

# MATERIAL SAFETY DATA SHEET

Revision Date: 10/09/2002

## SECTION 1

## PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT:** AC DELCO DEX-COOL® Anti-Freeze/Coolant

**MSDS NUMBER:** 16492E - 0

**PRODUCT CODE(S):** 16492

### MANUFACTURER

Shell Oil Products US  
P. O. Box 4453  
Houston, TX. 77210-4453

### TELEPHONE NUMBERS

**Spill Information:** (877) 504-9351  
**Health Information:** (877) 276-7285  
**MSDS Assistance Number:** (877) 276-7285

## SECTION 2

## PRODUCT/INGREDIENTS

### INGREDIENTS

Extended-Life Antifreeze Coolant

Ethylene Glycol

Potassium 2-Ethylhexanoate

Deionized water

### CAS#

Mixture

107-21-1

3164-85-0

7732-18-5

### CONCENTRATION

100 %weight

90 - 97 %weight

1 - 5 %weight

1 - 3 %weight

## SECTION 3

## HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

**Appearance & Odor:** Orange liquid. Mild odor.

**Health Hazards:** May be harmful or fatal if swallowed. Do not induce vomiting. May cause aspiration pneumonitis. May cause CNS depression.

**NFPA Rating (Health, Fire, Reactivity):** 2, 1, 0

**Hazard Rating:** Least - 0 Slight - 1 Moderate - 2 High - 3 Extreme - 4

### Inhalation:

In applications where vapors (caused by high temperature) or mists (caused by mixing or spraying) are created, breathing may cause a mild burning sensation in the nose, throat and lungs.

### Eye Irritation:

May cause slight irritation of the eyes. If irritation occurs, a temporary burning sensation, minor redness, swelling, and/or blurred vision may result.

### Skin Contact:

May cause slight irritation of the skin. If irritation occurs, a temporary burning sensation and minor redness and/or swelling may result. Other adverse effects not expected from brief skin contact.

### Ingestion:

This material may be harmful or fatal if swallowed. Ingestion may result in vomiting; aspiration (breathing) of vomitus into lungs must be avoided as even small quantities may result in aspiration pneumonitis. Contains ethylene glycol and/or diethylene glycol which are toxic when swallowed. A lethal dose for an adult is 1 ml per kilogram or about 4 ounces (1/2 cup). Severe kidney damage can occur as a result of ingestion. May cause Central Nervous System (CNS) depression.

This material and/or components may cause the following effects:  
Developmental Toxicity

### Primary Target Organs:

The following organs and/or organ systems may be damaged by overexposure to this material and/or its



components.

Kidney, Liver

**Signs and Symptoms:**

Irritation as noted above. Aspiration pneumonitis may be evidenced by coughing, labored breathing and cyanosis (bluish skin); in severe cases death may occur. Early to moderate CNS depression may be evidenced by giddiness, headache, dizziness and nausea. In extreme cases, unconsciousness and death may occur. Kidney damage may be indicated by changes in urine output or appearance, pain upon urination or in the lower back or general edema (swelling from fluid retention). Liver damage may be indicated by loss of appetite, jaundice (yellowish skin and eye color), fatigue and sometimes pain and swelling in the upper right abdomen.

**Aggravated Medical Conditions:**

Pre-existing eye, skin, respiratory, liver and kidney disorders and may be aggravated by exposure to this product.

For additional health information, refer to section 11.

**SECTION 4**

**FIRST AID MEASURES**

**Inhalation:**

If the victim has difficulty breathing or tightness of the chest, is dizzy, vomiting or unresponsive, give 100% oxygen with rescue breathing or CPR as required and transport to the nearest medical facility.

**Skin:**

Flush exposed area with water and follow by washing with soap if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.

**Eye:**

Flush eyes with plenty of water while holding eyelids open. Rest eyes for 30 minutes. If redness, burning, blurred vision or swelling occur, transport to nearest medical facility for additional treatment.

**Ingestion:**

DO NOT take internally. DO NOT induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into lungs. Get medical attention.

**Note to Physician:**

Ethylene Glycol (EG) and Diethylene Glycol (DEG) intoxication may initially produce behavioral changes, drowsiness, vomiting, diarrhea, thirst, and convulsions. EG and DEG are nephrotoxic. End stages of poisoning may include renal damage or failure with acidosis. Supportive measures, supplemented with hemodialysis if indicated, may limit the progression and severity of toxic effects. For ETHYLENE GLYCOL POISONING, intravenous ethanol is a recognized antidotal treatment; other antidotal treatments also exist for ethylene glycol poisoning.

**SECTION 5**

**FIRE FIGHTING MEASURES**

**Flash Point [Method]:** 260 °F/126.67 °C [Pensky-Martens Closed Cup]

**Extinguishing Media:**

Use water fog, 'alcohol foam', dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish flames. Do not use a direct stream of water.

**Fire Fighting Instructions:**

Material will not burn unless preheated. Do not enter confined fire space without full bunker gear (helmet with face shield, bunker coats, gloves and rubber boots), including a positive pressure, NIOSH approved, self-contained breathing apparatus.

**SECTION 6**

**ACCIDENTAL RELEASE MEASURES**

**Protective Measures:**

May burn although not readily ignitable.

Wear appropriate personal protective equipment when cleaning up spills. Refer to Section 8.



**Spill Management:**

Shut off source of leak if safe to do so. Dike and contain spill.

FOR LARGE SPILLS: Remove with vacuum truck or pump to storage/salvage vessels.

FOR SMALL SPILLS: Soak up residue with an absorbent such as clay, sand or other suitable material. Place in non-leaking container and seal tightly for proper disposal.

**Reporting:**

U.S. regulations require reporting releases of this material to the environment which exceed the reportable quantity to the National Response Center at (800)424-8802.

<b>SECTION 7</b>	<b>HANDLING AND STORAGE</b>
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**Precautionary Measures:**

Avoid heat, open flames, including pilot lights, and strong oxidizing agents. Use explosion-proof ventilation to prevent vapor accumulation. Ground all handling equipment to prevent sparking. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

**Storage:**

Store in a cool, dry place with adequate ventilation. Keep away from open flames and high temperatures.

**Container Warnings:**

Keep containers closed when not in use. Containers, even those that have been emptied, can contain explosive vapors. Do not cut, drill, grind, weld or perform similar operations on or near containers.

<b>SECTION 8</b>	<b>EXPOSURE CONTROLS/PERSONAL PROTECTION</b>
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Chemical	Limit	TWA	STEL	Ceiling	Notation
Ethylene Glycol	ACGIH TLV			100 mg/m3	
Ethylene Glycol	OSHA PEL - 1989(revoked)			50 ppmv	

<b>Exposure Controls</b>
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Adequate ventilation to control airborne concentrations below the exposure guidelines/limits.

<b>Personal Protection</b>
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Personal protective equipment (PPE) selections vary based on potential exposure conditions such as handling practices, concentration and ventilation. Information on the selection of eye, skin and respiratory protection for use with this material is provided below.

**Eye Protection:**

Chemical Goggles - If liquid contact is likely., or Safety glasses with side shields

**Skin Protection:**

Use protective clothing which is chemically resistant to this material. Selection of protective clothing depends on potential exposure conditions and may include gloves, boots, suits and other items. The selection(s) should take into account such factors as job task, type of exposure and durability requirements.

Published literature, test data and/or glove and clothing manufacturers indicate the best protection is provided by:

Neoprene, or Nitrile Rubber

**Respiratory Protection:**

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, an approved respirator must be worn. Respirator selection, use and maintenance should be in accordance with the requirements of the OSHA Respiratory Protection Standard, 29 CFR 1910.134.



Types of respirator(s) to be considered in the selection process include:

For Mist: Air Purifying, R or P style NIOSH approved respirator. For Vapors: Air Purifying, R or P style prefilter & organic cartridge, NIOSH approved respirator. Self-contained breathing apparatus for use in environments with unknown concentrations or emergency situations.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

**Appearance & Odor:** Orange liquid. Mild odor.  
**Substance Chemical Family:** Ethylene Glycols

Boiling Point	226 °F	Flash Point	260 °F [Pensky-Martens Closed Cup]
Freezing Point	-34 °F	Odor	Mild odor.
pH	8 - 8.6	Specific Gravity	1.115 - 1.13
Stability	Stable		

## SECTION 10 REACTIVITY AND STABILITY

### Stability:

Material is stable under normal conditions.

### Materials to Avoid:

Avoid contact with strong oxidizing agents.

### Hazardous Decomposition Products:

Thermal decomposition products are highly dependent on combustion conditions. A complex mixture of airborne solids, liquids and gases will evolve when this material undergoes pyrolysis or combustion. Aldehydes, Carbon Monoxide, Carbon Dioxide, Ketones, Potassium and other unidentified organic compounds may be formed upon combustion.

## SECTION 11 TOXICOLOGICAL INFORMATION

### Acute Toxicity

TEST	Result	OSHA Classification	Material Tested
Dermal LD50	> 2 g/kg(Rabbit)	Non-Toxic	Based on components(s)

### Carcinogenicity Classification

Chemical Name	NTP	IARC	ACGIH	OSHA
Extended-Life Antifreeze Coolant	No	Not Reviewed	No	No

Developmental Toxicity	Oral exposure of pregnant rats and mice to ethylene glycol has produced birth defects in the offspring. Delayed development and birth defects occurred in offspring of pregnant rats exposed to 2-ethylhexanoic acid in drinking water.
Kidney	Ingestion of ethylene glycol can cause bladder stones and kidney damage which can be fatal.
Liver	Prolonged and repeated ingestion of ethylene glycol has produced liver damage in rats. Repeated dietary exposure to 2-ethylhexanoic acid resulted in increased liver weight in rats.
Reproductive Toxicity	Female rats exhibited impaired fertility in a reproductive toxicity study following exposure to 2-ethylhexanoic acid salt in drinking water.

## SECTION 12 ECOLOGICAL INFORMATION

### Environmental Impact Summary:

There is no ecological data available for this product.

## SECTION 13 DISPOSAL CONSIDERATIONS



**RCRA Information:**

Under RCRA, it is the responsibility of the user of the material to determine, at the time of the disposal, whether the material meets RCRA criteria for hazardous waste. This is because material uses, transformations, mixtures, processes, etc. may affect the classification. Refer to the latest EPA, state and local regulations regarding proper disposal.

**SECTION 14****TRANSPORT INFORMATION****US Department of Transportation Classification**

This material is not subject to DOT regulations under 49 CFR Parts 171-180. This material is not regulated under 49 CFR if in a container of 119 gallon capacity or less. If shipped in a container of over 119 gallon capacity then the DOT information must be accompanied with RQ notation, or, an otherwise 'Not Regulated' product will be classified as Environmentally Hazardous (solid/liquid) N.O.S., Class 9, Packing group III unless the product qualifies for the petroleum exemption (49 CFR 171.8).

**Hazardous Substance/Material RQ:** Ethylene glycol / 5445.1995 lbs

**International Air Transport Association**

**Hazard Class/Division:** 9 (Miscellaneous)

**Identification Number:** UN3082

**Packing Group:** III

**Proper Shipping Name:** Environmentally Hazardous Substances, Liquid, N.O.S.

**Technical Name(s):** Ethylene Glycol

**International Maritime Organization Classification**

**Hazard Class/Division:** 9 (Miscellaneous)

**Identification Number:** UN3082

**Packing Group:** III

**Proper Shipping Name:** Environmentally Hazardous Substance, Liquid, N.O.S.

**Technical Name(s):** Ethylene Glycol

**SECTION 15****REGULATORY INFORMATION****Federal Regulatory Status****OSHA Classification:**

Product is hazardous according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**Comprehensive Environmental Release, Compensation & Liability Act (CERCLA):**

Ethylene Glycol

RQ 5000 lbs    Reportable Spill => 5445.199512 lbs  
or 653.14 gal

**Ozone Depleting Substances (40 CFR 82 Clean Air Act):**

This material does not contain nor was it directly manufactured with any Class I or Class II ozone depleting substances.

**Superfund Amendment & Reauthorization Act (SARA) Title III:**

There are no components in this product on the SARA 302 list.

**SARA Hazard Categories (311/312):**

Immediate Health	Delayed Health	Fire	Pressure	Reactivity
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YES	NO	NO	NO	NO
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**SARA Toxic Release Inventory (TRI) (313):**

Ethylene Glycol

**Toxic Substances Control Act (TSCA) Status:**

All component(s) of this material is(are) listed on the EPA/TSCA Inventory of Chemical Substances.

This product may be subject to export notification under TSCA Section 12(b); Contains: Ethanol, 2-(2-butoxyethoxy)-

**Other Chemical Inventories:**

Component(s) of this material is (are) listed on the Australian AICS, Chinese Inventory, European EINECS, Korean Inventory, Philippines PICCS,

**State Regulation**

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

**New Jersey Right-To-Know Chemical List:**

Ethylene Glycol (0878)

90 - 97 %weight

Special Hazard

**Pennsylvania Right-To-Know Chemical List:**

1,2-Ethanediol (107-21-1)

90 - 97 %weight

Environmental Hazard

**SECTION 16**

**OTHER INFORMATION**

**Revision#:** 0

**Revision Date:** 10/09/2002

**Revisions since last change (discussion):** This Material Safety Data Sheet (MSDS) has been newly created to fully comply with the guidance contained in the ANSI MSDS standard (ANSI Z400.1-1998). We encourage you to take the opportunity to read the MSDS and review the information contained therein.

**SECTION 17**

**LABEL INFORMATION**

READ AND UNDERSTAND MATERIAL SAFETY DATA SHEET BEFORE HANDLING OR DISPOSING OF PRODUCT. THIS LABEL COMPLIES WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200) FOR USE IN THE WORKPLACE. THIS LABEL IS NOT INTENDED TO BE USED WITH PACKAGING INTENDED FOR SALE TO CONSUMERS AND MAY NOT CONFORM WITH THE REQUIREMENTS OF THE CONSUMER PRODUCT SAFETY ACT OR OTHER RELATED REGULATORY REQUIREMENTS.

**PRODUCT CODE(S):** 16492

**AC DELCO DEX-COOL® Anti-Freeze/Coolant**

**WARNING!**

**MAYBE HARMFUL OR FATAL IF SWALLOWED. ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION.**

**MAY CAUSE DAMAGE TO:** Kidney, Liver



This material and/or components may cause the following effects:  
**Developmental Toxicity**

**Precautionary Measures:** Avoid prolonged or repeated contact with eyes, skin and clothing. Avoid breathing of vapors, fumes, or mist. Do not take internally. Use only with adequate ventilation. Keep container closed when not in use. Wash thoroughly after handling.

#### FIRST AID

**Inhalation:** If the victim has difficulty breathing or tightness of the chest, is dizzy, vomiting or unresponsive, give 100% oxygen with rescue breathing or CPR as required and transport to the nearest medical facility.

**Skin Contact:** Flush exposed area with water and follow by washing with soap if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.

**Eye Contact:** Flush eyes with plenty of water while holding eyelids open. Rest eyes for 30 minutes. If redness, burning, blurred vision or swelling occur, transport to nearest medical facility for additional treatment.

**Ingestion:** DO NOT take internally. Do NOT induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into lungs. Get medical attention.

#### FIRE

**In case of fire,** Use water fog, 'alcohol foam', dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish flames. Do not use a direct stream of water.

#### SPILL OR LEAK

Dike and contain spill.

FOR LARGE SPILLS: Remove with vacuum truck or pump to storage/salvage vessels.

FOR SMALL SPILLS: Soak up residue with an absorbent such as clay, sand or other suitable material. Place in non-leaking container and seal tightly for proper disposal.

CONTAINS: Ethylene Glycol, 107-21-1; Potassium 2-Ethylhexanoate, 3164-85-0; Deionized water, 7732-18-5

**NFPA Rating (Health, Fire, Reactivity):** 2, 1, 0

#### TRANSPORTATION

##### **US Department of Transportation Classification**

This material is not subject to DOT regulations under 49 CFR Parts 171-180. This material is not regulated under 49 CFR if in a container of 119 gallon capacity or less. If shipped in a container of over 119 gallon capacity then the DOT information must be accompanied with RQ notation, or, an otherwise 'Not Regulated' product will be classified as Environmentally Hazardous (solid/liquid) N.O.S., Class 9, Packing group III unless the product qualifies for the petroleum exemption (49 CFR 171.8).

**Hazardous Substance/Material RQ:** Ethylene glycol / 5445.1995 lbs

##### **Name and Address**

Shell Oil Products US  
P. O. Box 4453  
Houston, TX 77210-4453



**ADMINISTRATIVE INFORMATION**

**MANUFACTURER ADDRESS:** Shell Oil Products US, P. O. Box 4453, Houston, TX. 77210-4453  
**Company Product Stewardship & Regulatory Compliance Contact:** Timothy W Childs  
**Phone Number:** (281) 874-7708

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