

Material Name: MedX Glass, Med Gamma Glass

ID: C-464

*** Section 1 - Chemical Product and Company Identification ***

Glass Codes: RWB 46 – RWB 47**Chemical Name:** Alkaline metal silicate glass**Product Use:** Manufacture of glass articles**Manufacturer Information**

Corning SAS

Rue Saint Laurent

BP 90094 - Bagneaux sur Loing

77792 Nemours CEDEX, France

Phone: 33 (0) 164 454 395

Emergency# 24 Hr. Chemtrec (International) (703) 527-3887

24 Hr. U.S. CHEMTREC: (800) 424-9300

General Comments

NOTE: CHEMTREC telephone number is to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure, or accident involving chemicals.

*** Section 2 - Hazards Identification ***

Emergency Overview

This glass article is a non-combustible, non-reactive solid material. It is supplied in the form of solid glass. Exposure to glass powder or dusts may be irritating to eyes, nose, and throat. At very high exposure levels the dust may have an effect on the lungs. The metallic elements contained in the glass may be biologically available if ingested or inhaled. They include lead, which is specifically regulated by OSHA for its effects as a cumulative poison principally affecting the nervous system and a reproductive hazard for men and women and barium, which can affect the heart and lung. Use methods suitable to fight surrounding fire.

Hazard Statements

Dust or powder may be irritating to the eyes, skin, respiratory system and gastrointestinal tract.

Potential Health Effects: Eyes

Dust or powder may irritate eye tissue. Rubbing may cause abrasion of cornea.

Potential Health Effects: Skin

Dust or powder may irritate the skin. Mechanical rubbing may increase skin irritation.

Potential Health Effects: Ingestion

May cause temporary irritation of the throat, stomach, and gastrointestinal tract.

Potential Health Effects: Inhalation

Dusts of this product may cause irritation of the nose, throat, and respiratory tract. When inhaled in very large amounts, damage to the lung can occur.

HMIS Ratings: Health: 1 **Fire:** 0 **Physical Hazard:** 0 **Pers. Prot.:** Gloves, glasses

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

*** Section 3 - Composition / Information on Ingredients ***

CAS#	Component	Percent
65997-17-3	Glass, oxide, chemicals	100
Not Available	Lead oxides (** See NOTE below)	<60
Not Available	Barium oxides (** See NOTE below)	<20

Component Related Regulatory Information

This product may be regulated and have exposure limits as identified in Section 8.

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Component Information/Information on Non-Hazardous Components

This article is not considered hazardous under U.S. 29 CFR 1910.1200 (Hazard Communication) and the Canadian Controlled Product Regulations.

Glass is a solid material produced by combining various raw materials (e.g. oxides, carbonates, etc.), melting these components together, and cooling to a solid having its own unique properties. Processing of this article may produce dusts or fumes which are considered hazardous under U.S. 29 CFR 1910.1200 (Hazard Communication).

****NOTE:** This component is not a separate component; it is included in the glass product.

***** Section 4 - First Aid Measures *******First Aid: Eyes**

Eye injuries from glass particles should be treated by a physician immediately.

First Aid: Skin

Cuts or abrasions should be treated promptly with thorough cleansing of the affected area.

First Aid: Ingestion

Seek medical attention if material is ingested.

First Aid: Inhalation

Move person to non-contaminated air. Call a physician if symptoms persist.

First Aid: Notes to Physician

None.

***** Section 5 - Fire Fighting Measures *******General Fire Hazards**

See Section 9 for Flammability Properties.

This material will not burn.

Hazardous Combustion Products

Material will begin softening at about 1200 Deg C, will proceed to a liquid and will form irritating and toxic gaseous metallic oxides at extremely high temperatures.

Extinguishing Media

Use methods for the surrounding fire.

Fire Fighting Equipment/Instructions

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

NFPA Ratings: Health: 1 Fire: 0 Reactivity: 0 Other: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

***** Section 6 - Accidental Release Measures *******Personal Precautions**

Wear appropriate protective equipment and clothing during clean-up. See Section 8 of this MSDS for appropriate personal protective equipment.

Containment Procedures

Avoid creating dusts.

Environmental Precautions

None identified.

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Clean-Up Procedures

Wear appropriate protective equipment and clothing during clean-up. Collect spill using a vacuum cleaner with a HEPA filter. Place in a closed container.

Evacuation Procedures

None necessary.

Special Procedures

Regulations vary. Consult local authorities before disposal. Glass products may be recycled.

*** Section 7 - Handling and Storage ***

Handling Procedures

Do not inhale dusts. Avoid generation of airborne dusts. Avoid contact with skin and eyes. Wash thoroughly after handling.

Storage Procedures

Store in a dry area.

*** Section 8 - Exposure Controls / Personal Protection ***

Exposure Guidelines

INORGANIC LEAD IS A SPECIFICALLY REGULATED MATERIAL. CONSULT 29 CFR 1910.1025 FOR OTHER REQUIREMENTS IF ACTION LEVEL IS ATTAINED.

The OSHA (Vacated) air contaminants exposure limits (PELs) are those provided in the 1989 update to 29 CFR 1910.1000. These limits were vacated by OSHA and may not be enforceable.

Component Exposure Limits**Glass, oxide, chemicals (65997-17-3)**

- ACGIH:** 10 mg/m³ TWA (inhalable particles, recommended); 3 mg/m³ TWA (respirable particles, recommended, related to Nuisance particulates)
- OSHA (Final):** 15 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction, related to Nuisance particulates)
- OSHA (Vacated):** 15 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction, related to Nuisance particulates)
- Alberta:** 10 mg/m³ TWA (total); 3 mg/m³ TWA (respirable, related to Nuisance particulates)
- British Columbia:** 10 mg/m³ TWA (total dust); 3 mg/m³ TWA (respirable fraction, related to Nuisance particulates)
- Manitoba:** 10 mg/m³ TWA (inhalable particles, recommended); 3 mg/m³ TWA (respirable particles, recommended, related to Nuisance particulates)
- New Brunswick:** 3 mg/m³ TWA (particulate matter containing no Asbestos and <1% Crystalline silica, respirable fraction); 10 mg/m³ TWA (particulate matter containing no Asbestos and <1% Crystalline silica, inhalable fraction, related to Nuisance particulates)
- NW Territories:** 5 mg/m³ TWA (respirable mass); 10 mg/m³ TWA (total mass, related to Nuisance particulates)
- Nova Scotia:** 10 mg/m³ TWA (inhalable particles, recommended); 3 mg/m³ TWA (respirable particles, recommended, related to Nuisance particulates)
- Nunavut:** 5 mg/m³ TWA (respirable mass); 10 mg/m³ TWA (total mass, related to Nuisance particulates)
- Ontario:** 10 mg/m³ TWA (inhalable particulate); 3 mg/m³ TWA (respirable particulate, related to Nuisance particulates)
- Quebec:** 10 mg/m³ TWAEV (including dust, inert or nuisance particulates, total dust, containing no Asbestos and <1% Crystalline silica, related to Nuisance particulates)
- Saskatchewan:** 10 mg/m³ TWA (insoluble or poorly soluble, inhalable fraction); 3 mg/m³ TWA (insoluble or poorly soluble, respirable fraction, related to Nuisance particulates)
20 mg/m³ STEL (insoluble or poorly insoluble, inhalable fraction); 6 mg/m³ STEL (insoluble or poorly insoluble, respirable fraction, related to Nuisance particulates)

Lead oxides

ACGIH: 0.05 mg/m³ TWA (related to Lead)

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- OSHA:** 30 µg/m³ Action Level (Poison, See 29 CFR 1910.1025); 50 µg/m³ TWA (related to Lead)
- OSHA (Final):** 50 µg/m³ TWA (related to Lead)
- NIOSH:** 0.050 mg/m³ TWA (related to Lead)
- Alberta:** Designated substance - requires code of practice (related to Lead)
0.05 mg/m³ TWA (related to Lead)
- British Columbia:** 0.05 mg/m³ TWA (related to Lead)
- Manitoba:** 0.05 mg/m³ TWA (related to Lead)
- New Brunswick:** 0.05 mg/m³ TWA (related to Lead)
- NW Territories:** 0.15 mg/m³ TWA (related to Lead)
0.45 mg/m³ STEL (related to Lead)
- Nova Scotia:** 0.05 mg/m³ TWA (related to Lead)
- Nunavut:** 0.15 mg/m³ TWA (related to Lead)
0.45 mg/m³ STEL (related to Lead)
- Ontario:** 0.05 mg/m³ TWA (related to Lead)
0.05 mg/m³ TWA (designated substance regulation); 0.05 mg/m³ TWA (applies to workplaces to which the designated substance regulation does not apply, related to Lead)
- Quebec:** 0.05 mg/m³ TWAEV (related to Lead)
- Saskatchewan:** 0.05 mg/m³ TWA (related to Lead)
0.15 mg/m³ STEL (related to Lead)
- Yukon:** 0.15 mg/m³ TWA (dust and fume, related to Lead)
0.45 mg/m³ STEL (dust and fume, related to Lead)

Barium oxides

- ACGIH:** 0.5 mg/m³ TWA (related to Barium)
- OSHA (Vacated):** 0.5 mg/m³ TWA (related to Barium)
- Alberta:** 0.5 mg/m³ TWA (related to Barium)
- British Columbia:** 0.5 mg/m³ TWA (related to Barium)
- Manitoba:** 0.5 mg/m³ TWA (related to Barium)
- New Brunswick:** 0.5 mg/m³ TWA (related to Barium)
- Nova Scotia:** 0.5 mg/m³ TWA (related to Barium)
- Ontario:** 0.5 mg/m³ TWA (related to Barium)
- Saskatchewan:** 0.5 mg/m³ TWA (related to Barium)
1.5 mg/m³ STEL (related to Barium)

Engineering Controls

If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT**Personal Protective Equipment: Eyes/Face**

Wear safety glasses with side shields.

Personal Protective Equipment: Skin

Wear leather or other appropriate work gloves, if necessary for type of operation. The use of coveralls is recommended.

Personal Protective Equipment: Respiratory

Not normally needed. If permissible levels are exceeded, use NIOSH approved dust respirator. If the action level for lead is approached, respiratory protection as specified in 29 CFR 1910.1025 must be used.

Personal Protective Equipment: General

Use good hygiene practices when handling this material including changing and laundering work clothing after use.

***** Section 9 - Physical & Chemical Properties *****

Appearance:	Transparent, yellow glass	Odor:	Odorless
Physical State:	Solid (Glass plate or block)	pH:	Not applicable
Vapor Pressure:	Not applicable	Vapor Density:	Not applicable
Boiling Point:	Not applicable	Melting Point:	>1200°C (>2192°F)
Solubility (H₂O):	Insoluble	Specific Gravity:	4.8 g/ml
Auto Ignition:	Not Applicable	Flash Point:	Not Applicable
Flash Point Method:	Not Applicable	Lower Flammability Limit (LFL):	Not Applicable
Upper Flammability Limit (UFL):	Not Applicable	OSHA Flammability Classification:	Not Applicable

***** Section 10 - Chemical Stability & Reactivity Information *******Chemical Stability**

Stable.

Chemical Stability: Conditions to Avoid

None known.

Incompatibility

None known.

Hazardous Decomposition

At very high temperatures irritating and toxic gaseous metallic oxides can be formed.

Possibility of Hazardous Reactions

Will not occur.

***** Section 11 - Toxicological Information *******Acute Dose Effects**

Dusts may cause mechanical irritation to eyes and skin. Ingestion may cause transient irritation of throat, stomach and gastrointestinal tract. Inhalation may cause coughing, nose and throat irritation, and sneezing. Higher exposures may cause difficulty breathing, congestion, and chest tightness. Symptoms of lead toxicity include behavioral disturbances including irritability, restlessness, insomnia, and other sleep disturbances, fatigue, vertigo, headache, poor memory, tremor, depression, and apathy. Soluble barium compounds are muscle poisons causing stimulation of muscle followed by paralysis. Inhalation of insoluble barium compounds may cause baritosis (a benign pneumoconiosis).

Epidemiology

There is extensive literature on human exposure to lead, both by the oral route (the common exposure for the general population) and the inhalation route (the common exposure for the workplace). An excellent review is provided in the "Toxicological Profile for Lead" written by the Agency for Toxic Substances and Disease Registry (ATSDR) and available from the National Technical Information Services (NTIS).

Carcinogenicity

Although some lead salts have produced tumors in animals, the evidence is insufficient to determine the carcinogenicity of lead in humans.

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Component Carcinogenicity**Lead oxides****ACGIH:** A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans (related to Lead)**OSHA:** 30 µg/m³ Action Level (Poison, See 29 CFR 1910.1025); 50 µg/m³ TWA (related to Lead)**NTP:** Reasonably Anticipated To Be A Human Carcinogen (Possible Select Carcinogen, related to Lead)**IARC:** Monograph 87 [2006]; Supplement 7 [1987]; Monograph 23 [1980] (Group 2A (Probably carcinogenic to humans))**Barium oxides****ACGIH:** A4 - Not Classifiable as a Human Carcinogen (related to Barium)**Mutagenicity**

Exposure to lead has been reported to cause chromosome aberrations in humans.

Teratogenicity

Lead has a wide variety of reproductive effects in humans. It can affect both the male and female reproductive organs as well as egg and sperm production and development. Lead can also cause neurodevelopmental debilitations in children from both prenatal and postnatal exposures.

Neurological Effects

Inorganic lead has been found to have toxic effects on both the central and peripheral nervous systems. Symptoms of lead toxicity include behavioral disturbances such as irritability, restlessness, insomnia, and other sleep disturbances, fatigue, vertigo, headache, poor memory, tremor, depression, and apathy. With more severe exposure, symptoms can progress to drowsiness, stupor, hallucinations, delirium, convulsions, and coma.

Other Toxicological Information

Under normal conditions of use for glass products, the likelihood of inhaling or ingesting amounts necessary for these effects to occur is very small.

***** Section 12 - Ecological Information *******Ecotoxicity**

No information available.

Component Analysis - Ecotoxicity - Aquatic Toxicity**Lead oxides****Test & Species**

Test & Species		Conditions
96 Hr LC50 Gambusia affinis	>56000 mg/L	Static
96 Hr LC50 Pimephales promelas	0.298 mg/L	Static
48 Hr EC50 water flea	600 µg/L	related to Lead

Environmental Fate

Glass is inert in the environment.

***** Section 13 - Disposal Considerations *******US EPA Waste Number & Descriptions**

This product contains a component or components identified as hazardous under 40 CFR 261.24. You must test your waste using methods described in 40 CFR Part 261 to determine if it meets these or other applicable definitions of hazardous wastes.

Component Waste Numbers**Lead oxides****RCRA:** 5.0 mg/L regulatory level (related to Lead)**Barium oxides****RCRA:** 100.0 mg/L regulatory level (related to Barium)

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Disposal Instructions

Waste must be handled in accordance with all applicable regulations. Purchaser is advised to review regulations referenced for applicability as determined by purchaser's use of the product. Glass products may be recycled.
See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

*** Section 14 - Transportation Information ***

US DOT Information

Not regulated as a hazardous material.

TDG Information

Not regulated as a dangerous good.

*** Section 15 - Regulatory Information ***

US Federal Regulations

This product contains metal(s), which as dusts, fumes or particulates, is subject to the reporting requirements of Section 313 of SARA and its associated regulations. If the physical form and usage meets the definition of an article, no reporting is necessary.

Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Lead oxides

SARA 313: 0.1 % Supplier notification limit; 0.1 % de minimis concentration (when contained in stainless steel, brass, or bronze, related to Lead)

CERCLA: 10 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm); 4.54 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm, related to Lead)

Barium oxides (See NOTE below) (Not Available)**

SARA 313: 1.0 % de minimis concentration (related to Barium)

Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
Glass, oxide, chemicals	65997-17-3	No	No	Yes	No	No
Lead oxides (related to: Lead)	Not Available	Yes ¹	Yes	Yes ¹	Yes	Yes ¹
Barium oxides (related to: Barium)	Not Available	No	Yes ¹	Yes ¹	Yes	Yes ¹

State Regulations

Other state regulations may apply. Check individual state requirements.

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.

WARNING! This product contains a chemical known to the state of California to cause reproductive/developmental effects.

Canadian WHMIS Information

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all information required by CPR.

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WHMIS Classification:

This product is exempt as an article.

Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Lead oxides

1 %

Additional Regulatory Information

All components are on the U.S. EPA TSCA Inventory List.

Inventory

Component	CAS #	TSCA	DSL	EINECS
Glass, oxide, chemicals	65997-17-3	Yes	Yes	Yes

*** Section 16 - Other Information ***

Other Information

Reasonable care has been taken in the preparation of this information, but Corning makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. Corning makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use.

MSDS History

Revision 3.000, 03-DEC-2012: Add of RWB 47

Revision 2.0000, 21-NOV-2011: Formulation change.

Revision 1.0000, 12-SEP-2011: New MSDS.

Questions regarding information found in this document should be directed to the address and phone number shown in Section 1.

If additional information is needed contact:

Corning, Incorporated.

Safety Management Services

MP-HQ-01-E1H22A

Corning, NY 14831

Tel. No. (607)-974-6926 or (607)-974-8002

Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists; CAS = Chemical Abstracts Service; CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act; CFR = Code of Federal Regulations; CPR = Controlled Products Regulations; DOT = Department of Transportation; DSL = Domestic Substances List; EINECS = European Inventory of Existing Commercial Chemical Substances; EPA = Environmental Protection Agency; IARC = International Agency for Research on Cancer; IATA = International Air Transport Association; mg/Kg = milligrams per Kilogram; mg/L = milligrams per Liter; mg/m³ = milligrams per Cubic Meter; MSHA = Mine Safety and Health Administration; NA = Not Applicable or Not Available; NIOSH = National Institute for Occupational Safety and Health; NJTSR = New Jersey Trade Secret Registry; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; RoHS = Directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment; SARA = Superfund Amendments and Reauthorization Act; TDG = Transport Dangerous Goods; TSCA = Toxic Substances Control Act; WEEE = Directive 2002/96/EC on waste electrical and electronic equipment; WHMIS = Workplace Hazardous Materials Information System.

End of Sheet C-464