Safety Data Sheet

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name • **Glass Cleaner**

Product Description • Aerosol

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified use(s) • Aerosol foaming glass cleaner

1.3 Details of the supplier of the safety data sheet

Manufacturer • IKONICS Corporation

4832 Grand Ave.
Duluth, MN 55807
United States
www.ikonics.com
sds@ikonics.com

Telephone (General) • (218) 628-2217

Telephone (General) • (800) 328-4261 - Toll free

1.4 Emergency telephone number

Chemtrec

- 1-800-424-9300 - Within USA and Canada
- +1 703-527-3887 - Outside USA and Canada (collect calls accepted)

Section 2: Hazards Identification

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012 • Compressed Gas

2.2 Label elements

OSHA HCS 2012

WARNING

Hazard statements • Contains gas under pressure; may explode if heated.

Precautionary statements

Prevention • Wear protective gloves/protective clothing/eye protection/face protection.

Response • IF ON SKIN: Wash with plenty of soap and water.
IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage/Disposal • Protect from sunlight. Store in a well-ventilated place.

Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

2.3 Other hazards

OSHA HCS 2012

- No data available

Canada

According to: WHMIS

2.1 Classification of the substance or mixture

WHMIS

- Compressed Gas - A

2.2 Label elements

WHMIS

- Compressed Gas - A

2.3 Other hazards

WHMIS

- No data available

Section 3 - Composition/Information on Ingredients

3.1 Substances

3.2 Mixtures

Composition					
Chemical Name	**Identifiers**	**%**	**LD50/LC50**	**Classifications According to Regulation/Directive**	**Comments**
Ethanol	**CAS:**64-17-5 **EC Number:**200-578-6 **EU Index:**603-002-00-5 **UN:**UN1170 **EINECS:**200-578-6	2.5% TO 10%	Ingestion/Oral-Rat LD50 • 7 g/kg Inhalation-Rat LC50 • 124700 mg/m³ 4 Hour(s)	**WHMIS:** Other Toxic Effects - D2B; Flam. Liq. - B2 **OSHA HCS 2012:** Flam. Liq. 2	NDA
Ethylene glycol monobutyl ether	**CAS:**111-76-2 **EC Number:**203-905-0 **EU Index:**603-014-00-0 **EINECS:**203-905-0	2.5% TO 10%	Inhalation-Rat LC50 • 450 ppm 4 Hour(s) Ingestion/Oral-Rabbit LD50 • 300 mg/kg Skin-Rabbit LD50 • 220 mg/kg Ingestion/Oral-Rat LD50 • 250 mg/kg	**WHMIS:** Very Toxic - D1A; Other Toxic Effects - D2B; Comb. Liq. - B3 **OSHA HCS 2012:** Acute Tox. 4; Eye Irrit. 2; Skin Irrit. 2	NDA
Butane	**CAS:**106-97-8 **EC Number:**203-448-7 **UN:**UN1011 **EINECS:**203-448-7	1% TO 2.5%	Inhalation-Rat LC50 • 658000 mg/m³ 4 Hour(s)	**WHMIS:** Flam. Gas - B1; Comp. Gas - A **OSHA HCS 2012:** Flam. Gas 1; Press. Gas - Comp.	NDA
Propane	**CAS:**74-98-6 **EC Number:**200-827-9 **EU Index:**601-003-00-5 **UN:**UN1978 **EINECS:**200-827-9	1% TO 2.5%		**WHMIS:** Flam. Gas - B1; Comp. Gas - A **OSHA HCS 2012:** Flam. Gas 1; Press. Gas - Comp.	NDA

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation
- IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration and call 911 or emergency medical service.

Skin
- IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

Eye
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion
- If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Rinse mouth. Never give anything by mouth to an unconscious person. If large quantities are swallowed, call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

- No data available

4.3 Indication of any immediate medical attention and special treatment needed

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media
- SMALL FIRES: Dry chemical, CO2, water spray or regular foam.
  LARGE FIRE: Water spray, fog or regular foam.

Unsuitable Extinguishing Media
- No data available

Firefighting Procedures
- Fire fighters should wear complete protective clothing including self-contained breathing apparatus.
  Keep unauthorized personnel away.
  Ventilate closed spaces before entering.
  LARGE FIRES: Use extinguishing agent suitable for type of surrounding fire.
  Move containers from fire area if you can do so without risk.
  Water can be used to cool and protect exposed material.

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards
- Contains gas under pressure; May explode if heated.

Hazardous Combustion Products
- Products of combustion include: carbon oxides (COx).

5.3 Advice for firefighters

- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.
  Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
  Wear positive pressure self-contained breathing apparatus (SCBA).

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate enclosed areas. Wear a self-contained breathing apparatus and appropriate Personal Protective Equipment (PPE)

Emergency Procedures
- Keep unauthorized personnel away. Ventilate closed spaces before entering. Personal protective equipment is required for clean-up personnel. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do so without risk.

6.2 Environmental precautions

- Prevent entry into waterways, sewers, basements or confined areas.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures

- Use appropriate Personal Protective Equipment (PPE)

Do not direct water at spill or source of leak.
Stop leak if you can do so without risk.
Allow substance to evaporate.
Wipe up remainder with absorbent material then remove to safe place.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling

- Use only in well ventilated areas. Keep away from fire, sparks and heated surfaces. Use good safety and industrial hygiene practices.

7.2 Conditions for safe storage, including any incompatibilities

Storage

- Pressurized container. Do not puncture, incinerate or crush. Store in a cool/low-temperature, well-ventilated dry place away from heat and ignition sources.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines						
	Result	**ACGIH**	**Canada Alberta**	**Canada British Columbia**	**Canada Manitoba**	**Canada New Brunswick**
Butane (106-97-8)	TWAs	Not established	1000 ppm TWA	600 ppm TWA	Not established	800 ppm TWA; 1900 mg/m3 TWA
	STELs	1000 ppm STEL	Not established	750 ppm STEL	1000 ppm STEL	Not established
Propane (74-98-6)	TWAs	1000 ppm TWA (listed under Aliphatic hydrocarbon gases: Alkane C1-4)	1000 ppm TWA	1000 ppm TWA	1000 ppm TWA (listed under Aliphatic hydrocarbon gases: Alkane C1-4)	Not established
Ethylene glycol monobutyl ether (111-76-2)	TWAs	20 ppm TWA	20 ppm TWA; 97 mg/m3 TWA	20 ppm TWA	20 ppm TWA	25 ppm TWA; 121 mg/m3 TWA
Ethanol (64-17-5)	TWAs	Not established	1000 ppm TWA; 1880 mg/m3 TWA	Not established	Not established	1000 ppm TWA; 1880 mg/m3 TWA
	STELs	1000 ppm STEL	Not established	1000 ppm STEL	1000 ppm STEL	Not established

Exposure Limits/Guidelines (Con't.)						
	Result	**Canada Northwest Territories**	**Canada Nova Scotia**	**Canada Nunavut**	**Canada Ontario**	**Canada Quebec**
Butane (106-97-8)	STELs	1000 ppm STEL; 2576 mg/m3 STEL	1000 ppm STEL	1000 ppm STEL; 2576 mg/m3 STEL	Not established	Not established
	TWAs	800 ppm TWA; 1901 mg/m3 TWA	Not established	800 ppm TWA; 1901 mg/m3 TWA	800 ppm TWA (listed under Aliphatic hydrocarbon gases)	800 ppm TWAEV; 1900 mg/m3 TWAEV
Propane (74-98-6)	TWAs	Not established	1000 ppm TWA (listed under Aliphatic hydrocarbon gases: Alkane C1-4)	Not established	1000 ppm TWA	1000 ppm TWAEV; 1800 mg/m3 TWAEV

Ethylene glycol monobutyl ether (111-76-2)	STELs	75 ppm STEL; 360 mg/m3 STEL	Not established	75 ppm STEL; 360 mg/m3 STEL	Not established	Not established
	TWAs	25 ppm TWA; 120 mg/m3 TWA	20 ppm TWA	25 ppm TWA; 120 mg/m3 TWA	20 ppm TWA	20 ppm TWAEV; 97 mg/m3 TWAEV
Ethanol (64-17-5)	STELs	1250 ppm STEL; 2355 mg/m3 STEL	1000 ppm STEL	1250 ppm STEL; 2355 mg/m3 STEL	1000 ppm STEL	Not established
	TWAs	1000 ppm TWA; 1884 mg/m3 TWA	Not established	1000 ppm TWA; 1884 mg/m3 TWA	Not established	1000 ppm TWAEV; 1880 mg/m3 TWAEV

Exposure Limits/Guidelines (Con't.)

	Result	Canada Saskatchewan	Canada Yukon	Mexico	NIOSH	OSHA
Butane (106-97-8)	TWAs	1000 ppm TWA (listed under Butane, all isomers)	600 ppm TWA; 1400 mg/m3 TWA	800 ppm TWA LMPE-PPT; 1900 mg/m3 TWA LMPE-PPT	800 ppm TWA; 1900 mg/m3 TWA	Not established
	STELs	1250 ppm STEL (listed under Butane, all isomers)	750 ppm STEL; 1600 mg/m3 STEL	Not established	Not established	Not established
Propane (74-98-6)	STELs	1250 ppm STEL	Not established	Not established	Not established	Not established
	TWAs	1000 ppm TWA	Not established	Not established	1000 ppm TWA; 1800 mg/m3 TWA	1000 ppm TWA; 1800 mg/m3 TWA
Ethylene glycol monobutyl ether (111-76-2)	STELs	30 ppm STEL	150 ppm STEL; 720 mg/m3 STEL	75 ppm STEL [LMPE-CT]; 360 mg/m3 STEL [LMPE-CT]	Not established	Not established
	TWAs	20 ppm TWA	50 ppm TWA; 240 mg/m3 TWA	26 ppm TWA LMPE-PPT; 120 mg/m3 TWA LMPE-PPT	5 ppm TWA; 24 mg/m3 TWA	50 ppm TWA; 240 mg/m3 TWA
Ethanol (64-17-5)	TWAs	1000 ppm TWA	1000 ppm TWA; 1900 mg/m3 TWA	1000 ppm TWA LMPE-PPT; 1900 mg/m3 TWA LMPE-PPT	1000 ppm TWA; 1900 mg/m3 TWA	1000 ppm TWA; 1900 mg/m3 TWA
	STELs	1250 ppm STEL	1000 ppm STEL; 1900 mg/m3 STEL	Not established	Not established	Not established

Exposure Control Notations

Mexico

- Ethylene glycol monobutyl ether (111-76-2): **Skin:** (Skin - potential for cutaneous absorption)
- Propane (74-98-6): **Simple Asphyxiants:** (Simple asphyxiant)

ACGIH

- Ethanol (64-17-5): **Carcinogens:** (A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans)
- Ethylene glycol monobutyl ether (111-76-2): **Carcinogens:** (A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans)

Exposure Limits Supplemental

ACGIH

- Ethanol (64-17-5): **TLV Basis - Critical Effects:** (upper respiratory tract irritation)
- Ethylene glycol monobutyl ether (111-76-2): **BEIs:** (200 mg/g creatinine Medium: urine Time: end of shift Parameter: Butoxyacetic acid with hydrolysis) | **TLV Basis - Critical Effects:** (eye and upper respiratory tract irritation)
- Butane (106-97-8): **TLV Basis - Critical Effects:** (CNS impairment)
- Propane (74-98-6): **TLV Basis - Critical Effects:** (asphyxia (See Appendix F: Minimal Oxygen Content))

8.2 Exposure controls

Engineering Measures/Controls

- Local exhaust is recommended but not required. Provide adequate ventilation as necessary.

Personal Protective Equipment

Pictograms

- 

Respiratory

- In case of insufficient ventilation, wear suitable respiratory equipment.

Eye/Face	• Wear protective eyewear (goggles, face shield, or safety glasses).
Hands	• Minimize contact with product. Wear protective gloves - rubber or neoprene.
Skin/Body	• Wear protective clothing - apron or other impervious body coverings.
General Industrial Hygiene Considerations	• Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling.
Environmental Exposure Controls	• No data available

Section 9 - Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

Material Description			
Physical Form	Aerosol	Appearance/Description	Clear liquid/pressurized gas.
Color	Pale yellow.	Odor	Mild
Aerosol Type	Foam	Odor Threshold	No data available
Physical and Chemical Properties	Not relevant		
General Properties			
Boiling Point	100 C(212 F)	Melting Point/Freezing Point	No data available
Decomposition Temperature	No data available	pH	9.1 to 10.1
Specific Gravity/Relative Density	< 1 Water=1	Water Solubility	Miscible
Viscosity	No data available	Explosive Properties	Not relevant
Oxidizing Properties:	Not relevant	Deflagration density - enclosed space ignition test	2520000 g/m³
Volatility			
Vapor Pressure	80 to 100 psig @ 70 F(21.1111 C)	Vapor Density	No data available
Evaporation Rate	No data available	VOC (Wt.)	< 10 %
Flammability			
Flash Point	-156 F(-104.4444 C) propellant	UEL	No data available
LEL	No data available	Autoignition	No data available
Flammability (solid, gas)	Not relevant		
Environmental			
Half-Life	No data available	Octanol/Water Partition coefficient	No data available
Coefficient of water/oil distribution	No data available	Bioaccumulation Factor	No data available
Bioconcentration Factor	No data available	Biochemical Oxygen Demand BOD/BOD5	No data available
Chemical Oxygen Demand	No data available	Persistence	No data available
Degradation	No data available		

9.2 Other Information

- No data available

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable

10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

10.4 Conditions to avoid

- Heat, sparks or open flame. Incompatible materials.

10.5 Incompatible materials

- Strong oxidizing agents.

10.6 Hazardous decomposition products

- No decomposition is expected under normal storage and use conditions.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Components		
Ethanol (2.5% TO 10%)	64-17-5	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 7 g/kg; Inhalation-Rat LC50 • 124700 mg/m³ 4 Hour(s)
Ethylene glycol monobutyl ether (2.5% TO 10%)	111-76-2	**Acute Toxicity:** Ingestion/Oral-Rabbit LD50 • 300 mg/kg; Ingestion/Oral-Rat LD50 • 250 mg/kg; Inhalation-Rat LC50 • 450 ppm 4 Hour(s); *Behavioral*:**Ataxia**; *Nutritional and Gross Metabolic:Gross Metabolite Changes*:**Weight loss or decreased weight gain**; Skin-Rabbit LD50 • 220 mg/kg; **Irritation:** Eye-Rabbit • 100 mg • Severe irritation; Skin-Rabbit • 500 mg-Open • Mild irritation
Butane (1% TO 2.5%)	106-97-8	**Acute Toxicity:** Inhalation-Rat LC50 • 658000 mg/m³ 4 Hour(s)
Propane (1% TO 2.5%)	74-98-6	**Acute Toxicity:** Inhalation-Rat LC50 • >800000 ppm 15 Minute(s); *Behavioral*:**General anesthetic**; *Behavioral*:**Ataxia**; *Lungs, Thorax, or Respiration*:**Respiratory depression**

GHS Properties	Classification
Respiratory sensitization	**OSHA HCS 2012•**
Serious eye damage/Irritation	**OSHA HCS 2012•**
Acute toxicity	**OSHA HCS 2012•**
Aspiration Hazard	**OSHA HCS 2012•**
Carcinogenicity	**OSHA HCS 2012•**
Skin corrosion/Irritation	**OSHA HCS 2012•**
Skin sensitization	**OSHA HCS 2012•**
STOT-RE	**OSHA HCS 2012•**
STOT-SE	**OSHA HCS 2012•**
Toxicity for Reproduction	**OSHA HCS 2012•**
Germ Cell Mutagenicity	**OSHA HCS 2012•**

Potential Health Effects

Inhalation

Acute (Immediate)
- May cause mild irritation.

Chronic (Delayed)
- Repeated and prolonged exposure may be harmful.

Skin

Acute (Immediate)
- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)
- Repeated and prolonged exposure may cause irritation.

Eye

Acute (Immediate)
- May cause irritation.

Chronic (Delayed)
- Repeated and prolonged exposure may cause irritation.

Ingestion

Acute (Immediate)
- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)
- No specific information available.

Section 12 - Ecological Information

12.1 Toxicity

Component	CAS	Data	Comments
Ethanol (2.5% TO 10%)	64-17-5	**Fish:** 5 Day(s) LC50 Fish *Danio rerio* 310 µg/L	

12.2 Persistence and degradability

- No data available

12.3 Bioaccumulative potential

- No data available

12.4 Mobility in Soil

- No data available

12.5 Results of PBT and vPvB assessment

- No data available

12.6 Other adverse effects

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste
- Dispose of content in accordance with local, regional, national, and/or international regulations.

Packaging waste
- Dispose of container in accordance with local, regional, national, and/or international regulations.

13.2 Other Information

- Dispose of wastes in an approved waste disposal facility.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	1950	Aerosols	2.2		
IATA/ICAO	1950	Aerosols, non-flammable	2.2		

14.6 Special precautions for user
- None specified.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
- Not relevant.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • Pressure(Sudden Release of)

State Right To Know				
Component	**CAS**	**MA**	**NJ**	**PA**
Butane	106-97-8	Yes	Yes	Yes
Ethanol	64-17-5	Yes	Yes	Yes
Ethylene glycol monobutyl ether	111-76-2	Yes	Yes	Yes
Propane	74-98-6	Yes	Yes	Yes

Inventory			
Component	**CAS**	**Canada DSL**	**TSCA**
Butane	106-97-8	Yes	Yes
Ethanol	64-17-5	Yes	Yes
Ethylene glycol monobutyl ether	111-76-2	Yes	Yes
Propane	74-98-6	Yes	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

•Ethylene glycol monobutyl ether	111-76-2	B3, D1A, D2B
•Propane	74-98-6	A, B1
•Butane	106-97-8	A, B1
•Ethanol	64-17-5	B2, D2B

Canada - WHMIS - Ingredient Disclosure List

•Ethylene glycol monobutyl ether	111-76-2	1 %
•Propane	74-98-6	Not Listed
•Butane	106-97-8	1 %
•Ethanol	64-17-5	0.1 %

Environment

Canada - CEPA - Priority Substances List

•Ethylene glycol monobutyl ether	111-76-2	Priority Substance List 2 (substance considered toxic, added to CEPA's Schedule 1, List of Toxic Substances)
•Propane	74-98-6	Not Listed
•Butane	106-97-8	Not Listed
•Ethanol	64-17-5	Not Listed

Canada - CEPA - Schedule I - List of Toxic Substances

•Ethylene glycol monobutyl ether	111-76-2	
•Propane	74-98-6	Not Listed
•Butane	106-97-8	Not Listed
•Ethanol	64-17-5	Not Listed

Canada - Environmental Emergencies

•Ethylene glycol monobutyl ether	111-76-2	Not Listed
•Propane	74-98-6	
•Butane	106-97-8	
•Ethanol	64-17-5	Not Listed

United States

Environment

U.S. - EPA - Designated Generic Categories - Certain Glycol Ethers

•Ethylene glycol monobutyl ether	111-76-2	
•Propane	74-98-6	Not Listed
•Butane	106-97-8	Not Listed
•Ethanol	64-17-5	Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

Section 16 - Other Information

Relevant Phrases (code & full text)

H280 - Contains gas under pressure; may explode if heated
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

	P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P410+P403 - Protect from sunlight. Store in a well-ventilated place. P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.
Classification method for mixtures	• Calculation method.
Last Revision Date	• N/A
Preparation Date	• 29 July 2015
Other Information	• Approved by: Troy Bergstedt, Director of Chemical Research, (218) 628-2217 ext.142.
Disclaimer/Statement of Liability	• The information contained herein is based on data available to us and is believed to be correct. Since this information may have been obtained in part from independent laboratories or other sources not under direct supervision, no representation is made that the information is accurate, reliable, complete, or representative and Buyer may rely thereon only at the Buyer's risk. We make no guarantee that the health and safety precautions we have suggested will be adequate for all individuals and / or situations involving its handling and uses. No warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. Vendor assumes no responsibility for injury to vendee or third person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet.