

## SAFETY DATA SHEET

Conforms to ISO 11014-1 and the South African  
Occupational Health and Safety Act (86/1993)

April 2020

### PLANT DISCARD

#### 1. COMPANY INFORMATION

Name: Thabazimbi Iron Ore Mine Proprietary Limited  
Address: Thabazimbi Mine, R510, Donkerpoort  
Thabazimbi, 0380  
Trading Name: Thabazimbi Iron Ore Mine  
Registration number: 2006/034408/07  
Tel Number: + 27 (0)76 560 4523

#### 2. HAZARDS IDENTIFICATION

The discard of 66% ferric oxide ( $\text{Fe}_2\text{O}_3$ ), 21% silica oxide ( $\text{SiO}$ ), 4.7% aluminium oxide ( $\text{Al}_2\text{O}_3$ ), 1% calcium oxide ( $\text{CaO}$ ) and 1.1% magnesium oxide ( $\text{Mg}$ ). The material contains a variety of trace metals, but they are not available to the environment, except in the presence of acids. The Si is expected to be present in a size not to be harmful. Any respirable silica dust generated may cause health effects. Silicosis is normally associated with prolonged inhalation of crystalline silica dust.

The material is not considered hazardous during normal use and if precautionary measures are taken, and when recommended use instructions are followed. The following potential hazards should however be recognised:

**Target Organs:** May cause respiratory irritation upon exposure to high airborne concentrations. May cause eye irritation if material contacts eye.

**Hazard statements:**

May be harmful if swallowed (H303).

May be harmful if inhaled (H333).

**Precautionary Statement:**

Avoid inhaling dust.

Wear protective gloves/protective clothing/eye protection/face.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present.

Continue rinsing.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

**3. COMPOSITION AND INFORMATION ON INGREDIENTS**

The plant discard is composed of the following:

Constituent	Content (%)	CAS number
SiO <sub>2</sub>	21.4	7631-86-9
Al <sub>2</sub> O <sub>3</sub>	4.7	1344-28-1
Fe <sub>2</sub> O <sub>3</sub>	65.8	1309-37-1
TiO <sub>2</sub>	0.3	13463-67-7
CaO	1.0	1305-78-8
MgO	1.1	1309-48-4
K <sub>2</sub> O	0.5	1309-48-4
MnO	0.8	1344-43-0
P	0.1	7723-14-0

**4. FIRST AID MEASURES**

Eye: Flush eyes with plenty of water for a minimum of 15 minutes. Keep rotating the eyes to ensure complete flushing of all particles. Do not rub eyes. Seek medical attention promptly if irritation persists or any abrasions occur.

Skin: Not severely abrasive on skin but skin should be washed with cool water and mild soap or detergent if rash or irritation occurs.

Inhaled: No specific first aid measures are needed but remove affected person promptly to fresh air. Seek medical attention for discomfort or if coughing or other symptoms do not subside. Always use proper PPE.

**5. FIRE FIGHTING MEASURES**

Extinguishing Media: Dry powder, carbon dioxide, foam or water spray.

Exposure Hazards: The product will not ignite easily.

## 6. ACCIDENTAL RELEASE MEASURES

Personal Precaution: Wear personal protective clothing with a respiratory mask, to prevent dust inhalation. Ensure adequate ventilation.

Emergency: Isolate the spill and prevent further leakage or spillage.

Environmental: Prevent entry of the spilled product into waterways, sewers or confined areas.

Clean up methods: Sweep up and shovel it into suitable containers for re-use, recovery or disposal. Avoid creating a dust cloud.

Other Information: See Section 13 for disposal Considerations.

## 7. HANDLING AND STORAGE

Handling: Handle in a well-ventilated area. Keep dust formation to a minimum. Always wear correct PPE.

Protective clothing: Chemical protective clothing should not be required under normal circumstances when using this material.

Storage: No special storage requirements but store where excessive wind cannot disperse dust particles.

## 8. ENGINEERING MEASURES

Occupational Exposure Limits (OEL):

There are no exposure limits available for the waste stream, therefore the ingredients or a substance close to the ingredients will be used. Below is Exposure Limits for dust and silicon. The exposure limits for nuisance dust (particulates not otherwise regulated) are the most important and should be used. Dust to be suppressed.

Particulates not otherwise regulated – Total Dust

TWA 10 mg/m<sup>3</sup> (total) TWA 5 mg/m<sup>3</sup> (resp)

General Industry - TWA 15 mg/m<sup>3</sup>

Construction Industry – TWA 15 mg/m<sup>3</sup>

TWA 10 mg/m<sup>3</sup> (total) TWA 5 mg/m<sup>3</sup> (resp)

ACGIH Guideline: TWA 10 mg/m<sup>3</sup> (Inhalable Particles)

Silicon [CAS No. 7440-21-3]

TWA 10 mg/m<sup>3</sup> (total) TWA 5 mg/m<sup>3</sup> (resp)

TWA 15 mg/m<sup>3</sup> (total) TWA 5 mg/m<sup>3</sup> (resp)

Personal protection during working application:

Respiratory: Suitable dust masks of same nature as for nuisance dust  
(NB, recommendations/specifications to be informed by an  
occupational health practitioner.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Dark Grey
Odour:	None
Odour Threshold:	Not applicable since there is no odour
pH:	7.97
Melting Point:	Not Available
Boiling Point:	Not available
Flash Point:	Not Applicable Inorganic Substance
Evaporation Rate:	Not available
Flammability:	Not Flammable
Explosion limits:	Not Explosive
Vapour Pressure:	Not Available
Vapour Density:	Not Applicable
Relative Density:	Not Available
Water Solubility:	Not available
Partition Coefficient:	Not Applicable, Inorganic Substance

## 10. STABILITY AND REACTIVITY

**Chemical stability:**

Stable under normal temperatures and pressures

**Possibility of Hazardous Reactions:**

Avoid reactions with acids such as hydrofluoric acid and nitric acid and bases.

**Conditions to Avoid:**

Avoid generating dust.

## 11. TOXICOLOGICAL INFORMATION

**Acute Potential Effects:**

Possible silicosis, fibrosis, cancer

May be harmful if swallowed

May be harmful if Inhaled

**Chronic Potential Health Effects:**

The substance may be toxic to lungs and upper respiratory tract. Repeated or prolonged inhalation or unprotected exposure to the substance can produce target organ damage.

Likely routes of exposure: Eye contact, skin contact, inhalation

Target Organs: Skin, Eyes, Respiratory System

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**12. ECOLOGICAL INFORMATION**

**Persistence and Degradability:**

Most ingredients are of inorganic nature and do not biodegrade.

**Ecotoxicity:**

Daphnia: None

Fish: N/A

Aquatic Plants: N/A

Micro-algae Slight -short chronic hazard

Bacteria None

**Mobility in soil:**

Constituents relatively insoluble in water.

Expected to be relatively immobile in soil.

**Bioaccumulation:**

Constituents are insoluble and not expected to bioaccumulate.

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**13. DISPOSAL CONSIDERATIONS**

The preferred methods of disposal are firstly recycling or re-using and lastly landfill. Disposal should comply with the waste disposal legislation as well as any other municipal regulations. This product should never be disposed of down any drains or sewage lines or within watercourses.

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**14. TRANSPORT INFORMATION**

Transport Hazard Class: None

Environmental hazard: Not Applicable

Special Precaution for User: Not Hazardous for transportation. Avoid dust formation.

## 15. REGULATORY INFORMATION

No constituents contained in this product has been listed in the Hazardous Chemical Substances Regulations for the Occupational Exposure Limit.

### **National legislation:**

Waste Classification and Management Regulations (GN R.634 of 23 August 2013) National Norms and Standards for the Assessment of Waste for Landfill Disposal (GN R.635 of 23 August 2013)

SANS 10228:2010 The identification and classification of dangerous goods for transport (Edition 5)

SANS 10234- A List of classification and labelling of chemicals in accordance with the Globally Harmonized System (GHS)

National Road Traffic Act (Act 93 of 1996)

## 16. OTHER INFORMATION

Date of issue: 1<sup>st</sup> Issue; March 2020

Compiled by: Shangoni AQuiScience, a division of Shangoni Management Services (Pty) Ltd

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