



IRRADIANCE
GLASS

SAFETY DATA SHEET
NON-HAZARDOUS MATERIAL

*This Safety Data Sheet (SDS) has been prepared in accordance with OSHA Hazard Communication Standard (HCS) 29 CFR 1910.1200(g), Appendix D—aligned with United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS). The material “inorganic glass” is **non-hazardous** and **does not require** a SDS. This SDS is offered solely for your information, consideration and investigation. See **Section 15** for additional regulatory information.*

Section 1 – Basic Identification

Product Name: IRRADIANCE™ CLASSIC-6
Chemical Name: Inorganic glass
CAS Number: 65997-17-3 (according to the EPA Substance Registry System)
Other Names: CLASSIC-6
Recommended Use or Restrictions of Use: N/A
Manufacturer Identification: IRradiance Glass, Inc.
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Section 2 – Hazard Identification

*Product is considered **non-hazardous** per OSHA Hazard Communication Standard Title 29, Code of Federal Regulations, Section 1910.1200. **Product is glass/amorphous/non-crystalline.***

GHS Classification: Non-hazardous
GHS Label Elements: Non-hazardous
Other Hazards: Upon heating above the usable temperature (150°C) and/or the breakdown of the glass structure (>250°C), the hazards of the ingredients listed in **Section 3** need to be accounted for.

Section 3 – Composition/Information on Ingredients

Chemical Name: Inorganic glass
CAS Number: 65997-17-3 (according to the EPA Substance Registry System)
Other Names: CLASSIC-6

Product classified as: Non-hazardous
Warning statement: None considered necessary



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The American Conference of Governmental Industrial Hygienists (ACGIH) has not established a Threshold Limit Value (TLV) for inorganic glass, CAS 65997-17-3. Nor has the Occupational Safety and Health Administration (OSHA) set a Permissible Exposure Level (PEL).

The ingredients of the product are fully incorporated in to the glass matrix during melting, and the original characteristics of the ingredients are lost. Upon heating in air or in an oxidizing environment, toxic metal oxide fumes may be emitted.

Ingredients of IRRADIANCE™ CLASSIC-6 inorganic glass (typical values):

Chemical Name	Percent	Regulated	CAS #	Carcinogenic
Arsenic	<50	Yes	7440-38-2	Yes
Selenium	>50	Yes	7782-49-2	No

Permissible Exposure Level (PEL) for the **individual ingredients** and **compounds of the individual ingredients (e.g. metal oxides)** of IRRADIANCE™ CLASSIC-6 glass are as follows:

Arsenic compounds: 0.01 milligrams per cubic meter of air (mg/m³) determined as a time-weighted average (TWA) exposure for up to eight hours of exposure (OSHA 29 CFR 1900.1000, Subpart Z, Table Z-1, revised)

Selenium compounds: 0.2 mg/m³ determined as a TWA exposure of up to eight hours (OSHA 29 CFR 1900.1000, Subpart Z, Table Z-1, revised).

Section 4 – First Aid Measures

Route(s) of entry:	None
Health hazards (acute and chronic):	None
Signs and symptoms of exposure:	None known
Medical conditions generally aggravated by exposure:	None known
Emergency and first aid procedures:	

Eyes: Flush with flowing water for 15 minutes after contact with dust, fumes, or slurry. Seek medical attention.

Skin: Flush with plenty of water after skin contact with dust, fumes, or slurry.

Inhalation: If ill effects develop after exposure to with dust, fumes, or slurry, remove exposed person to fresh air. Keep person warm and quiet. Seek medical attention.

Ingestion: Should not present a problem. If material is accidentally swallowed, induce vomiting. Seek medical attention.

Section 5 – Fire-Fighting Measures

Flash point:	None
Flammable limits:	Non-flammable
LEL:	None
UEL:	None
Extinguishing media:	None required



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Special fire-fighting procedures: Use extinguishing media that is appropriate for the classification of the surrounding fire. Inorganic glass is non-combustible.

Unusual fire and explosion hazards: There is a possibility of flying glass fragments if hot glass comes in contact with water or carbon dioxide extinguishing media.

Section 6 – Accidental Release Measures

Action to take for spills: Any spill of bulk glass will consist of solid particles. Contain the spill. Clean up the spill. Transfer spilled material to a separate container for recovery or disposal.

Waste disposal: Due to the value of the scrap material, waste should be collected and returned to a vendor for salvage and/or reclamation. Non-reclaimable material should be disposed of in accordance with appropriate local, state or federal regulations.

Environmental Precautions: Dust and affected liquid should not be allowed to leak into storm/sewer water drains.

Section 7 – Precautions for Safe Handling & Storage

Precautions during handling and storage: None needed during handling, storage or processing of bulk glass.

Fabrication/grinding/polishing operations should be performed wet to avoid generation of dust. Avoid breakage due to potential injury from sharp edges or fragments. In the event of dust generation, see Section 8 for regulatory information for exposure limit values of generated dust.

EPA Section 313 notification: Not required.

Section 8 – Exposure Controls/ Personal Protection

Ventilation: Local ventilation should be provided that is sufficient to remove any dusts, mists, or odors that may evolve during processing (fabrication/grinding/polishing). Forced exhaust air of 100 lineal feet per minute (lfm) face velocity should be adequate. Avoid breathing any fumes or dusts that may be generated because the content of evolved materials may contain the ingredients and compounds listed in Section 3.

In case of dust formation (typically less than 10 micrometers for respirable dust, less than 100 micrometers total dust), occupational exposure limits for air contaminants are as follows:

Dust (CAS -): 5 milligrams per cubic meter of air (mg/m^3), respirable fraction. 15 milligrams per cubic meter of air (mg/m^3), Total dust. Determined as a time-weighted average (TWA) exposure for up to eight hours of exposure (US OSHA 29 CFR 1910.1000 Table z-1 and Table z-3).

Dust (CAS -): Threshold Limit Values (TLV) Determined as a time-weighted average (TWA) exposure for up to eight hours of exposure. 3 milligrams per cubic meter of air (mg/m^3) respirable particles, 10 milligrams per cubic meter of air (mg/m^3) total dust (US ACGIH).

Fused Silica/Amorphous (CAS 60676-86-0): TLV 0.1 mg/m^3 , respirable particles (US ACGIH).



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Respiratory protection: Not required under ordinary circumstances if adequate ventilation is provided. In unventilated areas a high efficiency respirator approved for toxic dusts should be used.

Personal Protective Equipment (PPE): Wear disposable nitrile gloves while handling this material. Use disposable nitrile gloves and plastic aprons during abrasive polishing operations.

Eye protection: Chemical workers goggles or plastic face shields should be used to provide eye protection from dusts, fumes, mists, or flying particles should product break or fragment during processing.

Section 9 – Physical/Chemical Characteristics

Boiling point:	Not applicable
*Melting/Freezing point:	Not applicable (Glass transition, calorimetric: 188°C)
Vapor pressure:	Not applicable
Vapor density (air=1):	Not applicable
*Specific gravity:	4.63 g/cm³
Solubility in water:	Insoluble
Percent volatile:	Zero
Appearance:	Visibly opaque, dark metallic in color
Odor:	Odorless
Odor threshold:	Not applicable
pH:	Not applicable
Flash point:	Not applicable
Evaporation rate:	Not applicable
Flammability:	Not applicable
Upper/lower flammability or explosive limits:	Not applicable
Solubility(ies):	Not applicable
Partition coefficient n-octanol/water:	Not applicable
Auto-ignition temperature:	Not applicable
Decomposition temperature:	See Section 2 and 3 for specific information about hazards associated with elevated temperature
Viscosity:	Not applicable at standard use temperatures

**property data may vary after processing*

Section 10 – Reactivity Data

Reactivity: Stable compound. Inert to many chemicals, may react in hot alkaline and acidic solutions. When heated above glass transition temperature or decomposition temperature in oxidizing atmospheres, toxic metal oxide fumes may be emitted. See **Section 3**.

Incompatibility (materials to avoid): None known

Conditions to avoid: None known

Hazardous polymerization: Will not occur



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Hazardous decomposition or by-products: None known

Section 11 – Toxicological Information

Product poses little or no immediate hazard. This material is stable.

Likely Routes of Exposure:	Inhalation and ingestion
Symptoms:	None known, Non-hazardous
Delayed and Immediate Effects:	None known, Non-hazardous
Numerical Measures of Toxicity:	None known, Non-hazardous

Section 12 – Ecological Information

Product poses little or no immediate hazard. This material is stable.

Ecotoxicity:	Not known
Persistence and Degradability:	Not known
Bioaccumulative Potential:	Not known
Mobility in the Soil:	Not known
Other Adverse Effects:	None known

Section 13 – Disposal Information

Waste disposal: Due to the value of the scrap material, waste should be collected and returned to a vendor for salvage and/or reclamation. Non-reclaimable material should be disposed of in accordance with appropriate local, state or federal regulations.

Section 14 – Transport Information

UN Number:	Not applicable, not classified as dangerous goods
UN Proper Shipping Name:	Not applicable, not classified as dangerous goods
Transport Hazard Class(es):	Not applicable, not classified as dangerous goods
Packing Group:	Not applicable, not classified as dangerous goods
Environmental Hazards:	Not applicable, not classified as dangerous goods
Transport in Bulk (according to Annex II of MARPOL 73/78 and the IBC Code):	Not applicable, not classified as dangerous goods
Special Precautions:	Care must be taken to not break the glass during transport as fracture creates sharp edges.



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Section 15 – Regulatory Information

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH – EU regulation): Under REACH, glass is classified as a substance. According to Annex V Entry 11 of the REACH regulation, **glass is exempted from registration** if conclusive scientific experimental data show that these constituents are not available throughout the life cycle of the substance and those data have been ascertained to be adequate and reliable. This product is not subject to registration.

Restriction of Hazardous Substances (RoHS – EU regulation): This glass **does not contain any of the restricted materials above the regulated concentrations**, to our knowledge, listed in the European Directive 2011/65/EU.

Environmental Protection Agency (EPA – US regulation): The product, inorganic glass, (C.A.S. Number 65997-17-3) is on the TSCA Inventory List (Toxic Substance Control Act, 1976 - 15 USC), and is classified as Chemical Substances of Unknown or Variable Composition, Complex Reaction Products and Biological Materials (UVCB Substance), not regulated. See additional information in **Section 16**.

Section 16 – Other Information

This Safety Data Sheet is offered solely for your information, consideration and investigation. IRRADIANCE GLASS, INC. provides no warranties, either expressed or implied, and assumes no responsibility for the accuracy or completeness of the data contained herein. All materials may present unknown hazards, and the products should be used with caution. We cannot guarantee that these are the only hazards that exist.

From the TSCA Inventory list Chemical Substance Description for CAS Number 65997-17-3:

This category encompasses the various chemical substances manufactured in the production of inorganic glasses. For purposes of this category, "glass" is defined as an amorphous, inorganic, transparent, translucent or opaque material traditionally formed by fusion of sources of silica with a flux, such as an alkali metal carbonate, boron oxide, etc. and a stabilizer, into a mass which is cooled to a rigid condition without crystallization in the case of transparent or liquid phase separated glass or with controlled crystallization in the case of glass ceramics. The category consists of the various chemical substances, other than byproducts or impurities, which are formed during the production of various glasses and concurrently incorporated into a glass mixture. All glasses contain one or more of these substances, but few, if any, contain all of them. *The elements listed below are principally present as components of oxide systems but some may also be present as halides or chalcogenides*, in multiple oxidation states, or in more complex compounds. Trace amounts of other oxides or chemical compounds may be present. Oxides of the first seven elements listed* comprise more than 95 percent, by weight, of the glass produced.: Aluminum*; Boron; Calcium*; Magnesium*; Potassium*; Silicon*; Sodium*; Antimony; Arsenic; Barium; Bismuth; Cadmium; Carbon; Cerium; Cesium; Chromium; Cobalt; Copper; Germanium; Gold; Holmium; Iron; Lanthanum; Lead; Lithium; Manganese; Molybdenum; Neodymium; Nickel; Niobium; Nitrogen; Phosphorous; Praseodymium; Rubidium; Selenium; Silver; Strontium; Sulfur; Tellurium; Tin; Titanium; Tungsten; Uranium; Vanadium; Zinc; Zirconium

EPA Substance Registry System Search Tool:

https://iaspub.epa.gov/sor_internet/registry/substreg/LandingPage.do