



# SAFETY DATA SHEET



Prepared in accordance with  
OSHA 2012 Hazard Communication Standard  
29 CFR 1910.1200

## SECTION 1: PRODUCT IDENTIFICATION

**Manufacturer's Name:** Environmental Specialists Inc.  
1101 Andrews Avenue  
Youngstown, OH 44505  
www.esrecycling.com

**Emergency Telephone Number**  
\*\*\*PERS (800) 633 – 8253\*\*\*  
**Information Telephone Number**  
\*\*\*(888) 331 – 3443\*\*\*

**Product Number:** AF-50  
**Product Name:** Antifreeze  
**Date of Preparation** November 1, 2021  
**Use of substance/mixture:** Antifreeze/Coolant  
**Synonyms:** 1,2 - Ethanediol  
**Formula:** C<sub>2</sub>H<sub>6</sub>O<sub>2</sub>

## SECTION 2: HAZARDS IDENTIFICATION

### GHS CLASSIFICATIONS

Specific target organ toxicant, repeated exposure, Oral, Kidney Category 4  
Acute oral toxicant Category 3

### GHS HAZARD PICTOGRAMS



**GHS SIGNAL WORD: WARNING**

### HAZARD STATEMENTS:

Harmful if swallowed  
May cause damage to kidney, liver and/or spleen through  
prolonged repeated exposure

### PRECAUTIONARY STATEMENTS:

Do not breathe dust/fume/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

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse  
mouth.  
Get medical advice/attention if you feel unwell  
Dispose of contents/container by contacting your ESI account representative.

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Weight %
1,2 – Ethanediol (Ethylene Glycol)	107-21-1	51.0 – 51.5%

### SECTION 4: FIRST AID MEASURES

<b>Eye Contact:</b>	May cause mild eye irritation experienced by temporary discomfort. Flush eye immediately with fresh water for 15 minutes. Remove contact lenses if worn. Eyelids should be held away from the eyeball to ensure thorough rinsing. Seek medical attention if needed.
<b>Skin Contact:</b>	Brief contact with the skin may not be irritating. Prolonged contact may cause defatting of the skin or irritation. Remove clothing and shoes if contaminated. Wash off with soap and plenty of water. Seek medical attention if irritation develops.
<b>Ingestion:</b>	This material contains ethylene glycol and/or diethylene glycol, which are toxic when swallowed. Induce vomiting immediately or as directed by medical personnel. Never give anything by mouth to an unconscious person. Seek medical attention immediately.
<b>Inhalation:</b>	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

### SECTION 5: FIRE FIGHTING MEASURES

#### Flammable Properties:

**Flash Point:** Not Available

**Flammable Limits:** LEL – Not Determined UEL – Not Determined

**Autoignition:** Does not apply

**Hazardous Combustion Products:** Carbon dioxide, carbon monoxide, unidentified organic compounds. Decomposition and combustion materials may be toxic.

**Extinguishing Media:** Use dry chemical, carbon dioxide, water fog, or foam to extinguish all fires.

**Fire Fighting Instructions:** Water or foam may cause frothing. Water spray may be used to extinguish surrounding fire and cool exposed containers. Water spray will also reduce fume and irritant gases.

Wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Toxic gases and vapors may be released if involved in a fire.

**Fire and Explosion Hazards:** Containers may explode when involved in a fire.

### SECTION 6: ACCIDENTAL RELEASE MEASURES

**Protective Measures:** Do not touch or walk through, spilled product. Keep non-essential and unprotected personnel from entering the area. If spill occurs indoors, ventilate area, and avoid breathing vapors or mist. A vapor suppressing foam may be used to reduce vapors.

**Spill Management:** Stop the source of the release if it can be done without risk. Contain release to prevent further contamination of soil, surface water or groundwater. DO NOT flush down public sewers or other drainage systems. Place contaminated materials in appropriate containers and dispose of in accordance with local, state, and federal regulations. Store in a cool, dry, well-ventilated area away from heat, sources of ignition and incompatibles.

### SECTION 7: HANDLING AND STORAGE


**Handling:** DANGER: Harmful or Fatal if Swallowed. Do not drink antifreeze or solution. Avoid eye and prolonged or repeated skin contact. Avoid breathing vapors or mists. Wash exposed skin thoroughly with soap and water after use.


**Storage:** Do not store in opened or unlabeled containers. Keep container away from open flames and excessive heat. Do not reuse empty containers unless properly cleaned. Empty containers retain product residue and may be dangerous.


## SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION


**Engineering Controls:** Use in a well-ventilated area. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of mists and/or vapors below the recommended exposure limits (see below). Have an eye wash station readily available where eye contact can occur.

**Personal Protective Equipment:** Personal protective equipment (PPE) selections vary based on the potential exposure conditions such as handling practices, concentration, and ventilation. At a minimum safety glasses and skin protection should be worn. Additional PPE may be required based on specific working conditions.

**Eye Protection:**  Safety glasses equipped with side shields are recommended for minimal protection. Wear goggles if splashing or spraying for added protection in the event splashing or spraying is expected.

**Hand Protection:**  Gloves should be nitrile, neoprene, Viton, polyvinyl alcohol (PVA), or equivalent protection. Use of natural rubber (latex), polyvinyl chloride (PVC) or equivalent material is not recommended.

**Skin Protection:**  Uniforms or coveralls should provide adequate protection under normal working conditions. If prolonged contact is unavoidable, wear protective clothing made of polyvinyl alcohol (PVA), neoprene, or nitrile. Remove contaminated clothing and launder before reuse. Heavily contaminate clothing and leather goods should be removed promptly and cleaned or discarded.

**Respiratory Protection:**  For operations where the TWA is exceeded a NIOSH approved respirator with organic vapor cartridges and dust/mist pre-filters or supplied air respirator is recommended. Equipment selection depends on contaminant type and concentration. Select and use in accordance with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.

### Occupational Exposure Guidelines:

#### Applicable Workplace Exposure Levels

Substance	ACGIH
Ethylene glycol	TWA: 100 ppm STEL: 50 ppm C: 40 ppm

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Color:</b>	Clear, green/yellow	<b>Physical State:</b>	Liquid	<b>Vapor Density:</b>	Not available
<b>Odor:</b>	Faint sweet	<b>Flash Point:</b>	> 232° F	<b>Vapor Pressure:</b>	Not available
<b>Density:</b>	5.84 – 9.50 lb/gal	<b>Boiling Point:</b>	> 385° F	<b>Solubility:</b>	Completely soluble in water

## SECTION 10: STABILITY AND REACTIVITY

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** Keep away from extreme heat, sparks, open flames, and strong oxidizers.

**Incompatibility with Other Materials:** Strong acids, strong oxidizing agents, strong bases, aldehydes, aluminum.

**Hazardous Decomposition Products:** Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases, including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

## SECTION 11: TOXICOLOGICAL INFORMATION

### Acute Hazards:

- Inhalation:** May cause irritation of the nose and throat with headache, particularly from mists. High vapor concentrations caused, for example, by heating the material in an enclosed and poorly ventilated workplace, may produce nausea, vomiting, headache, dizziness, and irregular eye movements.
- Ingestion:** May cause abdominal discomfort or pain, nausea, vomiting, dizziness, drowsiness, malaise, blurring of vision, irritability, back pain, decrease in urine output, kidney failure, and central nervous system effects, including irregular eye movements, convulsions, and coma. Cardiac failure and pulmonary edema may develop. Severe kidney damage which may be fatal may follow the swallowing of ethylene glycol. A few reports have been published describing the development of weakness of the facial muscles, diminishing hearing, and difficulty with swallowing, during the late stages of severe poisoning.
- Skin:** No evidence of adverse effects from available information.
- Eyes:** Liquid, vapors, or mist may cause discomfort in the eye with persistent conjunctivitis, seen as slight excess redness or conjunctiva. Serious corneal injury is not anticipated.
- Chronic Effects:** Prolonged or repeated inhalation exposure may produce signs of central nervous system involvement, particularly dizziness and jerking eye movements. Prolonged or repeated skin contact may cause skin sensitization and an associated dermatitis in some individuals. Ethylene glycol has been found to cause birth defects in laboratory animals. The significance of this finding to humans has not been determined.
- Carcinogenicity:** None of the components of these products is listed as a carcinogen or suspected carcinogen by IARC, NTP, ACGIH or OSHA.
- Acute Toxicity Values:** Ethylene Glycol:  
LD<sub>50</sub> Oral Rat: 4700 mg/kg  
LD<sub>50</sub> Skin Rabbit: 9530 mg/kg

## SECTION 12: ECOLOGICAL INFORMATION

This material may be harmful to human, animal, and aquatic life if spilled on soil or in water.

### ECOTOXICITY:

Ethylene Glycol: LC<sub>50</sub> Fathead Minnow <10,000 mg/L/96 hr.  
EC<sub>50</sub> Daphnia Magna 100,000 mg/L/48 hr.  
Bacterial (*Pseudomonas putida*): 10,000 mg/l  
Protozoa (*Entosiphon sulcatum* and *Uronema parduczi*; Chatton-Lwoff): >10,000 mg/l  
Algae (*Microcystis aeruginosa*): 2,000 mg/l  
Green algae (*Scenedesmus quadricauda*): >10,000 mg/l

### PERSISTENCE AND DEGRADABILITY:

Ethylene Glycol is readily biodegradable (97-100% in 2-12 days).

### BIOACCUMULATIVE POTENTIAL:

Ethylene glycol: A BCF of 10, reported for ethylene glycol in fish, Golden ide (*Leuciscus idus melanotus*), after 3 days of exposure suggests the potential for bio concentration in aquatic organisms is low.

**MOBILITY IN SOIL:** Ethylene glycol is highly mobile in soil.

**OTHER ADVERSE EFFECTS:** None known

## SECTION 13: DISPOSAL CONSIDERATIONS

**Material Disposal:** Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.

**Container Disposal:** Drain container thoroughly. Send to drum recycler or metal reclaimer.

**Local Legislation:** Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be complied with.

## SECTION 14: TRANSPORTATION INFORMATION

**US DOT Status:** **U.S. DOT HAZARD CLASSIFICATION:** Not Regulated (unless package contains a reportable quantity).

If a shipment of a reportable quantity (5,000 lbs) in a single package is involved, the following information applies:

**PROPER SHIPPING NAME:** RQ, Environmentally hazardous substance, liquid, NOS (Ethylene glycol)

**UN NUMBER:** UN3082

**PACKING GROUP:** III

**LABELS REQUIRED:** Class 9



## SECTION 15: REGULATORY INFORMATION

**TSCA Inventory** Components of this material are exempt from the requirements of the Toxic Substances Control Act Inventory.

**SARA 302/304 Emergency Planning and Notification** The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to Subparts 302 and 304 to submit emergency planning and notification information based on Threshold Planning Quantities (TPQs) and Reportable Quantities (RQs) for "Extremely Hazardous Substances" listed in 40 CFR 302.4 and 40 CFR 355.

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

**SARA 311/312 Hazard Identification** The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to Subparts 311 and 312 to submit aggregate information on chemical by "Hazard Category" as defined in 40 CFR 370.2. This material would be classified under the following hazard categories:

Immediate (Acute) Health Effects:	Yes
Delayed (Chronic) Health Effects:	Yes
Fire Hazard:	No
Sudden Release of Pressure Hazard:	No
Reactivity Hazard:	No

**SARA 313 Toxic Chemical Notification and Release Reporting** This product contains constituents listed in 40 CFR 372 and therefore is not subject to the requirements of Section 313 of SARA.

Ethylene glycol – CAS# 107-21-1 – 51.0 – 51.5%

**CERCLA** Spills of this product over the RQ (reportable quantity) must be reported to the National Response Center. The RQ for this product, based on the RQ for Ethylene Glycol is 5,000 lbs. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

## SECTION 16: OTHER INFORMATION

### NFPA Ratings:

Health: 1  
Flammability: 2  
Reactivity: 0



### HMIS Ratings:

Health: 1  
Flammability: 2  
Reactivity: 0

HEALTH	1
FLAMMABILITY	2
REACTIVITY	0
SPECIAL PROTECTION	

0 – Least, 1 – Slight, 2 – Moderate, 3 – High, 4 – Extreme

These values are obtained using the guidelines or published evaluations by the National Fire Protection Association (NFPA) of the National Paint and Coating Association (for HMIS ratings).

**LABEL RECOMMENDATION:** AF-50

**NOTICE:** The information herein is based on data considered to be accurate at date of preparation. No warranty is made as to the accuracy or completeness of the foregoing data and safety information. No responsibility can be assumed by vendor for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.