: Intravenous

##### POTASSIUM HYDROXIDE:

Acute oral toxicity : LD50 (Rat): 333 mg/kg

##### SODIUM NITRITE:

Acute oral toxicity : LD50 (Rat): 180 mg/kg



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Acute inhalation toxicity : LC50 (Rat): 5.5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist

### Skin corrosion/irritation

Not classified based on available information.

#### Product:

Result : No skin irritation  
Remarks : Expected based on components.

#### Components:

##### ETHYLENE GLYCOL:

Species : Rabbit  
Result : No skin irritation

##### POTASSIUM HYDROXIDE:

Species : Rabbit  
Result : Corrosive after 3 minutes or less of exposure

##### SODIUM NITRITE:

Assessment : No skin irritation  
Result : No skin irritation

### Serious eye damage/eye irritation

Not classified based on available information.

#### Product:

Result : No eye irritation  
Remarks : Expected based on components.

#### Components:

##### ETHYLENE GLYCOL:

Result : Slight, transient irritation

##### POTASSIUM HYDROXIDE:

Species : Rabbit  
Result : Corrosive

##### SODIUM NITRITE:





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Assessment : Irritating to eyes.  
Result : Irritating to eyes.

### Respiratory or skin sensitisation

#### Skin sensitisation

Not classified based on available information.

#### Respiratory sensitisation

Not classified based on available information.

#### Components:

##### ETHYLENE GLYCOL:

Test Type : Maximisation Test  
Species : Guinea pig  
Assessment : Does not cause skin sensitisation.

##### POTASSIUM HYDROXIDE:

Test Type : Maximisation Test  
Species : Guinea pig  
Assessment : Does not cause skin sensitisation.

### Germ cell mutagenicity

Not classified based on available information.

#### Components:

##### ETHYLENE GLYCOL:

Genotoxicity in vitro : Test Type: Ames test  
Test system: Salmonella typhimurium  
Metabolic activation: with and without metabolic activation  
Result: negative

### Carcinogenicity

Not classified based on available information.

### Reproductive toxicity

Not classified based on available information.

### STOT - single exposure

Not classified based on available information.

### STOT - repeated exposure

Not classified based on available information.



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## Components:

### ETHYLENE GLYCOL:

Exposure routes	:	Ingestion
Target Organs	:	Kidney, Liver
Assessment	:	May cause damage to organs through prolonged or repeated exposure.

### Aspiration toxicity

Not classified based on available information.

### Experience with human exposure

## Components:

### ETHYLENE GLYCOL:

Ingestion	:	Target Organs: Kidney
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### Further information

## Product:

Remarks : No data available

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

## Product:

### Ecotoxicology Assessment

Acute aquatic toxicity : Not classified based on available information.

Chronic aquatic toxicity : Not classified based on available information.

## Components:

### ETHYLENE GLYCOL:

Toxicity to fish	:	LC50 ( <i>Lepomis macrochirus</i> (Bluegill sunfish)): 27,540 mg/l Exposure time: 96 h Test Type: static test
	:	LC50 ( <i>Pimephales promelas</i> (fathead minnow)): 8,050 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	LC50 ( <i>Daphnia magna</i> (Water flea)): > 10,000 mg/l Exposure time: 48 h



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	Test Type: <b>static test</b>
Toxicity to algae/aquatic plants	: <b>EC50 ( Pseudokirchneriella subcapitata (green algae)): 6,500 - 13,000 mg/l</b> End point: <b>Growth inhibition</b> Exposure time: <b>7 Days</b>
Toxicity to fish (Chronic toxicity)	: <b>NOEC: 32,000 mg/l</b> Exposure time: <b>7 d</b> Species: <b>Pimephales promelas (fathead minnow)</b>
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: <b>NOEC: 24,000 mg/l</b> Exposure time: <b>7 d</b> Species: <b>Daphnia magna (Water flea)</b>

### Ecotoxicology Assessment

Acute aquatic toxicity	: <b>Not classified based on available information.</b>
Chronic aquatic toxicity	: <b>Not classified based on available information.</b>

### POTASSIUM HYDROXIDE:

Toxicity to fish	: <b>LC50 (Gambusia affinis (Mosquito fish)): 80 mg/l</b> Exposure time: <b>96 h</b> Test Type: <b>static test</b>
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### Ecotoxicology Assessment

Acute aquatic toxicity	: <b>Acute aquatic toxicity Category 3; Harmful to aquatic life.</b>
Chronic aquatic toxicity	: <b>Not expected to cause long-term toxicity to fish., Not expected to cause long-term toxicity to aquatic invertebrates., Not expected to cause long-term toxicity to aquatic plants.</b>  <b>Chronic aquatic toxicity Category 3; Harmful to aquatic life with long lasting effects.</b>

### SODIUM NITRITE:

Toxicity to fish	: <b>LC50 (Pimephales promelas (fathead minnow)): 2.35 - 3.81 mg/l</b> Exposure time: <b>96 h</b> Test Type: <b>flow-through test</b>  <b>LC50 (Oncorhynchus mykiss (rainbow trout)): 0.54 - 26.3 mg/l</b> Exposure time: <b>96 h</b> Test Type: <b>flow-through test</b>
Toxicity to daphnia and other	: <b>EC50 (Daphnia magna (Water flea)): 15.4 mg/l</b>



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aquatic invertebrates	Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	: EC50 ( Desmodemus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h Test Type: Growth inhibition Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity)	: 1
Toxicity to microorganisms	: EC10 (activated sludge): 210 mg/l Exposure time: 3 h Test Type: Static Method: OECD Test Guideline 209
Toxicity to fish (Chronic toxicity)	: NOEC: 6.16 mg/l Exposure time: 31 d Species: Ictalurus catus (catfish) Test Type: flow-through test
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC: 9.86 mg/l Exposure time: 80 d Species: Aquatic invertebrates Test Type: static test

## Ecotoxicology Assessment

Acute aquatic toxicity	: Acute aquatic toxicity Category 1; Very toxic to aquatic life.
Chronic aquatic toxicity	: Not classified based on available information.

## Persistence and degradability

### Components:

#### ETHYLENE GLYCOL:

Biodegradability	: Result: Readily biodegradable. Biodegradation: 90 - 100 % Exposure time: 10 d Method: OECD Test Guideline 301
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## Bioaccumulative potential

### Components:

#### ETHYLENE GLYCOL:



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Bioaccumulation : Species: **Crayfish (Procambarus)**  
Exposure time: **61 d**  
Concentration: **1000 mg/l**  
Bioconcentration factor (BCF): **0.27**  
Method: **Flow through**

Partition coefficient: n-octanol/water : log Pow: **-1.36**

### **SODIUM NITRITE:**

Partition coefficient: n-octanol/water : log Pow: **-3.700 (25 °C)**

### **Mobility in soil**

#### **Components:**

### **SODIUM NITRITE:**

Stability in soil : Remarks: **Not expected to adsorb on soil.**

### **Other adverse effects**

#### **Product:**

Additional ecological information : No data available

## 13. DISPOSAL CONSIDERATIONS

### **Disposal methods**

Waste from residues : Do not dispose of waste into sewer.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.

## 14. TRANSPORT INFORMATION

### **International Regulations**

#### **UNRTDG**

Not regulated as a dangerous good



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### **IATA-DGR**

Not regulated as a dangerous good

### **IMDG-Code**

Not regulated as a dangerous good

### **Transport in bulk according to IMO instruments**

Not applicable for product as supplied.

### **Special precautions for user**

Not applicable

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

## 15. REGULATORY INFORMATION

### **Safety, health and environmental regulations/legislation specific for the substance or mixture**

#### **The components of this product are reported in the following inventories:**

TCSI	: Not in compliance with the inventory
TSCA	: All substances listed as active on the TSCA inventory
AIIC	: Not in compliance with the inventory
DSL	: All components of this product are on the Canadian DSL
ENCS	: Not in compliance with the inventory
KECI	: On the inventory, or in compliance with the inventory
PICCS	: On the inventory, or in compliance with the inventory
IECSC	: On the inventory, or in compliance with the inventory
NZIoC	: Not in compliance with the inventory

#### **Inventories**



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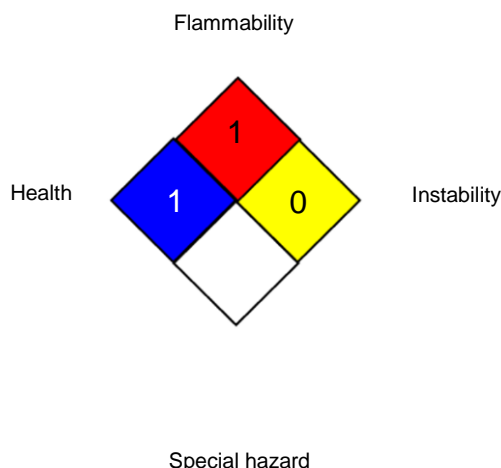
AIIC (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TECI (Thailand), TSCA (USA)

### 16. OTHER INFORMATION

Revision Date : 2023/06/19  
Date format : yyyy/mm/dd

#### Further information

##### NFPA:



##### HMIS® IV:

<b>HEALTH</b>	*	<b>2</b>
<b>FLAMMABILITY</b>		<b>1</b>
<b>PHYSICAL HAZARD</b>		<b>0</b>

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

#### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
ACGIH / TWA : 8-hour, time-weighted average  
ACGIH / STEL : Short-term exposure limit  
ACGIH / C : Ceiling limit

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer;



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IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECL - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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