

# **SAFETY DATA SHEETS (SDS)**

## **1. PRODUCT IDENTIFICATION**

**PRODUCT NAME:** **ALUMINA ZIRCONIA**

**SYNONYMS:** AZ, Fused Zirconia Alundum, **ZF** Alundum, **ZS** Alundum, Stoneblast, **MCA1360**, AZ-25

**FORMULA:** Al<sub>2</sub>O<sub>3</sub> (70-80%) ZrO<sub>2</sub> (20-30%)

**RECOMENDED USES:** Alumina Zirconia is an abrasive used primarily for producing large grinding wheels for foundry snagging and track grinding. It is also an excellent blasting material for granite and other materials where long life is required.

**COMPANY:** **Graystar LLC**

**ADDRESS:** 9 Simmonsville Road  
Bluffton, SC 29910

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## **2. HAZARD IDENTIFICATION**

### **Classification of a Substance or Mixture:**

- The substance is not classified as hazardous according to the Globally Harmonized System (GHS) regulations within the USA.
- The substance is not classified as hazardous according to the CLP regulation.

### **Label Element:**

#### **GHS Label Elements**

- The substance is not classified as hazardous according to the Globally Harmonized System (GHS) regulations within the USA.
- The substance is not classified as hazardous according to the CLP regulation.

**Hazard Pictogram:** Not Regulated

**Signal Word:** Not Regulated

**Hazard-determining Component of Labeling:** None.

**Hazard Statements:** Not Regulated

**Precautionary Statements:** Not Regulated

**Hazard Description:**

**WHMIS Symbols:** Not hazardous under WHMIS.

### **Classification System:**

**NFPA ratings (scale 0 - 4):**



Health = 1

Fire = 0

Reactivity = 0

## HMIS-Ratings (scale 0 - 4):

HEALTH	**1
FIRE	0
REACTIVITY	0

\* Indicates a long term health hazard from repeated or prolonged exposures.

**HMIS Long Term Health Hazard Substances:** None of the ingredients are listed.

### **Other Hazards:**

- **Results of PBT and vPvB Assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

### Mixtures:

#### Components:

CAS No. 1344-28-1: EINECS: 215-691-6 Reg.nr: 01-2119529248-35-XXXX	<u>Aluminum Oxide</u> Substance with a Community workplace exposure limit.	<u>70-80%</u>
CAS No. 1314-23-4: EINECS: 215-227-2 Reg.nr: 01-2119486976-14-XXXX	<u>Zirconia Dioxide</u> Substance with a Community workplace exposure limit.	<u>20-30%</u>
CAS No. 12055-23-1: EINECS: 235-013-2 Reg.nr: 01-2119967820-31-XXXX	<u>Hafnium Dioxide</u> Substance with a Community workplace exposure limit	<u>&lt; 1%</u>

#### **Additional Information:**

For the listed ingredients, the identity and exact percentages are being withheld as a trade secret.

## 4. FIRST-AID MEASURES

### **Description of First Aid Measures (No special measures required):**

- **If Swallowed:** Rinse out mouth and drink plenty of water. Do not induce vomiting; immediately call for medical help.
- **If on Skin:** Brush off loose particles. Wash with soap and water. If skin irritation is experienced, consult a doctor.
- **If in Eyes:** Remove contacts if possible if worn. Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **If Inhaled:** If breathing is difficult - Remove person to fresh air and keep comfortable for breathing.  
If experiencing respiratory symptoms or feels unwell - Seek immediate medical attention.

### **Most important symptoms and effects, both acute and delayed:**

- Slight irritant effect on eyes.
- Breathing difficulty, coughing

### **Indication of any immediate medical attention and special treatment needed:**

- No further relevant information available.

## 5. FIRE FIGHTING MEASURES

**FLASH POINT:** Not Applicable

**FLAMMABLE LIMITS:** LEL: Not Applicable UEL: Not Applicable (Product is NOT flammable)

**AUTO IGNITION TEMPERATURES:** Not Applicable.

**EXTINGUISHING MEDIA:** Use media appropriate for surrounding fire and that suit the environment.

**FIRE AND EXPLOSION HAZARDS:** Non-flammable, non-combustible. Product will not burn.

**HAZARDOUS DECOMPOSITION PRODUCTS:** None

**FIRE FIGHTING INSTRUCTIONS:** Wear self-containing respiratory protective device. Wear fully protective suit.

**NFPA CLASSIFICATION:**

**HEALTH:** 1

**FLAMMABILITY:** 0

**REACTIVITY:** 0

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures:

- Avoid formation of dust. Do not breathe dust.
- For large spills, used respiratory protective device against the effects of fumes/dust/aerosol.
- For large spills, used protective clothing.
- Ensure adequate ventilation.

**Environmental precautions:** Avoid release to the environment.

### Methods and material for containment and cleaning up:

- Pick up mechanically.
- Dispose contaminated material as waste according to item 13.
- Send for recovery or disposal in suitable receptacles

### Reference to other sections:

- See Section 7 for information on safe handling.
- See Section 8 for information on personal protection equipment.
- See Section 13 for disposal information.

## 7. HANDLING AND STORAGE

### HANDLING:

#### Precautions for safe handling:

- Prevent formation of dust.
- Any deposit of dust which cannot be avoided must be regularly removed.
- Use only in well ventilated areas.
- Avoid breathing dust.
- Do not dry clean dust covered objects and floors. Wash thoroughly with plenty of water.

**Information about protection against explosions and fires:** No special measures required.

#### Conditions for safe storage, including any incompatibilities:

#### Storage:

##### Requirements to be met by storerooms and receptacles:

- Storage area should be dry and well ventilated.

##### Information about storage in one common storage facility:

- Store away from foodstuffs.

##### Further information about storage conditions:

- Store in cool, dry conditions in well-sealed receptacles.
- Protect from humidity and water.

**Specific end use(s)** No further relevant information available.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Additional information about design technical facilities:** No further data – see section 7.

### CONTROL PARAMETERS:

#### **Ingredients with Limit Values That Require Monitoring at the Workplace:**

##### Aluminum Oxide (Cas# 1344-28-1):

PEL (USA)	Long-term value: 15*; 5** mg/m <sup>3</sup> *Total dust; ** Respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m <sup>3</sup> as Al*Total dust**Respirable/pyro powd./welding f.
TLV (USA)	Long-term value: 1* mg/m <sup>3</sup> as Al; *as respirable fraction

##### Zirconium dioxide (Cas# 1314-23-4):

PEL (USA)	Long-term value: 5 mg/m <sup>3</sup> as Zr
REL (USA)	Short-term value: 10 mg/m <sup>3</sup> Long-term value: 5 mg/m <sup>3</sup> as Zr
TLV (USA)	Short-term value: 10 mg/m <sup>3</sup> Long-term value: 5 mg/m <sup>3</sup> as Zr

##### Hafnium dioxide (Cas# 12055-23-1):

PEL (USA)	Long-term value: 0.5 mg/m <sup>3</sup> as Hf
REL (USA)	Long-term value: 0.5 mg/m <sup>3</sup> as Hf
TLV (USA)	Long-term value: 0.5 mg/m <sup>3</sup> as Hf

**DNELs:** No further relevant information available.

**PNECs:** No further relevant information available.

**Additional information:** The lists that were valid during the creation were used as basis.

### EXPOSURE CONTROLS:

#### **Personal Protective Equipment (PPE):**

#### **General Protective and Hygienic measures:**

- The usual precautionary measures for handling chemicals should be followed.
- Keep away from foodstuffs, beverages and feed.
- Wash hands before breaks and at the end of work.
- Avoid contact with the eyes.
- Avoid close or long term contact with the skin.
- Do not inhale dust.

**Respiratory Protections:**

- Use suitable respiratory protective device in case of insufficient ventilation.
- For spills, respiratory protection may be advisable.
- Wear appropriate NIOSH approved respirator when ventilation is inadequate and occupational exposure limits are exceeded.

**Protection of hands:**

- Wear gloves for the protection against mechanical hazards according to OSHA and NIOSH rules.
- Gloves are advised for repeated or prolonged contact.

**Eye protection:**

- Follow relevant national guidelines concerning the use of protective eyewear.
- Use safety glasses or goggles as necessary to prevent dust and particles from entering the eye.

**Body protection:**

- Not required under normal conditions of use.
- Protection may be required for spills.

**Limitation and supervision of exposure into the environment:**

- No special requirements.

**Risk management measures:**

- No special requirements (see section 7 for additional information.).

<b>9. PHYSICAL AND CHEMICAL PROPERTIES</b>
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**Information on basic physical and chemical properties:****GENERAL INFORMATION:**

- **Appearance:**
  - **Form:** Granular
  - **Color:** Steel-gray to blue gray
- **Odor:** Odorless
- **Odor threshold:** Not determined.
- **pH-value at 20 °C (68 °F):** Not applicable.
- **Change in condition**
  - **Melting point/Melting range:** >1900 °C (3452 °F)
  - **Boiling point/Boiling range:** Not determined.
- **Flash point:** Not applicable.
- **Flammability (solid, gaseous):** Not determined.
- **Auto-ignition temperature:** Not determined.
- **Decomposition temperature:** Not determined.
- **Self igniting:** Product is not.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
  - **Lower:** Not determined.
  - **Upper:** Not determined.
- **Oxidizing properties:** Non-oxidizing.
- **Vapor pressure:** Not applicable.
- **Relative density** 4.2 – 4.3 g/cc.
- **Vapor density** Not applicable.
- **Evaporation rate** Not applicable.
- **Solubility in / Miscibility with water:** Insoluble.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
  - **Dynamic:** Not applicable.
  - **Kinematic:** Not applicable.

**OTHER INFORMATION:** No further relevant information available.

## 10. STABILITY AND REACTIVITY

**Reactivity:** The product is non-reactive under normal conditions of use, storage and transport.

**Chemical Stability:**

- **Thermal decomposition / conditions to be avoided:** No decomposition if used and stored according to specifications.

**Possibility of hazardous reactions:** No dangerous reactions know.

**Conditions to avoid:** Prevent formation of dust.

**Incompatible materials:** No further relevant information available.

**Hazardous decomposition products:** No dangerous decomposition products known.

## 11. TOXICOLOGICAL INFORMATION

### INFORMATION ON TOXICOLOGICAL EFFECTS:

**Acute toxicity:** Based on available data, the classification criteria are not met.

**LD/LC50 values that are relevant for classification:** None.

**Primary irritant effect:**

- **Skin corrosion/irritation:** Based on available data, the classification criteria are not met.
- **On the eye:** Slight irritant effect on eyes.
- **Respiratory or skin sensitization:** Based on available data, the classification criteria are not met.

**Carcinogenic Categories:**

- **IARC (International Agency for Research on Cancer):** None of the ingredients are listed.
- **NTP (National Toxicology Program):** None of the ingredients are listed.
- **OSHA-Ca (Occupational Safety & Health Administration):** None of the ingredients are listed.
- **Probable routes of exposure:** Ingestion, inhalation, eye contact & skin contact.

**Repeated Dose Toxicity:** Long term inhalation of product dust may be harmful.

**Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

**Carcinogenicity:** Based on available data, the classification criteria are not met.

**Reproductive toxicity:** Based on available data, the classification criteria are not met.

**STOT-single exposure:** Based on available data, the classification criteria are not met.

**STOT-repeated exposure:** Based on available data, the classification criteria are not met.

**Aspiration hazard:** Based on available data, the classification criteria are not met.

## 12. ECOLOGICAL INFORMATION

### TOXICITY:

**Aquatic Toxicity:** No further relevant information available.

**Persistence & Degradability:** No further relevant information available.

### BEHAVIOR IN ENVIRONMENTAL SYSTEM:

**Bio accumulative Potential:** No further relevant information available.

- **Mobility In Soil:** No further relevant information available

**General Notes:** Generally not hazardous for water.

### 12.5 Results of PBT and vPvB assessment:

- **PBT:** Not applicable.
- **vPvB:** Not applicable

**Other Adverse Effects:** No further relevant information available

## 13. DISPOSAL CONSIDERATIONS

### Waste Treatment Methods:

#### **Recommendation:**

- Smaller quantities can be disposed of with household waste.
- Contact the waste processors for recycling information.
- The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.

### Uncleaned Packaging:

#### **Recommendation:**

- Disposal must be made according to official regulations.

## 14. TRANSPORT INFORMATION

<b>UN-Number</b> DOT, ADR, IMDG, IATA:	Not Regulated
<b>UN proper shipping name</b> DOT, ADR, IMDG, IATA	Not Regulated
<b>Transport hazard class(s)</b> DOT, ADR, IMDG, IATA Class	Not Regulated
<b>Packing group</b> DOT, ADR, IMDG, IATA	Not Regulated
<b>Environmental hazards:</b> <b>Marine pollutant:</b>	No
<b>Special precautions for user</b>	Not applicable.
<b>Transport in bulk according to Annex II of MARPOL and the IBC Code</b>	Not applicable.

## 15. REGULATORY INFORMATION

**Safety, health and environmental regulations/legislation specific for the substance or mixture.**

**United States (USA)**

**SARA**

- **Section 355 (extremely hazardous substances):** None of the ingredients are listed.
- **TSCA (Toxic Substances Control Act):** All ingredients are listed..

**Proposition 65 (California):**

- **Chemicals known to cause cancer:** None of the ingredients are listed.
- **Chemicals known to cause reproductive toxicity for females:** None of the ingredients are listed.
- **Chemicals known to cause reproductive toxicity for males:** None of the ingredients are listed.
- **Chemicals known to cause developmental toxicity:** None of the ingredients are listed.

**Carcinogenic Categories:**

- **EPA (Environmental Protection Agency):** None of the ingredients are listed.
- **IARC (International Agency for Research on Cancer):** None of the ingredients are listed.
- **NIOSH-Ca (National Institute for Occupational Safety and Health):** None of the ingredients are listed.

**Canadian Domestic Substance List (DSL):** All ingredients are listed.

**National Regulations:**

**Water hazard class:** Generally not hazardous for water.

**Other regulations, limitations and prohibitive regulations:**

- **Substances of Very High Concern (SVHC) according to REACH, Article 57:** None of the ingredients are listed.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

<b>16. OTHER INFORMATION &amp; LAST REVISION DATE</b>
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This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Abbreviation and acronyms:**

ACGIH	American Conference of Governmental Industrial Hygienists
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road.
CAS	Chemical Abstracts Service
DOT	Department of Transportation
EINEC	European Inventory of Existing Commercial Chemical Substances
GHS	Globally Harmonized System of Classification and Labeling of Chemicals
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
MSHA	Mine Safety and Health Administration
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
SVHC	Substance of Very High Concern
SARA	Superfund Amendment and Reauthorization Act
TLV	Threshold Limit Value
TSCA	Toxic Substance Control Act



**NOTICE:**

This material safety data sheet complements the technical data sheets but does not replace them. The information it contains is based on our present knowledge of the product on the date indicated. It is given in good faith. Users should be warned about the risks associated with using the product for a different purpose than that for which it was developed, and particularly for uses for which we are not qualified to give advice.

These regulatory prescriptions are provided with a view to helping users meet their obligations when using this product. This list should not be considered exhaustive and does not exempt users from ensuring that they are not required to comply with any further prescriptions other than those mentioned above concerning product possession and handling for which they are solely responsible.

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**LAST REVISION DATE: 10-23-17**