



Reviewed: March 2025

# MATERIAL SAFETY DATA SHEET

## ZIRCON SAND & FLOUR

Material Safety Data Sheet  
Prepared in accordance with GHS

### 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

<b>Product name</b>	<b>ZIRCON SAND/ZIRCON FLOUR</b>
<b>Synonyms</b>	Zirconium silicate, Zircon Mineral
<b>Applications</b>	Abrasive, Refractory, Foundry, Steel, Glass, Ceramic, Specialized Filler
<b>Supplier name</b>	Abasco Trading Pty Ltd
<b>Address</b>	4/7-17 Geddes St., Mulgrave Vic. 3170
<b>ABN</b>	41 059 029 579
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### 2. HAZARDS IDENTIFICATION:

**Not classified as hazardous according to NOHSC criteria.**  
**Not classified as a dangerous good by the criteria of the ADG Code.**

#### **Potential Health Effects**

##### **Acute**

Swallowed	Non toxic. There are no known hazards resulting from accidental ingestion of Zircon Sand/Flour as may occur during normal handling. Swallowing a large amount may result in irritation to the digestive system due to abrasiveness.
Eyes	Solids and dust can be moderately irritating due to abrasiveness.
Skin	Low hazard.
Inhaled	The normal grain size of the product precludes it from being an inhalation hazard. Handling can however fracture grains and in the dry state this can

generate dust. This is normally regarded as general nuisance dust, but can be irritating at high concentration. May cause symptoms such as coughing and wheezing.

#### **Chronic**

**Silica** Crystalline silica is a known cause of lung fibrosis (silicosis). It has also been classified as a human carcinogen. (International Agency for Research on Cancer). Zircon Sand/Flour contains a small amount of free quartz (up to 1.0%) and precautions should be taken to avoid inhaling the dust.

**Radiation** In common with many minerals, Zircon Sand/Flour contains very low levels of naturally occurring radioactive elements of the uranium and thorium series. The main radioactive hazard from the product is internal exposure to small amounts of alpha particles given off by inhaled dust. Low level gamma radiation from bulk or bagged stockpiles of Zircon Sand/Flour may present a lesser, external hazard.

**General** The main route of entry into the body is by inhalation of the dust

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Physical Composition</b>	<b>Mineral</b>	<b>CAS No.</b>	<b>Weight %</b>
	Zircon ZrSiO <sub>2</sub>	14940-68-2	99.0%
	Rutile TiO <sub>2</sub>	1317-80-2	<1.0%
	Ilmenite FeTiO <sub>2</sub>	12168-52-4	<0.1%
	Quartz SiO <sub>2</sub> (free)	14808-60-7	<0.5%
	Uranium U	7440-61-1	220 – 280ppm
	Thorium Th	7440-29-1	130 – 210ppm

### **4. FIRST AID MEASURES:**

**Eye** Gently flush affected area with water for at least 15 minutes or until grit is removed. Seek medical attention if irritation develops as contact with the eye may cause complications.

**Inhalation** If exposure occurs, leave area immediately. If irritation persists seek medical attention.

**Skin** Remove clothing and wash thoroughly with soap and water.

**Ingestion** Do not induce vomiting. Rinse mouth thoroughly with water. Seek medical attention, contact a poisons information centre at 13 11 26 (Australia) or a doctor.

**First aid facilities** Eye wash fountain

**Advice to physician** Treat symptomatically

### **5. FIRE FIGHTING MEASURES**

**Flammability** Non Flammable. Melting point >2,2

**Fire and Explosion:** No fire or explosion hazard

## **6. ACCIDENTAL RELEASE MEASURES**

**Spills** Wear safety equipment as for normal handling. Avoid generating dust. Vacuum up if possible, otherwise sweep up and recycle. Dispose of to approved landfill site and cover with clean fill in accordance with State and local regulations.

## **7. STORAGE AND HANDLING**

**Handling (Personnel)** Avoid breathing dust. Wash thoroughly after handling. If handling respirable flour it is advisable to use gloves and wash hands before eating, drinking or smoking to minimise inhalation or ingestion from hands. Drivers/cleaners should wear respiratory protection when cleaning. Avoid raising dust. Damp down if cleaning trucks or containers.

**Storage** No specific requirements, indoor storage recommended to keep the goods dry.

## **8. EXPOSURE CONTROL/PERSONAL PROTECTION**

**Engineering Controls** Ventilation will depend on handling and the amount in use and should be sufficient to maintain dust levels below exposure limits. Dusty sites such as conveyor and hopper discharges should be equipped with an effective dust extraction and collection system.

**Personal Protection** Safety glasses with side shields or goggles. If risk of inhaling dust is present wear, at minimum, a dust mask (disposable or cartridge type).  
Exposure Standards Inhalable general nuisance dust:  
(TLV\*, Occupational) TWA – 10mg/m<sup>3</sup> (ACGIH).  
Respirable quartz dust: TWA – 0.1mg/m<sup>3</sup> (ACGIH)  
\*TLV (Threshold Limit Value) is the exposure standard used by American Conference of Governmental Industrial Hygienists (ACGIH).  
Radiation Exposure: Occupational exposure should be as low as reasonably achievable but should not exceed a total of 20 millisieverts per year (Recommendation of the ICRP\*).  
\*International Commission on Radiological Protection, ICRP Publication 60.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance (form)	Light Brown Sand, White Powder, odourless and tasteless
Melting Point:	>2,200C Boiling Point: Not applicable
Specific Gravity:	4.6 Vapour pressure: Not applicable
Flammability:	Not applicable Flash point: Not applicable
Solubility in water:	Insoluble Evaporation rate: Not applicable
pH:	Normally neutral (pH 7)

## **10. STABILITY AND REACTIVITY**

Reactivity:	Inert
Chemical stability:	Stable
Incompatibilities:	None in normal or expected use
Decomposition:	Decomposition will not occur

## **11. TOXICOLOGICAL INFORMATION**

Health Hazard Summary:	Low to nil toxicity. Under normal conditions of use, adverse health effects are not anticipated. Avoid eye contact and dust generation or inhalation. Adverse health effects associated with silica, such as silicosis are not anticipated unless chronic (i.e. prolonged and repeated) exposure to silica quartz dust occurs.
Eye	Low to moderate irritant. Exposure may result in irritation, pain and redness.
Inhalation	Low irritant. Over exposure at high levels may result in irritation of the nose and throat with coughing. Prolonged and repeated inhalation of respirable silica may result in pulmonary fibrosis (silicosis). Crystalline silica is classified carcinogenic t (IARC Group 1)
Skin	Low irritant. Prolonged and repeated exposure to dust may result in irritation and dermatitis.
Ingestion:	Low toxicity. Ingestion may result in gastrointestinal irritation, nausea and vomiting. However, due to product form, ingestion is considered unlikely.

## **12. ECOLOGICAL INFORMATION**

The material is unlikely to cause any environmental damage if handled, used and disposed of in the approved manner. It is insoluble in water and is unlikely to contaminate waterways or food chains.

## **13. DISPOSAL CONSIDERATIONS**

Disposal must be in accordance with Federal, State and Local Council regulations. If approved it may be transferred to an approved landfill site. Note: Many states are developing new regulations for the disposal of waste containing Naturally Occuring Radioactive Materials (NORM) or Technologically Enhanced Naturally Occuring Radioactive Materials (TENORM) above background levels. Consult and comply with current regulations.

## **14. TRANSPORT INFORMATION**

<b>Transport</b>	Not classified as a Dangerous Good according to the Australian Code for the transport of Dangerous Goods by Road, Rail or Air.		
<b>UN Number</b>	None allocated	<b>DG Class</b>	None allocated
<b>Subsidiary risk(s)</b>	None allocated	<b>Packing Group</b>	None allocated
<b>Hazchem Code</b>	None allocated		

## **15. REGULATORY INFORMATION**

Poisons schedule:	Not allocated according to Standard Uniform Scheduling of Drugs and Poisons (SUSDP)
Labelling:	May be required in USA and elsewhere if free silica exceeds 0.1%
Radiological Protection:	Varies from country to country. Check with your local OHS Authority

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