SAFETY DATA SHEET

Alumino Silicate Ceramic

Section 1. Identification

GHS product identifier : Alumino Silicate Ceramic

Chemical name : Fired or Sintered Alumina Silicate Ceramic Formed Parts

Other means of identification : Mullite, Glaze, C-1, C-2, C-3, C-4, C2J, C2R, CG-1, P3A, P-1-C, P-4-J, P-100-A, Porous Alumina Silicate, Electronic Grade Glazes, AG-10, AG-11, AG-23, IG-10, RT-907, R- 56-A, R-52, RT-1008, RT-1009, RPS-35, LSX-534, M3, GL-97, IG-3, IG-7, IG-10

Product type : Solid

Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Not available

Supplier's details :
CoorsTek
14143 Denver West Parkway, Suite 400
Golden, CO 80401
Phone: 1-303-271-7000
Fax: 1-303-271-7009
Email: CoorsTekSDS@coorstek.com
Website: www.coorstek.com

Emergency telephone number (with hours of operation) : 303-271-7000
8am-5pm MDT (M-F)

Section 2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified

GHS label elements

Signal word : No signal word

Hazard statements : No known significant effects or critical hazards

Precautionary statements

Prevention : Not applicable

Response : Not applicable

Storage : Not applicable

Disposal : Not applicable

Hazards not otherwise classified : None known

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Chemical name : Fired or Sintered Alumina Silicate Ceramic Formed Parts

Other means of identification : Mullite, Glaze, C-1, C-2, C-3, C-4, C2J, C2R, CG-1, P3A, P-1-C, P-4-J, P-100-A, Porous Alumina Silicate, Electronic Grade Glazes, AG-10, AG-11, AG-23, IG-10, RT-907, R- 56-A, R-52, RT-1008, RT-1009, RPS-35, LSX-534, M3, GL-97, IG-3, IG-7, IG-10

CAS number/other identifiers

CAS number : Not applicable

Product code : Not available

Ingredient name	%	CAS number
Silicon dioxide (amorphous) Aluminium oxide	60 - 100 30 - 60	7631-86-9 1344-28-1

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

Skin contact : Wash contact areas with soap and water. Get medical attention if symptoms occur.

Ingestion : Not a likely route of exposure. If large amounts of product are ingested, give two glasses of water and get prompt medical attention. Never give anything by mouth to an unconscious person.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : High dust concentrations from grinding, sanding or machining formed parts in a way that generates dust may cause mechanical eye irritation.

Inhalation : High dust concentrations from grinding, sanding or machining formed parts in a way that generates dust may cause upper respiratory irritation.

Skin contact : Prolonged skin contact with dust may result in dryness. If no dust is generated from fired parts, no acute effects are known.

Ingestion : No known significant effects or critical hazards

Over-exposure signs/symptoms

Eye contact : No known significant effects or critical hazards

Inhalation : No known significant effects or critical hazards

Skin contact : No known significant effects or critical hazards

Ingestion : No known significant effects or critical hazards

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment

Section 4. First aid measures

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Material does not burn. Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known

Specific hazards arising from the chemical : No specific fire or explosion hazard

Hazardous thermal decomposition products : Decomposition products may include the following materials:
metal oxide/oxides

Special protective actions for fire-fighters : No special measures are required

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Spill : Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. If fired powder is released, wear an N-95 dust mask or half-face respirator and polymer gloves and clean up with a shovel, wet mop or vacuum system. If the powder is mixed with water, dam any drains in the area with absorbent material and clean up using mops, wet vacuums or similar equipment. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Do not store in unlabeled containers. Any dust generated during handling or processing should be removed by wet mopping or vacuuming.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Particulates Not Otherwise Regulated	**OSHA PEL (United States).** TWA: 5 mg/m³ Form: Respirable dust TWA: 10 mg/m³ Form: Total dust **ACGIH TLV (United States).** TWA: 3 mg/m³ Form: Respirable.
Silicon dioxide	**NIOSH REL (United States, 10/2013).** TWA: 6 mg/m³ 10 hours.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Eye/face protection : Recommended: safety glasses or goggles.

Skin protection

Hand protection : Wear polymer gloves if prolonged exposure to powder is expected. Use of a barrier cream can reduce potential skin rash due to extremely dry skin.

Body protection : Not required under normal conditions of use.

Other skin protection : Not required under normal conditions of use.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Solid. [Formed Parts]

Color : Not available.

Odor : None.

Odor threshold : Not applicable.

pH : Not applicable.

Section 9. Physical and chemical properties

Melting point : >1700°C (>3092°F)

Boiling point : >2200°C (>3992°F)

Flash point : Not applicable.

Evaporation rate : Not applicable.

Flammability (solid, gas) : Material does not burn.

Lower and upper explosive (flammable) limits : Not applicable.

Vapor pressure : Not applicable.

Vapor density : Not applicable.

Relative density : 3.7

Solubility : Insoluble in the following materials: cold water and hot water.

Solubility in water : Negligible solubility in water.

Partition coefficient: n-octanol/water : Not applicable.

Auto-ignition temperature : Not flammable.

Decomposition temperature : Not available.

Viscosity : Not applicable.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : None known.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

There is no data available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Silicon dioxide	Eyes - Mild irritant	Rabbit	-	24 hours 25 mg	-

Sensitization

There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

Section 11. Toxicological information

Classification

Product/ingredient name	OSHA	IARC	NTP	ACGIH	EPA	NIOSH
Silicon dioxide Aluminium oxide	- -	3 -	- -	- A4	- -	+ -

Reproductive toxicity

There is no data available

Teratogenicity

There is no data available

Specific target organ toxicity (single exposure)

There is no data available

Specific target organ toxicity (repeated exposure)

There is no data available

Aspiration hazard

There is no data available

Information on the likely routes of exposure : Inhalation

Potential acute health effects

Eye contact : High dust concentrations from grinding, sanding or machining formed parts in a way that generates dust may cause mechanical eye irritation.

Inhalation : High dust concentrations from grinding, sanding or machining formed parts in a way that generates dust may cause upper respiratory irritation.

Skin contact : Prolonged skin contact with dust may result in dryness. If no dust is generated from fired parts, no acute effects are known.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

General : Chronic exposure to dusts may cause pneumoconiosis.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Section 11. Toxicological information

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

There is no data available.

Section 12. Ecological information

Toxicity

There is no data available.

Persistence and degradability

There is no data available.

Bioaccumulative potential

There is no data available.

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-

Section 14. Transport information

Environmental hazards	No.	No.	No.
Additional information	-	-	-

AERG : Not applicable.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Not applicable.

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Silicon dioxide (amorphous)	≥75 - ≤90	No.	No.	No.	Yes.	No.

SARA 313

There is no data available

State regulations : The following components are listed: Silicon dioxide; Aluminium oxide

Massachusetts

New York : None of the components are listed.

New Jersey : The following components are listed: Aluminium oxide

Pennsylvania : The following components are listed: Silicon dioxide; Aluminium oxide

Section 15. Regulatory information

California Prop. 65

No products were found.

Section 16. Other information

Procedure used to derive the classification

Classification	Justification
Not classified.	

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