1. Product and Company Identification

Product number: 049-003
Product name: Gleme Glass Cleaner
Effective date: 16-Mar-2012
Company information: Claire Manufacturing Co.
1005 S. Westgate Drive
Addison, IL 60101 United States
Company phone: 1-630-543-7600
Emergency telephone US: 1-866-836-8855
Emergency telephone outside US: 1-952-852-4646
Version #: 01
Product use: Glass cleaner

2. Hazards Identification

Emergency overview: Aerosol. CONTENTS UNDER PRESSURE. May be ignited by heat, sparks or flames.

Potential health effects:
- Routes of exposure:
  - Skin contact: Ingestion.
  - Eyes: Health injuries are not known or expected under normal use.
  - Skin: May be harmful if absorbed through skin. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
  - Inhalation: Intentional misuse by concentrating and inhaling the product can be harmful or fatal.
  - Ingestion: Exposure by ingestion of an aerosol is unlikely. Components of the product may be absorbed into the body by ingestion.
- Target organs: 2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and prolonged and may cause blood damage. These effects have not been observed in humans.
- Chronic effects: Unconsciousness. Cyanosis (blue tissue condition, nails, lips, and/or skin). May be harmful if absorbed through skin. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
- Signs and symptoms: Cyanosis (blue tissue condition, nails, lips, and/or skin). Defatting of the skin. Skin irritation.

3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS #</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Alcohol</td>
<td>64-17-5</td>
<td>1 - 3</td>
</tr>
<tr>
<td>2-Butoxyethanol</td>
<td>111-76-2</td>
<td>1 - 3</td>
</tr>
<tr>
<td>Propane</td>
<td>74-98-6</td>
<td>1 - 3</td>
</tr>
<tr>
<td>n-Butane</td>
<td>106-97-8</td>
<td>1 - 3</td>
</tr>
</tbody>
</table>

Non-hazardous and other components below reportable levels: > 90

4. First Aid Measures

First aid procedures:
- Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops or persists.
- Skin contact: Immediately take off all contaminated clothing. Wash off with warm water and soap. Get medical attention if irritation develops and persists.
- Inhalation: If symptoms develop move victim to fresh air. Get medical attention if symptoms occur.
Ingestion
If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. If ingestion of a large amount does occur, call a poison control center immediately.

Notes to physician
In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation.

5. Fire Fighting Measures

Flammable properties
Heat may cause the containers to explode. Vapor or gas may spread to distant ignition sources and flash back. Runoff to sewer may cause fire or explosion hazard.

Extinguishing media
Suitable extinguishing media
Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Protection of firefighters
In case of fire and/or explosion do not breathe the fumes. Containers should be cooled with water to prevent vapor pressure build up. Move containers from fire area if you can do so without risk. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

6. Accidental Release Measures

Methods for containment
ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements or confined areas.

Methods for cleaning up
Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

7. Handling and Storage

Handling
Pressurized container: Do not pierce or burn, even after use. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Do not smoke while using or until sprayed surface is thoroughly dry. Use only in area provided with appropriate exhaust ventilation. Do not use if spray button is missing or defective. Do not re-use empty containers. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin. Avoid contact with eyes. Wear personal protective equipment. Avoid prolonged exposure.

Storage
Contents under pressure. Do not puncture, incinerate or crush. The pressure in sealed containers can increase under the influence of heat. Keep away from heat and flame. Do not expose to heat or store at temperatures above 120°F/49°C as can may burst. Avoid exposure to long periods of sunlight. Store in a well-ventilated place. Keep away from food, drink and animal feedingstuffs. Level 1 Aerosol (NFPA 30B)

8. Exposure Controls / Personal Protection

Exposure limits

ACGIH

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS #</th>
<th>TWA</th>
<th>STEL</th>
<th>Ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Alcohol</td>
<td>64-17-5</td>
<td>1000 ppm</td>
<td>1000 ppm</td>
<td>Not established</td>
</tr>
<tr>
<td>2-Butoxyethanol</td>
<td>111-76-2</td>
<td>20 ppm</td>
<td>Not established</td>
<td>Not established</td>
</tr>
<tr>
<td>Propane</td>
<td>74-98-6</td>
<td>1000 ppm</td>
<td>Not established</td>
<td>Not established</td>
</tr>
<tr>
<td>n-Butane</td>
<td>106-97-8</td>
<td>1000 ppm</td>
<td>Not established</td>
<td>Not established</td>
</tr>
</tbody>
</table>

OSHA

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>Ethyl Alcohol</td>
<td>64-17-5</td>
<td>1000 ppm</td>
<td>Not established</td>
<td>Not established</td>
</tr>
<tr>
<td>2-Butoxyethanol</td>
<td>111-76-2</td>
<td>50 ppm</td>
<td>Not established</td>
<td>Not established</td>
</tr>
<tr>
<td>Propane</td>
<td>74-98-6</td>
<td>1000 ppm</td>
<td>Not established</td>
<td>Not established</td>
</tr>
</tbody>
</table>

Personal protective equipment

Eye / face protection
Not normally needed.

Skin protection
Chemical resistant gloves. Wear appropriate chemical resistant clothing.
Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.

9. Physical & Chemical Properties

Appearance
Compressed liquefied gas.

Boiling point
206.6 °F (97.2 °C) estimated

Color
Colorless.

Density
0.9604 g/cm³ estimated

Flammability (HOC)
3.2733 kJ/g estimated

Flash back
No

Flash point
-156 °F (-104.4 °C) Propellant

Form
Aerosol.

Freezing point
Not available

Odor
Butyl

pH
9.5 - 10.5

Physical state
Liquid.

Pressure
70 - 90 psig @ 70F

Solubility
Completely

Specific gravity
0.9605 estimated

10. Chemical Stability & Reactivity Information

Conditions to avoid
Heat, flames and sparks.

Incompatible materials
None known.

Hazardous decomposition products
Irritants.

11. Toxicological Information

Acute effects
Acute LD₅₀: 7571 mg/kg estimated, Rat, Dermal

Component analysis - LD₅₀

Toxicology Data - Selected LD₅₀s and LC₅₀s

2-Butoxyethanol 111-76-2 Inhalation LC₅₀ Rat 2.21 mg/L 4 h; Inhalation LC₅₀ Rat 450 ppm 4 h; Oral LD₅₀ Rat 470 mg/kg; Dermal LD₅₀ Rat 2270 mg/kg; Dermal LD₅₀ Rabbit 220 mg/kg

Ethyl Alcohol 64-17-5 Oral LD₅₀ Rat 7060 mg/kg; Inhalation LC₅₀ Rat 124.7 mg/L 4 h

n-Butane 106-97-8 Inhalation LC₅₀ Rat 658 mg/L 4 h

Propane 74-98-6 Inhalation LC₅₀ Rat 658 mg/L 4 h

Sensitization
Not expected to be hazardous by OSHA criteria.

Carcinogenicity

IARC - Group 1 (Carcinogenic to Humans)

Ethyl Alcohol 64-17-5 Monograph 100E [in preparation] (in alcoholic beverages); Monograph 96 [2010] (in alcoholic beverages)

Teratogenicity
Not expected to be hazardous by OSHA criteria.

12. Ecological Information

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

LC₅₀ 36327 mg/L, Fish, 96.00 Hours,
EC₅₀ 26428 mg/L, Daphnia, 48.00 Hours,
IC₅₀ 11902 mg/L, Algae, 72.00 Hours,

13. Disposal Considerations

Disposal instructions
Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.
14. Transport Information

Department of Transportation (DOT) Requirements

Basic shipping requirements:
- Proper shipping name: Aerosols
- Hazard class: 2.1
- UN number: UN1950

Additional information:
- Special provisions: 153, N82
- Packaging exceptions: LTD QTY
- Packaging non bulk: None
- Packaging bulk: None

Further information: Until 12/31/2013, the "Consumer Commodity - ORM-D" marking may still be used in place of the new limited quantity diamond mark for packages of UN 1950 Aerosols. Limited quantities require the limited quantity diamond mark on cartons after 12/31/13 and may be used now in place of the "Consumer Commodity ORM-D" marking but not concurrently.

IMDG

Basic shipping requirements:
- Proper shipping name: AEROSOLS
- Hazard class: 2.1
- UN number: 1950

Additional information:
- Packaging exceptions: LTD QTY
- Item: 5F
- Labels required: None
- Transport Category: 2

IATA

Basic shipping requirements:
- Proper shipping name: Aerosols, flammable
- Hazard class: 2.1
- UN number: 1950

Additional information:
- Packaging exceptions: LTD QTY
- Labels required: 2.1

15. Regulatory Information

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 - Section 313 - Emission Reporting
- 2-Butoxyethanol: 111-76-2, 1.0 % de minimis concentration (applies to R-(OCH2CH2)n-OR', where n = 1, 2, or 3, R=alkyl C7 or less, or R = phenyl or alkyl substituted phenyl, R' = H or alkyl C7 or less, or OR' consisting of carboxylic acid ester, sulfate, phosphate, nitrate, or sulfonate, Chemical Category N230)

Occupational Safety and Health Administration (OSHA)
- 29 CFR 1910.1200 hazardous chemical: Yes

CERCLA (Superfund) reportable quantity
- None

Superfund Amendments and Reauthorization Act of 1986 (SARA)
- Section 302 extremely hazardous substance: No
- Section 311 hazardous chemical: Yes
Hazard categories (311/312)
- Immediate Hazard - Yes
- Delayed Hazard - No
- Fire Hazard - Yes
- Pressure Hazard - Yes
- Reactivity Hazard - No

Inventory status

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>No</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of New and Existing Chemicals (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>No</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>No</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

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

State regulations

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

- 2-Butoxyethanol 111-76-2 Present
- Ethyl Alcohol 64-17-5 Present
- n-Butane 106-97-8 Present
- Propane 74-98-6 Present

Further information

- HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings

- Health: 1
- Flammability: 2
- Physical hazard: 0

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. The information in the sheet was written based on the best knowledge and experience currently available. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text and The information in the sheet was written based on the best knowledge and experience currently available.

Prepared by

- Regulatory Compliance