

Zerex® G-05® RTU ANTIFREEZE COOLANT  
ZXG05RU2

**1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

Ashland P.O. Box 2219 Columbus, OH 43216	Regulatory Information Number Telephone Emergency telephone number	1-800-325-3751 614-790-3333 1-800-ASHLAND (1-800-274-5263)
Product name	Zerex® G-05® RTU ANTIFREEZE COOLANT	
Product code	ZXG05RU2	
Product Use Description	No data	

**2. HAZARDS IDENTIFICATION**

**Emergency Overview**

Appearance: liquid, light yellow

WARNING! MAY AFFECT THE CENTRAL NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA. HARMFUL IF SWALLOWED. MAY CAUSE EYE IRRITATION.

**Potential Health Effects**

**Exposure routes**

Inhalation, Skin absorption, Skin contact, Eye Contact, Ingestion

**Eye contact**

Can cause eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes. May cause mild eye irritation. Symptoms include stinging, tearing, and redness.

**Skin contact**

May cause mild skin irritation. Symptoms may include redness and burning of skin. Although rare, skin contact with ethylene glycol may cause allergic skin reaction (delayed skin rash which may be followed by blistering, scaling and other skin effects). Passage of this material into the body through the skin is possible, but it is unlikely that this would result in harmful effects during safe handling and use.

**Ingestion**

Swallowing this material may be harmful. Liver, kidney and brain damage in humans has resulted from swallowing lethal or near-lethal amounts of ethylene glycol. Ingestion of medications contaminated

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with diethylene glycol has caused kidney failure and death in humans. Products containing diethylene glycol should be considered toxic by ingestion.

### **Inhalation**

It is possible to breathe this material under certain conditions of handling and use (for example, during heating, spraying, or stirring). Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful. Symptoms are not expected at air concentrations below the recommended exposure limits, if applicable (see Section 8.).

### **Aggravated Medical Condition**

Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: lung (for example, asthma-like conditions), liver, kidney. Exposure to this material may aggravate any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or anemias.

### **Symptoms**

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, central nervous system excitation (giddiness, liveliness, light-headed feeling) followed by central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness) and other central nervous system effects, involuntary eye movement, 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), liver damage, Convulsions, coma

### **Target Organs**

Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals: reproductive effects, kidney damage, liver damage. Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans: kidney damage, liver damage

### **Carcinogenicity**

This material is not listed as a carcinogen by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or the Occupational Safety and Health Administration (OSHA).

### **Reproductive hazard**

Ethylene glycol has caused birth defects in animal studies at high oral doses. However, it did not cause harm to the pregnant animal or to the fetus when applied to the skin of the pregnant animal.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Components	CAS-No.	Concentration
ETHYLENE GLYCOL	107-21-1	>=40-<50%
DIETHYLENE GLYCOL	111-46-6	>=1.5-<5%
SODIUM BENZOATE	532-32-1	>=1.5-<5%

### 4. FIRST AID MEASURES

#### Eyes

If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate medical attention.

#### Skin

Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.

#### Ingestion

Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

#### Inhalation

If symptoms develop, move individual away from exposure and into fresh air. If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek immediate medical attention.

#### Notes to physician

**Hazards:** 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

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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.

**Treatment:** 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.

## **5. FIRE-FIGHTING MEASURES**

### **Suitable extinguishing media**

Alcohol-resistant foam, Carbon dioxide (CO<sub>2</sub>), Dry chemical, Agents approved for class B hazards or water fog.

### **Hazardous combustion products**

Alcohols, Aldehydes, carbon dioxide and carbon monoxide, ethers, toxic fumes, Sodium oxides, various hydrocarbons

### **Precautions for fire-fighting**

Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. Organic dusts at sufficient concentration can form explosive mixtures in air. Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA). Use water spray to cool fire exposed containers and structures until fire is out if it can be done with minimal risk. Avoid spreading burning material with water used for cooling purposes. No special precautions necessary when fighting fires involving this product.

### **NFPA Flammable and Combustible Liquids Classification**

Combustible Liquid Class IIIB

## **6. ACCIDENTAL RELEASE MEASURES**

### **Personal precautions**

For personal protection see section 8. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

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**Environmental precautions**

Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

**Methods for cleaning up**

Absorb liquid on vermiculite, floor absorbent or other absorbent material.

**7. HANDLING AND STORAGE**

**Handling**

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. Static ignition hazard can result from handling and use. Electrically bond and ground all containers, personnel and equipment before transfer or use of material. Special precautions may be necessary to dissipate static electricity for non-conductive containers. Use proper bonding and grounding during product transfer as described in National Fire Protection Association document NFPA 77. Warning. Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of obvious ignition sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Any use of this product in elevated temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions.

**Storage**

Store in a cool, dry, ventilated area, away from incompatible substances. Store in a cool, dry, ventilated area. Keep containers closed when not in use. Do not store near extreme heat, open flame, or sources of ignition.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Exposure Guidelines**

<b>ETHYLENE GLYCOL</b>	<b>107-21-1</b>
ACGIH	Ceiling Limit Value: 100 mg/m3 Aerosol.

**General advice**

These recommendations provide general guidance for handling this product. Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

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**Exposure controls**

General room ventilation should be adequate for normal conditions of use. However, if unusual operating conditions exist, 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.

**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 normal work clothing including long pants, long-sleeved shirts and foot covering to prevent direct contact of the product with the skin. Launder clothing before reuse. If skin irritation develops, contact your facility health and safety professional or your local safety equipment supplier to determine the proper personal protective equipment for your use.

Wear resistant gloves such as:

- Neoprene
- Nitrile rubber
- polyvinyl chloride
- Polyethylene

**Respiratory protection**

Respiratory protection is not required under normal conditions of use.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical state</b>	liquid
<b>Form</b>	no data available
<b>Colour</b>	light yellow
<b>Odour</b>	no data available
<b>Boiling point/boiling range</b>	225 °F / 107 °C @ 760.00 mmHg
<b>Melting point/range</b>	no data available
<b>Sublimation point</b>	no data available
<b>pH</b>	(Average) 8.0
<b>Flash point</b>	(>)250.0 °F / 121.1 °C Cleveland open cup
<b>Ignition temperature</b>	no data available
<b>Evaporation rate</b>	no data available
<b>Lower explosion limit/Upper explosion limit</b>	1.7 %(V) / 15.3 %(V)

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<b>Particle size</b>	no data available
<b>Vapour pressure</b>	1.800 mmHg @ 68.00 °F / 20.00 °C
<b>Relative vapour density</b>	(>)1.000 AIR=1
<b>Density</b>	(Average) 1.0827 g/cm <sup>3</sup> @ 60.01 °F / 15.56 °C 8.99 lb/gal
<b>Bulk density</b>	No data
<b>Water solubility</b>	no data available
<b>Solubility(ies)</b>	no data available
<b>Partition coefficient: n-octanol/water</b>	no data available
<b>log Pow</b>	no data available
<b>Autoignition temperature</b>	no data available
<b>Viscosity, dynamic</b>	no data available
<b>Viscosity, kinematic</b>	no data available
<b>Solids in Solution</b>	no data available
<b>Decomposition temperature</b>	no data available
<b>Burning number</b>	no data available
<b>Dust explosion constant</b>	no data available
<b>Minimum ignition energy</b>	no data available

## 10. STABILITY AND REACTIVITY

### Stability

Stable.

### Conditions to avoid

None known.

### Incompatible products

Avoid contact with:, Alkaline earth metals, Alkali metals, strong acids, strong alkalis, strong oxidizing agents, Sulphur compounds, iron salts, strong mineral acids

### Hazardous decomposition products

May form:, carbon dioxide and carbon monoxide

### Hazardous reactions

Product will not undergo hazardous polymerization.

### Thermal decomposition

No data

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## 11. TOXICOLOGICAL INFORMATION

### Acute oral toxicity

ETHYLENE GLYCOL	: LD 50 Rat: 6,140 mg/kg
DIETHYLENE GLYCOL	: LD 50 Rat: 12,565 mg/kg
SODIUM BENZOATE	: LD 50 Rat: 4,070 mg/kg

### Acute inhalation toxicity

ETHYLENE GLYCOL	: no data available
DIETHYLENE GLYCOL	: LC Lo Mouse: 130 mg/m <sup>3</sup> ; 2 h
SODIUM BENZOATE	: no data available

### Acute dermal toxicity

ETHYLENE GLYCOL	: LD 50 Rabbit: 9,530 mg/kg
DIETHYLENE GLYCOL	: LD 50 Rabbit: 11,890 mg/kg
SODIUM BENZOATE	: no data available

## 12. ECOLOGICAL INFORMATION

### Biodegradability

ETHYLENE GLYCOL	: no data available
DIETHYLENE GLYCOL	: 92 % Exposure time: 28 d
SODIUM BENZOATE	: no data available

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**Bioaccumulation**

ETHYLENE GLYCOL : Species: Crayfish (Procambarus)  
Exposure time: 61 d  
Dose: 1,000 mg/l  
Bioconcentration factor (BCF): 0.27  
Method: Flow through

DIETHYLENE GLYCOL : no data available

SODIUM BENZOATE : no data available

**Ecotoxicity effects**

**Toxicity to fish**

ETHYLENE GLYCOL : 96 h LC 50 Bluegill (Lepomis macrochirus): 27,540.00  
mg/l Method: Static; Mortality  
96 h LC 50 Fathead minnow (Pimephales promelas):  
8,050.00 mg/l ; Mortality

DIETHYLENE GLYCOL : 96 h LC 50 Western mosquitofish (Gambusia affinis):  
> 32,000.00 mg/l Method: Static; Mortality

SODIUM BENZOATE : 96 h static test LC 50 Fathead minnow (Pimephales  
promelas): > 100.00 mg/l Method: Static; Mortality

**Toxicity to daphnia and other aquatic invertebrates.**

ETHYLENE GLYCOL : 48 h LC 50 Water flea (Daphnia magna): > 10,000.00  
mg/l Method: Static Mortality

DIETHYLENE GLYCOL : 24 h LC 50 Water flea (Daphnia magna): > 10,000.00  
mg/l Method: Static Mortality

SODIUM BENZOATE : 96 h static test LC 50 Water flea (Daphnia magna): >  
100.00 mg/l Method: Static Mortality

**Toxicity to algae**

ETHYLENE GLYCOL : no data available

DIETHYLENE GLYCOL : no data available

SODIUM BENZOATE : no data available

**Toxicity to bacteria**

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ETHYLENE GLYCOL : no data available  
DIETHYLENE GLYCOL : no data available  
SODIUM BENZOATE : no data available

**Biochemical Oxygen Demand (BOD)**

ETHYLENE GLYCOL : no data available  
DIETHYLENE GLYCOL : no data available  
SODIUM BENZOATE : no data available

**Chemical Oxygen Demand (COD)**

ETHYLENE GLYCOL : no data available  
DIETHYLENE GLYCOL : no data available  
SODIUM BENZOATE : no data available

**Additional ecological information**

ETHYLENE GLYCOL : no data available  
DIETHYLENE GLYCOL : no data available  
SODIUM BENZOATE : no data available

**13. DISPOSAL CONSIDERATIONS**

**Waste disposal methods**

For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Ashland Distribution's Environmental Services Group at 800-637-7922.

**14. TRANSPORT INFORMATION**

**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

**U.S. DOT - RAIL**

Not dangerous goods

**U.S. DOT - INLAND WATERWAYS**

Not dangerous goods

**TRANSPORT CANADA - ROAD**

Not dangerous goods

**TRANSPORT CANADA - RAIL**

Not dangerous goods

**TRANSPORT CANADA - INLAND WATERWAYS**

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

**MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES**

Not dangerous goods

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

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.

**15. REGULATORY INFORMATION**

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**California Prop. 65**

Proposition 65 warnings are not required for this product based on the results of a risk assessment.	
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**SARA Hazard Classification**

Acute Health Hazard

**SARA 313 Component(s)**

ETHYLENE GLYCOL 42.49 %

**New Jersey RTK Label Information**

WATER	7732-18-5
ETHYLENE GLYCOL	107-21-1
DIETHYLENE GLYCOL	111-46-6
SODIUM BENZOATE	532-32-1

**Pennsylvania RTK Label Information**

WATER	7732-18-5
ETHYLENE GLYCOL	107-21-1
DIETHYLENE GLYCOL	111-46-6

**Notification status**

US. Toxic Substances Control Act	y (positive listing)
Australia. Industrial Chemical (Notification and Assessment) Act	y (positive listing)
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL). (Can. Gaz. Part II, Vol. 133)	y (positive listing)
Japan. Kashin-Hou Law List	n (Negative listing)
Korea. Toxic Chemical Control Law (TCCL) List	y (positive listing)
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act	y (positive listing)
China. Inventory of Existing Chemical Substances	y (positive listing)
New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand	n (Negative listing)

**Reportable quantity - Product**

US. EPA CERCLA Hazardous Substances (40 CFR 302) 11766 lbs

**Reportable quantity-Components**

ETHYLENE GLYCOL 107-21-1 5000 lbs

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	<b>HMIS</b>	<b>NFPA</b>
Health	1*	1
Flammability	1	1
Physical hazards	0	
Instability		0
Specific Hazard	--	--

**16. OTHER INFORMATION**

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 MSDS has been prepared by Ashland's Environmental Health and Safety Department (1-800-325-3751).