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29 CFR 1910.1200 (OSHA HazCom 2012)

## SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

### Product identifier

Trade name : Zerex™ GREEN HD PRE-CHARGED RTU  
Antifreeze Coolant



<b>Details of the supplier of the safety data sheet</b> Valvoline LLC 100 Valvoline Way Lexington, KY 40509 United States of America (USA) 1-800-TEAMVAL	<b>Emergency telephone number</b> 1-800-VALVOLINE (1-800-825-8654)  <b>Regulatory Information Number</b> 1-800-TEAMVAL  <b>Product Information</b> 1-800-TEAMVAL
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## SECTION 2. HAZARDS IDENTIFICATION

### GHS Classification

Acute toxicity (Oral) : Category 4  
  
Reproductive toxicity : Category 1B  
  
Specific target organ systemic toxicity - repeated exposure (Oral) : Category 2 (Kidney, Liver)

### GHS label elements

Hazard pictograms :  

Signal Word : Danger

Hazard Statements : Harmful if swallowed.  
May damage fertility or the unborn child.  
May cause damage to organs (Kidney, Liver) through prolonged or repeated exposure if swallowed.

Precautionary Statements : **Prevention:**  
Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.

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Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.  
Wash skin thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

IF exposed or concerned: Get medical advice/ attention.

**Storage:**

Store locked up.

**Disposal:**

Dispose of contents/ container to an approved waste disposal plant.

**Other hazards**

None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture


**Hazardous components**

Chemical name	CAS-No.	Classification	Concentration (%)
ETHYLENE GLYCOL	107-21-1	Acute Tox. 4; H302 STOT RE 2; H373	87.4501
DIETHYLENE GLYCOL	111-46-6	Acute Tox. 4; H302 STOT RE 2; H373	4.3713
DISODIUM TETRABORATE ANHYDROUS	1330-43-4	Repr. 1B; H360	0.4603

**SECTION 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.

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- In case of skin contact : First aid is not normally required. However, it is recommended that exposed areas be cleaned by washing with soap and water.
- In case of eye contact : Flush eyes with water as a precaution.  
Remove contact lenses.  
Protect unharmed eye.  
If eye irritation persists, consult a specialist.
- If swallowed : Obtain medical attention.  
Rinse mouth with water.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.
- Most important symptoms and effects, both acute and delayed : Effects of acute ethylene glycol poisoning appear in three fairly distinct stages. The initial stage occurs shortly after exposure, lasts 6-12 hours, and is characterized by central nervous system effects (transient exhilaration, nausea, vomiting, and in severe cases, coma, convulsions, and possible death). The second stage lasts from 12-36 hours after exposure and is initiated by the onset of coma. This phase is characterized by tachypnea, tachycardia, mild hypotension, cyanosis, and in severe cases, pulmonary edema, bronchopneumonia, cardiac enlargement, and congestive failure. The final stage occurs 24-72 post-exposure and is characterized by renal failure, ranging from a mild increase in blood urea nitrogen and creatinine followed by recovery, to complete anuria with acute tubular necrosis that can lead to death. Oxaluria is found in most cases. The most significant laboratory finding in ethylene glycol intoxication is severe metabolic acidosis.
- Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:  
stomach or intestinal upset (nausea, vomiting, diarrhea)  
irritation (nose, throat, airways)  
Cough  
pain in the abdomen and lower back  
cyanosis (causes blue coloring of the skin and nails from lack of oxygen)  
lung edema (fluid buildup in the lung tissue)  
acute kidney failure (sudden slowing or stopping of urine production)  
Convulsions  
Harmful if swallowed.  
May damage fertility or the unborn child.
- Notes to physician : This product contains ethylene glycol. Ethanol decreases the metabolism of ethylene glycol to toxic metabolites. Ethanol

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should be administered as soon as possible in cases of severe poisoning since the elimination half-life of ethylene glycol is 3 hours. If medical care will be delayed several hours, give the patient three to four 1-ounce oral "shots" of 86-proof or higher whiskey before or during transport to the hospital. Fomepizole (4-methylpyrazole) is an effective antagonist of alcohol dehydrogenase, and as such, may be used as an antidote in the treatment of ethylene glycol poisoning. Hemodialysis effectively removes ethylene glycol and its metabolites from the body.

**SECTION 5. FIREFIGHTING MEASURES**

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Water spray  
Foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : Alcohols  
Aldehydes  
carbon dioxide and carbon monoxide  
ethers  
toxic fumes  
Hydrocarbons
- Specific extinguishing methods :  
  
Product is compatible with standard fire-fighting agents.
- Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions, : Use personal protective equipment.

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protective equipment and emergency procedures

Ensure adequate ventilation.  
Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

Environmental precautions

: Prevent product from entering drains.  
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.

Other information

: Comply with all applicable federal, state, and local regulations.

**SECTION 7. HANDLING AND STORAGE**

Advice on safe handling

: Do not breathe vapours/dust.  
Do not smoke.  
Container hazardous when empty.  
Avoid exposure - obtain special instructions before use.  
Avoid contact with skin and eyes.  
Smoking, eating and drinking should be prohibited in the application area.  
For personal protection see section 8.  
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.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
Observe label precautions.

**SECTION 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	C	100 mg/m3 Aerosol only	ACGIH
		C	50 ppm 125 mg/m3	OSHA P0
		C	40 ppm	CAL PEL

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			100 mg/m3 Vapour	
DIETHYLENE GLYCOL	111-46-6	TWA	10 mg/m3	US WEEL
DISODIUM TETRABORATE ANHYDROUS	1330-43-4	TWA	1 mg/m3	NIOSH REL
		PEL	5 mg/m3	CAL PEL
		TWA	10 mg/m3	OSHA P0
		TWA	2 mg/m3 Inhalable fraction (Borate)	ACGIH
		STEL	6 mg/m3 Inhalable fraction (Borate)	ACGIH

**Hazardous components without workplace control parameters**

Components	CAS-No.
DISODIUM TETRABORATE ANHYDROUS	1330-43-4

**Engineering measures** : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

**Personal protective equipment**

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

**Hand protection**

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

**Eye protection**

: Not required under normal conditions of use. Wear splash-proof safety goggles if material could be misted or splashed into eyes.

**Skin and body protection**

: Wear as appropriate:  
Impervious clothing  
Safety shoes  
Choose body protection according to the amount and

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concentration of the dangerous substance at the work place.  
Wear resistant gloves (consult your safety equipment supplier).

Hygiene measures : Wash hands before breaks and at the end of workday.  
When using do not eat or drink.  
When using do not smoke.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical state : liquid

Odour : No data available

Odour Threshold : No data available

pH : No data available

Melting point/freezing point : No data available

Boiling point/boiling range : 212 °F / 100 °C  
(1,013.333333 hPa)  
Calculated Phase Transition Liquid/Gas

Flash point : > 482 °F / > 250 °C

Evaporation rate : No data available

Flammability (solid, gas) : No data available

Upper explosion limit : 15.3 %(V)  
GLP: Calculated Explosive Limit

Lower explosion limit : 3.2 %(V)  
GLP: Calculated Explosive Limit

Vapour pressure : 23.3333333 hPa (20 °C)  
Calculated Vapor Pressure

Relative vapour density : No data available

Relative density : No data available

Density : 1.0732 g/cm3 (15.6 °C)

Solubility(ies)

Water solubility : No data available

Solubility in other solvents : No data available

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Partition coefficient: n-octanol/water : No data available

Thermal decomposition : No data available

Viscosity  
Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Oxidizing properties : No data available

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : Stable under recommended storage conditions.

Possibility of hazardous reactions : Product will not undergo hazardous polymerization.

Conditions to avoid : excessive heat

Incompatible materials : Acids  
Aldehydes  
Alkali metals  
Alkaline earth metals  
Bases  
strong alkalis  
Strong oxidizing agents  
Sulphur compounds

Hazardous decomposition products  
Alcohols  
Aldehydes  
carbon dioxide and carbon monoxide  
ethers  
Hydrocarbons  
Organic acids  
ketones

**SECTION 11. TOXICOLOGICAL INFORMATION**

Information on likely routes of exposure : Inhalation  
Skin contact  
Eye Contact  
Ingestion



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**Acute toxicity**

Harmful if swallowed.

**Product:**

Acute oral toxicity

: Remarks: Ingestion of medications contaminated with diethylene glycol has caused kidney failure and death in humans. Products containing diethylene glycol should be considered toxic by ingestion.

Acute dermal toxicity

: Remarks: Skin absorption of this material (or a component) may be increased through injured skin.

**Components:**

ETHYLENE GLYCOL:

Acute oral toxicity

: LD0 (Human): Estimated 1.56 g/kg

Assessment: The component/mixture is classified as acute oral toxicity, category 4.

Acute inhalation toxicity

: LC50 (Rat): 10.9 mg/l  
Exposure time: 1 h  
Test atmosphere: dust/mist  
Assessment: No adverse effect has been observed in acute inhalation toxicity tests.

Acute dermal toxicity

: LD50 (Rabbit): 9,530 mg/kg

DIETHYLENE GLYCOL:

Acute oral toxicity

: LD50 (Human): Expected 1,120 mg/kg  
Target Organs: Kidney

Acute inhalation toxicity

: LC50 (Rat): > 4.6 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: No adverse effect has been observed in acute inhalation toxicity tests.

Acute dermal toxicity

: LD50 (Rabbit): 13,300 mg/kg

DISODIUM TETRABORATE ANHYDROUS:

Acute inhalation toxicity

: LC50 (Rat): > 2.03 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
Assessment: No adverse effect has been observed in acute inhalation toxicity tests.

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Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg  
Assessment: No adverse effect has been observed in acute dermal toxicity tests.

**Skin corrosion/irritation**

Not classified based on available information.

**Components:**

ETHYLENE GLYCOL:

Species: Rabbit

Result: No skin irritation

DIETHYLENE GLYCOL:

Species: Human

Result: Slight, transient irritation

DISODIUM TETRABORATE ANHYDROUS:

Species: Rabbit

Result: No skin irritation

**Serious eye damage/eye irritation**

Not classified based on available information.

**Product:**

Remarks: Unlikely to cause eye irritation or injury.

**Components:**

ETHYLENE GLYCOL:

Result: Slight, transient irritation

DIETHYLENE GLYCOL:

Species: Rabbit

Result: Slight, transient irritation

DISODIUM TETRABORATE ANHYDROUS:

Result: Slight, transient irritation

**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.

DIETHYLENE GLYCOL:

Test Type: Maximisation Test

Species: Guinea pig

Method: Directive 67/548/EEC, Annex V, B.6.

Result: Did not cause sensitisation on laboratory animals.

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### DISODIUM TETRABORATE ANHYDROUS:

Test Type: Buehler Test

Species: Guinea pig

Assessment: Does not cause skin sensitisation.

Method: OECD Test Guideline 406

Germ cell mutagenicity

Not classified based on available information.

#### Components:

#### ETHYLENE GLYCOL:

Genotoxicity in vitro

: Test Type: Ames test

Test species: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Result: negative

#### DIETHYLENE GLYCOL:

Genotoxicity in vitro

: Test Type: Ames test

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

GLP: yes

: Test species: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 479

Result: negative

GLP: yes

Genotoxicity in vivo

: Test Type: In vivo micronucleus test

Test species: Mouse

Method: OECD Test Guideline 474

Result: negative

GLP: yes

### **Carcinogenicity**

Not classified based on available information.

### **Reproductive toxicity**

May damage fertility or the unborn child.

#### Components:

#### DISODIUM TETRABORATE ANHYDROUS:

Reproductive toxicity -

: Clear evidence of adverse effects on sexual function and

Assessment

fertility, and/or on development, based on animal experiments

### **STOT - single exposure**

Not classified based on available information.

### **STOT - repeated exposure**

Not classified based on available information.

#### Components:

#### ETHYLENE GLYCOL:

Exposure routes: Ingestion

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Target Organs: Kidney, Liver

Assessment: May cause damage to organs through prolonged or repeated exposure.

DIETHYLENE GLYCOL:

Exposure routes: Ingestion

Target Organs: Kidney

Assessment: May cause damage to organs through prolonged or repeated exposure.

**Aspiration toxicity**

Not classified based on available information.

**Experience with human exposure****Components:**

DIETHYLENE GLYCOL:

Liver

**Further information****Product:**

Remarks: No data available

**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Product:**

Ecotoxicology Assessment

Acute aquatic toxicity : Acute aquatic toxicity Category 3; Harmful to aquatic life.

Chronic aquatic toxicity : Not classified based on available information.

**Components:**

ETHYLENE GLYCOL:

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 27,540 mg/l  
Exposure time: 96 h  
Test Type: static testLC50 (Pimephales promelas (fathead minnow)): 8,050 mg/l  
Exposure time: 96 hToxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): > 10,000 mg/l  
Exposure time: 48 h  
Test Type: static testToxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 6,500 - 13,000 mg/l  
End point: Growth inhibition  
Exposure time: 7 DaysToxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 32,000 mg/l  
Exposure time: 7 dToxicity to daphnia and other aquatic invertebrates : NOEC (Daphnia magna (Water flea)): 24,000 mg/l  
Exposure time: 7 d

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(Chronic toxicity)

### DIETHYLENE GLYCOL:

Toxicity to fish : LC50 (Fathead minnow (*Pimephales promelas*)): 75,210 mg/l  
Exposure time: 96 h  
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates : LC50 (Water flea (*Daphnia magna*)): > 10,000 mg/l  
Exposure time: 24 h  
Test Type: static test  
Method: DIN 38412

### DISODIUM TETRABORATE ANHYDROUS:

Toxicity to fish : LC50 (*Pimephales promelas* (fathead minnow)): 79.7 mg/l  
Exposure time: 96 h  
Remarks: Information refers to the main component.

Toxicity to algae : NOEC (*Pseudokirchneriella subcapitata* (green algae)): 17.5 mg/l  
End point: Growth inhibition  
Exposure time: 72 h  
Test Type: static test  
Method: OECD Test Guideline 201  
Remarks: Information refers to the main component.

Toxicity to fish (Chronic toxicity) : NOEC (*Danio rerio* (zebra fish)): 5.6 mg/l  
Exposure time: 34 d  
Test Type: semi-static test  
Method: OECD Test Guideline 210  
Remarks: Information refers to the main component.

### Persistence and degradability

#### Components:

#### ETHYLENE GLYCOL:

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

#### DIETHYLENE GLYCOL:

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 70 - 80 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B

#### DISODIUM TETRABORATE ANHYDROUS:

Biodegradability : Result: The methods for determining biodegradability are not applicable to inorganic substances.

No data available

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**Bioaccumulative potential**
**Components:**

ETHYLENE GLYCOL:

Bioaccumulation

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

Partition coefficient: n-octanol/water

: log Pow: -1.36

DIETHYLENE GLYCOL:

Bioaccumulation

: Species: Leuciscus idus (Golden orfe)  
Bioconcentration factor (BCF): 100

Partition coefficient: n-octanol/water

: log Pow: -1.47

No data available

**Mobility in soil**
**Components:**

No data available

**Other adverse effects**

No data available

**Product:**

Additional ecological information

: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Harmful to aquatic life.

**Components:**
**SECTION 13. DISPOSAL CONSIDERATIONS**
**Disposal methods**

General advice

: The product should not be allowed to enter drains, water courses or the soil.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.

Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging

: Empty remaining contents.  
Dispose of as unused product.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Do not re-use empty containers.

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**SECTION 14. TRANSPORT INFORMATION****International transport regulations****REGULATION**

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

**U.S. DOT - ROAD**

Not dangerous goods

**CFR\_RAIL\_C**

Not dangerous goods

**U.S. DOT - INLAND WATERWAYS**

Not dangerous goods

**TDG\_ROAD\_C**

Not dangerous goods

**TDG\_RAIL\_C**

Not dangerous goods

**TDG\_INWT\_C**

Not dangerous goods

**INTERNATIONAL MARITIME DANGEROUS GOODS**

Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO**

Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER**

Not dangerous goods

**MX\_DG**

Not dangerous goods

**\*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

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Marine pollutant

no

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.

**SECTION 15. REGULATORY INFORMATION****EPCRA - Emergency Planning and Community Right-to-Know Act****CERCLA Reportable Quantity**

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
ETHYLENE GLYCOL	107-21-1	5000	5718

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards** : Acute Health Hazard  
Chronic Health Hazard

**SARA 313**

ETHYLENE GLYCOL 107-21-1 87.45 %

**California Prop 65** : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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

DSL : All components of this product are on the Canadian DSL

AICS : On the inventory, or in compliance with the inventory

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

TSCA : On TSCA Inventory

**Inventories**

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



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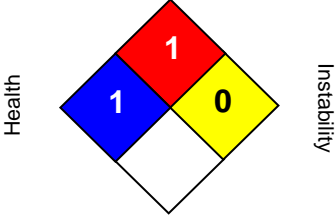
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### SECTION 16. OTHER INFORMATION

#### Further information

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NFPA:	HMIS III:						
<p>Flammability</p> <p>Health</p> <p>Instability</p> <p>Special hazard.</p> 	<table border="1"> <tr> <td><b>HEALTH</b></td><td><b>1*</b></td></tr> <tr> <td><b>FLAMMABILITY</b></td><td><b>1</b></td></tr> <tr> <td><b>PHYSICAL HAZARD</b></td><td><b>0</b></td></tr> </table> <p>0 = not significant, 1 =Slight, 2 = Moderate, 3 = High 4 = Extreme, * = Chronic</p>	<b>HEALTH</b>	<b>1*</b>	<b>FLAMMABILITY</b>	<b>1</b>	<b>PHYSICAL HAZARD</b>	<b>0</b>
<b>HEALTH</b>	<b>1*</b>						
<b>FLAMMABILITY</b>	<b>1</b>						
<b>PHYSICAL HAZARD</b>	<b>0</b>						

#### NFPA Flammable and Combustible Liquids Classification

Combustible Liquid Class IIIB

#### Full text of H-Statements

H302	Harmful if swallowed.
H360	May damage fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure if swallowed.

Sources of key data used to compile the Safety Data Sheet

Valvoline internal data including own and sponsored test reports

The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.


The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Valvoline's Environmental Health and Safety Department (1-800-VALVOLINE).

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :

ACGIH : American Conference of Industrial Hygienists

BEI : Biological Exposure Index

CAS : Chemical Abstracts Service (Division of the American Chemical Society).

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	SDS Number: 000000196150
Zerex™ GREEN HD PRE-CHARGED RTU Antifreeze Coolant ZXPCRU1	Version: 1.2

CMR : Carcinogenic, Mutagenic or Toxic for Reproduction

FG : Food grade

GHS : Globally Harmonized System of Classification and Labeling of Chemicals.

H-statement : Hazard Statement

IATA : International Air Transport Association.

IATA-DGR : Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO : International Civil Aviation Organization

ICAO-TI (ICAO) : Technical Instructions by the "International Civil Aviation Organization"

IMDG : International Maritime Code for Dangerous Goods

ISO : International Organization for Standardization

logPow : octanol-water partition coefficient

LCxx : Lethal Concentration, for xx percent of test population

LDxx : Lethal Dose, for xx percent of test population.

ICxx : Inhibitory Concentration for xx of a substance

Ecxx : Effective Concentration of xx

N.O.S.: Not Otherwise Specified

OECD : Organization for Economic Co-operation and Development

OEL : Occupational Exposure Limit

P-Statement : Precautionary Statement

PBT : Persistent , Bioaccumulative and Toxic

PPE : Personal Protective Equipment

STEL : Short-term exposure limit

STOT : Specific Target Organ Toxicity

TLV : Threshold Limit Value

TWA : Time-weighted average

vPvB : Very Persistent and Very Bioaccumulative

WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act

DOT : Department of Transportation

FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act

HMIRC : Hazardous Materials Information Review Commission

HMIS : Hazardous Materials Identification System

NFPA : National Fire Protection Association

NIOSH : National Institute for Occupational Safety and Health

OSHA : Occupational Safety and Health Administration

PMRA : Health Canada Pest Management Regulatory Agency

RTK : Right to Know

WHMIS : Workplace Hazardous Materials Information System