

Reviewed: June 2023

# SAFETY DATA SHEET

## GOLD CERTIFIED REFERENCE MATERIAL

### 1. Identification of Substance:

**Product Details:** IMS-190, IMS-235, IMS-247, and all reference materials prefixed with “IMS-“ and with the trade name descriptions below.

**Trade Names:** Basalt Hosted Gold, Basalt and Sediment Hosted Gold, Pulverised Gold Reference Material, Crushed Gold Hosted Silicate Rock Chips, Crushed Gold Reference Material

**Product Description:** Products are a blend or mix of various minerals in granular or powder form and packaged in sealed 1kg HDPE jars, plastic bags (500g – 5kg) or plastic sachets (10-500g).

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

#### **Supplier:**

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### 2. Hazard identification:

**Classification of the substance or mixture:** Hazardous according to Safe Work Australia Criteria. H372 may cause damage to organs (lungs) through prolonged or repeated exposure (inhalation).

Depending on the type of handling and use, respirable crystalline silica may be generated. Prolonged inhalation exposure of respirable crystalline silica dust may cause silicosis. Occupational exposure to respirable crystalline silica dust should be monitored and controlled.

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

Component	CAS Number	Amount (% w/w)
Basalt, crushed stone, gravel.	None assigned	0 – 100
Pyrite (FeS <sub>2</sub> )	1309-36-0	0 - 20
Hematite (Fe <sub>2</sub> O <sub>3</sub> )	1317-60-8	0 - 50
Kaolinite (Al <sub>2</sub> Si <sub>2</sub> O <sub>5</sub> (OH) <sub>4</sub> )	1318-74-7	0 - 20
Mullite (Al <sub>6</sub> Si <sub>2</sub> O <sub>13</sub> )	1302-93-8	0 - 20
Quartz	14808-60-7	0 - 10

### 4. First Aid Measures:

<b>General Information:</b>	This material contains minerals that are abrasive.
<b>After Inhalation:</b>	Move exposed person to fresh air. Consult doctor in case of symptoms.
<b>After Skin Contact:</b>	Instantly 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.

### 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
Total dust (of any type)	Inhalable	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:** Grey to Brown

**Smell:** Odourless

### **Change in Condition:**

**Melting Point:** 1100 – 1400°C

**Specific Gravity:** 2.2 – 2.7

**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:** May be mildly abrasive, irritating and drying to the skin

**Eye:** Dust is an irritating to the eyes.

**Swallowed:** Unlikely under normal industrial use. Mildly abrasive to mouth and throat.

**Inhaled:** Dust is mildly irritating to the nose, throat and respiratory tract and may cause coughing and sneezing. Pre-existing upper respiratory and lung diseases including asthma and bronchitis may be aggravated.

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

**Skin:** Repeated contact may cause drying of the skin and result in dermatitis.

**Eye:** Dust may cause irritation and inflammation of the eyes and aggravate pre-existing eye conditions.

**Inhaled:** Repeated exposure to the dust may result in increased nasal and respiratory secretions and coughing. Long term occupational over-exposure or prolonged inhalation of respirable crystalline silica dust above the threshold level carries the risk of causing serious and irreversible lung disease including bronchitis and silicosis. The product may contain a proportion of respirable free crystalline silica in the quartz component which may be elevated in some use cases, such as milling, grinding or screening. Crystalline silica (inhaled in the form of quartz or cristobalite from occupational sources) has been classified by The International Agency for Research on Cancer (IARC) as carcinogenic to humans (Group 1). Safe work Australia - workplace exposure standards for airborne contaminants classifies respirable crystalline silica as Category 1A (Carc. 1A) -Known to have carcinogenic potential for humans.

## **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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