

SAFETY DATA SHEET

1. Identification

Product identifier Industrial Glass Cleaner

Other means of identification

Product code BD1496

Recommended use Glass cleaner

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Distributed by:

Company Name Class C Solutions Group
A business of MSC Industrial Supply Co.

Address 2595 Skymark Avenue
Suite 202
Mississauga ON L4W 4L5

Telephone 866-438-6767
24-Hour Emergency (CHEMTREC) 800-424-9300 (Canada)
703-527-3887 (International)

2. Hazard(s) identification

Physical hazards Gases under pressure Liquefied gas

Health hazards Not classified.

Environmental hazards Hazardous to the aquatic environment, acute hazard Category 3

Hazardous to the aquatic environment, long-term hazard Category 3

Label elements



Signal word Warning

Hazard statement Contains gas under pressure; may explode if heated. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention Observe good industrial hygiene practices. Avoid release to the environment.

Response Wash hands after handling.

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

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards None known.

3. Composition/information on ingredients

Mixtures

| Chemical name | Common name and synonyms | CAS number | % |
|-------------------------|--------------------------|------------|----------|
| water | | 7732-18-5 | 80 - 100 |
| liquefied petroleum gas | | 68476-86-8 | 3 - 7 |
| 2-butoxyethanol | | 111-76-2 | 1 - 5 |
| ethanol | | 64-17-5 | 1 - 5 |
| ammonia | | 7664-41-7 | 0.1 - 1 |
| methanol | | 67-56-1 | 0.1 - 1 |

The exact percentage (concentration) of composition has been withheld as a trade secret.
All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

| | |
|---|--|
| Inhalation | Move to fresh air. Call a physician if symptoms develop or persist. |
| Skin contact | Wash off with soap and water. Get medical attention if irritation develops and persists. |
| Eye contact | Rinse with water. Get medical attention if irritation develops and persists. |
| Ingestion | Rinse mouth. Get medical attention if symptoms occur. |
| Most important symptoms/effects, acute and delayed | Direct contact with eyes may cause temporary irritation. |
| Indication of immediate medical attention and special treatment needed | Provide general supportive measures and treat symptomatically. |
| General information | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |

5. Fire-fighting measures

| | |
|--|---|
| Suitable extinguishing media | Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂). |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards arising from the chemical | Contents under pressure. Pressurized container may rupture when exposed to heat or flame. |
| Special protective equipment and precautions for firefighters | Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. |
| Fire fighting equipment/instructions | In case of fire: Stop leak if safe to do so. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. |

6. Accidental release measures

| | |
|--|---|
| Personal precautions, protective equipment and emergency procedures | Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. |
| Methods and materials for containment and cleaning up | Stop the flow of material, if this is without risk. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. |
| Environmental precautions | Avoid discharge into drains, water courses or onto the ground. Do not contaminate water. |

7. Handling and storage

| | |
|---|--|
| Precautions for safe handling | Pressurized container: Do not pierce or burn, even after use. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. Avoid prolonged exposure. Use with adequate ventilation. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. For product usage instructions, see the product label. |
| Conditions for safe storage, including any incompatibilities | Level 1 Aerosol. Contents under pressure. Do not puncture or incinerate container. Do not expose to heat or store at temperatures above 49 °C/120 °F. Store in a well-ventilated place. Store in a cool, dry place out of direct sunlight. |

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

| Components | Type | Value |
|--------------------------------|------|----------|
| 2-butoxyethanol (CAS 111-76-2) | TWA | 20 ppm |
| ammonia (CAS 7664-41-7) | STEL | 35 ppm |
| | TWA | 25 ppm |
| ethanol (CAS 64-17-5) | STEL | 1000 ppm |

US. ACGIH Threshold Limit Values

| Components | Type | Value |
|------------------------|------|---------|
| methanol (CAS 67-56-1) | STEL | 250 ppm |
| | TWA | 200 ppm |

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

| Components | Type | Value |
|--------------------------------|------|------------|
| 2-butoxyethanol (CAS 111-76-2) | TWA | 97 mg/m3 |
| | | 20 ppm |
| ammonia (CAS 7664-41-7) | STEL | 24 mg/m3 |
| | | 35 ppm |
| | TWA | 17 mg/m3 |
| | | 25 ppm |
| ethanol (CAS 64-17-5) | TWA | 1880 mg/m3 |
| | | 1000 ppm |
| methanol (CAS 67-56-1) | STEL | 328 mg/m3 |
| | | 250 ppm |
| | TWA | 262 mg/m3 |
| | | 200 ppm |

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

| Components | Type | Value |
|--------------------------------|------|----------|
| 2-butoxyethanol (CAS 111-76-2) | TWA | 20 ppm |
| | | |
| ammonia (CAS 7664-41-7) | STEL | 35 ppm |
| | TWA | 25 ppm |
| ethanol (CAS 64-17-5) | STEL | 1000 ppm |
| methanol (CAS 67-56-1) | STEL | 250 ppm |
| | TWA | 200 ppm |

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

| Components | Type | Value |
|--------------------------------|------|----------|
| 2-butoxyethanol (CAS 111-76-2) | TWA | 20 ppm |
| | | |
| ammonia (CAS 7664-41-7) | STEL | 35 ppm |
| | TWA | 25 ppm |
| ethanol (CAS 64-17-5) | STEL | 1000 ppm |
| methanol (CAS 67-56-1) | STEL | 250 ppm |
| | TWA | 200 ppm |

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

| Components | Type | Value |
|--------------------------------|------|----------|
| 2-butoxyethanol (CAS 111-76-2) | TWA | 20 ppm |
| | | |
| ammonia (CAS 7664-41-7) | STEL | 35 ppm |
| | TWA | 25 ppm |
| ethanol (CAS 64-17-5) | STEL | 1000 ppm |
| methanol (CAS 67-56-1) | STEL | 250 ppm |
| | TWA | 200 ppm |

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

| Components | Type | Value |
|--------------------------------|------|----------|
| 2-butoxyethanol (CAS 111-76-2) | TWA | 97 mg/m3 |
| | | 20 ppm |
| ammonia (CAS 7664-41-7) | STEL | 24 mg/m3 |
| | | 35 ppm |

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

| Components | Type | Value |
|------------------------|------|------------------------------------|
| ethanol (CAS 64-17-5) | TWA | 17 mg/m ³ 25 ppm |
| | TWA | 1880 mg/m ³ 1000 ppm |
| methanol (CAS 67-56-1) | STEL | 328 mg/m ³ 250 ppm |
| | TWA | 262 mg/m ³ 200 ppm |

Biological limit values

ACGIH Biological Exposure Indices

| Components | Value | Determinant | Specimen | Sampling Time |
|--------------------------------|----------|--|---------------------|---------------|
| 2-butoxyethanol (CAS 111-76-2) | 200 mg/g | Butoxyacetic acid (BAA), with hydrolysis | Creatinine in urine | * |
| methanol (CAS 67-56-1) | 15 mg/l | Methanol | Urine | * |

* - For sampling details, please see the source document.

Exposure guidelines

Canada - Alberta OELs: Skin designation

methanol (CAS 67-56-1)

Can be absorbed through the skin.

Canada - British Columbia OELs: Skin designation

methanol (CAS 67-56-1)

Can be absorbed through the skin.

Canada - Manitoba OELs: Skin designation

methanol (CAS 67-56-1)

Can be absorbed through the skin.

Canada - Ontario OELs: Skin designation

methanol (CAS 67-56-1)

Can be absorbed through the skin.

Canada - Quebec OELs: Skin designation

methanol (CAS 67-56-1)

Can be absorbed through the skin.

Canada - Saskatchewan OELs: Skin designation

methanol (CAS 67-56-1)

Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

methanol (CAS 67-56-1)

Can be absorbed through the skin.

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection

Wear protective gloves such as: Nitrile. Rubber.

Other

Wear appropriate chemical resistant clothing.

Respiratory protection

If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies. Air monitoring is needed to determine actual employee exposure levels.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state

Liquid.

Form

Aerosol.

Color

Clear.

Odor

Ammoniacal.

| | |
|---|---------------------------|
| Odor threshold | Not available. |
| pH | 10.5 |
| Melting point/freezing point | Not available. |
| Initial boiling point and boiling range | 212 °F (100 °C) estimated |
| Flash point | None (Tag Closed Cup) |
| Evaporation rate | Slow. |
| Flammability (solid, gas) | Not available. |
| Upper/lower flammability or explosive limits | |
| Flammability limit - lower (%) | 1.3 % estimated |
| Flammability limit - upper (%) | 25 % estimated |
| Vapor pressure | 280.3 hPa estimated |
| Vapor density | > 1 (air = 1) |
| Relative density | 0.97 estimated |
| Solubility(ies) | |
| Solubility (water) | Soluble. |
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | 446 °F (230 °C) estimated |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |
| Other information | |
| Percent volatile | 99.6 % estimated |

10. Stability and reactivity

| | |
|---|---|
| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use. |
| Conditions to avoid | Heat, flames and sparks. Contact with incompatible materials. |
| Incompatible materials | Strong oxidizing agents. |
| Hazardous decomposition products | Carbon oxides. Aldehydes. Ketones. Organic acids. |

11. Toxicological information

Information on likely routes of exposure

| | |
|---------------------|--|
| Inhalation | Prolonged inhalation may be harmful. |
| Skin contact | 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. |
| Eye contact | Direct contact with eyes may cause temporary irritation. |
| Ingestion | Expected to be a low ingestion hazard. |

Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity Not classified.

| Components | Species | Test Results |
|---|--|--------------------|
| 2-butoxyethanol (CAS 111-76-2) | | |
| Acute | | |
| Oral | | |
| LD50 | Rat | 1300 mg/kg |
| ammonia (CAS 7664-41-7) | | |
| Acute | | |
| Inhalation | | |
| LC50 | Rat | 2000 ppm, 4 Hours |
| Oral | | |
| LD50 | Rat | 350 mg/kg |
| ethanol (CAS 64-17-5) | | |
| Acute | | |
| Dermal | | |
| LD50 | Rabbit | 20 g/kg |
| Inhalation | | |
| LC50 | Rat | 8000 mg/l, 4 hours |
| Oral | | |
| LD50 | Rat | 6.2 g/kg |
| methanol (CAS 67-56-1) | | |
| Acute | | |
| Dermal | | |
| LD50 | Rabbit | 12800 mg/kg |
| Inhalation | | |
| LC50 | Rat | 64000 ppm, 4 hours |
| Oral | | |
| LD50 | Rat | 5628 mg/kg |
| Skin corrosion/irritation | Prolonged skin contact may cause temporary irritation. | |
| Serious eye damage/eye irritation | Direct contact with eyes may cause temporary irritation. | |
| Respiratory or skin sensitization | | |
| Canada - Alberta OELs: Irritant | | |
| 2-butoxyethanol (CAS 111-76-2) | Irritant | |
| Respiratory sensitization | This product is not expected to cause respiratory sensitization. | |
| Skin sensitization | This product is not expected to cause skin sensitization. | |
| Germ cell mutagenicity | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. | |
| Carcinogenicity | This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. | |
| IARC Monographs. Overall Evaluation of Carcinogenicity | | |
| 2-butoxyethanol (CAS 111-76-2) | 3 Not classifiable as to carcinogenicity to humans. | |
| Reproductive toxicity | This product is not expected to cause reproductive or developmental effects. | |
| Specific target organ toxicity - single exposure | Not classified. | |
| Specific target organ toxicity - repeated exposure | Not classified. | |
| Aspiration hazard | Not an aspiration hazard. | |
| Chronic effects | Prolonged inhalation may be harmful. | |
| 12. Ecological information | | |
| Ecotoxicity | Harmful to aquatic life with long lasting effects. | |

| Components | Species | | Test Results |
|--------------------------------|---------|---|----------------------------|
| 2-butoxyethanol (CAS 111-76-2) | | | |
| Aquatic | | | |
| <i>Acute</i> | | | |
| Crustacea | EC50 | Water flea (Daphnia magna) | 1550 mg/l, 48 hours |
| Fish | LC50 | Rainbow trout,donaldson trout (Oncorhynchus mykiss) | >= 1000 mg/l, 96 hours |
| ammonia (CAS 7664-41-7) | | | |
| Aquatic | | | |
| Fish | LC50 | Chinook salmon (Oncorhynchus tshawytscha) | 0.43 - 0.47 mg/l, 96 hours |
| ethanol (CAS 64-17-5) | | | |
| Aquatic | | | |
| <i>Acute</i> | | | |
| Crustacea | EC50 | Water flea (Daphnia magna) | 7.7 - 11.2 mg/l, 48 hours |
| Fish | LC50 | Fathead minnow (Pimephales promelas) | > 100 mg/l, 96 hours |
| methanol (CAS 67-56-1) | | | |
| Aquatic | | | |
| Crustacea | EC50 | Water flea (Daphnia magna) | > 10000 mg/l, 48 hours |
| Fish | LC50 | Fathead minnow (Pimephales promelas) | > 100 mg/l, 96 hours |

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

| | |
|-----------------|---------------|
| 2-butoxyethanol | 0.81, log Pow |
| ethanol | -0.31 |
| methanol | -0.77 |

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal of waste from residues / unused products Contents under pressure. Do not puncture, incinerate or crush. Empty container can be recycled. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code Not regulated.

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

TDG

| | |
|-------------------------------------|---|
| UN number | UN1950 |
| UN proper shipping name | AEROSOLS, non-flammable, Limited Quantity |
| Transport hazard class(es) | |
| Class | 2.2 |
| Subsidiary risk | - |
| Packing group | Not applicable. |
| Environmental hazards | No. |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |
| Special provisions | 80 |

IATA

| | |
|--------------------------------|---|
| UN number | UN1950 |
| UN proper shipping name | Aerosols, non-flammable, Limited Quantity |

Transport hazard class(es)**Class** 2.2**Subsidiary risk** -**Packing group** Not applicable.**Environmental hazards** No.**ERG Code** 2L**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.**Other information****Passenger and cargo aircraft** Allowed with restrictions.**Cargo aircraft only** Allowed with restrictions.**IMDG****UN number** UN1950**UN proper shipping name** AEROSOLS, Limited Quantity**Transport hazard class(es)****Class** 2**Subsidiary risk** -**Packing group** Not applicable.**Environmental hazards****Marine pollutant** No.**EmS** F-D, S-U**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not established.**15. Regulatory information****Canadian regulations****Controlled Drugs and Substances Act**

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Ontario. Toxic Substances. Toxic Reduction Act, 2009. Regulation 455/09 (July 1, 2011)

methanol (CAS 67-56-1)

Precursor Control Regulations

Not regulated.

International regulations**Stockholm Convention**

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|----------------------|--|------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | Yes |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|--|------------------------|
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | Yes |
| New Zealand | New Zealand Inventory | Yes |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | Yes |
| 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)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

Issue date 02-15-2017

Version # 01

Further information Control # 09968(1004702)/411A(1002393)

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