Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Commercial name AZ, Zirconia Alundum, ZF®, ZS®, Stoneblast®, MCA1360®, AZ-25®, ZirGrit, ZF 1515
Description Alumina Zirconia

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

Identified uses of the substance: Abrasive material used in surface preparation and the manufacturing of bonded abrasive products.
Not recommended uses of the substance Other than the identified uses indicated above.

1.3. Details of the supplier of the safety data sheet

Company Identification: Saint-Gobain Ceramic Materials
1 New Bond Street, Mail Stop 525-203, Worcester, MA 01615-0137, United States
Technical Information: 1-800-243-0028 (Customer Service)
E-mail: cermatworcester@saint-gobain.com

1.4. Emergency telephone number

Emergency tel. ChemTel LLC
Domestic: 1-800-255-3924
International: +1-813-248-0585

Section 2: Hazards identification

2.1. Classification of the substance or mixture

CLP regulation EC 1272/2008 Not classified.
OSHA GHS (US) Not classified

2.2. Label elements

Not required under Regulation EC 1272/2008 and OSHA GHS (US).

2.3. OTHER HAZARDS

Adverse effects on health Possible irritation through abrasive friction.
Environmental effects Does not present any particular risk for the environment
Physical and chemical hazards Fire or explosion: does not present any particular hazard

NFPA Hazard Rating: Reactivity: 0
Flammability: 0
Health: 0

WHMIS Not hazardous

Section 3: Composition/information on ingredients

3.1. Substances

CAS NR	EINECS NR	Components	Weight %	REACH registration NR
1344-28-1	215-691-6	Aluminium oxide (Al2O3)	70-80	01-2119529248-35-XXXX
1314-23-4	215-227-2	Zirconium dioxide (ZrO_2)	20-30	01-2119486976-14-XXXX
12055-23-1		Hafnium oxide	0-1	-

This product contains trace quantities of naturally occurring radioactive material (NORM). The low level of radioactivity in grains is attributed to the naturally occurring raw material zircon sand that has trace quantities of naturally occurring radioactive uranium and thorium. The Uranium and Thorium level in the sand used for producing grains is below 500 parts per million (ppm), which is the threshold level established by the United States Nuclear Regulatory Commission for exempt quantities of source material.

Section 4: First aid measures

4.1. Description of first aid measures

Eye contact	Rinse immediately and thoroughly, pulling the eyelids well away from the eye. If irritation persists, consult an eye specialist.
Ingestion	Consult a doctor in the event of symptoms following massive accidental ingestion.
Skin contact	Wash with soap and water.
Inhalation	Move the affected person away from the contaminated area and into the fresh air. Consult a doctor in the event of massive accidental inhalation.

4.2. Most important symptoms and effects, both acute and delayed
No data

4.3. Indication of any immediate medical attention and special treatment needed
Treat symptomatically.

Section 5: Fire fighting measures

5.1. Extinguishing media

Suitable extinguishing media	All extinguishing agents can be used.

5.2. Special hazards arising from the substance or mixture
This product is not combustible or explosive. Does not present any particular risk in the event of fire.

5.3. Advice for firefighters

Specific fire fighting methods	Does not require any particular methods
Protection of fire-fighters	Use appropriate protective equipment.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with the eyes.

6.2. Environmental precautions
Do not discharge into drains and rivers.

6.3. Methods and material for containment and cleaning up

- Recovery	Sweep up or vacuum up the product.
Other information	Wear eye protectors and dust mask.

6.4. Reference to other sections
See section 8 for personal protective equipment. See section 13 for disposal considerations.

Section 7: Handling and storage

7.1. Precautions for safe handling

Technical measures	Ensure areas are well ventilated.
Precautions to be taken	For operations generating dust: Wear N100 or FFP3 dust mask. Wear safety goggles.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	Store in closed container in covered area.
Storage conditions	
- Recommended	Dense material: Observe safety rules when stacking.

7.3. Specific end use(s)

See section 1.1

Section 8: Exposure control / personal protection

8.1. Control parameters

Engineering measures: Ensure good ventilation of the work station.

Occupational exposure limit values and/or biological limit values

Components	N° CAS	N° EINECS	TLV (USA)	Remarks
Zirconium dioxide	1314-23-4	215-227-2	10 mg/m^3 as Zr	Short term value, ACGIH
			5 mg/m^3 as Zr	Long term value, ACGIH
Aluminium oxide	1344-28-1	215-691-6	1 mg/m^3 as Al	Long term value for respirable fraction, ACGIH

8.2. Exposure control

The maximum exposure of individuals, working in standard conditions and following the protection recommendations provided in section 8, is below 1 mSv/year.

Personal protective equipment	Respiratory protection: in the event of insufficient ventilation respiratory protective device with a particulate filter. Hand protection: wear safety gloves. Eye protection: wear safety goggles. Skin and body protection: safety shoes.
Hygiene measures	Do not drink, eat or smoke during use.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State	grains
Color	steel gray to blue gray
Odor	Odorless
Specific temperatures	- Melting point: 1900°C
Flammability characteristics	Flash point: not applicable
Specific gravity	4.2-4.3
Solubility	Insoluble

9.2. Other information
None

Section 10: Stability and reactivity

10.1. Reactivity
Not reactivity under normal conditions of use.

10.2. Chemical stability
Stable under normal conditions of use and below 1300°C/

10.3. Possibility of hazardous reactions
No data available

10.4. Conditions to avoid
No dangerous reactions known under normal conditions of use.

10.5. Incompatible materials

Materials to avoid	Reacts with strong acids and bases

10.6. Hazardous decomposition products
No data available

Section 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity	LD50 > 5000 mg/kg (rat), *OECD 401*. ZrO_2 LD50 > 2000 mg/kg bw (rat). *OECD 420*. Al_2O_3
Acute inhalation toxicity	LC50 > 4.3 mg/l, *OECD 436*.ZrO_2 LC50 > 2.3 mg/l. *OECD 403*.Al_2O_3
Skin irritation / corrosion	The test substance was determined to not be irritating to the skin of rabbits, *OECD 404*. ZrO_2 The test substance was determined to not be irritating to the skin of rabbits, *OECD* 404. Al_2O_3
Eye irritation	The test agent was determined to be slightly irritating based on the AFNOR criteria. It does however not need to be classified for eye irritation according to the rules in the DSD and CLP, OECD 405. ZrO_2 The substance was determined to not be eye irritant. *OECD 405*. Al_2O_3
Skin sensitisation	The substance does not have skin sensitizing potential under the conditions of this test, *OECD 406*. ZrO_2 The substance does not have skin sensitizing potential under the conditions of this test. *Landsteiner / Draize method.* Al_2O_3
Repeated dose oral toxicity	Absence of cumulative toxic effects, OECD 408. ZrO_2
Repeated dose inhalation toxicity	Inhalation of 100.8 mg/m^3 zirconium dioxide for 30 days produced no significant changes in animals in mortality rate, growth, hematologic values or

	histopathology. The NOAEC was deemed to be greater than 100.8 mg/m^3, OECD 412. ZrO_2 Inhalation of 15.4 mg/m^3 zirconium dioxide for 60 days produced no significant changes in animals in mortality rate, growth, biochemistry, hematologic values or histopathology. The NOAEC was deemed to be greater than 15.4 mg/m^3, OECD 413. ZrO_2 NOAEC= 70 mg/m^3. *OECD 413*. Al_2O_3
Epidemiological data	No excess of respiratory symptoms and no radiologic evidence of pneumoconiosis occurred among the exposed men. ZrO_2
Exposure related observations in humans	No evidence was found of pulmonary granulomas or of correlation between cumulative exposure to dust and ILO classification of radiographs. ZrO_2
Genetic toxicity in vitro	Zirconium dioxide is considered as "not mutagenic under the conditions of the test", OECD 471. ZrO_2 Zirconium dioxide is not clastogenic in human lymphocytes under the experimental conditions of this test, OECD 473. ZrO_2 Zirconium dioxide is not mutagenic in the TK mutation test system under the specified experimental conditions, OECD 476. ZrO_2 No effects (The authors briefly mention that no mortality nor toxic symptoms were observed at any dose level in the range-finding study (OECD TG #420) nor in the 5 rats at the highest dose level in the main study that was reported in the article. Al_2O_3

Section 12: Ecological information

12.1. Toxicity

Short-term toxicity to fish	Using a limit test at 100 mg/l, no acute toxic effect on the fish Danio rerio. ZrO_2 NOEC (96 h): > 0.072 mg/L. *OECD 203 (Salmo trutta).* Al_2O_3 LC50 (96 h): > 218.64 mg/L total Al, not filtered. *Pimephales promelas.* Al_2O_3
Short-term toxicity to aquatic invertebrates	No acute effect on Daphnia magna at an initial loading rate of 100 mg/l. ZrO_2 NOEC (48 h) > 0.071 mg/L dissolved. *Daphnia Magna. OECD 202.* Al_2O_3
Toxicity to aquatic algae and cyanobacteria	The test item had a statistically significant inhibitory effect on the growth of *Scenedesmus subspicatus* (test period of 72 hours at the highest loading rate of 100 mg/l) ZrO_2
Toxicity to terrestrial plants	Not any adverse effects were observed (study realized with tomato and pea seedlings, exposed for 7 days to two different soils contaminated with either a soluble Zirconium compound (ZrOCl2 or Zr acetate) or an insoluble Zirconium compound (Zr(OH)4). ZrO_2

12.2. Persistence and degradability . No data available
12.3. Bioaccumulative potential . No data available
12.4. Mobility in soil. No data available
12.5. Results of PBT and vPvB assessment . Not relevant because the substances are not classified.
12.6. Other adverse effects. No data available

Section 13: Disposal considerations

13.1. Waste treatment methods
Waste from product
Waste disposal must be compliant with local regulations, due to the NORM nature of the product. (Naturally Occuring Radioactive Material)

Contaminated packaging
Destruction/disposal Dispose of at an authorised site.

Section 14: Transport information

International regulations
RID/ADR/IMDG/IATA Not restricted.

Section 15: Regulatory information

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

According to Regulation (EC) No. 1272/2008 (CLP) this product is not considered hazardous.
This product is not considered hazardous under the U.S. OSHA 29 CFR 1910.1200 Hazard Communication Standard.
All ingredients are listed on TSCA (Toxic Substance Control Act).
None of the substances are listed in Proposition 65 (California).

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out because the substances are not hazardous.

Section 16: Other information

Restrictions of use This product must not be used for applications other than those indicated in section 1.
Replace sheet 05/05/2021

Information concerning the modifications:
- new emergency phone number

This sheet completes the technical sheets but it does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith.
The attention of the user is drawn to the risks possibly incurred by using the product for any other purpose than that for which it was intended.
This does not in any way excuse the user from knowing and applying all the regulations governing his activity.
It is the sole responsibility of the user to take all precautions required in handling the product.
The mandatory regulations mentioned are only intended to help the user to fulfil his obligations regarding the use of hazardous products.
This listing must not be considered exhaustive. It does not exonerate the user from ensuring that other legal obligations than those mentioned do not exist, relating to the use and storage of the product for which he solely is responsible.