



Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation Murexide Indicator, 0.15% (w/v) in Ethylene Glycol

Product Number 5221

Other Identifying Product Numbers 5221-16, 5221-4

1.2. Recommended Use and Restrictions on Use

General Laboratory Reagent

1.3. Details of the Supplier of the Safety Data Sheet

Company Ricca Chemical Company

Address 412 West Fork Drive

Arlington, TX 76012 USA

Telephone 888-467-4222

1.4. Emergency Telephone Number (24 hours)

CHEMTREC (USA) 800-424-9300

CHEMTREC (International) 1+ 703-527-3887

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SECTION 2: Hazard(s) Identification

2.1. Classification of the Substance or Mixture

Hazard Class	Category	Hazard Statements	Precautionary Statements
Acute Toxicity - Oral	Category 4	H302	P264,P270,P301+P312,P330,P501
Specific Target Organ Toxicity - Single Exposure	Category 1	H370	P260,P264,P270,P308+P311, P321,P405,P501

2.2. GHS Label Elements

Pictograms:



Signal Word: **Danger**

Hazard Statements:

NOTE: Hazard statements may be combined on labels to improve clarity and readability.

Hazard Number	Hazard Statement
H302	Harmful if swallowed
H370	Causes damage to kidneys

Precautionary Statements:

NOTE: Precautionary statements may be combined or consolidated on labels to improve clarity and readability.

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Prevention

Precautionary Number	Precautionary Statement
P260	Do not breathe fumes or mist.
P264	Wash hands, arms, and face thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.

Response

Precautionary Number	Precautionary Statement
P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
P308+P311	If exposed or concerned: Call a poison center or doctor.
P330	Rinse mouth.

Storage

Precautionary Number	Precautionary Statement
P405	Store locked up.

Disposal

Precautionary Number	Precautionary Statement
P501	Dispose of contents/container to suitable waste stream in accordance with local, state, federal, and international regulations.

2.3. Hazards not Otherwise Classified

No other hazards identified.

2.4. Ingredients of Unknown Acute Toxicity

This product does not contain any ingredients of unknown acute toxicity.

SECTION 3: Composition / Information on Ingredients

3.1. Components of Mixture

Chemical Name (IUPAC)	Common Name and Synonyms	CAS Number	Weight%
ethane-1,2-diol	Ethylene Glycol; glycol	107-21-1	99.87
azanum 2,4-dioxo-5- [(2,4,6-trioxo-1,3-diazinan-5-ylidene)amino]-1H-pyrimidin-6-olate	Murexide; Ammonium purpurate	3051-09-0	0.13

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SECTION 4: First-Aid Measures

4.1. Description of Necessary Measures

Eye Contact: May cause irritation with burning and stinging with possible damage to the cornea and conjunctiva.

Ingestion: IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Dilute immediately with water or milk. Induce vomiting. Call a physician.

Inhalation: Not expected to require first aid. If necessary, remove to fresh air.

Skin Contact: May cause irritation, allergic rash. Absorption is possible.

4.2. Most Important Symptoms and Effects, Acute and Delayed

Harmful if swallowed Harmful or fatal if swallowed. Lethal dose in humans about 1.4 mL/kg or 100 mL. Harmful if absorbed through skin. May cause allergic skin reaction. May irritate eyes, skin and respiratory tract. Affects central nervous system. Wash areas of contact with plenty of water. If ingested, dilute with water and induce vomiting. Call a physician. EYE CONTACT: May cause irritation with burning and stinging with possible damage to the cornea and conjunctiva. SKIN CONTACT: May cause irritation, allergic rash. Absorption is possible. CHRONIC EFFECTS / CARCINOGENICITY: Repeated or high exposures may cause kidney damage, brain damage or skin allergy.

4.3. Immediate Medical Attention or Special Treatment Needed

Irrigate immediately with large quantity of water for at least 15 minutes. Call a physician if irritation develops. Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen. Wash areas of contact with soap and water for at least 15 minutes. Call a physician if irritation develops. Dilute immediately with water or milk. Induce vomiting. Call a physician.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

Water spray, fog, carbon dioxide, dry chemical powder, alcohol foam, polymer foam

5.2. Specific Hazards Arising from the Substance or Mixture in a Fire

Moderate explosion hazard when in the form of vapor. Dangerous fire hazard when exposed to heat.

5.3. Special Protective Equipment and Precautions for Firefighters

Wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Wear appropriate PPE for the size and nature of the spill. As a general rule, wear safety glasses and gloves.

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6.2. Cleanup and Containment Methods and Materials

Remove all sources of ignition. Contain spill. Do not flush to sewer. Absorb with suitable inert material (vermiculite, dry sand, etc) and place in a chemical waste container for proper disposal in an approved waste disposal facility. Ventilate area of spill. Have extinguishing agent available in case of fire. Use non-sparking tools and equipment. Dispose of in accordance with local regulations.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling and Storage Conditions

Store locked up. As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage.

SECTION 8: Exposure Controls / Personal Protection

8.1. Exposure Limits

U.S. OSHA - Permissible Exposure Limits (PEL) - Time Weighted Averages (TWA)

No limits found.

U.S. OSHA - Permissible Exposure Limits (PEL) - Ceiling Limits

No limits found.

U.S. OSHA - Permissible Exposure Limits (PEL) - Short Term Exposure Limits (STEL)

No limits found.

U.S. OSHA - Specifically Regulated Chemicals

No limits found.

ACGIH - Threshold Limit Values - Ceilings (TLV-C)

No limits found.

ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)

Chemical Name	CAS Number	Exposure Limit
Ethylene Glycol	107-21-1	50 ppm STEL (vapor fraction); 10 mg/m ³ STEL (inhalable particulate matter, aerosol only)

ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

Chemical Name	CAS Number	Exposure Limit
Ethylene Glycol	107-21-1	25 ppm TWA (vapor fraction)

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8.2. Engineering Controls

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limit.

8.3. Individual Protective Measures and Personal Protective Equipment

Respiratory Protection: Normal room ventilation is adequate. If the exposure limit is exceeded, a full facepiece respirator with organic vapor cartridge may be worn.

Skin Protection: Chemical resistant gloves.

Eye Protection: Safety glasses or goggles.

SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

Physical State: liquid

Color: Dark red

Odor: Data not available.

Odor Threshold: Data not available.

Melting/Freezing Point: -12 - -11°C

Boiling Point/Range: Approximately 197°C

Flammability: Data not available.

Flammability/Explosive Limits: Data not available. - 15.3%

Flash Point: Not flammable

Auto-Ignition Temperature: Data not available.

Decomposition Temperature: Data not available.

pH: Data not available.

Kinematic Viscosity: Data not available.

Solubility: Data not available.

Vapor Pressure: 0.1 hPa at 20°C

Evaporation Rate: Data not available.

Relative Density: 1.11

Relative Vapor Density: 2.14

Particle Characteristics: Data not available.

Partition Coefficient n-octanol/water, log -1.93

SECTION 10: Stability and Reactivity

10.1. Reactivity and Chemical Stability

Stable under normal conditions of use and storage.

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10.2. Possibility of Hazardous Reactions

Data not available.

10.3. Conditions to Avoid and Incompatible Materials

Strong oxidizing agents such as Potassium Permanganate, Chromium Trioxide, Sodium Peroxide, Nitrates, Chlorates, and Perchlorates.

10.4. Hazardous Decomposition Products

Will not occur.

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

Oral acute toxicity estimate (ATE): 500 mg/kg(calculated)

Chemical Name	CAS Number	Toxicity
Ethylene Glycol	107-21-1	Oral LD50 Acute Toxicity Estimate 500 mg/kg (Source: Canada_WHMIS)

Acute Toxicity - Dermal Exposure:

Not acutely toxic.

Chemical Name	CAS Number	Toxicity
Ethylene Glycol	107-21-1	Dermal LD50 Rat 10600 mg/kg (Source: JAPAN_GHS)

Acute Toxicity - Inhalation Exposure:

Not acutely toxic.

Chemical Name	CAS Number	Toxicity
Ethylene Glycol	107-21-1	Inhalation LC50 Rat >2.5 mg/L 6 h (aerosol, Source: ECHA)

11.2 Carcinogenicity:

International Agency for Research on Cancer (IARC)

Chemical Name	CAS Number	Classification
		No data found.

National Toxicology Program (NTP)

Chemical Name	CAS Number	Classification
Ethylene Glycol	107-21-1	Male Rat - Not Tested; Female Rat - Not Tested; Male Mice - No Evidence; Female Mice - No Evidence (TR-413)

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U.S. OSHA specifically regulated carcinogens

Chemical Name	CAS Number	Classification
No data found.		

11.3 Additional Toxicology Information:

Harmful if swallowed. Causes damage to kidneys.

SECTION 12: Ecological Information

12.1. Ecotoxicity

Chemical Name	CAS Number	Species	Exposure	Toxicity
Ethylene Glycol	107-21-1	Freshwater Algae	Acute	EC50 96 h Pseudokirchneriella subcapitata 6500 - 13000 mg/L (IUCLID)
Ethylene Glycol	107-21-1	Freshwater Fish	Acute	LC50 96 h Oncorhynchus mykiss 41000 mg/L (IUCLID); LC50 96 h Oncorhynchus mykiss 14 - 18 mL/L [static] (EPA); LC50 96 h Lepomis macrochirus 27540 mg/L [static] (EPA); LC50 96 h Oncorhynchus mykiss 40761 mg/L [static] (IUCLID); LC50 96 h Pimephales promelas 40000 - 60000 mg/L [static] (EPA); LC50 96 h Poecilia reticulata 16000 mg/L [static] (IUCLID)
Ethylene Glycol	107-21-1	Water Flea	Acute	EC50 48 h Daphnia magna 46300 mg/L (IUCLID)

12.2. Persistence and Degradability

Data not available.

12.3. Bioaccumulative Potential

Data not available.

12.4. Mobility in soil

Data not available.

12.5. Other Adverse Ecological Effects

Data not available.

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SECTION 13: Disposal Considerations

13.1. Waste Treatment Methods

Data not available.

SECTION 14: Transportation Information

14.1 Transportation by Land - Department of Transportation (DOT, United States of America)

Not regulated according to DOT regulations.

14.2 Transportation by Air - International Air Transport Association (IATA)

Not regulated according to IATA Dangerous Goods Regulations.



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14.3 Transportation of Dangerous Goods (TDG, Canada)

Not regulated according to TDG regulations.

SECTION 15: Regulatory Information

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15.01. Occupational Safety and Health Administration (OSHA) Hazards

Chemical Name	CAS Number	Regulatory Information
No data found.		

15.02. Superfund Amendments and Reauthorization Act (SARA) 302 Extremely Hazardous Substances

Chemical Name	CAS Number	RQ
No data found.		

15.03. Superfund Amendments and Reauthorization Act (SARA) 311/312 Hazardous Chemicals

Chemical Name	CAS Number	Regulatory Information
Ethylene Glycol	107-21-1	5000 lb final RQ; 2270 kg final RQ

15.04. Superfund Amendments and Reauthorization Act (SARA) 313 Toxics Release Inventory (TRI)

Chemical Name	CAS Number	List	Regulatory Information
Ethylene Glycol	107-21-1	Emission Reporting	1.0 % de minimis concentration

15.05. Massachusetts Right-to-Know Substance List

Chemical Name	CAS Number	Regulatory Information
Ethylene Glycol	107-21-1	Present

15.06. Pennsylvania Right-to-Know Hazardous Substances

Chemical Name	CAS Number	Regulatory Information
Ethylene Glycol	107-21-1	Environmental hazard

15.07. New Jersey Worker and Community Right-to-Know Components

Chemical Name	CAS Number	Regulatory Information
Ethylene Glycol	107-21-1	sn 0878

15.08. California Proposition 65

Chemical Name	CAS Number	Regulatory Information
Ethylene Glycol	107-21-1	developmental toxicity, 6/19/2015 (ingested)

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15.09. Canada Domestic Substances List / Non-Domestic Substances List (DSL/NDSL)

Chemical Name	CAS Number	List	Status
Ethylene Glycol	107-21-1	DSL	Present
Murexide	3051-09-0	DSL	Present

15.10. United States of America Toxic Substances Control Act (TSCA) List

Chemical Name	CAS Number	Status
Ethylene Glycol	107-21-1	Present (ACTIVE)
Murexide	3051-09-0	Present (ACTIVE)

15.11. European Inventory of Existing Commercial Chemical Substances (EINECS), European List of Notified Chemical Substances (ELINCS), and No Longer Polymers (NLP)

Chemical Name	CAS Number	List	Number
Ethylene Glycol	107-21-1	EINECS	203-473-3
Murexide	3051-09-0	EINECS	221-266-6

15.12. China - Inventory of Existing chemical Substances (IECSC)

Chemical Name	CAS Number	Status
Ethylene Glycol	107-21-1	Present [38204]
Murexide	3051-09-0	Present [23463]

15.13. Korea - Existing Chemicals Inventory (KECI/KECL)

Chemical Name	CAS Number	List	Status
Ethylene Glycol	107-21-1	Annex 1	Present [KE-13169]

15.14. Japan - Existing and New Chemical Substances Inventory (ENCS)

Chemical Name	CAS Number	MITI No.
Ethylene Glycol	107-21-1	(2)-230

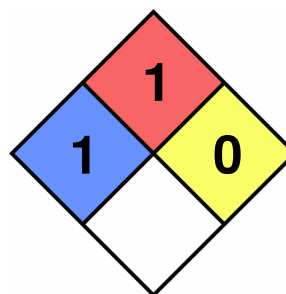
SECTION 16: Other Information

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16.1 National Fire Protection Associate (NFPA) Rating

Health: 1
Flammability: 1
Reactivity: 0
Special Hazard:



16.2 Document Revision

Last Revision Date:
2026-05-24

DISCLAIMER

When handled properly by qualified personnel, the product described herein does not present a significant health or safety hazard. Alteration of its characteristics by concentration, evaporation, addition of other substances, or other means may present hazards not specifically addressed herein and which must be evaluated by the user. The information furnished herein is believed to be accurate and represents the best data currently available to us. No warranty, expressed or implied, is made and RICCA CHEMICAL COMPANY assumes no legal responsibility or liability whatsoever resulting from its use.