

ZIRCONIA CERAMIC BEADS (all grades)

Material Safety Data Sheet

COMPANY: Graystar* LLC

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1. Identification of the substance:

Trade Name: Zirconia Ceramic Beads (ZCB), also named as Zirconia Silicate Beads (ZSB), or Peening Media / Ceramic Shot.

2. Composition and information about ingredients:

Zirconia ceramic beads are white inorganic pellets, which are produced by using a fusion process. The beads are mainly composed of Zirconium dioxide, silicate and other trace elements.

Substance and formula	%
Zirconium oxide ZrO ₂	68
Silicon oxide SiO ₂	31
Other inorganic matters	Less than 1

3. Hazards Identification:

The product is not classified as hazardous and/or harmful under environmental control. It contains no substances classified as hazardous or harmful to health.

4. First Aid Measures:

Generally: No hazards requiring special first aid measures.

Inhalation:	Move to fresh atmosphere. Give symptomatic treatment if necessary.
Skin contact:	Wash with water and soap
Eye contact:	Wash with water or neutral eyewash solution
Ingestion:	Do not induce vomiting; Give up to 200 ml water. Material is non-toxic and not retained in intestinal tract.

In case of persistent symptoms consult a doctor.

5. Fire-fighting Measures:

The product itself and the packing materials are not flammable, explosive and give no reason to be a fire risk. No special preventive action and protection matters/techniques for fire-

6. Accidental Release Measures:

This product is inert. No special personal or environmental precautions are required. Use any feasible mechanical means for cleaning (e.g. shovel, vacuum sweeping) but avoid dusting. Prevent contamination of sewerage and ditches leading to natural waterways.

7. Handling and Storage:

The product is typically packed in stainless iron drums. No special handling technique is required, but handling system should be designed and operated to minimize dust escape and/or cracking. No special storage conditions are demanded.

8. Exposure Controls / Personal Protection:

Respiratory protection	The use of exhaust ventilation at machinery and places where dust can be generated is recommended. An approved dust respirator must be used if the dust concentration is likely to exceed the occupational exposure limit or when dustiness is over 10 mg/m ³ .
Skin protection	The product is not an irritant. Prolonged exposure should be avoided by wearing suitable protective gloves and clothing.
Eye protection	The use of approved tightly fitting safety goggles is recommended if dust concentrations are likely to exceed the occupational exposure limit of 10 mg/m ³ .
Hygiene measures	No special requirements except keeping basic rules of hygiene.

9. Physical and Chemical Properties:

Physical State	Fine spherical pellets or beads
Color	White, partly grayish
Color	Odorless
Bulk specific weight	2.35
Real specific weight	3.86
Beads size range (mm)	0.2-0.4, 0.4-0.6, 0.6-1.0, 0.8-1.25, 1.0-1.6, 1.6-2.0, 2.0-2.5
Solubility	Insoluble in fats, water, alkalis, diluted acids and organic solvents. Dissolves slowly in hydrofluoric acid or hot concentrated sulphuric acid.

10. Stability and Reactivity:

Material is stable under normal conditions (up to 2300C) and inert to most chemical reagents.

11. Toxicological Information:

The product is not toxic and/or genotoxic. No acute or chronic effects have been reported.

12. Ecological Information:

The product is inert, not biologically active and non-biodegradable. The mobility of solid particles in environment is limited. Prevent contamination of sewerage surface and subterranean waters.

13. Disposal Considerations:

Spilled material can be disposed as non-toxic waste in accordance with local and national regulations.

14. Transport Information:

Material is not labeled as dangerous. There are no special requirements under national or international regulations for the transportation by road, rail, sea or air.

15. Further Information:

The product described in this document is only designed for industrial or related use, such as research and development, by qualified persons.

16. Disclaimer:

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