

Zerex® Dex Cool™ RTU  
ANTIFREEZE COOLANT  
ZXELRU1

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

Ashland	Regulatory Information Number	1-800-325-3751
P.O. Box 2219	Telephone	614-790-3333
Columbus, OH 43216	Emergency telephone	1-800-ASHLAND (1-800-274-5263)

Product name	Zerex® Dex Cool™ RTU ANTIFREEZE COOLANT
Product code	ZXELRU1
Product Use Description	No data

**2. HAZARDS IDENTIFICATION**

**Emergency Overview**

Appearance: liquid, orange

WARNING! MAY AFFECT THE CENTRAL NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA. MAY BE HARMFUL IF INHALED. HARMFUL IF SWALLOWED. MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT 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.

**Skin contact**

Can cause skin irritation. Symptoms may include redness and burning of skin, and other skin damage. 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, and skin contact may be harmful.

**Ingestion**

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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 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: skin, lung (for example, asthma-like conditions), liver, kidney, central nervous system. 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 depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness), 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, 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), kidney damage, liver damage, lung 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, central nervous system damage. Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans: kidney damage, liver damage

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### **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., 2-Ethylhexanoic acid has been shown to cause birth defects in laboratory animal studies. The relevance of these findings to humans is uncertain.

## **3. COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Components</b>	<b>CAS-No.</b>	<b>Concentration</b>
ETHYLENE GLYCOL	107-21-1	>=60-<70%
DIETHYLENE GLYCOL	111-46-6	>=1.5-<5%
2-ETHYLHEXANOIC ACID	149-57-5	>=1.5-<5%
POTASSIUM HYDROXIDE	1310-58-3	>=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. Flush exposed area with large amounts of water. If skin is damaged, seek immediate medical attention. If skin is not damaged and 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.

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### **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 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**

Water mist, Carbon dioxide (CO<sub>2</sub>), Dry chemical

### **Hazardous combustion products**

May form:, carbon dioxide and carbon monoxide

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

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Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. Product is not flammable or combustible as supplied; however, under certain fire conditions the product may contribute to the fire when adequately heated. Water spray can be used to reduce intensity of flames and to dilute spills to nonflammable mixture. No special precautions necessary when fighting fires involving this product.

**Flammability Class for Flammable Liquids**  
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.

**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.

**Storage**

Keep containers closed when not in use.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Exposure Guidelines**

**ETHYLENE GLYCOL**

**107-21-1**

ACGIH

Ceiling Limit Value:

100 mg/m<sup>3</sup>

Aerosol.

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**2-ETHYLHEXANOIC ACID**

**149-57-5**

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ACGIH	time weighted average	5 mg/m3	Inhalable fraction and vapor
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**POTASSIUM HYDROXIDE**

**1310-58-3**

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ACGIH	Ceiling Limit Value:	2 mg/m3
NIOSH	Recommended exposure limit (REL):	2 mg/m3

**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.

**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 resistant gloves (consult your safety equipment supplier). Discard gloves that show tears, pinholes, or signs of wear. 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.

**Respiratory protection**

Respiratory protection is not required under normal conditions of use.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state</b>	liquid
<b>Form</b>	liquid
<b>Colour</b>	orange
<b>Odour</b>	No data
<b>Boiling point/boiling range</b>	226.00 °F / 226 °F @ 760.00 mmHg
<b>Melting point/range</b>	-34 °F / -37 °C
<b>pH</b>	(Average) 10.5
<b>Flash point</b>	(>)250.00 °F / 121.11 °C
<b>Evaporation rate</b>	No data
<b>Explosion limits</b>	1.2 %(V) 15.3 %(V)
<b>Vapour pressure</b>	23.33 hPa @ 68 °F / 20 °C
<b>Vapour density</b>	No data
<b>Density</b>	(Average) 1.0755 g/cm <sup>3</sup> @ 60.00 °F / 15.56 °C 8.91 lb/gal @ 60.00 °F / 15.56 °C
<b>Solubility</b>	No data
<b>Partition coefficient: n-octanol/water</b>	No data
<b>log Pow</b>	no data available
<b>Autoignition temperature</b>	No data

## 10. STABILITY AND REACTIVITY

### Stability

Stable.

### Conditions to avoid

None known.

### Incompatible products

Avoid contact with:, strong acids, strong alkalis, strong oxidizing agents

### Hazardous decomposition products

May form:, carbon dioxide and carbon monoxide

### Hazardous reactions

Product will not undergo hazardous polymerization.

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**Thermal decomposition**

No data

**11. TOXICOLOGICAL INFORMATION**

**Acute oral toxicity**

ETHYLENE GLYCOL	LD 50 Rat: 6,140 mg/kg
DIETHYLENE GLYCOL	LD 50 Rat: 12,565 mg/kg
2-ETHYLHEXANOIC ACID	LD 50 Rat: 3 g/kg
POTASSIUM HYDROXIDE	LD 50 Rat: 1,230 mg/kg

**Acute inhalation toxicity**

ETHYLENE GLYCOL	no data available
DIETHYLENE GLYCOL	LC Lo Mouse: 130 mg/m <sup>3</sup> , 2 h
2-ETHYLHEXANOIC ACID	LC 50 Rat: > 600 ppm, 4 h
POTASSIUM HYDROXIDE	no data available

**Acute dermal toxicity**

ETHYLENE GLYCOL	LD 50 Rabbit: 9,530 mg/kg
DIETHYLENE GLYCOL	LD 50 Rabbit: 11,890 mg/kg
2-ETHYLHEXANOIC ACID	LD 50 Rabbit: 1,138 mg/kg
POTASSIUM HYDROXIDE	LD 50 Rabbit: 1,260 mg/kg

**12. ECOLOGICAL INFORMATION**

**Aquatic toxicity**

**Acute and Prolonged Toxicity to Fish**

No data

**Acute Toxicity to Aquatic Invertebrates**

No data

**Environmental fate and pathways**

No data

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### 13. DISPOSAL CONSIDERATIONS

#### Waste disposal methods

Dispose of in accordance with all applicable local, state and federal regulations. 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

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

#### California Prop. 65

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

**SARA Hazard Classification** Acute Health Hazard

#### SARA 313 Component(s)

ETHYLENE GLYCOL	107-21-1	66.08%
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#### New Jersey RTK Label Information

ETHYLENE GLYCOL	107-21-1
WATER	7732-18-5
DIETHYLENE GLYCOL	111-46-6
2-ETHYLHEXANOIC ACID	149-57-5
POTASSIUM HYDROXIDE	1310-58-3

#### Pennsylvania RTK Label Information

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

**ASHLAND**  
**SAFETY DATA SHEET**

Page: 10  
Revision Date: 11/12/2009  
Print Date: 1/28/2010  
MSDS Number: R0382102  
Version: 1.10

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POTASSIUM HYDROXIDE 1310-58-3

**Reportable quantity - Product**

US. EPA CERCLA Hazardous Substances (40 CFR 302) 7567 lbs

**Reportable quantity - Components**

ETHYLENE GLYCOL	107-21-1	5000 lbs
DIETHYLENE GLYCOL	111-46-6	none
2-ETHYLHEXANOIC ACID	149-57-5	none
POTASSIUM HYDROXIDE	1310-58-3	1000 lbs

	<b>Health</b>	<b>Flammability</b>	<b>Reactivity</b>	<b>Other</b>
<b>HMIS</b>	2*	1	0	
<b>NFPA</b>	2	1	0	

**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).