ArgenZ HT+

SAFETY DATA SHEET

This SDS conforms to Regulation (EU) No 1907/2006 and 2015/830, US Hazcom 2012 (29 CFR 1910.1200) and Canadian WHMIS 2015

SECTION 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1. Product Identifier
Product Name: **ArgenZ HT+**

1.2. Relevant Identified Uses of the Substance or Mixture and Uses Advised Against
Product Use: Ceramic Blocks for Crowns and Bridges

1.3. Details of the Supplier of the Safety Data Sheet
Manufacturer: The Argen Corporation
5855 Oberlin Drive
San Diego, CA 92121
U.S.A.

CE2797

1.4. Emergency telephone number
CHEMTREC: 1-703-741-6090 (Collect calls accepted)
For information contact Regulatory Affairs, info@argen.com
SDS Date of Preparation/Revision: May 2017/ Rev. A

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture
OSHA Hazcom 2012 /WHMIS 2015 Classification: Not Hazardous
CLP/GHS Classification (1272/2008) Not Hazardous

2.2. Label elements None Required

2.3. Other hazards None Identified

SECTION 3: Composition/Information On Ingredients

3.1. Mixture

Component	CAS No.	EC No.	MITI	Amount	GHS Classification
Zirconia (Zirconium Oxide)	1314-23-4	215-227-7	1-563	>99%	Not hazardous
Yttria (Yttrium Oxide)	1314-36-9	215-233-5	1-560	6.1-8.2%	Not hazardous
Hafnium Oxide	12055-23-1	235-013-2	1-737	< 5%	Not hazardous
Aluminum Oxide	1344-28-1	215-691-6	1-23	< 0.2%	Not hazardous

SECTION 4: First Aid Measures

4.1 . Description of First Aid Measures

INHALATION: Remove to fresh air. If irritation or difficulty in breathing occurs, get medical attention.

SKIN CONTACT: No first aid is required. Wash skin with soap and water. If irritation develops, get medical attention.

EYE CONTACT: Flush eyes with large quantities of water, holding the eyelids apart.If irritation persists consult a physician.

INGESTION: No adverse effects expected. If large amounts are swallowed or if irritation or discomfort occurs, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed:
May cause mechanical eye irritation. Prolonged skin contact may cause mechanical irritation.
Inhalation of dust may cause upper respiratory tract irritation.

4.3. Indication of any immediate medical attention and special treatment needed:
Immediate medical attention is not required.

SECTION 5: Firefighting Measures

5.1 Extinguishing Media: Use media appropriate for the surrounding fire.

5.2 Special Hazards arising from the Substance or Mixture: None known.

5.3 Advice for Firefighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored. Cool fire exposed containers with water.

SECTION 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures: Wear appropriate protective clothing and equipment. Avoid contact with eyes. Avoid breathing dust.

6.2 Environmental Precautions: Report releases as required by local and national authorities.

6.3 Methods and Material for Containment and Cleaning Up: Sweep up avoiding creating airborne dust and place into an appropriate container for disposal. Wash spill area with a damp cloth to remove residue.

6.4 Reference to Other Sections: Refer to Section 8 for personal protective equipment and Section 13 for disposal information.

SECTION 7: Handling and Storage

7.1 Precautions for Safe Handling: Avoid contact with eyes. Wash thoroughly after handling.
Keep containers closed when not in use. Do not reuse containers.

7.2 Conditions for Safe Storage, Including any Incompatibilities: Store as directed on package insert.

7.3 Specific end use(s):
Industrial uses: None identified
Professional uses: Ceramic Material for Dental Prosthetics

SECTION 8: Exposure Controls/Personal Protection

8.1. Control Parameters:

Chemical	Exposure Limit	
Zirconium Oxide (as zirconium compounds)	5 mg/m³ TWA	OSHA PEL
	5 mg/m³ TWA, 10 mg/m³ STEL	ACGIH TLV
	5 mg/m³ TWA	Canada Ontario
	5 mg/m³ TWA	Canada Québec
	1 mg/m³ TWA, 1 mg/m³ STEL (inhalable fraction)	Germany OEL
	5 mg/m³ TWA, 10 mg/m³ STEL	UK OEL
	2 mg/m³ TWA (respirable dust), 8 mg/m³ TWA (total dust)	Japan OEL

Chemical	Exposure Limit	
Yttrium Oxide	1 mg/m³ TWA	OSHA PEL
	1 mg/m³ TWA	ACGIH TLV
	1 mg/m³ TWA	Canada Ontario
	1 mg/m³ TWA	Canada Québec
	1 mg/m³ TWA	France OEL
	1 mg/m³ TWA, 3 mg/m³ STEL	UK OEL
	2 mg/m³ TWA (respirable dust), 8 mg/m³ TWA (total dust)	Japan OEL

Chemical	Exposure Limit	
Hafnium Oxide (as Hafnium)	5 mg/m³ TWA	OSHA PEL
	5 mg/m³ TWA	STEL ACGIH TLV
	5 mg/m³ TWA	Canada Ontario
	5 mg/m³ TWA	Canada Québec
	1 mg/m³ TWA	France OEL
	5 mg/m³ TWA, 1.5 mg/m³ STEL	UK OEL
	2 mg/m³ TWA (respirable dust), 8 mg/m³ TWA (total dust)	Japan OEL

Chemical	Exposure Limit	
Aluminum Oxide	5 mg/m³ TWA (respirable), 10 mg/m³ TWA (total dust)	OSHA PEL
	1 mg/m³ TWA (respirable) (aluminum insoluble compounds)	TWA ACGIH TLV
	1 mg/m³ TWA (respirable) (aluminum insoluble compounds)	TWA Canada Ontario
	10 mg/m³ TWA	TWA Canada Québec
	1.5 mg/m³ TWA (respirable aerosol) 10 mg/m³ TWA (inhalable aerosol)	Germany OEL
	10 mg/m³ TWA (respirable)	France OEL
	4 mg/m³ TWA (respirable), 10 mg/m³ TWA (inhalable)	UK OEL
	0.5 mg/m³ TWA (respirable), 2 mg/m³ TWA (total dust)	Japan OEL

8.2. Exposure Controls:
Recommended Monitoring Procedures: None.
Appropriate Engineering Controls: Use adequate general or local exhaust ventilation to minimize exposures levels.

Personal Protective Measurers
Respiratory Protection:
None normally required. If the exposures are excessive and irritation is experienced an approved dust/mist respirator appropriate for the form and concentration of the contaminants should be used. Selection and use of respiratory equipment must be in accordance with applicable regulations and good industrial hygiene practice.

Eye Protection: Wear safety glasses if contact is possible.
Skin Protection: None required. Wash hands thoroughly after handling.
Other protection: Protective clothing as required to avoid prolonged skin contact.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic Physical and Chemical Properties:

Appearance:	White solid block or slab
Odor:	No odor
Odor Threshold:	Not applicable
pH:	Not applicable
Melting/Freezing Point:	Not applicable
Initial Boiling Point/Range:	Not applicable
Flash Point:	Not applicable
Evaporation Rate:	Not applicable
Flammability: (solid/gas)	Not applicable
Flammable/ LEL:	Not applicable
Explosive Limits:	UEL: Not applicable
Vapor Pressure:	Not applicable
Vapor Density:	Not applicable
Relative Density /Specific Gravity:	3.0-3.5
Solubility in Water:	Not applicable
Partition Coefficient: (n-octanol/water)	Not applicable
Auto-ignition Temperature:	Not applicable
Decomposition Temperature:	Not determined
Viscosity:	Not applicable
Explosive Properties:	Not flammable
Oxidizing Properties:	None

9.2. Other Information:
None

SECTION 10: Stability and Reactivity

10.1 Reactivity: Not reactive.
10.2 Chemical Stability: Stable
10.3 Possibility of Hazardous Reactions: None known.
10.4 Conditions to Avoid: Avoid dusty conditions.
10.5 Incompatible Materials: None known.
10.6 Hazardous Decomposition Products: None known.

SECTION 11: Toxicological Information

11.1 Information on Toxicological Effects:

Potential Health Effects:
Inhalation: Dust may cause irritation of the upper respiratory tract with coughing and difficulty in breathing.
Skin Contact: Prolonged skin contact may cause mechanical irritation.
Eye Contact: Dust may cause mechanical irritation with redness and tearing.
Ingestion: Swallowing large amounts may cause gastrointestinal irritation and nausea.

Acute Toxicity:
Zirconium Oxide: Oral rat LD50 >5000 mg/kg, Inhalation rat LC50 >4.3 mg/L/4 hr (no mortalities, maximum attainable concentration)
Yttrium Oxide: Oral rat LD50 >5000 mg/kg, Inhalation rat LC50 >5.08 mg/L
Hafnium Oxide: Oral rat LD50 >5000 mg/kg, Inhalation rat LC50 >4.3 mg/L/4 hr (no mortalities, maximum attainable concentration)
Aluminum Oxide: Oral rat LD50 >10000 mg/kg; LC50 Inhalation rat >2.3 mg/L/4 hr

Skin corrosion/irritation: None of the components cause skin irritation or corrosion.
Eye damage/ irritation: None of the components cause eye irritation or corrosion. Expected to cause mechanical eye irritation.
Skin Sensitization: None of the components are skin sensitizers.
Respiratory Sensitization: No data available. Not expected to cause respiratory sensitization.
Germ Cell Mutagenicity: None of the components cause germ cell mutagenicity.
Carcinogenicity: None of the components are listed as a carcinogen or potential carcinogen by **IARC, NTP, ACGIH, OSHA** or the **CLP.**

Developmental / Reproductive Toxicity: None of the components have been shown to cause reproductive or developmental toxicity.
Specific Target Organ Toxicity (Single Exposure): No data available.
Specific Target Organ Toxicity (Repeated Exposure): No data available

SECTION 12: Ecological Information

12.1. Toxicity
Zirconium Oxide: 96 hr LC50 Danio rerio >100 mg/L,
48 hr EC50 daphnia magna >100 mg/L,
72 hr EC50 Desmodesmus subspicatus >100 mg/L
Yttrium Oxide: 96 hr LL50 Danio rerio >100 mg/L,
48 hr EC50 daphnia magna >100 mg/L,
72 hr EL50 Desmodesmus subspicatus >100 mg/L
Hafnium Oxide: 96 hr LC50 Danio rerio >100 mg/L,
48 hr EC50 daphnia magna >100 mg/L,
72 hr EC50 Pseudokirchnerella subcapitata >100 mg/L
Aluminum oxide: NOEC 96 hr Salmo trutta >100 mg/L,
NOEC 48 hr daphnia magna >100 mg/L,
NOEC 72 hr Selenastrum capricornutum >100 mg/L

12.2 Persistence and Degradability: Biodegradation is not applicable to inorganic substances.
12.3 Bioaccumulative Potential: No data available
12.4 Mobility in Soil: No data available
12.5 Results of PVT and vPvB assessment: None required.
12.6 Other Adverse Effects: None known.

SECTION 13: Disposal Considerations

13.1. Waste Treatment Methods: Dispose in accordance with all national and local regulations.

SECTION 14: Transport Information

	14.1 UN Number	14.2 UN Proper Shipping Name	14.3 Transport Hazard Class(es)	14.4 Packing Group	14.5 Environmental Hazards
US DOT		Not Regulated			None
EU ADR/RID		Not Regulated			None
IMDG		Not Regulated			None
IATA/ICAO		Not Regulated			None

14.6 Special Precautions for User: None identified
14.7 Transport in Bulk According to Annex III MARPOL 73/78 and the IBC Code: Not applicable – product is transported only in packaged form.

SECTION 15: Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

US Regulations
SARA Section 313 (40 CFR 372): This product contains the following *toxic chemical(s) subject to reporting* requirments of SARA 313: None
SARA Section 311/312 (40 CFR 370) Hazard Categories: Not hazardous
Comprehensive Environmental Response and Liability Act of 1980 (CERCLA): This product *is not subject to* CERCLA reporting requirements. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulation
CERCLA SECTION 103: This product is not subject to CERCLA reporting requirements; however, many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

European Regulations:
German WGK: nwg
Other EU Regulations: This product is classified and labeled in accordance with EC Directives. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006 (REACH)

Japanese Regulations:
Manufacture Prohibited: Not applicable
Manufacture Allowed: Not applicable
Notification Obligation: Not applicable
Labeling Obligation: Yttrium Comp >1% - Hafnium Comp >1% - Aluminum Oxide >1%
SDS Obligation: Yttrium Comp >1% - Hafnium Comp >1% - Aluminum Oxide >1%

Poisonous and Deleterious Substances Control Law (PDSCL): None of the chemicals are listed.
Pollutant Release and Transfer Register (PRTP): None of the chemicals are listed.
Law Concerning the Protection of the Ozone Layer: None of the chemicals are listed.
Fire Service Law: None of the chemicals are listed.
Ship Safety Act: None of the chemicals are listed.
Aviation Law: None of the chemicals are listed.
Air Pollution Control Law: None of the chemicals are listed.
Water Pollution Control Act: None of the chemicals are listed.
Soil Contamination Countermeasures Law: None of the chemicals are listed.
Offensive Odor Control Law: None of the chemicals are listed.
Act on Prevention of Marine Pollution and Maritime Disaster: None of the chemicals are listed.

International Inventories
US EPA TSCA Inventory: *All of the components of this product are listed on the Toxic Substances Control Act (TSCA)* Chemical Substances Inventory or exempt.
Canadian Environmental Protection Act: All of the components in this product are listed on the Domestic Substances List (DSL) or exempt.
European Union: All the components in this product are listed on the EINECS inventory or exempt.
China: All of the components in this product are listed on the Inventory of Existing Chemical Substances in China (IECSC) or exempt.
Japan: All of the components in this product are listed on the Japanese Existing and New Chemical Substances (ENCS) inventory or exempt.
Korea: All of the components in this product are listed on the Korean Existing Chemicals List (KECL) or exempt.
New Zealand: All of the components in this product are listed on the New Zealand Inventory of Chemicals (NZIoC) or exempt.
Taiwan: All of the components of this product are listed on the National Existing Chemical Inventory (NECI) in Taiwan or exempt.

15.2 Chemical Safety Assessment: None required

16.2 Other Information
NFPA Rating: Fire: 1 Health: 2 Instability: 0

GHS Classification for Reference (See Sections 2 and 3): None
Effective Date: May 31, 2017
Supersedes Date: N/A
Revision Summary: Converted to GHS -0 All Sections Revised.

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