		Page: 1
SAFETY DATA SHEET		Revision Date: 05/19/2017
		Print Date: 12/3/2019
		SDS Number: 000000098616
ZEREX™ G40® Antifreeze Coolant		Version: 1.0
875535		

GHS classification in accordance with the Hazardous Products Regulations

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Trade name : ZEREX™ G40®
Antifreeze Coolant

<p>Details of the supplier of the safety data sheet Valvoline Canada Corp 905 Winston Churchill Blvd Mississauga ON L5J 4P2 Canada 1-800-TEAMVAL</p>	<p>Emergency telephone number 1-800-VALVOLINE (1-800-825-8654)</p> <p>Regulatory Information Number 1-800-TEAMVAL</p> <p>Product Information 1-800-TEAMVAL</p>
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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 : H302 Harmful if swallowed.
H373 May cause damage to organs (Kidney, Liver) through prolonged or repeated exposure if swallowed.

Precautionary statements : **Prevention:**
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
P314 Get medical advice/ attention if you feel unwell.

**SAFETY DATA SHEET**

Revision Date: 05/19/2017

Print Date: 12/3/2019

SDS Number: 000000098616

ZEREX™ G40® Antifreeze Coolant

Version: 1.0

875535

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

Hazardous components


Chemical name	CAS-No.	Classification	Concentration (%)
ETHYLENE GLYCOL	107-21-1	Acute Tox. 4; H302 STOT RE 2; H373	92.6533
DIETHYLENE GLYCOL	111-46-6	Acute Tox. 4; H302 STOT RE 2; H373	4.6355
SEBACIC ACID	111-20-6	Not a hazardous substance or mixture.	2.6822
SODIUM HYDROXIDE	1310-73-2	Met. Corr. 1; H290 Skin Corr. 1A; H314 Eye Dam. 1; H318	1.3929
ETHYLENE GLYCOL	107-21-1	Acute Tox. 4; H302 STOT RE 2; H373	>=90.00 - <= 100.00
DIETHYLENE GLYCOL	111-46-6	Acute Tox. 4; H302 STOT RE 2; H373	>=1.00 - < 5.00

SECTION 4. FIRST AID MEASURES



SAFETY DATA SHEET	Revision Date: 05/19/2017
	Print Date: 12/3/2019
	SDS Number: 000000098616
ZEREX™ G40® Antifreeze Coolant 875535	Version: 1.0

- 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 breathed in, move person into fresh air.
If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.
- 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.
- Harmful if swallowed.
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

	Page: 4
SAFETY DATA SHEET	Revision Date: 05/19/2017
	Print Date: 12/3/2019
	SDS Number: 00000098616
ZEREX™ G40® Antifreeze Coolant 875535	Version: 1.0

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

Notes to physician : This product contains ethylene glycol. Ethanol decreases the metabolism of ethylene glycol to toxic metabolites. Ethanol 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 (CO2)
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
Sodium oxides

Specific extinguishing methods :

Product is compatible with standard fire-fighting agents.

**SAFETY DATA SHEET**

Revision Date: 05/19/2017

Print Date: 12/3/2019

SDS Number: 000000098616

ZEREX™ G40® Antifreeze Coolant

Version: 1.0

875535

- Further information : Standard procedure for chemical fires.
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : 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.
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.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis



SAFETY DATA SHEET	Revision Date: 05/19/2017
	Print Date: 12/3/2019
	SDS Number: 000000098616
ZEREX™ G40® Antifreeze Coolant 875535	Version: 1.0

ETHYLENE GLYCOL	107-21-1	(c)	100 mg/m3	CA AB OEL
		TWA	10 mg/m3 particulate	CA BC OEL
		STEL	20 mg/m3 particulate	CA BC OEL
		C	100 mg/m3 aerosol	CA BC OEL
		C	50 ppm Vapour	CA BC OEL
		C	50 ppm 127 mg/m3 Vapour and mist	CA QC OEL

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 : 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 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.

**SAFETY DATA SHEET**

Revision Date: 05/19/2017

Print Date: 12/3/2019

SDS Number: 000000098616

ZEREX™ G40® Antifreeze Coolant

Version: 1.0

875535

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: liquid
Colour	: violet
Odour	: No data available
Odour Threshold	: No data available
pH	: Average 8.4
Melting point/freezing point	: No data available
Boiling point/boiling range	: 293 °F / 145 °C (1,013.33 hPa) Calculated Phase Transition Liquid/Gas
Flash point	: > 250 °F / > 121 °C
Evaporation rate	: No data available
Flammability (solid, gas)	: No data available
Upper explosion limit	: 15.1 %(V) Method: DIN 51649
Lower explosion limit	: 3.4 %(V) Method: DIN 51649
Vapour pressure	: 2 hPa (20 °C) Calculated Vapor Pressure
Relative vapour density	: No data available
Relative density	: 1.1231 (15.6 °C)
Density	: 1.1231 g/cm ³ (15.6 °C)
Solubility(ies)	
Water solubility	: soluble
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available

**SAFETY DATA SHEET**

Revision Date: 05/19/2017

Print Date: 12/3/2019

SDS Number: 000000098616

ZEREX™ G40® Antifreeze Coolant

Version: 1.0

875535

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 compoundsHazardous 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**Acute toxicity**

Harmful if swallowed.

**SAFETY DATA SHEET**

Revision Date: 05/19/2017

Print Date: 12/3/2019

SDS Number: 000000098616

ZEREX™ G40® Antifreeze Coolant

Version: 1.0

875535

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

SEBACIC ACID:

Acute oral toxicity

:

LD50 (Rat): > 5,000 mg/kg

Remarks: Information given is based on data obtained from similar substances.

Acute dermal toxicity

:

LD50 (Rat): > 2,000 mg/kg

Assessment: Not classified as acutely toxic by dermal absorption under GHS.

Remarks: No mortality observed at this dose.

**SAFETY DATA SHEET**

Revision Date: 05/19/2017

Print Date: 12/3/2019

SDS Number: 000000098616

ZEREX™ G40® Antifreeze Coolant

Version: 1.0

875535

SODIUM HYDROXIDE:

- Acute oral toxicity : LDLo (Rabbit): 500 mg/kg
- Acute inhalation toxicity : Assessment: Not classified as acutely toxic by inhalation under GHS.
Remarks: Moderate respiratory irritant
- Acute dermal toxicity : Symptoms: Corrosion
Assessment: Not classified as acutely toxic by dermal absorption under GHS.

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

Skin corrosion/irritation

Not classified based on available information.

Product:

Result: No skin irritation

Remarks: Expected based on components.

Components:**ETHYLENE GLYCOL:**

Species: Rabbit

**SAFETY DATA SHEET**

Revision Date: 05/19/2017

Print Date: 12/3/2019

SDS Number: 000000098616

ZEREX™ G40® Antifreeze Coolant

Version: 1.0

875535

Result: No skin irritation

DIETHYLENE GLYCOL:

Species: Human

Result: Slight, transient irritation

SEBACIC ACID:

Species: Rabbit

Result: No skin irritation

SODIUM HYDROXIDE:

Result: Corrosive after 3 minutes or less of exposure

Components:

ETHYLENE GLYCOL:

Species: Rabbit

Result: No skin irritation

DIETHYLENE GLYCOL:

Species: Human

Result: Slight, transient irritation

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Result: No eye irritation

Remarks: Expected based on components.

Remarks: Unlikely to cause eye irritation or injury.

Components:

ETHYLENE GLYCOL:

Result: Slight, transient irritation

DIETHYLENE GLYCOL:

Species: Rabbit

Result: Slight, transient irritation

SEBACIC ACID:

Species: Rabbit

Remarks: Mild eye irritation

SODIUM HYDROXIDE:

Result: Corrosive

Components:

ETHYLENE GLYCOL:

Result: Slight, transient irritation

DIETHYLENE GLYCOL:

**SAFETY DATA SHEET**

Revision Date: 05/19/2017

Print Date: 12/3/2019

SDS Number: 00000098616

ZEREX™ G40® Antifreeze Coolant

Version: 1.0

875535

Species: Rabbit
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.

SEBACIC ACID:

Assessment: Does not cause skin sensitisation.

SODIUM HYDROXIDE:

Exposure routes: Skin contact

Species: Humans

Result: negative

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.

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

**SAFETY DATA SHEET**

Revision Date: 05/19/2017

Print Date: 12/3/2019

SDS Number: 000000098616

ZEREX™ G40® Antifreeze Coolant

Version: 1.0

875535

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

SEBACIC ACID:

Genotoxicity in vitro

: Test Type: Ames test
Test species: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Result: negative

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

		Page: 14
SAFETY DATA SHEET		Revision Date: 05/19/2017
		Print Date: 12/3/2019
		SDS Number: 000000098616
ZEREX™ G40® Antifreeze Coolant		Version: 1.0
875535		

GLP: yes

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.

Components:

ETHYLENE GLYCOL:

Exposure routes: Ingestion

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.

Components:

ETHYLENE GLYCOL:

Exposure routes: Ingestion

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

Components:

DIETHYLENE GLYCOL:

Liver

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

**SAFETY DATA SHEET**

Revision Date: 05/19/2017

Print Date: 12/3/2019

SDS Number: 000000098616

ZEREX™ G40® Antifreeze Coolant

Version: 1.0

875535

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 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 (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 24,000 mg/l
Exposure time: 7 d**DIETHYLENE GLYCOL:**Toxicity to fish : LC50 (Fathead minnow (Pimephales promelas)): 75,210 mg/l
Exposure time: 96 h
Test Type: flow-through testToxicity 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**SEBACIC ACID:**Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 100 mg/l
Exposure time: 96 h
Test Type: semi-static testToxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Test Type: static test

Toxicity to algae : NOEC (Skeletonema costatum (marine diatom)): > 3 mg/l

**SAFETY DATA SHEET**

Revision Date: 05/19/2017

Print Date: 12/3/2019

SDS Number: 000000098616

ZEREX™ G40® Antifreeze Coolant

Version: 1.0

875535

End point: Growth inhibition
Exposure time: 72 h
Test Type: static test
Test substance: WAF
Remarks: No toxicity at the limit of solubility

SODIUM HYDROXIDE:

Toxicity to fish : LC50 (Western mosquitofish (*Gambusia affinis*)): 125 mg/l
Exposure time: 96 h
Method: Static
Remarks: Mortality

Toxicity to daphnia and other aquatic invertebrates : EC50 (Water flea (*Daphnia magna*)): 34.59 - 47.13 mg/l
Exposure time: 48 h
Remarks: Intoxication

Toxicity to bacteria : Remarks: Not applicable

Ecotoxicology Assessment

Acute aquatic toxicity : Neutralisation will reduce ecotoxic effects.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

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

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

DIETHYLENE GLYCOL:

Toxicity to fish : LC50 (*Fathead minnow* (*Pimephales promelas*)): 75,210 mg/l
Exposure time: 96 h

**SAFETY DATA SHEET**

Revision Date: 05/19/2017

Print Date: 12/3/2019

SDS Number: 000000098616

ZEREX™ G40® Antifreeze Coolant

Version: 1.0

875535

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

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

SEBACIC ACID:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 98 %
Exposure time: 28 d

SODIUM HYDROXIDE:

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

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

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

**SAFETY DATA SHEET**

Revision Date: 05/19/2017

Print Date: 12/3/2019

SDS Number: 000000098616

ZEREX™ G40® Antifreeze Coolant

Version: 1.0

875535

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

SEBACIC ACID:
Partition coefficient: n-octanol/water : log Pow: 1.5ETHYLENE 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 : No data available

Components:

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

General advice : Do not dispose of waste into sewer.



SAFETY DATA SHEET

Revision Date: 05/19/2017

Print Date: 12/3/2019

SDS Number: 000000098616

ZEREX™ G40® Antifreeze Coolant

Version: 1.0

875535

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.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

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



SAFETY DATA SHEET	Revision Date: 05/19/2017
	Print Date: 12/3/2019
	SDS Number: 000000098616
ZEREX™ G40® Antifreeze Coolant	Version: 1.0
875535	

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**

Marine pollutant	no
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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

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

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)

SECTION 16. OTHER INFORMATION



SAFETY DATA SHEET	Revision Date: 05/19/2017
	Print Date: 12/3/2019
	SDS Number: 000000098616
ZEREX™ G40® Antifreeze Coolant 875535	Version: 1.0

Further information

Revision Date: 05/19/2017

<p>NFPA:</p> <p>Health: 1, Flammability: 1, Instability: 0, Special hazard: none.</p>	<p>HMIS III:</p> <table border="1"> <tr> <td>HEALTH</td> <td>1*</td> </tr> <tr> <td>FLAMMABILITY</td> <td>1</td> </tr> <tr> <td>PHYSICAL HAZARD</td> <td>0</td> </tr> </table> <p>0 = not significant, 1 =Slight, 2 = Moderate, 3 = High 4 = Extreme, * = Chronic</p>	HEALTH	1*	FLAMMABILITY	1	PHYSICAL HAZARD	0
HEALTH	1*						
FLAMMABILITY	1						
PHYSICAL HAZARD	0						

NFPA Flammable and Combustible Liquids Classification
Combustible Liquid Class IIIB


Full text of H-Statements

- H290 May be corrosive to metals.
- H302 Harmful if swallowed.
- H314 Causes severe skin burns and eye damage.
- H318 Causes serious eye damage.
- 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

		Page: 22
SAFETY DATA SHEET		Revision Date: 05/19/2017
		Print Date: 12/3/2019
		SDS Number: 000000098616
ZEREX™ G40® Antifreeze Coolant		Version: 1.0
875535		

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