



SAFETY DATA SHEET

1. Identification

Product identifier Aerosol Glass Cleaner - Ammonia Free

Other means of identification
Product Code 1138

Recommended use Glass Cleaner

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information
Manufacturer

Company name Malco Products, Inc.
Address 361 Fairview Ave
Barberton, OH 44203
United States

Telephone Phone 800-253-2526
Fax 330-753-2025

Website www.malcopro.com
E-mail msdsinfo@malcopro.com

Contact person Technical Department

Emergency phone number Phone 1-800-424-9300

Supplier Not available.

2. Hazard identification

Physical hazards Gases under pressure Liquefied gas

Health hazards Not classified.

Environmental hazards Not classified.

Label elements



Signal word Warning

Hazard statement Pressurized container: May burst if heated. Contains gas under pressure; may explode if heated.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Wash thoroughly after handling. Wear eye protection/face protection. Use personal protective equipment as required.

Response IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER/doctor if you feel unwell. If eye irritation persists: Get medical advice/attention. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. In case of leakage, eliminate all ignition sources.

Storage Protect from sunlight. Store in a well-ventilated place. Do not expose to temperatures exceeding 50°C/122°F.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Supplemental information None.

Other hazards None known.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
oxidane		7732-18-5	80 - < 90
2-methylpropane		75-28-5	1 - < 3

Chemical name	Common name and synonyms	CAS number	%
butane		106-97-8	1 - < 3
Ethanol		64-17-5	1 - < 3
Ethylene Glycol Monobutyl Ether		111-76-2	1 - < 3
propane		74-98-6	1 - < 3
Other components below reportable levels			5 - < 10

Additional components

Chemical name	Common name and synonyms	CAS number	%
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DSD: Directive 67/548/EEC.

CLP: Regulation No. 1272/2008.

#: This substance has been assigned Community workplace exposure limit(s).

M: M-factor

PBT: persistent, bioaccumulative and toxic substance.

vPvB: very persistent and very bioaccumulative substance.

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. *Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

Composition comments The full text for all R- and H-phrases is displayed in section 16.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Take off immediately all contaminated clothing. Get medical attention if irritation develops and persists. Wash contaminated clothing before reuse.
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. If eye irritation persists: Get medical advice/attention.
Ingestion	Not likely, due to the form of the product. Rinse mouth thoroughly. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. 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.
Most important symptoms/effects, acute and delayed	Not available.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	If you feel unwell, seek medical advice (show the label where possible). 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.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Carbon dioxide (CO2).
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 explode when exposed to heat or flame. During fire, gases hazardous to health may be formed.
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. Structural firefighters protective clothing will only provide limited protection.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. In case of fire: Stop leak if safe to do so. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do so without risk. Do not direct water at source of leak or safety devices as icing may occur. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Self-contained breathing apparatus and full protective clothing must be worn in case of fire. In the event of fire and/or explosion do not breathe fumes.
General fire hazards	Contents under pressure. Pressurized container may explode when exposed to heat or flame.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep out of low areas. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Wear appropriate protective equipment and clothing during clean-up. Emergency personnel need self-contained breathing equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Refer to attached safety data sheets and/or instructions for use. Stop leak if you can do so without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Move the cylinder to a safe and open area if the leak is irreparable. Use water spray to reduce vapors or divert vapor cloud drift. Isolate area until gas has dispersed. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Suck back of water into the container must be prevented. Do not allow backfeed into the container. Purge air from system before introducing gas. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Do not re-use empty containers. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Do not get this material on clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Wash thoroughly after handling. Wash contaminated clothing before reuse. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Level 1 Aerosol.

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Store in a well-ventilated place. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Stored containers should be periodically checked for general condition and leakage. Keep away from food, drink and animal feedingstuffs. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values (TLV)

Components	Type	Value
2-methylpropane (CAS 75-28-5)	STEL	1000 ppm
butane (CAS 106-97-8)	STEL	1000 ppm
Ethanol (CAS 64-17-5)	STEL	1000 ppm
Ethylene Glycol Monobutyl Ether (CAS 111-76-2)	TWA	20 ppm

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

Components	Type	Value
butane (CAS 106-97-8)	TWA	1000 ppm
Ethanol (CAS 64-17-5)	TWA	1880 mg/m ³
		1000 ppm

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

Components	Type	Value
Ethylene Glycol Monobutyl Ether (CAS 111-76-2)	TWA	97 mg/m3
		20 ppm
propane (CAS 74-98-6)	TWA	1000 ppm

Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances Workers Compensation Board, as amended

Components	Type	Value
2-methylpropane (CAS 75-28-5)	STEL	1000 ppm
butane (CAS 106-97-8)	STEL	1000 ppm
Ethanol (CAS 64-17-5)	STEL	1000 ppm
Ethylene Glycol Monobutyl Ether (CAS 111-76-2)	TWA	20 ppm

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

Components	Type	Value
2-methylpropane (CAS 75-28-5)	STEL	1000 ppm
butane (CAS 106-97-8)	STEL	1000 ppm
Ethanol (CAS 64-17-5)	STEL	1000 ppm
Ethylene Glycol Monobutyl Ether (CAS 111-76-2)	TWA	20 ppm

Canada. New Brunswick OELs: Threshold Limit Values (TLVs) Based on the 1991 and 1997 ACGIH TLVs and BEIs Publication (New Brunswick Regulation 91-191)

Components	Type	Value
2-methylpropane (CAS 75-28-5)	STEL	1000 ppm
butane (CAS 106-97-8)	STEL	1000 ppm
Ethanol (CAS 64-17-5)	STEL	1000 ppm
Ethylene Glycol Monobutyl Ether (CAS 111-76-2)	TWA	20 ppm

Canada. Ontario OELs (Regulation 833, Control of Exposure to Biological or Chemical Agents), as amended

Components	Type	Value
2-methylpropane (CAS 75-28-5)	STEL	1000 ppm
butane (CAS 106-97-8)	STEL	1000 ppm
Ethanol (CAS 64-17-5)	STEL	1000 ppm
Ethylene Glycol Monobutyl Ether (CAS 111-76-2)	TWA	20 ppm

Canada. Quebec OELs (Regulation respecting occupational health and safety, v. S-2.1, r.13), as amended

Components	Type	Value
butane (CAS 106-97-8)	TWA	1900 mg/m3
		800 ppm
Ethanol (CAS 64-17-5)	TWA	1000 ppm
Ethylene Glycol Monobutyl Ether (CAS 111-76-2)	TWA	20 ppm
propane (CAS 74-98-6)	TWA	1800 mg/m3
		1000 ppm

Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996; Table 21), as amended

Components	Type	Value
Ethanol (CAS 64-17-5)	15 minute	1250 ppm
	8 hour	1000 ppm

Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996; Table 21), as amended

Components	Type	Value
Ethylene Glycol Monobutyl Ether (CAS 111-76-2)	15 minute	30 ppm
	8 hour	20 ppm

Biological limit values

ACGIH Biological Exposure Indices (BEI)				
Components	Value	Determinant	Specimen	Sampling Time
Ethylene Glycol Monobutyl Ether (CAS 111-76-2)	200 mg/g	Butoxyacetic acid (BAA), with hydrolysis	Creatinine in urine	*

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

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. Ensure adequate ventilation, especially in confined areas. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection	Not available.
Skin protection	
Hand protection	Not available.
Other	Not available.
Respiratory protection	If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.
Thermal hazards	Not available.

General hygiene considerations When using do not smoke. 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

Physical state	Liquid.
Form	Aerosol. Compressed gas.
Color	Colourless to light yellow.
Odor	Solvent.
Melting point/freezing point	Not available.
Boiling point or initial boiling point and boiling range	Not available.
Flammability	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Flash point	>200.0 °F (>93.3 °C)
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
pH	Not available.
Kinematic viscosity	Not available.
Solubility	
Solubility (water)	Not available.
Vapor pressure	Not available.
Density and/or relative density	
Density	7.96 lbs/gal
Vapor density	Not available.
Particle characteristics	Not available.
Other information	
Explosive properties	Not explosive.

Oxidizing properties Not oxidizing.
VOC 9.99 %

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. Hazardous polymerization does not occur.
Conditions to avoid Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials Strong oxidizing agents.
Hazardous decomposition products No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation Prolonged inhalation may be harmful.
Skin contact Not available.
Eye contact Not available.
Ingestion Not available.

Symptoms related to the physical, chemical and toxicological characteristics Not available.

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
Ethanol (CAS 64-17-5)		
Acute		
Oral		
LD50	Rat	6.2 g/kg
Ethylene Glycol Monobutyl Ether (CAS 111-76-2)		
Acute		
Dermal		
LD50	Rabbit	400 mg/kg
Oral		
LD50	Rat	470 mg/kg

Skin corrosion/irritation Not available.

Serious eye damage/eye irritation Not available.

Respiratory or skin sensitization

Canada - Alberta OELs: Irritant

Ethylene Glycol Monobutyl Ether (CAS 111-76-2) Irritant

Canada - British Columbia OELs: Simple asphyxiant

propane (CAS 74-98-6) Simple asphyxiant.

Canada - Manitoba OELs Hazard: Asphyxiant

propane (CAS 74-98-6) Simple asphyxiant.

Canada - Ontario OELs: Asphyxiant

propane (CAS 74-98-6) Simple asphyxiant.

Respiratory sensitization Not a respiratory sensitizer.

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

ACGIH Carcinogens

Ethanol (CAS 64-17-5)

A3 Confirmed animal carcinogen with unknown relevance to humans.

Ethylene Glycol Monobutyl Ether (CAS 111-76-2)

A3 Confirmed animal carcinogen with unknown relevance to humans.

Canada - Manitoba OELs: carcinogenicity

Ethanol (CAS 64-17-5)

Confirmed animal carcinogen with unknown relevance to humans.

Ethylene Glycol Monobutyl Ether (CAS 111-76-2)

Confirmed animal carcinogen with unknown relevance to humans.

Canada - Quebec OELs: Carcinogen category

Ethylene Glycol Monobutyl Ether (CAS 111-76-2)

Detected carcinogenic effect in animals.

IARC Monographs. Overall Evaluation of Carcinogenicity

Ethylene Glycol Monobutyl Ether (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 classified.

12. Ecological information

Ecotoxicity

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test Results	
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	Rainbow trout, donaldson trout (Oncorhynchus mykiss)	42 mg/l, 4 days
Ethylene Glycol Monobutyl Ether (CAS 111-76-2)			
Aquatic			
<i>Acute</i>			
Fish	LC50	Inland silverside (Menidia beryllina)	1250 mg/l, 96 hours

Persistence and degradability

No data is available on the degradability of this product.

Bioaccumulative potential

No data available.

Partition coefficient n-octanol / water (log Kow)

2-methylpropane	2.76
butane	2.89
Ethanol	-0.31
Ethylene Glycol Monobutyl Ether	0.83
propane	2.36

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 instructions

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations

Dispose in accordance with all applicable regulations.

Hazardous waste code

The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

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. Do not re-use empty containers.

14. Transport information

TDG

UN number	UN1950
UN proper shipping name	AEROSOLS, NON-FLAMMABLE
Transport hazard class(es)	
Class	2.2
Subsidiary hazard	-
Packing group	-
Environmental hazards	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

UN number	UN1950
UN proper shipping name	AEROSOLS, NON-FLAMMABLE
Transport hazard class(es)	
Class	2.2
Subsidiary hazard	-
Packing group	-
Environmental hazards	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS, NON-FLAMMABLE
Transport hazard class(es)	
Class	2.2
Subsidiary hazard	-
Packing group	-
Environmental hazards	
Marine pollutant	No.
EmS	Not assigned.
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.

IATA; IMDG; TDG



General information

Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers: Ensure that containers are firmly secured. Ensure cylinder valve is closed and not leaking. Ensure valve outlet cap nut or plug (where provided) is correctly fitted. Ensure valve protection device (where provided) is correctly fitted. Ensure adequate ventilation. Ensure compliance with applicable regulations.

15. Regulatory information

Canadian regulations This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

International regulations

Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work, as amended.

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 Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
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)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	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 01-15-2019

Revision date 08-01-2024

Version # 13

References

ACGIH
EPA: AQUIRE database
NLM: Hazardous Substances Data Base
US. IARC Monographs on Occupational Exposures to Chemical Agents

Disclaimer

Malco Products, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. 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.

Revision information

This document has undergone significant changes and should be reviewed in its entirety.