

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product number 700
Product name Frost-Eze
Effective date 27-Mar-2008
Company information Brothers Mfg
2554 Como Avenue
St Paul, MN 55108 United States
Company phone General Assistance 651-646-1696
Emergency telephone US 800-424-9300
Emergency telephone outside US 703-527-3887
Version # 03
Supersedes date 13-Nov-2007

2. Hazards Identification

Emergency overview CONTENTS UNDER PRESSURE.
Aerosol. Pressurized container may explode when exposed to heat or flame.

OSHA regulatory status Harmful in contact with eyes. Prolonged exposure may cause chronic effects.
This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

Potential health effects

Eyes Contact may irritate or burn eyes. Eye contact may result in corneal injury.

Skin This product may be harmful if it is absorbed through the skin. Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).

Inhalation Intentional misuse by concentrating and inhaling the product can be harmful or fatal. Prolonged inhalation may be harmful.

Ingestion Exposure by ingestion of an aerosol is unlikely. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause delayed lung damage.

Target organs Kidney.

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 Blood. Central nervous system. Liver. Respiratory system.
Unconsciousness. Conjunctiva. Sterility. Liver injury may occur. Kidney injury may occur. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage. May cause delayed lung damage. Can cause adverse reproductive effects. Pregnant women or women of child-bearing age should not be exposed to this product.

Signs and symptoms Discomfort in the chest. Corneal damage. Narcosis. Cyanosis. Liver enlargement. Jaundice. Conjunctivitis. Defatting of the skin. Irritation. Birth defects. Sterility.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Ethyl Alcohol	64-17-5	15 - 20
2-Butoxyethanol	111-76-2	3 - 5
n-Butane	106-97-8	3 - 5
Non-hazardous and other components below reportable levels		60 - 80

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. Get medical attention immediately.
Skin contact	Immediately take off all contaminated clothing. Wash off with warm water and soap. Get medical attention if irritation develops or persists.
Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Ingestion	Rinse mouth. Do not induce vomiting without medical advice. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Notes to physician

Symptoms may be delayed.

General advice

Call a physician if symptoms develop or persist.

5. Fire Fighting Measures

Flammable properties Containers may explode when heated. Vapor or gas may spread to distant ignition sources and flash back.

Extinguishing media

Suitable extinguishing media Large Fires: Water spray, fog or regular foam.

Small Fires: Dry chemical, CO₂, water spray or regular foam.

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

Protection of firefighters

Protective equipment and precautions for firefighters In the event of fire and/or explosion do not breathe fumes. Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Containers should be cooled with water to prevent vapor pressure build up. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

6. Accidental Release Measures

Personal precautions Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering. Keep unnecessary personnel away.

Methods for containment Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable.

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

7. Handling and Storage

Handling Pressurized container: Do not pierce or burn, even after use. Do not handle or store near an open flame, heat or other sources of ignition. Do not use if spray button is missing or defective. Use only with adequate ventilation. Do not get this material in contact with eyes. Do not get this material in contact with skin. Avoid prolonged exposure.

Storage Level 1 Aerosol.

Contents under pressure. Do not puncture, incinerate or crush. The pressure in sealed containers can increase under the influence of heat. Avoid exposure to long periods of sunlight. Keep in an area equipped with sprinklers. Keep out of the reach of children. Use care in handling/storage.

8. Exposure Controls / Personal Protection

Exposure limits

ACGIH

Components	CAS #	TWA	STEL	Ceiling
Ethyl Alcohol	64-17-5	1000 ppm	Not established	Not established
2-Butoxyethanol	111-76-2	20 ppm	Not established	Not established
n-Butane	106-97-8	1000 ppm	Not established	Not established

OSHA**Components****CAS #****TWA****STEL****Ceiling**

Ethyl Alcohol

64-17-5

1000 ppm

Not established

Not established

2-Butoxyethanol

111-76-2

50 ppm

Not established

Not established

Engineering controls

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment**Eye / face protection**

Wear chemical goggles.

Skin protection

Protective gloves.

Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

General hygiene considerations

Do not get this material in contact with eyes. Do not get this material in contact with skin. Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties**Appearance**

Compressed liquefied gas.

Color

Cloudy.

Odor

Characteristic.

Physical state

Liquid.

Form

Aerosol.

Flash back

No

Pressure

50 - 60 psig @70F

Solubility

Partially

Flash point

-156 °F (-104.4 °C)

Boiling point

204.8 °F (96.1 °C) estimated

Specific gravity

0.9459 estimated

pH

9 - 10

10. Chemical Stability & Reactivity Information**Chemical stability**

Risk of ignition. Stable at normal conditions.

Conditions to avoid

Heat, flames and sparks.

Incompatible materials

Isocyanates.

Hazardous decomposition products

May include oxides of nitrogen.

11. Toxicological Information**Acute effects**Acute LD50: 5670 mg/kg estimated, Rat, Dermal
Acute LC50: 48 mg/l/4h estimated, Rat, Inhalation**Local effects**

Contact may irritate or burn eyes. Liver toxicity. Blood disorder may occur after ingestion. Components of the product may be absorbed into the body through the skin.

Chronic effects

Hazardous by OSHA criteria. This product may be harmful if it is absorbed through the skin. Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood. Prolonged or repeated exposure may cause lung injury. Prolonged exposure may cause chronic effects.

2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and prolonged. These effects have not been observed in humans.

Subchronic effects

Kidney injury may occur. Blood disorder may occur after prolonged inhalation. Blood disorder may occur after prolonged skin contact.

Neurological effects

Hazardous by OSHA criteria.

Reproductive effects

Hazardous by OSHA criteria. Possible reproductive hazard. Can cause adverse reproductive effects - such as birth defects, miscarriages, and infertility.

Epidemiology

Hazardous by OSHA criteria.

Further information

Symptoms may be delayed.

12. Ecological Information

Ecotoxicity LC50 22670 mg/L, Fish, 96.00 Hours,
EC50 27335 mg/L, Daphnia, 48.00 Hours,
IC50 11489 mg/L, Algae, 72.00 Hours,
Components of this product have been identified as having potential environmental concerns.

13. Disposal Considerations

Waste codes D001: Waste Flammable material with a flash point <140 F
Disposal instructions Contents under pressure. Dispose of this material and its container at hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. If discarded, this product is considered a RCRA ignitable waste, D001. Dispose in accordance with all applicable regulations.

14. Transport Information

Department of Transportation (DOT) Requirements

Basic shipping requirements:

Proper shipping name Consumer commodity
Hazard class ORM-D
Subsidiary hazard class None
Additional information:
Packaging exceptions 156, 306
Packaging non bulk 156, 306
Packaging bulk None

IMDG

Basic shipping requirements:

Proper shipping name AEROSOLS, flammable
Hazard class 2.1
UN number 1950
Additional information:
Packaging exceptions LTD QTY
Item 5F
Labels required 2.1
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



15. Regulatory Information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

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

2-Butoxyethanol	111-76-2	1.0 % de minimis concentration (applies to R-(OCH ₂ CH ₂) _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)
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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)

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

Section 302 extremely hazardous substance No

Section 311 hazardous chemical Yes

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of New and Existing Chemicals (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	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)

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

16. Other Information

HMIS® ratings

Health: 1*
Flammability: 2
Physical hazard: 0

Prepared by

Regulatory Compliance

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.

Issue date

27-Mar-2008

MSDS sections updated

Product and Company Identification: Alternate Trade Names