



**Valvoline™**  
**Global**

## **SAFETY DATA SHEET**

Zerex™ G48® Antifreeze Coolant

Version: 7.0

Revision Date: 11/14/2023

Print Date:  
04/13/2025

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### **SECTION 1. IDENTIFICATION**

Product name : Zerex™ G48®  
Antifreeze Coolant

Product code : 896525

#### **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-VALVOLUME (+1-800-825-8654)

#### **Recommended use of the chemical and restrictions on use**

Recommended use : Coolant and antifreeze.

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### **SECTION 2. HAZARDS IDENTIFICATION**

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

Acute toxicity (Oral) : Category 4

Skin irritation : Category 2

Eye irritation : Category 2A

Carcinogenicity : Category 1B

Reproductive toxicity : Category 1B

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

#### **GHS label elements**



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Hazard pictograms

:



Signal word

:

Danger

Hazard statements

:

H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H350 May cause cancer.  
H360 May damage fertility or the unborn child.  
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.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before reuse.

**Storage:**

P405 Store locked up.

**Disposal:**

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



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### 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	$\geq 90 - \leq 100$
2-ETHYLHEXANOIC ACID	149-57-5	$\geq 1.5 - < 5$
SODIUM HYDROXIDE	1310-73-2	$\geq 1 - < 1.5$
SODIUM BORATE DECAHYDRATE	1303-96-4	$\geq 0.5 - < 1$
SODIUM NITRATE	7631-99-4	$\geq 0.1 - < 0.5$

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.
- If inhaled : If unconscious, place in recovery position and seek medical advice.  
If symptoms persist, call a physician.
- In case of skin contact : If skin irritation persists, call a physician.  
If on skin, rinse well with water.  
If on clothes, remove clothes.
- In case of eye contact : Immediately flush eye(s) with plenty of water.  
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.  
Take victim immediately to hospital.
- Most important symptoms and effects, both acute and delayed : No symptoms known or expected.  
Harmful if swallowed.  
Causes skin irritation.  
Causes serious eye irritation.  
May cause cancer.  
May damage fertility or the unborn child.  
May cause damage to organs through prolonged or repeated exposure if swallowed.



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Notes to physician : No hazards which require special first aid measures.  
Treat symptomatically.

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**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

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : No hazardous combustion products are known

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

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

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.

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**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.  
Avoid exposure - obtain special instructions before use.  
Avoid contact with skin and eyes.  
For personal protection see section 8.



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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.  
Observe label precautions.  
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
2-ETHYLHEXANOIC ACID	149-57-5	C	50 ppm 125 mg/m3	OSHA P0
		TWA (Inhalable fraction and vapor)	5 mg/m3	ACGIH
		C	2 mg/m3	ACGIH
		C	2 mg/m3	NIOSH REL
SODIUM HYDROXIDE	1310-73-2	TWA	2 mg/m3	OSHA Z-1
		C	2 mg/m3	OSHA P0
		TWA	5 mg/m3	NIOSH REL
SODIUM BORATE DECAHYDRATE	1303-96-4	TWA	10 mg/m3	OSHA P0
		TWA (Inhalable particulate matter)	2 mg/m3 (Borate)	ACGIH
		STEL (Inhalable)	6 mg/m3 (Borate)	ACGIH



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		particulate matter)		
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### Personal protective equipment

- Respiratory protection : No personal respiratory protective equipment normally required.
- Hand protection
- Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.
- Eye protection : Eye wash bottle with pure water  
Tightly fitting safety goggles  
Wear face-shield and protective suit for abnormal processing problems.
- 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 : blue
- Odour : mild
- Odour Threshold : No data available
- pH : ca. 7.2
- Melting point/freezing point : No data available
- Boiling point/boiling range : No data available
- 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 : No data available



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Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	1.1265 g/cm <sup>3</sup> (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

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### 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
Incompatible materials	:	Acids Aldehydes Alkali metals Alkaline earth metals Amines Ammonia Bases chromium trioxide Copper Copper alloys organic nitro compounds Reducing agents strong alkalis Strong oxidizing agents



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Hazardous decomposition products : Sulphur compounds  
: No hazardous decomposition products are known.

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### SECTION 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

Harmful if swallowed.

#### Product:

Acute oral toxicity : Acute toxicity estimate: 536.04 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

##### **2-ETHYLHEXANOIC ACID:**

Acute oral toxicity : LD50 (Rat, male): 3,000 mg/kg

LD50 (Rat, female): 2,043 mg/kg

Acute inhalation toxicity : LC0 (Rat): 0.11 mg/l  
Exposure time: 8 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
Assessment: The substance or mixture has no acute inhalation toxicity



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Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity  
Remarks: No mortality observed at this dose.

**SODIUM HYDROXIDE:**

Acute oral toxicity : LDLo (Rabbit): 500 mg/kg

Acute inhalation toxicity : Assessment: The substance or mixture has no acute inhalation toxicity  
Remarks: Moderate respiratory irritant

Acute dermal toxicity : Symptoms: Corrosion  
Assessment: The substance or mixture has no acute dermal toxicity

**SODIUM BORATE DECAHYDRATE:**

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute oral toxicity  
Remarks: The toxicological data has been taken from products of similar composition.  
No mortality observed at this dose.

Acute inhalation toxicity : LC50 (Rat): > 2.04 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
GLP: yes  
Assessment: The substance or mixture has no acute inhalation toxicity  
Remarks: The toxicological data has been taken from products of similar composition.  
No mortality observed at this dose.

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg  
GLP: yes  
Assessment: The substance or mixture has no acute dermal toxicity  
Remarks: The toxicological data has been taken from products of similar composition.  
No mortality observed at this dose.

**SODIUM NITRATE:**

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



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**Skin corrosion/irritation**

Causes skin irritation.

**Product:**

Remarks : May cause skin irritation in susceptible persons.

**Components:**

**ETHYLENE GLYCOL:**

Species : Rabbit  
Result : No skin irritation

**2-ETHYLHEXANOIC ACID:**

Species : Rabbit  
Result : Slight, transient irritation

**SODIUM HYDROXIDE:**

Result : Corrosive after 3 minutes or less of exposure

**SODIUM BORATE DECAHYDRATE:**

Species : Rabbit  
Result : Slight, transient 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**

Causes serious eye irritation.

**Product:**

Remarks : May cause irreversible eye damage.

**Components:**

**ETHYLENE GLYCOL:**

Result : Slight, transient irritation

**2-ETHYLHEXANOIC ACID:**

Species : Rabbit



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Result : Slight, transient irritation

### **SODIUM HYDROXIDE:**

Result : Corrosive  
Assessment : Corrosive

### **SODIUM BORATE DECAHYDRATE:**

Species : Rabbit  
Result : 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.

#### **2-ETHYLHEXANOIC ACID:**

Test Type : Maximisation Test  
Species : Guinea pig  
Assessment : Does not cause skin sensitisation.  
Method : OECD Test Guideline 406

#### **SODIUM HYDROXIDE:**

Exposure routes : Skin contact  
Species : Humans  
Result : negative

#### **SODIUM BORATE DECAHYDRATE:**

Test Type : Buehler Test  
Species : Guinea pig



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Assessment : Does not cause skin sensitisation.  
Remarks : The toxicological data has been taken from products of similar composition.

### **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

##### **2-ETHYLHEXANOIC ACID:**

Genotoxicity in vitro : Test Type: Ames test  
Test system: Salmonella typhimurium  
Metabolic activation: with and without metabolic activation  
Result: negative

### **Carcinogenicity**

May cause cancer.

#### **Components:**

##### **SODIUM NITRATE:**

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

**IARC** 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**

May damage fertility or the unborn child.

#### **Components:**

##### **2-ETHYLHEXANOIC ACID:**

Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.



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**SODIUM BORATE DECAHYDRATE:**

Reproductive toxicity - Assessment : Clear evidence of adverse effects on sexual function and 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  
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

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**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.



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**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.

**2-ETHYLHEXANOIC ACID:**

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l  
Exposure time: 96 h  
Test Type: static test
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 85.4 mg/l  
Exposure time: 48 h  
Test Type: static test
- Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 49.3 mg/l  
End point: Growth inhibition  
Exposure time: 72 h  
Test Type: static test

**Ecotoxicology Assessment**

- Acute aquatic toxicity : Harmful to aquatic life.



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Chronic aquatic toxicity : Not classified based on available information.

**SODIUM HYDROXIDE:**

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

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

Toxicity to microorganisms : Remarks: Not applicable

**Ecotoxicology Assessment**

Acute aquatic toxicity : Neutralisation will reduce ecotoxic effects.  
  
Not classified based on available information.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.  
  
Not classified based on available information.

**SODIUM BORATE DECAHYDRATE:**

Toxicity to fish : LC50 (Fish): > 100 mg/l  
Exposure time: 96 h  
Remarks: The toxicological data has been taken from products of similar composition.

Toxicity to daphnia and other aquatic invertebrates : LC50 (*Daphnia magna* (Water flea)): 133 mg/l  
Exposure time: 48 h  
Test Type: static test  
Remarks: The toxicological data has been taken from products of similar composition.

Toxicity to algae/aquatic plants : NOEC (*Dunaliella tertiolecta* (marine algae)): 50 mg/l  
End point: Growth inhibition  
Exposure time: 240 h  
Test Type: static test  
Remarks: Information refers to the main component.

Toxicity to fish (Chronic toxicity) : NOEC (*Danio rerio* (zebra fish)): 13 mg/l  
Exposure time: 4 d  
Remarks: Information refers to the main component.

Toxicity to daphnia and other aquatic invertebrates : NOEC (Aquatic invertebrates): 16.6 mg/l  
Exposure time: 28 d



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(Chronic toxicity)

Test Type: flow-through test

Remarks: Information refers to the main component.

### Ecotoxicology Assessment

Acute aquatic toxicity : Not classified based on available information.

Chronic aquatic toxicity : Not classified based on available information.

### 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

#### 2-ETHYLHEXANOIC ACID:

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 99 %  
Exposure time: 28 d



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**Bioaccumulative potential**

**Components:**

**ETHYLENE GLYCOL:**

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

Partition coefficient: n-octanol/water : log Pow: -1.36

**2-ETHYLHEXANOIC ACID:**

Partition coefficient: n-octanol/water : log Pow: 2.64

**Mobility in soil**

No data available

**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 information : No data available

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**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.

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**SECTION 14. TRANSPORT INFORMATION**

**International Regulations**



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**UNRTDG**

Not regulated as a dangerous good

**IATA-DGR**

Not regulated as a dangerous good

**IMDG-Code**

Not regulated as a dangerous good

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

Not applicable for product as supplied.

**National Regulations**

**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)
TOLUENE	108-88-3	100	100 (F005)

**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
- Reproductive toxicity
- Specific target organ toxicity (single or repeated exposure)
- Skin corrosion or irritation
- Serious eye damage or eye irritation



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

ETHYLENE GLYCOL	107-21-1	>= 90 - <= 100 %
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### 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	>= 90 - <= 100 %
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This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

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

ETHYLENE GLYCOL	107-21-1	>= 90 - <= 100 %
-----------------	----------	------------------

### Clean Water Act

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

SODIUM HYDROXIDE	1310-73-2	>= 1 - < 5 %
POTASSIUM HYDROXIDE	1310-58-3	>= 0 - < 0.1 %
TOLUENE	108-88-3	>= 0 - < 0.1 %

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

SODIUM HYDROXIDE	1310-73-2	>= 1 - < 5 %
POTASSIUM HYDROXIDE	1310-58-3	>= 0 - < 0.1 %
TOLUENE	108-88-3	>= 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
SODIUM HYDROXIDE	1310-73-2

#### Pennsylvania Right To Know

ETHYLENE GLYCOL	107-21-1
SODIUM HYDROXIDE	1310-73-2
POTASSIUM HYDROXIDE	1310-58-3

#### Maine Chemicals of High Concern



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WATER	7732-18-5
BENZENE	71-43-2

### Vermont Chemicals of High Concern

ETHYLENE GLYCOL	107-21-1
2-ETHYLHEXANOIC ACID	149-57-5
WATER	7732-18-5
BENZENE	71-43-2

### Washington Chemicals of High Concern

ETHYLENE GLYCOL	107-21-1
2-ETHYLHEXANOIC ACID	149-57-5
WATER	7732-18-5
BENZENE	71-43-2

### New York City Hazardous Substances

ETHYLENE GLYCOL	107-21-1
SODIUM HYDROXIDE	1310-73-2
SODIUM BORATE DECAHYDRATE	1303-96-4
SODIUM NITRATE	7631-99-4
2,2'-oxybis-Ethanol	111-46-6
POTASSIUM HYDROXIDE	1310-58-3
METHANOL	67-56-1
BENZENE	71-43-2

### 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](http://www.P65Warnings.ca.gov).

### California List of Hazardous Substances

ETHYLENE GLYCOL	107-21-1
SODIUM HYDROXIDE	1310-73-2

### California Permissible Exposure Limits for Chemical Contaminants

ETHYLENE GLYCOL	107-21-1
SODIUM HYDROXIDE	1310-73-2

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

TCSI	: On the inventory, or in compliance with the inventory
TSCA	: All substances listed as active on the TSCA inventory
AIIC	: On the inventory, or 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



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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.

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

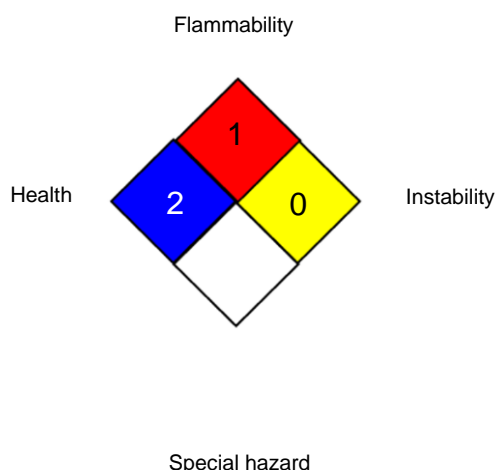
**Inventories**

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

**SECTION 16. OTHER INFORMATION**

**Further information**

**NFPA 704:**



**HMIS® IV:**

<b>HEALTH</b>	*	<b>2</b>
<b>FLAMMABILITY</b>		<b>1</b>
<b>PHYSICAL HAZARD</b>		<b>0</b>

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



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OSHA P0	:	USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
ACGIH / C	:	Ceiling limit
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / C	:	Ceiling value not be exceeded at any time.
OSHA P0 / TWA	:	8-hour time weighted average
OSHA P0 / C	:	Ceiling limit
OSHA Z-1 / TWA	:	8-hour time weighted average

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 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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US / EN

Internal information : R0296767