

GHS Safety Data Sheet

SDS No. : ZRO01PAEG

Date Issued : 2012/04/20

Last updated : 2020/11/18

Section 1. Identification of the substance or mixture and of the supplier

Product Information

Product name: ZrO₂ Zirconium oxide, zirconia

Product number:	Purity	Form	Size or Shape
ZRO02PB	98%	fine powder	ca. 1 μm
ZRO07PB	98%	powder	—
—	98%	powder	—
ZRO02GB	98%	grains, by sintering	—
ZR006_ZROR1010	98%	tablets	φ10×t5
ZR006_ZROR1014	98%	tablets	φ20×t5
ZR008_ZROT0006	—	target	φ101.6×t5
ZR008_ZROT0007	—	target	φ152.4×t5
—	—	target	Various shapes, Various sizes

Company Information:

Manufacturer : Kojundo Chemical Laboratory Co., Ltd.
 1-28, 5-chome, Chiyoda, Sakado-shi, Saitama Japan 350-0284
 Phone: +81-49-284-1511 Fax: +81-49-284-1351
 Emergency Phone : +81-49-284-1511

Recommended uses and restrictions on use: For research purposes

Section 2. Hazards identification

GHS Classification

Health Hazards	Environmental Hazards	Physical Hazards
Skin sensitization : Category 1	No data available	Flammable solids : Not classified Pyrophoric solids : Not classified Self-heating substances and mixtures : Not classified Substances and mixtures which, in contact with water, emit flammable gases : Not classified

GHS Label: W



Pictograms or symbols:

Warning word: WARNING

Hazard information	Description of precaution
May cause an allergic skin reaction.	Wear protective gloves/protective clothing/eye protection/respiratory protection/face protection during handling. Avoid breathing dust/mist/gas/fume/vapors/spray. Do not eat, drink or smoke when using this product, and wash hands thoroughly after handling. Take off the contaminated clothing and wash before reuse. Contaminated work clothing should not be allowed out of the workplace. IF ON SKIN: Remove immediately all contaminated clothing and rinse skin with water/shower. Then wash skin with plenty of soap and water. If skin irritation occurs, get medical advice/attention. Dispose of contents/ container in accordance with local/national regulations.



High Purity Materials

KOJUNDO CHEMICAL LABORATORY CO.,LTD.

Section 3. Composition / information on ingredients

Chemical or common name:	Zirconium oxide, Zirconia
Chemical formula:	ZrO ₂
Single Substance or Compound:	Single substance
Composition:	100%
CAS #:	1314-23-4
RTECS#:	ZH8800000
TSCA inventory :	listed
EINECS:	2152272

Section 4. First aid measures

Eye contact:	Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention.
Skin contact:	Promptly flush contaminated skin with soap or mild detergent and water. Contact physician if irritation continues.
Inhalation:	Remove the exposed person immediately and provide fresh air. Get medical attention.
Ingestion:	Rinse mouth and throat with water. Get medical attention immediately.

Section5. Fire fighting measures

Extinguishing media:	Use media appropriate for surrounding fire.
Fire fighting:	The product is not combustible. Self-contained breathing apparatus and full protective clothing should be used, if the material is involved in fire.

Section 6. Accidental release measures

Personal Precautions:	Workers should use protective wears to prevent contact with the spilt adhesive and inhalation of its vapor/dusts.
Environmental hazard precautions:	Shut off leak if without risk. Prevent flow out to river, etc. so as not to badly affect.
Method for containment and cleaning up:	Indoor leakage: Ventilate as much as possible until the cleaning is completed. Outdoor leakage: Work from the windward and evacuate the leeward crowd. Gather up, pack in closed container as much as possible. Carefully collect remnant and move to a safe place.

Section 7. Handling and storage

Precautions to be taken in handling:

Safe handling:	Use protective wears and local ventilation equipment, if inhalation or skin contact is foreseen. Avoid prolonged or repeated exposure.
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Precautions to be taken in storage:

General precautions:	Store the material in a sealed container. Store in a cool, dry, well ventilated and dark place away from incompatible materials.
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Section 8. Exposure controls / personal protection

Exposure guideline:	Chemical Name	ACGIH(2019)		OSHA(2006)
		TLV-TWA mg/m ³	TLV-STEL mg/m ³	PEL-TWA mg/m ³
	Zirconium compounds (as Zr)	5	10	5

Facility measures: Local ventilation of closed work room or total proper ventilation to prevent inhalation.

Protective ware: Wear appropriate NIOSH/MSHA-approved respirator, safety goggles, protective gloves etc.

Section 9. Physical and chemical properties

Color and Form:	White solid, odorless.
Chemical formula:	ZrO ₂
Formula weight:	123.2
Melting point:	2715 °C
Boiling point:	ca.5000 °C
Density:	5.68 g/cm ³
Water solubility:	Insoluble
Soluble in :	Sulfuric acid, hydrofluoric acid
Flammability:	Non-combustible substance
Oxidation:	None

Section10. Stability and reactivity

Stability:	Stable in closed container under room temperature.
Reactivity	
Condition to avoid:	No data available.
Incompatibility:	No data available.

Section11. Toxicological information

Acute toxicity:	GHS : No data available
Skin corrosive / irritation:	GHS : No data available
Serious eye damage / irritation:	GHS : No data available
Respiratory sensitization:	GHS : No data available
Skin sensitization:	GHS : Category 1 ; May cause an allergy skin reaction.
Germ cell mutagenicity:	GHS : No data available
Carcinogenicity:	GHS : No data available

Chemical Name	ACGIH(2019)	IARC(2018)	NTP(2016)
Zirconium compounds	A4	—	—

ACGIH A4 Not classifiable as a human carcinogen.

Reproductive toxicity:	GHS : No data available
Specific target organ toxicity	
— single exposure:	GHS : No data available
— repeated exposure:	GHS : No data available
Aspiration hazard:	GHS : No data available

Section12. Ecological information

Ecotoxicity:	
Hazardous to the aquatic environment	
— acute toxicity:	GHS : No data available
— chronic toxicity:	GHS : No data available



Hazardous to the ozone layer	GHS : No data available No Freon or Halon
Fish toxicity:	No data available
Degradability:	No data available
Bioaccumulative potential:	No data available
Mobility in soil:	No data available

Section 13. Disposal considerations

Disposal method: User of the product should contract with the local government or licensed 'Industrial Waste Haulers' for disposal of waste.

Section 14. Transport information

UN classification:	Not hazardous
UN number:	None
HS code:	2825.60
Marine pollution:	None
Precautions:	Container should be transported in a secure position, in a well-ventilated vehicle.

Section 15. Regulatory information

TSCA inventory: Listed.

Please refer to any other local / national measures that may be relevant.

Section 16. Other information

This SDS is for provision of information, and it does not represent a guarantee the properties or safeties of the product.

The information herein is based on the references we could obtained and the present state of our knowledge, however, this SDS does not always cover all information about the product. Some new information or amendments may be added afterwards.

Prior to use, please investigate the laws and regulations of the organization, area and country where the product is to be used. The information is intended to ordinary usage, in case of special handling, sufficient care should be taken.

