



SAFETY DATA SHEET
Zerex™ Heavy Duty Extended Life 50/50
Antifreeze Coolant

Version: 2.0

Revision Date: 06/19/2023

Print Date:
04/13/2025

SECTION 1. IDENTIFICATION

Product name : Zerex™ Heavy Duty Extended Life 50/50
Antifreeze Coolant

Product code : 896519

Manufacturer or supplier's details

Company name of supplier : Valvoline Global Operations

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

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

E-mail address : SDS@valvolineglobal.com

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

Recommended use of the chemical and restrictions on use

Recommended use : Antifreeze Coolant

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity (Oral) : Category 4

Carcinogenicity : Category 1B

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

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H302 Harmful if swallowed.
H350 May cause cancer.



SAFETY DATA SHEET
Zerex™ Heavy Duty Extended Life 50/50
Antifreeze Coolant

Version: 2.0

Revision Date: 06/19/2023

Print Date:
04/13/2025

H373 May cause damage to organs (Kidney, Liver) through prolonged or repeated exposure if swallowed.

Precautionary statements

:

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe mist or vapours.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Storage:

P405 Store locked up.

Disposal:

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

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
ETHYLENE GLYCOL	107-21-1	>= 40 - < 50
POTASSIUM HYDROXIDE	1310-58-3	>= 1 - < 1.5
SODIUM NITRITE	7632-00-0	>= 0.1 - < 0.5
SODIUM NITRATE	7631-99-4	>= 0.1 - < 0.5

Actual concentration is withheld as a trade secret

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.



SAFETY DATA SHEET
Zerex™ Heavy Duty Extended Life 50/50
Antifreeze Coolant

Version: 2.0

Revision Date: 06/19/2023

Print Date:
04/13/2025

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. 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. May cause cancer. May cause damage to organs through prolonged or repeated exposure if swallowed.
Notes to physician	:	No hazards which require special first aid measures. Treat symptomatically.

SECTION 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
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.

SECTION 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	:	Soak up with inert absorbent material (e.g. sand, silica gel,



SAFETY DATA SHEET
 Zerex™ Heavy Duty Extended Life 50/50
 Antifreeze Coolant

Version: 2.0

Revision Date: 06/19/2023

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04/13/2025

containment and cleaning up : acid binder, universal binder, sawdust).
 Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

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.

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 (Vapour)	25 ppm	ACGIH
		STEL (Vapour)	50 ppm	ACGIH
		STEL (Inhalable fraction, Aerosol only)	10 mg/m3	ACGIH
POTASSIUM HYDROXIDE	1310-58-3	C	50 ppm 125 mg/m3	OSHA P0
		C	2 mg/m3	ACGIH
		C	2 mg/m3	NIOSH REL
		C	2 mg/m3	OSHA P0

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.



SAFETY DATA SHEET
Zerex™ Heavy Duty Extended Life 50/50
Antifreeze Coolant

Version: 2.0

Revision Date: 06/19/2023

Print Date:
04/13/2025

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
- 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



Valvoline™
Global

SAFETY DATA SHEET
Zerex™ Heavy Duty Extended Life 50/50
Antifreeze Coolant

Version: 2.0

Revision Date: 06/19/2023

Print Date:
04/13/2025

Relative density	:	1.0745 (60.1 °F / 15.6 °C)
Density	:	1.0745 g/cm ³ (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 Exposure to moisture
Incompatible materials	:	Acids Alcohols Aldehydes Alkali metals Alkaline earth metals aluminum Amines Bases chlorinated solvents Fluorine Hydrogen fluoride Lead lithium sodium strong bases Strong oxidizing agents Sulphur compounds Zinc Peroxides
Hazardous decomposition	:	No hazardous decomposition products are known.



SAFETY DATA SHEET
Zerex™ Heavy Duty Extended Life 50/50
Antifreeze Coolant

Version: 2.0

Revision Date: 06/19/2023

Print Date:
04/13/2025

products

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

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

SODIUM NITRATE:

Acute oral toxicity : LD50 (Rat): ca. 3,430 mg/kg
Method: OECD Test Guideline 401



Valvoline™
Global

SAFETY DATA SHEET
Zerex™ Heavy Duty Extended Life 50/50
Antifreeze Coolant

Version: 2.0

Revision Date: 06/19/2023

Print Date:
04/13/2025

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

SODIUM NITRATE:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation
Remarks : The toxicological data has been taken from products of similar composition.

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



SAFETY DATA SHEET
Zerex™ Heavy Duty Extended Life 50/50
Antifreeze Coolant

Version: 2.0

Revision Date: 06/19/2023

Print Date:
04/13/2025

SODIUM NITRITE:

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

SODIUM NITRATE:

Species : Rabbit
Result : Irritating to eyes.
Method : OECD Test Guideline 405

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

May cause cancer.

IARC Group 2A: Probably carcinogenic to humans
SODIUM NITRITE

7632-00-0



Valvoline™
Global

SAFETY DATA SHEET
Zerex™ Heavy Duty Extended Life 50/50
Antifreeze Coolant

Version: 2.0

Revision Date: 06/19/2023

Print Date:
04/13/2025

(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.

Aspiration toxicity

Not classified based on available information.

Experience with human exposure

Components:

ETHYLENE GLYCOL:

Ingestion : Target Organs: Kidney

Further information

Product:

Remarks : No data available



SAFETY DATA SHEET
Zerex™ Heavy Duty Extended Life 50/50
Antifreeze Coolant

Version: 2.0

Revision Date: 06/19/2023

Print Date:
04/13/2025

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

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

Acute aquatic toxicity : Not classified based on available information.

Chronic aquatic toxicity : 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



SAFETY DATA SHEET
Zerex™ Heavy Duty Extended Life 50/50
Antifreeze Coolant

Version: 2.0

Revision Date: 06/19/2023

Print Date:
04/13/2025

Ecotoxicology Assessment

- Acute aquatic toxicity : Acute aquatic toxicity Category 3; Harmful to aquatic life.
- Chronic aquatic toxicity : 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.
- Chronic aquatic toxicity Category 3; Harmful to aquatic life with long lasting effects.

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/aquatic plants : 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 (Chronic toxicity) : NOEC (Aquatic invertebrates): 9.86 mg/l
Exposure time: 80 d
Test Type: static test
- Toxicity to microorganisms : EC10 (activated sludge): 210 mg/l
Exposure time: 3 h
Test Type: Static
Method: OECD Test Guideline 209

Ecotoxicology Assessment

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



SAFETY DATA SHEET
Zerex™ Heavy Duty Extended Life 50/50
Antifreeze Coolant

Version: 2.0

Revision Date: 06/19/2023

Print Date:
04/13/2025

SODIUM NITRATE:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 1,355 - 2,063 mg/l
Exposure time: 96 h
Method: Static
Remarks: Mortality

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 3,581 mg/l
Exposure time: 48 h
Method: Static

LC50 (Daphnia magna (Water flea)): 665 mg/l
Exposure time: 96 h
Method: Static

Ecotoxicology Assessment

Acute aquatic toxicity : Not classified based on available information.

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

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- : log Pow: -3.700 (77 °F / 25 °C)



SAFETY DATA SHEET
Zerex™ Heavy Duty Extended Life 50/50
Antifreeze Coolant

Version: 2.0

Revision Date: 06/19/2023

Print Date:
04/13/2025

octanol/water

Mobility in soil

Components:

SODIUM NITRITE:

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

Other adverse effects

Product:

Ozone-Depletion Potential : 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 : No data available
information

SECTION 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.

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.



SAFETY DATA SHEET
Zerex™ Heavy Duty Extended Life 50/50
Antifreeze Coolant

Version: 2.0

Revision Date: 06/19/2023

Print Date:
04/13/2025

National Regulations

49 CFR

Not regulated as a dangerous good

49 CFR

Not regulated as a dangerous good

49 CFR

Not regulated as a dangerous good

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.

SECTION 15. REGULATORY INFORMATION

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)
Carcinogenicity
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).



SAFETY DATA SHEET
Zerex™ Heavy Duty Extended Life 50/50
Antifreeze Coolant

Version: 2.0

Revision Date: 06/19/2023

Print Date:
04/13/2025

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:

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 %

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

US State Regulations

Massachusetts Right To Know

ETHYLENE GLYCOL 107-21-1
WATER 7732-18-5
POTASSIUM HYDROXIDE 1310-58-3

Pennsylvania Right To Know

ETHYLENE GLYCOL 107-21-1
WATER 7732-18-5
POTASSIUM HYDROXIDE 1310-58-3
ADIPIC ACID 124-04-9
SODIUM NITRITE 7632-00-0
SODIUM HYDROXIDE 1310-73-2

Maine Chemicals of High Concern

WATER 7732-18-5
NICKEL 7440-02-0

Vermont Chemicals of High Concern

ETHYLENE GLYCOL 107-21-1
WATER 7732-18-5
SODIUM MOLYBDATE 7631-95-0
COBALT 7440-48-4

Washington Chemicals of High Concern

ETHYLENE GLYCOL 107-21-1



SAFETY DATA SHEET
Zerex™ Heavy Duty Extended Life 50/50
Antifreeze Coolant

Version: 2.0

Revision Date: 06/19/2023

Print Date:
04/13/2025

WATER 7732-18-5
COBALT 7440-48-4

California Prop. 65

WARNING: This product can expose you to chemicals including ETHYLENE GLYCOL, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California List of Hazardous Substances

ETHYLENE GLYCOL 107-21-1
POTASSIUM HYDROXIDE 1310-58-3

California Permissible Exposure Limits for Chemical Contaminants

ETHYLENE GLYCOL 107-21-1
POTASSIUM HYDROXIDE 1310-58-3

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

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)



Valvoline™
Global

SAFETY DATA SHEET
Zerex™ Heavy Duty Extended Life 50/50
Antifreeze Coolant

Version: 2.0

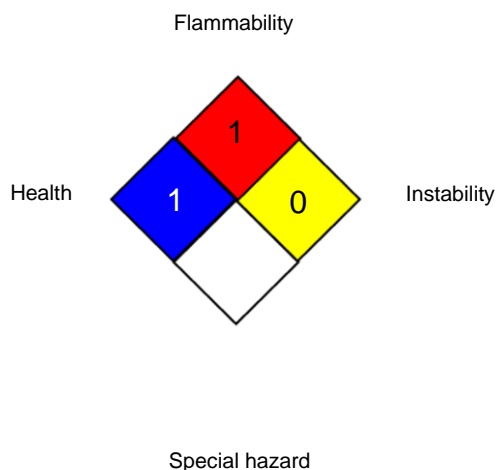
Revision Date: 06/19/2023

Print Date:
04/13/2025

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:

HEALTH	*	2
FLAMMABILITY		1
PHYSICAL HAZARD		0

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)
- NIOSH REL : USA. NIOSH Recommended Exposure Limits
- OSHA P0 : USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
- ACGIH / TWA : 8-hour, time-weighted average
- ACGIH / STEL : Short-term exposure limit
- ACGIH / C : Ceiling limit
- NIOSH REL / C : Ceiling value not be exceeded at any time.
- OSHA P0 / C : Ceiling limit

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory



Valvoline[™]

Global

SAFETY DATA SHEET
Zerex[™] Heavy Duty Extended Life 50/50
Antifreeze Coolant

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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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - 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

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