



## Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS)

### 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:** 448 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

### SECTION 2: Hazard(s) Identification

#### 2.1. Classification of the Substance or Mixture

For the full text of the Hazard and Precautionary Statements listed below, see Section 16.

Hazard Class	Category	Hazard Statements:	Precautionary Statements:
Acute Toxicity - Oral	Category 4	H302	P264, P270, P301+P312, P330, P501
Specific Target Organs/Systemic Toxicity Following Single Exposure	Category 1	H370	P260, P264, P270, P307+P311, P321, P405, P501

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### 2.2. GHS Label Elements

Pictograms:



Signal Word: **Danger**

Hazard Statements:

Hazard Number	Hazard Statement
H302	Harmful if swallowed.
H370	Causes damage to organs.

Precautionary Statements:

Precautionary Number	Precautionary Statement
P260	Do not breathe fumes, mist, vapors, or spray.
P264	Wash arms, hands and face thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P301+P312	IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell.
P307+P311	IF exposed: Call a POISON CENTER or physician.
P321	Specific treatment (Wash areas of contact with water).
P330	Rinse mouth.
P405	Store locked up.
P501	Dispose of contents in accordance with local, state, federal and international regulations.

### 2.4. Hazards not Otherwise Classified or Covered by GHS

Data not available.

## SECTION 3: Composition / Information on Ingredients

### 3.1. Components of Substance or Mixture

Chemical Name	Formula	Molecular Weight	CAS Number	Weight%
Ethylene Glycol	HOCH <sub>2</sub> CH <sub>2</sub> OH	62.06 g/mol	107-21-1	99.87
Murexide	C <sub>8</sub> H <sub>8</sub> N <sub>6</sub> O <sub>6</sub>	284.18 g/mol	3051-09-0	0.13



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### SECTION 4: First-Aid Measures

#### 4.1. General First Aid Information

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

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

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

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

#### 4.2. Most Important Symptoms and Effects, Acute and Delayed

Harmful if swallowed. Causes damage to organs. 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. Medical Attention or Special Treatment Needed

Specific treatment (Wash areas of contact with water). 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

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

#### 5.3. Special Protective Equipment 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.

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## SECTION 8: Exposure Controls / Personal Protection

### 8.1 Control Parameters

Chemical Name	Limit Type	Country	Exposure Limit	Information Source
Ethylene Glycol (107-21-1)	TLV-TWA	USA	25 ppm TWA (vapor fraction)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ethylene Glycol (107-21-1)	TLV-STEL	USA	50 ppm STEL (vapor fraction); 10 mg/m <sup>3</sup> STEL (inhalable particulate matter, aerosol only)	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Ethylene Glycol (107-21-1)	TLV-STEL	USA	"50 ppm STEL (vapor fraction); 10 mg/m <sup>3</sup> STEL (inhalable particulate matter, aerosol only)" As Ethylene glycol [107-21-1]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Ethylene Glycol (107-21-1)	TLV-TWA	USA	"25 ppm TWA (vapor fraction)" As Ethylene glycol [107-21-1]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ethylene Glycol (107-21-1)	TLV-TWA	USA	"25 ppm TWA (vapor fraction)" As Ethylene glycol [107-21-1]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ethylene Glycol (107-21-1)	TLV-STEL	USA	"50 ppm STEL (vapor fraction); 10 mg/m <sup>3</sup> STEL (inhalable particulate matter, aerosol only)" As Ethylene glycol [107-21-1]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Ethylene Glycol (107-21-1)	TLV-TWA	USA	"25 ppm TWA (vapor fraction)" As Ethylene glycol [107-21-1]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ethylene Glycol (107-21-1)	TLV-STEL	USA	"50 ppm STEL (vapor fraction); 10 mg/m <sup>3</sup> STEL (inhalable particulate matter, aerosol only)" As Ethylene glycol [107-21-1]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)

### 8.2. Exposure Controls

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



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**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.

### 8.3. Personal Protective Equipment

Normal room ventilation is adequate. If the exposure limit is exceeded, a full facepiece respirator with organic vapor cartridge may be worn. Chemical resistant gloves. Safety glasses or goggles.

## SECTION 9: Physical and Chemical Properties

### 9.1. Basic Physical and Chemical Properties

**Appearance:** Dark red liquid

**Physical State:** Liquid

**Odor:** Data not available.

**Odor Threshold:** Data not available.

**pH:** Data not available.

**Melting/Freezing Point:** -12 - -11°C

**Initial Boiling Point/Range:** Approximately 197°C - Approximately 197°C

**Flash Point:** 111°C

**Evaporation Rate:** Data not available.

**Flammability:** Data not available.

**Flammability/Explosive Limits:** Data not available.

**Vapor Pressure:** 0.1 hPa at 20°C

**Vapor Density:** 2.14

**Relative Density:** 1.11

**Solubility:** Data not available.

**Partition Coefficient:** -1.93

**Auto-Ignition Temperature:** Data not available.

**Decomposition Temperature:** Data not available.

**Viscosity:** Data not available.

**Explosive Properties:** Data not available.

**Oxidizing Properties:** Data not available.



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### SECTION 10: Stability and Reactivity

#### 10.1. Reactivity and Chemical Stability

Stable under normal conditions of use and storage.

#### 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:

Harmful if swallowed. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. Dispose of contents in accordance with local, state, federal and international regulations.

##### Acute Toxicity - Dermal Exposure:

Not applicable.

##### Acute Toxicity - Inhalation Exposure:

Not applicable.

##### Acute Toxicity - Other Information:

LD50, Oral, Rat: (Ethylene Glycol) 4700 mg/kg, details of toxic effects not reported other than lethal dose value.

##### Skin Corrosion and Irritation:

Not applicable.

##### Serious Eye Damage and Irritation:

Not applicable.

##### Respiratory Sensitization:

Not applicable.

##### Skin Sensitization:

Not applicable.

##### Germ Cell Mutagenicity:

Not applicable.

##### Carcinogenicity:

Not applicable.



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**Reproductive Toxicity:**

Not applicable.

**Specific Target Organ Toxicity from Single Exposure:**

Causes damage to organs. Do not breathe fumes, mist, vapors, or spray. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. IF exposed: Call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water). Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

**Specific Target Organ Toxicity from Repeated Exposure:**

Not applicable.

**Aspiration Hazard:**

Not applicable.

**Additional Toxicology Information:**

Data not available.

### SECTION 12: Ecological Information

**12.1. Ecotoxicity**

Not applicable.

**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.

### SECTION 13: Disposal Considerations

**13.1. Waste Treatment Methods**

Data not available.





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### **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.

#### **14.3 Transportation of Dangerous Goods (TDG, Canada)**

Not regulated according to TDG Regulations.

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### SECTION 15: Regulatory Information

#### 15.1. Occupational Safety and Health Administration (OSHA) Hazards

Not listed.

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

Not listed.

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

Ethylene Glycol (CAS # 107-21-1): "5000 lb final RQ; 2270 kg final RQ" As Ethylene glycol [107-21-1]

Ethylene Glycol (CAS # 107-21-1): 5000 lb final RQ; 2270 kg final RQ

#### 15.4. Superfund Amendments and Reauthorization Act (SARA) 313 Toxic Release Inventory (TRI)

Ethylene Glycol (CAS # 107-21-1): "1.0 % de minimis concentration" As Ethylene glycol [107-21-1]

Ethylene Glycol (CAS # 107-21-1): 1.0 % de minimis concentration

#### 15.5. Massachusetts Right-to-Know Substance List

Ethylene Glycol (CAS # 107-21-1): "Present" As 1,2-Dihydroxyethane [107-21-1]

Ethylene Glycol (CAS # 107-21-1): Present

#### 15.6. Pennsylvania Right-to-Know Hazardous Substances

Ethylene Glycol (CAS # 107-21-1): "Environmental hazard" As 1,2-Ethanediol [107-21-1]

Ethylene Glycol (CAS # 107-21-1): "Present" As 1,2-Ethanediol [107-21-1]

Ethylene Glycol (CAS # 107-21-1): Environmental hazard

Ethylene Glycol (CAS # 107-21-1): Present

#### 15.7. New Jersey Worker and Community Right-to-Know Components

Ethylene Glycol (CAS # 107-21-1): "SN 0878 500 lb TPQ" As Ethylene glycol [107-21-1]

Ethylene Glycol (CAS # 107-21-1): "sn 0878" As Ethylene glycol [107-21-1]

Ethylene Glycol (CAS # 107-21-1): sn 0878

Ethylene Glycol (CAS # 107-21-1): SN 0878 500 lb TPQ

#### 15.8. California Proposition 65

Ethylene Glycol (CAS # 107-21-1): "developmental toxicity, 6/19/2015 (ingested)" As Ethylene glycol [107-21-1]

Ethylene Glycol (CAS # 107-21-1): developmental toxicity, 6/19/2015 (ingested)

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

Ethylene Glycol (CAS # 107-21-1): "Present" As Ethylene glycol [107-21-1] (DSL)

Ethylene Glycol (CAS # 107-21-1): "Present" As Hexanedioic acid, polymer with 1,3-dihydro-1,3-dioxo-5-isobenzofurancarboxylic acid, 1,2-ethanediol and 2,2'-oxybis[ethanol] [141224-31-9];

"Present" As 1,4-Benzenedicarboxylic acid, polymer with 1,2-ethanediol and 2-methyl-1,3-propanediol [91198-73-1];

"Present" As Carboxylic acids, di-, C10-12, polymers with 1,4-butanediol, ethylene glycol and 1,6-hexanediol [99811-93-5] (NDSL)

Ethylene Glycol (CAS # 107-21-1): Present (DSL)

Ethylene Glycol (CAS # 107-21-1): Present (NDSL)

Murexide (CAS # 3051-09-0): "Present" As 2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-[(hexahydro-2,4,6-trioxo-5-pyrimidinyl)imino]-, monoammonium salt [3051-09-0] (DSL)

Murexide (CAS # 3051-09-0): Present (DSL)

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

**All components of this solution are listed as active on the TSCA Inventory or are mixtures (hydrates) of active items listed on the TSCA Inventory.**

Ethylene Glycol (CAS # 107-21-1): "Present (ACTIVE)" As 1,2-Ethanediol [107-21-1]

Ethylene Glycol (CAS # 107-21-1): Present (ACTIVE)

Ethylene Glycol (CAS # 107-21-1): Present [FRI; XU] (INACTIVE)

Ethylene Glycol (CAS # 107-21-1): Present [PMN; XU] (ACTIVE)

Ethylene Glycol (CAS # 107-21-1): Present [XU] (ACTIVE)

Murexide (CAS # 3051-09-0): "Present (ACTIVE)" As 2,4,6(1H,3H,5H)-Pyrimidinetrione, 5-[(hexahydro-2,4,6-trioxo-5-pyrimidinyl)imino]-, ammonium salt (1:1) [3051-09-0]

Murexide (CAS # 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)

Ethylene Glycol (CAS # 107-21-1): "203-473-3" As Ethane-1,2-diol [107-21-1]

Ethylene Glycol (CAS # 107-21-1): 203-473-3

Murexide (CAS # 3051-09-0): "221-266-6" As Ammonium 5-(2,4,6-trioxoperhydropyrimidin-5-ylideneamino)barbiturate [3051-09-0]

Murexide (CAS # 3051-09-0): 221-266-6

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## SECTION 16: Other Information

### 16.1. Full Text of Hazard Statements and Precautionary Statements

Harmful if swallowed. Causes damage to organs.

Do not breathe fumes, mist, vapors, or spray. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product.

IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. IF exposed: Call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water). Rinse mouth.

Store locked up.

Dispose of contents in accordance with local, state, federal and international regulations.

### 16.2. Miscellaneous Hazard Classes

**Canadian Carcinogenicity Hazard Class:** Not Applicable.

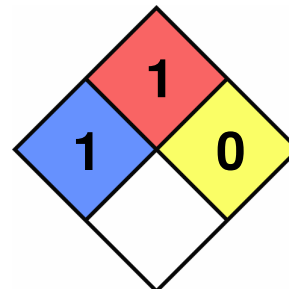
**Physical Hazards Not Otherwise Classified (PHNOC):** Not Applicable.

**Health Hazards Not Otherwise Classified (HHNOC):** Not Applicable.

**Biohazardous Infectious Materials Hazard Class:** Not Applicable.

### 16.3. National Fire Protection Association (NFPA) Rating

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



### 16.4. Document Revision

**Last Revision Date:** 2025-01-30

## 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.