

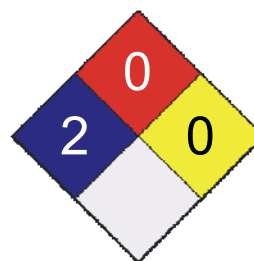
MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product Name Cal-Blue LT (4183)
CAS # Mixture
Product use Gas Leak Detector
Manufacturer Nu-Calgon
 2008 Altom Court
 St. Louis, MO 63146 US
 Phone: 314-469-7000 / 800-554-5499
 Emergency Phone: 1-800-424-9300 (CHEMTREC)

| LEGEND HMIS/NFPA | |
|---------------------|---|
| Severe | 4 |
| Serious | 3 |
| Moderate | 2 |
| Slight | 1 |
| Minimal | 0 |

| | |
|---------------------|-----|
| Health | * 2 |
| Flammability | 0 |
| Physical Hazard | 0 |
| Personal Protection | X |



2. Hazards Identification

Emergency overview DANGER
 Toxic.
 EYE AND SKIN IRRITANT.
 Contains a potential teratogen.

Potential short term health effects

Routes of exposure Eye, Skin contact, Inhalation, Ingestion.

Eyes May cause irritation.

Skin May cause irritation.

Inhalation May cause respiratory tract irritation.

Ingestion May cause stomach distress, nausea or vomiting.

Target organs Skin. Eyes.

Chronic effects Prolonged or repeated exposure can cause drying, defatting and dermatitis.

Signs and symptoms Although animal toxicity values do not meet criteria, ethylene glycol is toxic to humans. There are numerous human case reports of toxicity and death published in the literature.
 Symptoms may include redness, edema, drying, defatting and cracking of the skin.
 Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

3. Composition / Information on Ingredients

| Ingredient(s) | CAS # | Percent |
|---------------------------|-----------|-----------|
| Ethylene glycol | 107-21-1 | 30 - 60 |
| Lauryldimethylamine oxide | 1643-20-5 | 1 - 5 |
| Triethanolamine | 102-71-6 | 0.5 - 1.5 |

4. First Aid Measures

First aid procedures

Eye contact Flush with cool water. Remove contact lenses, if applicable, and continue flushing. Obtain medical attention if irritation persists.

Skin contact Flush with cool water. Wash with soap and water. Obtain medical attention if irritation persists.

Inhalation If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.

| | |
|---------------------------|---|
| Ingestion | Do not induce vomiting. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention. |
| Notes to physician | Symptoms may be delayed. |
| General advice | If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children. |

5. Fire Fighting Measures

| | |
|---|---|
| Flammable properties | Not flammable by WHMIS/OSHA criteria. |
| Extinguishing media | |
| Suitable extinguishing media | Water spray. Foam. Carbon dioxide. |
| Unsuitable extinguishing media | Not available |
| Protection of firefighters | |
| Specific hazards arising from the chemical | Not available |
| Protective equipment for firefighters | Firefighters should wear full protective clothing including self contained breathing apparatus. |
| Hazardous combustion products | May include and are not limited to: Oxides of carbon. |
| Explosion data | |
| Sensitivity to mechanical impact | Not available |
| Sensitivity to static discharge | Not available |

6. Accidental Release Measures

| | |
|--------------------------------|---|
| Personal precautions | Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. |
| Methods for containment | Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas. |
| Methods for cleaning up | Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labelled containers. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Never return spills in original containers for re-use. |

7. Handling and Storage

| | |
|-----------------|--|
| Handling | Use good industrial hygiene practices in handling this material. |
| Storage | Keep out of reach of children. Store in a closed container away from incompatible materials. |

8. Exposure Controls / Personal Protection

Exposure limits

| Ingredient(s) | Exposure Limits |
|---------------------------|--|
| Ethylene glycol | ACGIH-TLV Ceiling: 100 mg/m ³ OSHA-PEL Not established |
| Lauryldimethylamine oxide | ACGIH-TLV Not established OSHA-PEL Not established |
| Triethanolamine | ACGIH-TLV TWA: 5 mg/m ³ OSHA-PEL Not established |

Engineering controls

General ventilation normally adequate.

Personal protective equipment

Eye / face protection

Wear safety glasses with side shields.

Hand protection

Rubber gloves. Confirm with a reputable supplier first.

Skin and body protection

As required by employer code.

Respiratory protection

Where exposure guideline levels may be exceeded, use an approved NIOSH respirator. Avoid breathing mists or vapors.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

9. Physical and Chemical Properties

| | |
|--|----------------------------------|
| Appearance | Clear. |
| Color | Blue |
| Form | Liquid |
| Odor | Characteristic |
| Odor threshold | Not available |
| Physical state | Liquid |
| pH | 8.1 - 8.5 (Concentrate) |
| Melting point | Not available |
| Freezing point | Not available |
| Boiling point | 100 °C (212.00 °F) Not available |
| Flash point | Not available |
| Evaporation rate | Not available |
| Flammability limits in air, lower, % by volume | Not available |
| Flammability limits in air, upper, % by volume | Not available |
| Vapor pressure | Not available |
| Vapor density | Not available |
| Specific gravity | Not available |
| Octanol/water coefficient | Not available |
| Solubility (H ₂ O) | Complete |
| Auto-ignition temperature | Not available |
| VOC (Weight %) | Not available |
| Viscosity | 375 cPs |
| Bulk density | 8.82 lbs/gallon |

10. Stability and Reactivity

| | |
|---|---|
| Chemical stability | Stable under recommended storage conditions. |
| Conditions to avoid | Do not mix with other chemicals. |
| Incompatible materials | Oxidizers. Acids. |
| Hazardous decomposition products | May include and are not limited to: Oxides of carbon. |
| Possibility of hazardous reactions | Hazardous polymerization does not occur. |

11. Toxicological Information

Acute effects Although animal toxicity values do not meet criteria, ethylene glycol is toxic to humans. There are numerous human case reports of toxicity and death published in the literature.

Component analysis - LC50

| Ingredient(s) | LC50 |
|-----------------------------|---------------|
| Ethylene glycol | Not available |
| Lauryldimethylamine oxide N | ot available |
| Triethanolamine | Not available |

Component analysis - Oral LD50

| Ingredient(s) | LD50 |
|-----------------------------|--|
| Ethylene glycol | 7500 mg/kg mouse; 6.6 g/kg guinea pig; 5 g/kg rabbit; 4000 mg/kg rat |
| Lauryldimethylamine oxide 2 | 700 mg/kg mouse |
| Triethanolamine | 4190 mg/kg rat; 5300 mg/kg guinea pig; 5200 mg/kg mouse |

Effects of acute exposure

| | |
|-------------------|---|
| Eye | May cause irritation. |
| Skin | May cause irritation. |
| Inhalation | May cause respiratory tract irritation. |
| Ingestion | May cause stomach distress, nausea or vomiting. |

Sensitization Non-hazardous by WHMIS/OSHA criteria.

Chronic effects Non-hazardous by WHMIS/OSHA criteria.

Carcinogenicity See below.

ACGIH - Threshold Limit Values - Carcinogens

Ethylene glycol 107-21-1 A4 - Not Classifiable as a Human Carcinogen

IARC - Group 3 (Not Classifiable)

Triethanolamine 102 -71-6 Monograph 77 [2000]

Mutagenicity Non-hazardous by WHMIS/OSHA criteria.

Reproductive effects Non-hazardous by WHMIS/OSHA criteria.

Teratogenicity In rats and mice exposed to ethylene glycol, embryotoxic (late resorptions), fetotoxic (reduced fetal body weight) and teratogenic (external, soft tissue and skeletal defects) effects were observed at relatively high oral doses that caused no or minimal maternal toxicity.

12. Ecological Information

Ecotoxicity Components of this product have been identified as having potential environmental concerns.

Ecotoxicity - Freshwater Algae Data

| | | |
|-----------------|----------|--|
| Ethylene glycol | 107-21-1 | 96 Hr EC50 Selenastrum capricornutum: 6500 - 13000 mg/L |
| Triethanolamine | 102-71-6 | 72 Hr EC50 Scenedesmus subspicatus: 216 mg/L; 96 Hr EC50 Scenedesmus subspicatus: 169 mg/L |

Ecotoxicity - Freshwater Fish Species Data

| | | |
|-----------------|----------|--|
| Ethylene glycol | 107-21-1 | 96 Hr LC50 Oncorhynchus mykiss: 41000 mg/L; 96 Hr LC50 Oncorhynchus mykiss:40761 mg/L[static]; 96 Hr LC50 Poecilia reticulata:16000 mg/L[static] |
| Triethanolamine | 102-71-6 | 96 Hr LC50 Pimephales promelas: >1000 mg/L [static]; 96 Hr LC50 Lepomis macrochirus:450-1000 mg/L[static] |

Ecotoxicity - Microtox Data

| | | |
|-----------------|----------|---|
| Ethylene glycol | 107-21-1 | 30 Min EC50 Photobacterium phosphoreum: 620.0 mg/L; 30 min EC50 Photobacterium phosphoreum: 620 mg/L; 16 Hr EC50 Pseudomonas putida: 10000 mg/L |
| Triethanolamine | 102-71-6 | 30 Min EC50 Pseudomonas putida: >10000 mg/L |

Ecotoxicity - Water Flea Data

| | | |
|-----------------|----------|-------------------------------------|
| Ethylene glycol | 107-21-1 | 48 Hr EC50 water flea: 46300 mg/L |
| Triethanolamine | 102-71-6 | 24 Hr EC50 Daphnia magna: 1386 mg/L |

| | |
|--|---------------|
| Environmental effects | Not available |
| Aquatic toxicity | Not available |
| Persistence / degradability | Not available |
| Bioaccumulation / accumulation | Not available |
| Partition coefficient | Not available |
| Mobility in environmental media | Not available |
| Chemical fate information | Not available |
| Other adverse effects | Not available |

13. Disposal Considerations

| | |
|--|--|
| Waste codes | Not available |
| Disposal instructions | Dispose in accordance with all applicable regulations. |
| Waste from residues / unused products | Not available |
| Contaminated packaging | Not available |

14. Transport Information

U.S. Department of Transportation (DOT)

Not regulated as dangerous goods.

Transportation of Dangerous Goods (TDG - Canada)

Not regulated as dangerous goods.

15. Regulatory Information

Canadian federal regulations This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Canada - WHMIS - Ingredient Disclosure List

| | | |
|-------------------------------|----------|-----|
| Ethylene glycol | 107-21-1 | 1 % |
| Lauryldimethylamine oxide 164 | 3-20-5 | 1 % |
| Triethanolamine 102 | -71-6 | 1 % |

US Federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

| | | |
|-----------------|----------|------------------------------------|
| Ethylene glycol | 107-21-1 | 5000 Lb final RQ; 2270 kg final RQ |
|-----------------|----------|------------------------------------|

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

| | | |
|-----------------|----------|--------------------------------|
| Ethylene glycol | 107-21-1 | 1.0 % de minimis concentration |
|-----------------|----------|--------------------------------|

Occupational Safety and Health Administration (OSHA)

| | |
|--|-----|
| 29 CFR 1910.1200 hazardous chemical | Yes |
|--|-----|

CERCLA (Superfund) reportable quantity

1,2-Ethanediol: 5000.0000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance No

Section 311 hazardous chemical Yes

Clean Air Act (CAA) Not available

Clean Water Act (CWA) Not available

WHMIS status Controlled

WHMIS classification Class D - Division 1B, 2A, 2B

WHMIS labeling



State regulations

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

U.S. - California - 8 CCR Section 339 - Director's List of Hazardous Substances

Ethylene glycol 107-21-1 Present (exempt when vapors or particulates are formed due to work practices or procedures)

U.S. - Illinois - Toxic Air Contaminants

Ethylene glycol 107-21-1 Present

U.S. - Louisiana - Reportable Quantity List for Pollutants

Ethylene glycol 107-21-1 5000 Lb RQ (applies to unauthorized emissions based on total mass emitted into or onto all media within any consecutive 24-hour period); 5000 lb RQ (applies to unauthorized emissions based on total mass emitted into the atmosphere)

U.S. - Massachusetts - Right To Know List

Ethylene glycol 107-21-1 Present
Triethanolamine 102-71-6 Present

U.S. - Minnesota - Hazardous Substance List

Ethylene glycol 107-21-1 Present (particulate and vapor)
Triethanolamine 102-71-6 Present

U.S. - New Jersey - Right to Know Hazardous Substance List

Ethylene glycol 107-21-1 sn 0878
Triethanolamine 102-71-6 sn 4094

U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances

Ethylene glycol 107-21-1 1 Lb RQ (air); 1 lb RQ (land/water)

U.S. - Pennsylvania - RTK (Right to Know) List

Ethylene glycol 107-21-1 Environmental hazard
Triethanolamine 102-71-6 Present

U.S. - Rhode Island - Hazardous Substance List

Ethylene glycol 107-21-1 Toxic; Flammable
Triethanolamine 102-71-6 Flammable

Inventory name

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|---|------------------------|
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

| | |
|-----------------------|---|
| Disclaimer | Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document. |
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| Prepared by | Nu-Calgon Technical Service (314) 469-7000 |