

Reviewed: July 2023

# SAFETY DATA SHEET

## IRON ORE CERTIFIED REFERENCE MATERIAL

### 1. Identification of Substance:

**Product Details:** PBS-19, PBS-30, PBS203, and all reference materials prefixed with “PBS-“ AND with the trade name descriptions below on their respective reference material certificates.

**Trade Names:** Iron Ore, Pulverised Iron Ore, Crushed Iron Ore, Magnetite Ore, Iron Ore Concentrate, Iron Ore Certified Reference Material

**Product Description:** Products are a blend or mix of iron ore in granular or powder form and packaged in sealed 1kg HDPE jars, plastic bags (500g – 5kg) or plastic sachets (5-500g).

**Product Use:** Iron Ore reference materials are analysed in a mineral or geochemical laboratories for the purposes of quality control during routine determination of their chemical content.

#### **Supplier:**

Independent Mineral Standards Pty Ltd  
ABN 37 158 615 395

16 Durham, Road  
Bayswater WA 6053  
Ph +61 8 6155 7616  
[enquiries@imstandards.com.au](mailto:enquiries@imstandards.com.au)

### 2. Hazard identification:

**Classification of the substance or mixture:** Not hazardous

Depending on the type of handling and use (eg. grinding, drying), airborne respirable crystalline silica maybe generated. Occupational exposure to respirable crystalline silica dust should be monitored and controlled.

### 3. Typical Composition/Data on components:

Component	CAS Number	Amount (% w/w)
Hematite	1317-60-8	0 - 100
Goethite	1310-14-1	0 - 100
Magnetite	1309-38-2	0 - 100
Cryptomelane	-	0 - 10
Kaolinite (Al <sub>2</sub> Si <sub>2</sub> O <sub>5</sub> (OH) <sub>4</sub> )	1318-74-7	0 - 10
Quartz	14808-60-7	0 - 5

### 4. First Aid Measures:

<b>General Information:</b>	No special protection is required.
<b>After Inhalation:</b>	Move exposed person to fresh air. Consult doctor in case of symptoms.
<b>After Skin Contact:</b>	Wash with water and soap and rinse thoroughly. The product is not skin irritating.
<b>After Eye Contact:</b>	Rinse opened eye for several minutes under running water. Adverse symptoms may include irritation and redness
<b>After Swallowing:</b>	Wash mouth with water. In extreme cases seek medical help immediately.

### 5. Fire fighting measures:

**Protective equipment:** No specific measures required. Material not flammable. Use an extinguishing agent suitable for the surrounding fire

### 6. Accidental Release measures:

<b>Person related safety precautions:</b>	Avoid causing dust. Put on appropriate personal protective equipment.
<b>Measures for environmental protection:</b>	Recycle if possible. Waste must be disposed of according to applicable regulations.
<b>Measures for cleaning/collecting:</b>	Collect mechanically, avoid creating dusty conditions and prevent wind dispersal by dampening spill with water.

## 7. Handling & Storage:

### Information for safe handling:

Ensure good ventilation / local exhaust at the workplace in the case of operations generating dust. Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.

Avoid creating dusty conditions.

Avoid inhalation, skin and eye contact.

Wear appropriate personal protective equipment

### Information about protection against explosions and fires

Material is non-explosive and not subject to fire hazard.

### Storage

#### **Requirements to be met by storerooms and containers:**

Where possible store in enclosed containers to limit dust.

#### **Information about storage in one common storage facility:**

Not required.

**Further information about storage conditions:** None.

## 8. Exposure controls and personal protection:

### **Additional information about design of technical systems:**

No further data; see item 7.

**Exposure Limits:** Workplace exposure standards for airborne contaminants.

Component	Type	TWA
Iron Ore	Inhalable dust	10 mg/m <sup>3</sup>
Total dust (of any type)	Respirable	3 mg/m <sup>3</sup>
Crystalline Silica (quartz)	Respirable	0.05 mg/m <sup>3</sup>

TWA (Time Weighted Average): the time-weighted average concentration over an eight-hour working day, for a five-day working week over an entire working life. According to current knowledge this concentration should neither impair the health of, nor cause undue discomfort to, nearly all workers.

### Personal protective equipment:

#### **General protective and hygienic measures:**

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands before eating and drinking.

#### **Breathing Equipment:**

Use breathing protection in case of insufficient ventilation. Filter P1 or P2. Use only respirators that are fitted and maintained correctly.

**Protection of hands:** Protective gloves.

**Eye protection:** Safety glasses.

**Body protection:** Protective work clothing.

## 9. Physical and chemical properties:

**Form:** Powder or granules

**Colour:** Yellow to Red to Brown to Black

**Smell:** Odourless

### **Change in Condition:**

**Melting Point:** 1500°C

**Specific Gravity:** 3.5 to 5.3

**Vapour Density:** Not applicable.

**Vapour Density( air=1):** Not applicable.

**Evaporation rate:** Not applicable.

**Flash Point:** Not applicable.

**Flammability (solid, gaseous):** Not applicable.

**Critical Value for explosion:** Not applicable.

**Solubility in Water/Miscibility with Water:** Insoluble.

**Particle Size:** A proportion of the dust may become respirable (<10µm) in some use cases such as during milling , grinding or screening, and if it becomes airborne constitutes an exposure if inhaled.

## 10. Stability and reactivity:

**Thermal Decomposition/Conditions to be avoided:** No decomposition if used according to specifications.

**Dangerous reactions:** No dangerous reactions known.

**Dangerous products of decomposition:** No dangerous decomposition products known.

## 11. Toxicological information:

### **Health Effects: Acute (short term)**

**Skin:** No significant irritation expected other than possible mechanical irritation.

**Eye:** No significant irritation expected other than possible mechanical irritation.

**Swallowed:** Unlikely under normal industrial use. No significant irritation expected other than possible mechanical irritation.

**Inhaled:** No significant irritation expected other than possible mechanical irritation.

### **Health Effects: Chronic (long term)**

Depending on the type of handling and use (e.g., grinding, drying), airborne respirable crystalline silica (quartz - cristobalite) may be generated. Prolonged and/or massive inhalation of respirable crystalline silica dust may cause lung fibrosis, commonly referred to as silicosis. Principal symptoms of silicosis are cough and breathlessness. Occupational exposure to respirable crystalline silica dust should be monitored and controlled.

The low concentration of impurities in this product are insufficient to contribute to the overall health effects of the product. Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

## **12. Ecological Information**

### **Ecotoxicological effects**

#### **Aquatic toxicity:**

No effect on marine life.

#### **General notes:**

Not hazardous for water.

## **13. Disposal considerations:**

### **Product**

#### **Recommendation:**

This material can be treated as common waste for disposal according to local authority guidelines. Measures should be taken to prevent dust generation during disposal.

#### **Uncleaned packaging**

#### **Recommendation:**

Dispose of packaging to regulations on the disposal of packaging.

## **14. Transport Information:**

### **Transport/Additional Information:**

Not dangerous according to transport specifications.

**UN Number:** None allocated (Non-Dangerous Good Transport)

**UN Shipping Name:** None allocated

**Class and subsidiary risk:** None allocated

**Dangerous Goods Class:** None allocated (Non-Dangerous Good Transport)

**Packing Group:** None allocated

**Hazchem Code:** None allocated

**Special Precautions for user:** See above

**DG Class:** None allocated

## 15. Regulatory information:

Crystalline silica is classified as non-Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

Crystalline silica in the form of respirable dust is classified as Hazardous according to the Safe work Australia. Quartz is a restricted hazardous chemical (for abrasive blasting at a concentration > 1%)

## 16. Other Information:

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Please refer to the Reference Material Certificate for additional information on the composition of the material.

### Contact:

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Bayswater WA 6053  
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