



SAFETY DATA SHEET
ZEREX™ HD EXTENDED LIFE 50/50 Antifreeze
Coolant

Version: 1.8

Revision Date: 01/31/2022

Print Date:
05/10/2022

29 CFR 1910.1200 (OSHA HazCom 2012)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

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

Product code : ZXEDRU2

Relevant identified uses of the substance or mixture and uses advised against

Recommended use : Antifreeze Coolant

Details of the supplier of the safety data sheet Valvoline LLC 100 Valvoline Way Lexington, KY 40509 United States of America (USA) 1-800-TEAMVAL (1-800-832-6825) SDS@valvoline.com	Emergency telephone number 1-800-VALVOLINE (1-800-825-8654) Regulatory Information Number 1-800-TEAMVAL (1-800-832-6825) Product Information 1-800-TEAMVAL (1-800-832-6825)
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SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral) : Category 4

Specific target organ toxicity
- repeated exposure (Oral) : Category 2 (Kidney, Liver)

GHS label elements

Hazard pictograms :



Signal Word : Warning

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



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Precautionary Statements : **Prevention:**
Do not breathe mist or vapors.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Response:
IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
Get medical advice/ attention if you feel unwell.
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	>=40.00 - < 50.00
POTASSIUM HYDROXIDE	1310-58-3	Met. Corr. 1; H290 Acute Tox. 4; H302 Skin Corr. 1A; H314 Eye Dam. 1; H318	>=1.00 - < 1.50
SODIUM NITRITE	7632-00-0	Ox. Sol. 2; H272 Acute Tox. 3; H301 Eye Irrit. 2A; H319	>=0.10 - < 0.50

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.



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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 : Induce vomiting immediately and call a physician.
Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.
- Most important symptoms and effects, both acute and delayed : Harmful if swallowed.
May cause damage to organs through prolonged or repeated exposure if swallowed.
No symptoms known or expected.
- Notes to physician : No hazards which require special first aid measures.

Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

- Unsuitable extinguishing media : High volume water jet
- Hazardous combustion products : No hazardous combustion products are known
- Specific extinguishing methods :
- Further information : 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.



SAFETY DATA SHEET
ZEREX™ HD EXTENDED LIFE 50/50 Antifreeze
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Version: 1.8

Revision Date: 01/31/2022

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05/10/2022

SECTION 6. ACCIDENTAL RELEASE MEASURES

- 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.

SECTION 7. HANDLING AND STORAGE

- 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.

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	TWA	25 ppm Vapour	ACGIH
		STEL	50 ppm Vapour	ACGIH
		STEL	10 mg/m3 Inhalable fraction, Aerosol only	ACGIH
		C	50 ppm 125 mg/m3	OSHA P0
		C	40 ppm 100 mg/m3 Vapour	CAL PEL
POTASSIUM HYDROXIDE	1310-58-3	C	2 mg/m3	ACGIH



SAFETY DATA SHEET
 ZEREX™ HD EXTENDED LIFE 50/50 Antifreeze
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Revision Date: 01/31/2022

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		C	2 mg/m3	NIOSH REL
		C	2 mg/m3	OSHA P0
		C	2 mg/m3	CAL PEL

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

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.

SECTION 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

: < -33 °F / < -36 °C

Boiling point/boiling range

: 225 °F / 107 °C

Flash point

: > 250.00 °F / > 121.11 °C

Evaporation rate

: No data available

Flammability (solid, gas)

: No data available

Self-ignition

: No data available



SAFETY DATA SHEET
ZEREX™ HD EXTENDED LIFE 50/50 Antifreeze
Coolant

Version: 1.8

Revision Date: 01/31/2022

Print Date:
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Upper explosion limit / Upper flammability limit	:	15.3 %(V)
Lower explosion limit / Lower flammability limit	:	1 %(V)
Vapour pressure	:	23.3333333 hPa (68 °F / 20 °C) Calculated Vapor Pressure
Relative vapour density	:	No data available
Relative density	:	1.0745 (60.1 °F / 15.6 °C)
Density	:	1.0745 g/cm3 (60.1 °F / 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

SECTION 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 Keep away from heat, flame, sparks and other ignition sources.
Incompatible materials	:	Acids Alcohols Aldehydes



SAFETY DATA SHEET
ZEREX™ HD EXTENDED LIFE 50/50 Antifreeze
Coolant

Version: 1.8

Revision Date: 01/31/2022

Print Date:
05/10/2022

Alkali metals
Alkaline earth metals
aluminum
Amines
Bases
chlorinated solvents
Lead
sodium
strong bases
Strong oxidizing agents
Sulphur compounds
Zinc
Peroxides

Hazardous decomposition
products

No hazardous decomposition products are known.

SECTION 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



SAFETY DATA SHEET
ZEREX™ HD EXTENDED LIFE 50/50 Antifreeze
Coolant

Version: 1.8

Revision Date: 01/31/2022

Print Date:
05/10/2022

SODIUM NITRITE:

Acute oral toxicity : LD50 (Rat): 180 mg/kg
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.
Result : Repeated exposure may cause skin dryness or cracking.

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:

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

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.



SAFETY DATA SHEET
ZEREX™ HD EXTENDED LIFE 50/50 Antifreeze
Coolant

Version: 1.8

Revision Date: 01/31/2022

Print Date:
05/10/2022

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.

IARC Group 2A: Probably carcinogenic to humans
SODIUM NITRITE 7632-00-0
(nitrite (ingested) under conditions that result in endogenous nitrosation)
Group 2A: Probably carcinogenic to humans
SODIUM NITRATE 7631-99-4
(nitrate (ingested) under conditions that result in endogenous nitrosation)

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

May cause damage to organs (Kidney, Liver) through prolonged or repeated exposure if swallowed.

Components:

ETHYLENE GLYCOL:

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



SAFETY DATA SHEET
ZEREX™ HD EXTENDED LIFE 50/50 Antifreeze
Coolant

Version: 1.8

Revision Date: 01/31/2022

Print Date:
05/10/2022

Aspiration toxicity

Not classified based on available information.

Product:

No aspiration toxicity classification

Experience with human exposure

Components:

ETHYLENE GLYCOL:

Ingestion : Target Organs: Kidney

Further information

Product:

Remarks : No data available

Components:

POTASSIUM HYDROXIDE:

Remarks : No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Ecotoxicology Assessment

Short-term (acute) aquatic hazard : Not classified based on available information.

Long-term (chronic) aquatic hazard : 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 test

LC50 (Pimephales promelas (fathead minnow)): 8,050 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): > 10,000 mg/l
Exposure time: 48 h
Test Type: static test

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 6,500 - 13,000 mg/l
End point: Growth inhibition
Exposure time: 7 Days



SAFETY DATA SHEET
ZEREX™ HD EXTENDED LIFE 50/50 Antifreeze
Coolant

Version: 1.8

Revision Date: 01/31/2022

Print Date:
05/10/2022

Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 32,000 mg/l
Exposure time: 7 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 24,000 mg/l
Exposure time: 7 d

Ecotoxicology Assessment Short-term (acute) aquatic hazard : Not classified based on available information.

Long-term (chronic) aquatic hazard : Not classified based on available information.

POTASSIUM HYDROXIDE:
Toxicity to fish : LC50 (Gambusia affinis (Mosquito fish)): 80 mg/l
Exposure time: 96 h
Test Type: static test

Ecotoxicology Assessment Long-term (chronic) aquatic hazard : 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.

SODIUM NITRITE:
Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 2.35 - 3.81 mg/l
Exposure time: 96 h
Test Type: flow-through test

LC50 (Oncorhynchus mykiss (rainbow trout)): 0.54 - 26.3 mg/l
Exposure time: 96 h
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 15.4 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202

Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l
Exposure time: 72 h
Test Type: Growth inhibition
Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity) : NOEC (Ictalurus catus (catfish)): 6.16 mg/l
Exposure time: 31 d
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates : NOEC (Aquatic invertebrates): 9.86 mg/l
Exposure time: 80 d



SAFETY DATA SHEET
ZEREX™ HD EXTENDED LIFE 50/50 Antifreeze
Coolant

Version: 1.8

Revision Date: 01/31/2022

Print Date:
05/10/2022

(Chronic toxicity)

Test Type: static test

Toxicity to bacteria

: EC10 (activated sludge): 210 mg/l
Exposure time: 3 h
Test Type: Static
Method: OECD Test Guideline 209

Persistence and degradability

Components:

ETHYLENE GLYCOL:

Biodegradability

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

No data available

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

SODIUM NITRITE:

Partition coefficient: n-octanol/water

: log Pow: -3.700 (25 °C)

No data available

Mobility in soil

Components:

SODIUM NITRITE:

Stability in soil

: Remarks: Not expected to adsorb on soil.

No data available

Other adverse effects

No data available

Product:

Regulation

40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances

Remarks

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information

: No data available



SAFETY DATA SHEET
ZEREX™ HD EXTENDED LIFE 50/50 Antifreeze
Coolant

Version: 1.8

Revision Date: 01/31/2022

Print Date:
05/10/2022

Components:

POTASSIUM HYDROXIDE:

Additional ecological information : No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

General advice : 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.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

CFR_ROAD

Not regulated as a dangerous good

CFR_ROAD

Not regulated as a dangerous good

CFR_ROAD

Not regulated as a dangerous good

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.



SAFETY DATA SHEET
ZEREX™ HD EXTENDED LIFE 50/50 Antifreeze
Coolant

Version: 1.8

Revision Date: 01/31/2022

Print Date:
05/10/2022

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)
METHANOL	67-56-1	100	100 (F003)

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Specific target organ toxicity (single or repeated exposure)

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

ETHYLENE 107-21-1 >= 30 - < 50 %
GLYCOL

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

ETHYLENE GLYCOL 107-21-1 >= 30 - < 50 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

ETHYLENE GLYCOL 107-21-1 >= 30 - < 50 %

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

POTASSIUM 1310-58-3 >= 1 - < 5 %
HYDROXIDE
ADIPIC ACID 124-04-9 >= 0.1 - < 1 %
SODIUM NITRITE 7632-00-0 >= 0.1 - < 1 %
SODIUM HYDROXIDE 1310-73-2 >= 0 - < 0.1 %

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:



SAFETY DATA SHEET
ZEREX™ HD EXTENDED LIFE 50/50 Antifreeze
Coolant

Version: 1.8

Revision Date: 01/31/2022


Print Date:
05/10/2022

POTASSIUM HYDROXIDE	1310-58-3	>= 1 - < 5 %
ADIPIC ACID	124-04-9	>= 0.1 - < 1 %
SODIUM NITRITE	7632-00-0	>= 0.1 - < 1 %
SODIUM HYDROXIDE	1310-73-2	>= 0 - < 0.1 %

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

California Prop. 65

 **WARNING:** Reproductive Harm - www.P65Warnings.ca.gov.

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

TCSI	:	On the inventory, or 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
ISHL	:	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	:	On the inventory, or in compliance with the inventory
TECI	:	Not in compliance with the inventory

TSCA list

No substances are subject to a Significant New Use Rule.

The following substance(s) is/are subject to TSCA 12(b) export notification requirements:

SODIUM NITRITE 7632-00-0

Inventories

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)

SECTION 16. OTHER INFORMATION



SAFETY DATA SHEET
 ZEREX™ HD EXTENDED LIFE 50/50 Antifreeze
 Coolant

Version: 1.8

Revision Date: 01/31/2022

Print Date:
05/10/2022

Further information

Internal information : R0368895

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

NFPA Flammable and Combustible Liquids Classification
 Combustible Liquid Class IIIB

Full text of H-Statements

- H272 May intensify fire; oxidizer.
- H290 May be corrosive to metals.
- H301 Toxic if swallowed.
- H302 Harmful if swallowed.
- H314 Causes severe skin burns and eye damage.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- 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).



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ZEREX™ HD EXTENDED LIFE 50/50 Antifreeze
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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).

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