



MATERIAL SAFETY DATA SHEET

Form WI04-11A Rev. 1

Part Number(s):
00-XXX-XX

Product Name: Glass Code 7059

Release Date: July 1, 2007

1. Product and Company Identification

Trade Name & Synonyms Glass Code 7059	MSDS Code Number Refer to part number
Chemical Name Barium Alumina Boro Silicate Glass	Manufacture / Distributor GAC International Inc.
C.A.S. Number 65997-17-3	Address 355 Knickerbocker Ave. Bohemia, NY USA 11716
Grades or Minor Variant Identities NA	Information Telephone Number 1-631-419-1700
Product Use (for Canada) Manufacture of Glass Articles	Emergency Telephone Number 1-631-419-1700

2. Composition of Ingredients

Hazardous Components	C.A.S. Number	Exposure Limits	%
Glass, Oxide, Chemicals	65997-17-3	NA	100
Barium Oxide (**See NOTE below)	1304-28-5	NA	<30
Arsenic (III) oxide (**See NOTE below)	1327-53-3	NA	<1
Component Related Regulatory Information: This product may be regulated, have exposure limits or other information identified as the following: Nuisance particulates, Barium (7440-39-3), Arsenic, inorganic compound, arsenic (7440-38-2) Component Information/Information on Non-Hazardous Components: Glass is a solid material produced by combining various raw materials (e.g. oxide, 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 29CFR 1910.1200 (Hazard communication). **NOTE: This component is not a separate component; it is included in the glass product.	NA	NA	NA

3. Hazard Identification

Emergency Overview

This is a non-combustible, non-reactive solid material. It is supplied in the form of drawn sheets or powdered glass. Exposure to glass powder or dusts may be irritating to eyes, nose and throat. At very high exposure levels, the dust may have effect on the lungs. The metallic elements contained in the glass may be biologically available if ingested or inhaled and contain barium, which can affect the heart and lungs. Product also contains < 1 % arsenic which is specifically regulated by OSHA and designated as carcinogenic to humans. Use methods suitable to fight surrounding fire.

Routes of Exposure	Signs and Symptoms	Single, Repeated, or Lifetime Exposure	Severity (Mild, Moderate, Severe)	Acute and Chronic Health Effect(s)	Target Organ(s)
Eye	Dust or powder may irritate eye tissue. Rubbing may cause abrasion of cornea. Symptoms can include irritation, redness, scratching of the cornea, and tearing.	NA	NA	NA	NA
Skin	Dust or powder may irritate the skin. Mechanical rubbing may increase skin irritation. No components in this product are known to be absorbed through the skin.	NA	NA	NA	NA
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.	NA	NA	NA	NA
Ingestion	May cause temporary	NA	NA	NA	NA



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	irritation of the throat, stomach and gastrointestinal tract.				
Other	<p>Hazard Statements: Dust or powder may be irritating to the eyes, skin, respiratory system and gastrointestinal tract.</p> <p>HMS Ratings: Health:1* Fire:0 Reactivity:0 Pers. Prot.: Gloves, glasses</p> <p>Hazard Scale: 0=Minimal, 1=slight, 2=Moderate, 3=Serious, 4=Severe, *=Chronic Hazard</p>	NA	NA	NA	NA
Medical Conditions Aggravated by Exposure NA					
Carcinogenicity (IARC, NTP) NA					
Potential Environmental Effects NA					

4. First Aid Measures

Routes of Exposure	First Aid Instructions	Immediate Medical Attention	Delayed Effects
Eye	NA	Eye injuries from glass particles, should be treated by a physician immediately.	NA
Skin	Cuts or abrasions should be treated promptly with thorough cleansing of the affected area.	NA	NA
Inhalation	Move person to non contaminated air.	Call a physician if symptoms persist.	NA
Ingestion	NA	Seek medical attention if material is ingested.	NA
Other	NA	NA	NA
Note to Physicians (Treatment, Testing, and Monitoring) None			

5. Fire and Explosion Data

Flashpoint & Method: °C / °F N/A	Flammable (Explosive) Limits in Air LEL: N/A UEL: N/A	Autoignition Temperature N/A	Other
Flame Propagation or Burning N/A	Properties Contributing to Fire Intensity N/A	Flammability Classification Health-1, Flammability-0, Reactivity-0 Other: 0 Hazard Scale: 0=Minimal, 1=slight, 2=Moderate, 3=Serious, 4=Severe	Hazardous combustion products. Material will begin softening at about 900°C, will proceed to a liquid and will form irritating and toxic gaseous metallic oxide at extremely high temperatures.



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Extinguishing Media Use methods for the surrounding fire.	Extinguishing Media to Avoid N/A
Protection and Procedures for Firefighters Wear full protective clothing, including helmet, self contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.	
Unusual Fire and Explosion Hazards N/A	

6. Accidental Release Measures

Containment Techniques Avoid creating dusts.
Spill/Leak Clean-Up Procedures and Equipment 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 Instructions Regulations vary. Consult local authorities before disposal. Glass products may be recycled.
Reporting Requirements NA

7. Handling and Storage

Handling Practices and Warnings Do not inhale dusts. Avoid generation of air borne dusts. Avoid contact with skin and eyes. Wash thoroughly after handling.
Storage Practices and Warnings (°C / °F). Store in a dry area.

8. Exposure Control/Personal Protection

Ventilation NA	Other 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.	
Routes of Entry:	Personal Protective Equipment (PPE) for Normal Use:	PPE for Emergencies:
Eye/Face	Wear Safety glasses with side shield	NA
Skin	Wear leather or other appropriate work gloves, if necessary type or operation. The use of coveralls is recommended.	NA
Inhalation	Not normally needed if permissible levels are exceeded, use NIOSH approved dust respirator. If the action level for inorganic arsenic is approached, use respiratory protection as specified in CFR 1910.1018	NA



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Form WI04-11A Rev. 1

Part Number(s):
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General Hygiene Considerations and Work Practices Use good hygiene practices when handling this material, including changing and laundering work clothing after use.
Protective Measures during Repair and Maintenance of Contaminated Equipment NA
Other Protective Measures and Equipment Exposure Guidelines A: General Product Information: INORGANIC ARSENIC IS A SPECIFICALLY REGULATED MATERIAL. CONSULT 29 CFR 1910.1018 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. B: Component Exposure Limits Glass, Oxide, chemicals (65997-17-3) ACGIH: 10mg/m3 TWA (inhalable fraction, particulate matter containing no asbestos and <1% crystalline silica); 3mg/m3 TWA (respirable fraction, particulate matter containing no asbestos and <1% crystalline silica) (related to particulates not otherwise specified (PNOS)) OSHA (Final) 15mg/m3 TWA (total dust); 5mg/m3 TWA (respirable fraction) (related to Particulates not otherwise regulated) OSHA (Vacated) 15mg/m3 TWA (total dust); 5mg/m3 TWA (respirable fraction) (related to Particulates not otherwise regulated) Barium Oxide (1304-28-5) ACGIH: 0.5mg/m3 TWA (related to Barium) OSHA (Final) 0.5mg/m3 TWA (related to Barium) OSHA (Vacated) 0.5mg/m3 TWA (related to Barium) Arsenic (III) Oxide (1327-53-3) ACGIH: 0.01mg/m3 TWA (as AS)(related to Arsenic, inorganic compounds) OSHA as AS: 5ug/m3 TWA action level;10ug/m3 TWA; Cancer hazard(See 29CFR 1910.1018) (related to inorganic arsenic) NIOSH 0.002mg/m3 Ceiling (related or Aresenic (inorganic compounds))

9. Physical and Chemical Characteristics		
Appearance Clear solid.	Odor None	
Normal Physical State: <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input checked="" type="checkbox"/> Solid <input type="checkbox"/> ____ (Other)	Boiling Point °C / °F N/A	Melting Point °C / °F N/A
	Freezing Point °C / °F NA	
Specific Gravity or Density (H₂O=1) N/A	Solubility in Water N/A	pH N/A
Vapor Pressure (mm Hg @ 20°C) N/A	Vapor Density (AIR= 1) N/A	Evaporation Rate (Butyl Acetate = 1) NA
Other Density: 2.76 gm/cm. Softening point: 1551.2°F(844°C)		

10. Stability and Reactivity Data	
Incompatibility (Materials to Avoid) None known.	
Hazardous Products Produced During Decomposition At very high temperatures irritating and toxic gaseous metallic oxides can be formed.	
Hazardous Polymerization? <input type="checkbox"/> May Occur <input checked="" type="checkbox"/> May Not Occur	Conditions to Avoid °C / °F NA
Stability? <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Unstable	Conditions to Avoid °C / °F None known.

11. Toxicological Information
Toxicity Data, Epidemiology Studies, Carcinogenicity, Neurological Effects, Genetic or Reproductive Effects, or Structure Activity Data Acute toxicity: A: General product information: 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



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breathing, congestion, and chest tightness. Soluble barium compounds are muscle poisons causing stimulation of muscle followed by paralysis. Inhalation of insoluble barium compounds may cause baritosis (a benign pneumoconiosis). Inorganic arsenic (includes the metallic form) has been shown to cause skin and lung cancer, lymphatic cancer and dermatitis in humans on long term occupational exposure.

B: Component Analysis- LD50/LC50

Arsenic (III) oxide (1327-53-3)

Oral LD50 Rat: 14600 ug/kg

Oral LD50 Mouse: 31500 ug/kg

Carcinogenicity

A: General product information

Inorganic arsenic (includes the metallic form) has been shown to cause skin and lung cancer, lymphatic cancer and dermatitis in humans on long term occupational exposure. Inorganic arsenic can produce lung, skin and lymphatic cancer with long term occupational exposure above the established limits.

B: Component Carcinogenicity

Barium oxide (1304-28-5)

ACGIH A4- Not classified as a human carcinogen(related to barium)

Arsenic (III) oxide (1327-53-3)

ACGIH A1- Confirmed human carcinogen (as AS) (related to arsenic, inorganic compounds)

OSHA as AS: 5 UG/M3 TWA action level; 10 ug/m3 TWA; cancer hazard(See 29 CFR 1910.1018) (related to inorganic arsenic)

NIOSH occupational carcinogen(related to arsenic (inorganic compounds)

NTP Known carcinogen (related to arsenic, inorganic compounds) (select carcinogen)

IARC Supplement 7, 1987; monograph 23, 1980; (This evaluation applies to the group of compounds as a whole and not necessarily to all individual compounds within the group) (related to arsenic) (group 1 (carcinogenic to humans))

Epidemiology:Based on epidemiological evidence the chief manifestation of toxic exposure to arsenic is dermatitis and perforation of the nasal septum.

Neurotoxicity: No additional information

Mutagenicity: No additional information

Teratogenicity: Teratogenic effects of soluble arsenic compounds administered intravenously or intraperitoneally at high doses have been demonstrated in hamsters, rats and mice.

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.

12. Ecological Information

Toxicity, Environmental Fate, Physical/Chemical Data, or Other Data Supporting Environmental Hazard Statements

Ecotoxicity

A: General product information: No information available.

B: Component Analysis- Ecotoxicity-Aquatic toxicity

Component	CAS#	Data
Arsenic (III) oxide	1327-53-3	5 Min EC50 Photobacterium Phosphoreum: 73.73 mg/L
		15 Min EC50 Photobacterium Phosphoreum: 43.56 mg/L
		30 Min EC50 Photobacterium Phosphoreum: 33.39 mg/L
		60 Min EC50 Photobacterium Phosphoreum: 31.43 mg/L
		Lc50 (24 hr) water flea: 0.038 mg/L

Environmental fate: No information available.



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13. Disposal Considerations

Regulations

US EPA Waste number & description

A: General product information: 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.

B: Component waste numbers:

Barium oxide (1304-28-5)

RCRA waste number D005; REGULATORY LEVEL=100.0 mg/L (related to barium)

Arsenic (III) oxide (1327-53-3)

RCRA waste number P012

waste number D004; regulatory level= 5.0 mg/L (related to arsenic)

Properties (Physical/Chemical) Affecting Disposal

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.

14. Transport Information

Regulated for shipping?

Yes No NA

Proper Shipping Name

NA

Packing Group

N/A

Do changes in quantity, packaging, or shipment method change product classification?

Yes No NA

Hazard Class

N/A

Identification Number

NA

Other

UN/NA#: N/A

Required Label(s): None

Additional Info: None

International Transport Regulations: This product is not regulated as a hazardous material by the United States (DOT) or Canadian (TDG) transportation regulations



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15. Regulatory Information

Federal Regulations

A: General Product Information:

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.

B. 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)

Barium Oxide (1304-28-5)

SARA 313: form R reporting for 1.0% de minimis concentration (related to Barium)

Arsenic (III) oxide (1327-53-3)

SARA 302: TPQ=100/10,000 pounds; RQ=1 pound (revised TPQ based on new or re-evaluated toxicity data)

SARA 313: form R reporting for 0,1% de minimis concentration; Chemical category N020 (related to Arsenic, inorganic compounds)

CERCLA: final RQ=1 pound(0.454kg)

State Regulations

A: General Product Information

Other state regulations may apply. Check individual state requirements.

B: Component Analysis – State

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

Component	CAS	CA	FL	MA	MN	NJ	PA
Glass,oxide, chemicals	65997-17-3	No	No	No	Yes	No	No
¹ Barium oxide (related to Barium)	1304-28-5	No	Yes ¹	Yes ¹	No	Yes	Yes ¹
Arsenic(III) oxide (¹ related to Arsenic, inorganic compounds)	1327-53-3	Yes	Yes	Yes	Yes ¹	Yes	Yes

International Regulations

NA

Other

Other Regulations

A: General Product Information

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

B: Component Analysis – Inventory component Analysis-Inventory

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

Component	CAS	TSCA	DSL	EINECS
Glass,oxide, chemicals	65997-17-3	Yes	Yes	Yes
Barium oxide	1304-28-5	Yes	Yes	Yes
Arsenic(III) oxide	1327-53-3	Yes	Yes	Yes

C: Component Analysis WHMIS IDL

The following components are identified under the Canadian Hazardous products Act ingredient disclosure list.

Component	CAS	Minimum Concentration
Arsenic(III) oxide	1327-53-3	0.1% English Item 134; French Item 1692

16. Other Information

Supplier Number: 4 / 0

Supplier Release: May 30 , 2002 Rev: 3

N/A = not applicable. NA = not available, N/E = not established. N/D = not determined.