



To Our Customers:

The attached Safety Data Sheet (SDS) was prepared by the vendor of the product you purchased through one of our divisions. We used the manufacturer's electronic document directly or scanned a paper copy and generated a file for our automated SDS delivery system.

All statements, technical information, and recommendations contained therein are solely that of the manufacturer of the product. We at Zep Inc. did not verify the accuracy and completeness of the statements and do not warrant or guarantee the information. We provide vendor SDSs to assist our customers in their compliance efforts. The attached document is in compliance with one of the respective country regulatory requirements noted below:


The OSHA Hazard Communication Standard (in the United States)
The Hazardous Products Regulations (in Canada)

We made every effort to deliver all of the information prepared by the manufacturer. We cannot anticipate all conditions under which this information will be used. If you have any questions about the statements on the SDS, please contact the company shown on the document.

Zep Inc. assumes no liability or responsibility for loss or damage resulting from the improper use or handling of this product, from incompatible product combinations, or from the failure to follow instructions, warnings, and advisories in the manufacturer's product label and Safety Data Sheet.

Sincerely,

Product Stewardship Team
Zep Inc.

	Page: 1
SAFETY DATA SHEET	Revision Date: 01/17/2019
	Print Date: 6/3/2020
	SDS Number: 000000091712
ZEREX™ G-48® Formula 50/50 Antifreeze Coolant 859537	Version: 1.9

29 CFR 1910.1200 (OSHA HazCom 2012)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Trade name : ZEREX™ G-48® Formula 50/50 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)
---	---

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:**

SAFETY DATA SHEET

Revision Date: 01/17/2019

Print Date: 6/3/2020

SDS Number: 000000091712

ZEREX™ G-48® Formula 50/50 Antifreeze Coolant

Version: 1.9

859537

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

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	>=40.00 - < 50.00
DIETHYLENE GLYCOL	111-46-6	Acute Tox. 4; H302 STOT RE 2; H373	>=1.50 - < 5.00
2-ETHYLHEXANOIC ACID, SODIUM SALT	19766-89-3	Repr. 2; H361	>=1.50 - < 5.00
DISODIUM TETRABORATE	1330-43-4	Repr. 1B; H360	>=0.10 - < 0.50

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.



SAFETY DATA SHEET

Revision Date: 01/17/2019

Print Date: 6/3/2020

SDS Number: 000000091712


ZEREX™ G-48® Formula 50/50 Antifreeze Coolant

Version: 1.9

859537

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 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 |

	Page: 4
SAFETY DATA SHEET	Revision Date: 01/17/2019
	Print Date: 6/3/2020
ZEREX™ G-48® Formula 50/50 Antifreeze Coolant	SDS Number: 000000091712
859537	Version: 1.9

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

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.

Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SAFETY DATA SHEET

Revision Date: 01/17/2019

Print Date: 6/3/2020

SDS Number: 000000091712

ZEREX™ G-48® Formula 50/50 Antifreeze Coolant

Version: 1.9

859537

Special protective equipment : In the event of fire, wear self-contained breathing apparatus.
for firefighters

SECTION 6. ACCIDENTAL RELEASE MEASURES

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

SAFETY DATA SHEET

Revision Date: 01/17/2019

Print Date: 6/3/2020

SDS Number: 000000091712

ZEREX™ G-48® Formula 50/50 Antifreeze Coolant

Version: 1.9

859537

ETHYLENE GLYCOL	107-21-1	C	50 ppm 125 mg/m3	OSHA P0
		C	40 ppm 100 mg/m3 Vapour	CAL PEL
		TWA	25 ppm Vapour	ACGIH
		STEL	50 ppm Vapour	ACGIH
		STEL	10 mg/m3 Inhalable fraction, Aerosol only	ACGIH
DIETHYLENE GLYCOL	111-46-6	TWA	10 mg/m3	US WEEL
DISODIUM TETRABORATE	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

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.

SAFETY DATA SHEET

Revision Date: 01/17/2019

Print Date: 6/3/2020

SDS Number: 000000091712

ZEREX™ G-48® Formula 50/50 Antifreeze Coolant

Version: 1.9

859537

- 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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : liquid
- Colour : blue
- Odour : No data available
- Odour Threshold : No data available
- pH : 7.5 - 11
- 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 : > 250 °F / > 121 °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)
GLP: Calculated Explosive Limit
- Lower explosion limit / Lower flammability limit : 1.2 %(V)
GLP: Calculated Explosive Limit
- Vapour pressure : 23.3333333 hPa (68 °F / 20 °C)
Calculated Vapor Pressure
- Relative vapour density : No data available

SAFETY DATA SHEET

Revision Date: 01/17/2019

Print Date: 6/3/2020

SDS Number: 000000091712

ZEREX™ G-48® Formula 50/50 Antifreeze Coolant

Version: 1.9

859537

Relative density : No data available

Density : 1.0738 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 : 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
various hydrocarbons

**SAFETY DATA SHEET**

Revision Date: 01/17/2019

Print Date: 6/3/2020

SDS Number: 000000091712

ZEREX™ G-48® Formula 50/50 Antifreeze Coolant

Version: 1.9

859537

SECTION 11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure**

Inhalation

Skin contact

Eye Contact

Ingestion

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 toxicity estimate: 1,020 mg/kg

Method: Calculation method

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

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

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

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

**SAFETY DATA SHEET**

Revision Date: 01/17/2019

Print Date: 6/3/2020

SDS Number: 000000091712

ZEREX™ G-48® Formula 50/50 Antifreeze Coolant

Version: 1.9

859537

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

2-ETHYLHEXANOIC ACID, SODIUM SALT:

Acute oral toxicity : LD50 (Rat): 2,043 mg/kg

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

Acute inhalation toxicity : Assessment: Not classified as acutely toxic by inhalation under GHS.
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: Information given is based on data obtained from similar substances.

DISODIUM TETRABORATE:

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.

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

2-ETHYLHEXANOIC ACID, SODIUM SALT:

Species : Rabbit
Result : Slight, transient irritation
Remarks : Information given is based on data obtained from similar substances.

SAFETY DATA SHEET

Revision Date: 01/17/2019

Print Date: 6/3/2020

SDS Number: 000000091712

ZEREX™ G-48® Formula 50/50 Antifreeze Coolant

Version: 1.9

859537

DISODIUM TETRABORATE:

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

2-ETHYLHEXANOIC ACID, SODIUM SALT:

Species : Rabbit
Result : Slight, transient irritation
Remarks : Information given is based on data obtained from similar substances.

DISODIUM TETRABORATE:

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.

2-ETHYLHEXANOIC ACID, SODIUM SALT:

Test Type : Maximisation Test
Species : Guinea pig
Assessment : Does not cause skin sensitisation.
Method : OECD Test Guideline 406
Result : Does not cause skin sensitisation.
Remarks : Information given is based on data obtained from similar substances.

SAFETY DATA SHEET

Revision Date: 01/17/2019

Print Date: 6/3/2020

SDS Number: 000000091712

ZEREX™ G-48® Formula 50/50 Antifreeze Coolant

Version: 1.9

859537

DISODIUM TETRABORATE:

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 system: 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 system: 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
Species: Mouse
Method: OECD Test Guideline 474
Result: negative
GLP: yes

2-ETHYLHEXANOIC ACID, SODIUM SALT:

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Result: negative
Remarks: Information given is based on data obtained from similar substances.

Carcinogenicity

Not classified based on available information.

IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

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

**SAFETY DATA SHEET**

Revision Date: 01/17/2019

Print Date: 6/3/2020

SDS Number: 000000091712

ZEREX™ G-48® Formula 50/50 Antifreeze Coolant

Version: 1.9

859537

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

May damage fertility or the unborn child.

Components:**2-ETHYLHEXANOIC ACID, SODIUM SALT:**

Reproductive toxicity - : Some evidence of adverse effects on sexual function and
Assessment fertility, and/or on development, based on animal experiments.

DISODIUM TETRABORATE:

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

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.

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:****ETHYLENE GLYCOL:**

Ingestion : Target Organs: Kidney

DIETHYLENE GLYCOL:

General Information : Liver
Kidney

Further information**Product:**

Remarks : No data available

SECTION 12. ECOLOGICAL INFORMATION

SAFETY DATA SHEET

Revision Date: 01/17/2019

Print Date: 6/3/2020

SDS Number: 000000091712

ZEREX™ G-48® Formula 50/50 Antifreeze Coolant

Version: 1.9

859537

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

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

2-ETHYLHEXANOIC ACID, SODIUM SALT:

Toxicity to fish : LC50 (Oryzias latipes (Japanese medaka)): > 100 mg/l
Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 910 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): 49.3 mg/l

SAFETY DATA SHEET

Revision Date: 01/17/2019

Print Date: 6/3/2020

SDS Number: 000000091712

ZEREX™ G-48® Formula 50/50 Antifreeze Coolant

Version: 1.9

859537

End point: Growth inhibition

Exposure time: 72 h

Test Type: static test

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

DISODIUM TETRABORATE:

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

2-ETHYLHEXANOIC ACID, SODIUM SALT:

Biodegradability

: Result: Readily biodegradable.

Biodegradation: > 70 %

Exposure time: 28 d

Method: OECD Test Guideline 301E

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

DISODIUM TETRABORATE:

Biodegradability

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

SAFETY DATA SHEET

Revision Date: 01/17/2019

Print Date: 6/3/2020

SDS Number: 000000091712

ZEREX™ G-48® Formula 50/50 Antifreeze Coolant

Version: 1.9

859537

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

DIETHYLENE GLYCOL:

Bioaccumulation

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

Partition coefficient: n-octanol/water

: log Pow: -1.47

2-ETHYLHEXANOIC ACID, SODIUM SALT:

Partition coefficient: n-octanol/water

: log Pow: 1.3

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.
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

**SAFETY DATA SHEET**

Revision Date: 01/17/2019

Print Date: 6/3/2020

SDS Number: 000000091712

ZEREX™ G-48® Formula 50/50 Antifreeze Coolant

Version: 1.9

859537

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.

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

**SAFETY DATA SHEET**

Revision Date: 01/17/2019

Print Date: 6/3/2020

SDS Number: 000000091712

ZEREX™ G-48® Formula 50/50 Antifreeze Coolant

Version: 1.9

859537

Not dangerous goods

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

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	10503

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 toxicity (any route of exposure)
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)

California Prop. 65

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

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



SAFETY DATA SHEET

Revision Date: 01/17/2019

Print Date: 6/3/2020

SDS Number: 000000091712

ZEREX™ G-48® Formula 50/50 Antifreeze Coolant

Version: 1.9

859537

TSCA list

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Further information

Revision Date: 01/17/2019

NFPA:	HMIS III:						
<p>Flammability</p> <p>Health</p> <p>Instability</p> <p>Special hazard.</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


H302	Harmful if swallowed.
H360	May damage fertility or the unborn child.
H361	Suspected of damaging 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).

	Page: 20
SAFETY DATA SHEET	Revision Date: 01/17/2019
	Print Date: 6/3/2020
	SDS Number: 000000091712
ZEREX™ G-48® Formula 50/50 Antifreeze Coolant	Version: 1.9
859537	

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