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)

2. Hazards Identification

Emergency overview	DANGER Toxic. Contains a potential teratogen. MAY CAUSE SKIN IRRITATION. MAY CAUSE EYE IRRITATION. MAY CAUSE RESPIRATORY TRACT IRRITATION.
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. Respiratory system.
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 are prostration, gasping, pallor, and uncoordinated movements. Symptoms may include redness, edema, drying, defatting and cracking of the skin. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
OSHA Regulatory Status	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
Potential environmental effects	Components of this product have been identified as having potential environmental concerns.

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	Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 15 minutes. Obtain medical attention immediately.
Skin contact	Immediately flush with cool water for 15 minutes while removing contaminated clothing and shoes. Discard or wash well before reuse. Obtain medical attention if irritation persists.
Inhalation	If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention. If breathing has stopped, trained personnel should administer CPR immediately.
Ingestion	Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention.

Notes to physician	Symptoms may be delayed.
General advice	Avoid contact with eyes and skin. Keep out of reach of children. Immediate medical attention is required. 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. If you feel unwell, seek medical advice (show the label where possible).

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. Oxides of nitrogen.
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.
Environmental precautions	Do not discharge into lakes, streams, ponds or public waters.
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 to original containers for re-use.

7. Handling and Storage

Handling	Use good industrial hygiene practices in handling this material. When using do not eat or drink. Avoid contact with skin and clothing. Avoid contact with eyes. Avoid breathing vapors or mists of this product. Keep container tightly closed. Use only with adequate ventilation. Wash thoroughly after handling.
Storage	Keep out of the 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/m3 **OSHA-PEL** Not established
Lauryldimethylamine oxide	**ACGIH-TLV** Not established **OSHA-PEL** Not established
Triethanolamine	**ACGIH-TLV** TWA: 5 mg/m3 **OSHA-PEL** Not established

Engineering controls Provide adequate ventilation. 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 Avoid breathing mists or vapors.
Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.

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	212.00 °F (100 °C) Not available
Pour point	Not available
Evaporation rate	Not available
Flash point	Not available
Auto-ignition temperature	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 (H2O)	Complete
VOC (Weight %)	Not available
Viscosity	375 CPs

Bulk density	8.82 lbs/gallon
Percent volatile	Not available

10. Stability and Reactivity

Reactivity	This product may react with strong oxidizing agents.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
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. Oxides of nitrogen.

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	Not 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
Lauryldimethylamine oxide	2700 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.

Name of Toxicologically Synergistic Products Not available

12. Ecological Information

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

Ecotoxicity - Freshwater Algae - Acute Toxicity Data

Ethylene glycol	107-21-1	96 Hr EC50 Pseudokirchneriella subcapitata: 6500 - 13000 mg/L
Triethanolamine	102-71-6	72 Hr EC50 Desmodesmus subspicatus: 216 mg/L; 96 Hr EC50 Desmodesmus subspicatus: 169 mg/L

Ecotoxicity - Freshwater Fish - Acute Toxicity Data

Ethylene glycol	107-21-1	96 Hr LC50 Oncorhynchus mykiss: 41000 mg/L; 96 Hr LC50 Oncorhynchus mykiss: 14 - 18 mL/L [static]; 96 Hr LC50 Lepomis macrochirus: 27540 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 40761 mg/L [static]; 96 Hr LC50 Pimephales promelas: 40000 - 60000 mg/L [static]; 96 Hr LC50 Poecilia reticulata: 16000 mg/L [static]
Triethanolamine	102-71-6	96 Hr LC50 Pimephales promelas: 10600-13000 mg/L [flow-through]; 96 Hr LC50 Pimephales promelas: >1000 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 450-1000 mg/L [static]

Ecotoxicity - Water Flea - Acute Toxicity Data

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

Persistence / degradability Not available

Bioaccumulation / accumulation Not available

Mobility in environmental media Not available

Environmental effects Not available

Aquatic toxicity Not available

Partition coefficient Not available

Chemical fate information Not available

Other adverse effects Not available

13. Disposal Considerations

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	1643-20-5	1 %
Triethanolamine	102-71-6	1 %

WHMIS status Controlled

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

WHMIS labeling

Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical Yes

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

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

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 final RQ; 2270 kg final RQ

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

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

Health	*	2
Flammability		0
Physical Hazard		0
Personal Protection		X

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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Other information	For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.