

**MATERIAL SAFETY DATA SHEET  
TIGER MANGANESE®**

**Section 1 – Identification of Supplier**

**Product identifier:**

**Product Name:** Tiger MANGANESE®

**Shipping Name:**

**Suppliers Details:** Chemical Initiatives (Pty) Ltd

**Address:** AECI Place, Building 24, The Woodlands, Woodlands Drive, Woodmead, 2196, South Africa

**Telephone number**

+27 11 8068700

**Emergency number**

+27 11 608 3300

**Section 2 – Hazard identification**

Material components with chlorates, nitrates or other oxidizing agents may be explosive. Sulphur will react with alkalis or alkaline earths.

Note: the data and information presented herein are based upon tests, research and reports which are considered to be reliable and accurate. The data and information is presented without warranty, guarantee or liability on our part, and are present to the customer for his/her own consideration, investigation and verification.

**Section 3 – Composition / information on ingredients**

**Components:**

Sulphur (CAS No. 7704-34-9) : 57 %

Bentonite Clay (CAS No. 1302-78-9) : 10 %

Manganese (CAS No. 1344-43-0) : 15 % (as Mn)

**Section 4 – First aid measures**

**Eyes:**

Irrigate thoroughly with copious quantities water

**Skin:**

Wash with mild soap and water

**Ingestion:**

If swallowed, induce vomiting only if victim is conscious. Do not attempt to give anything by mouth to an unconscious person.

## Section 5 – Fire Fighting Measures

The product is not combustible

**Flash Point:** 188 °C

**Auto ignition Temperature:** 190 °C

**Lower Explosive Limit:** 35 g/m<sup>3</sup>

**Upper Explosive Limit:** 1 400 g/m<sup>3</sup> (dust)

**Basic fire fighting procedures:**

\* Fire Extinguishing Agents Recommendations

1. A fine water spray or fog is recommended
2. CO<sub>2</sub> or dry chemical
3. Small fires may be smothered with sand or soil sulphur

**\* Fire Extinguishing Agents to AVOID – Hoses and extinguishers with pressure streams should be avoided where solid sulphur is dusty or where it may create a further hazard by raising more dust clouds.**

**\* Special Fire Fighting Precautions: because burning sulphur evolves sulphur dioxide, breathing apparatus or gas masks approved for use in acid-gas atmosphere should be used. Fumes from unprotected sulphur fires shall be avoided, if possible, by approaching from the upwind side.**

**Fire degradation products:** combustion may produce sulphur dioxide

**Flammability:**

Conditions to avoid: heat sparks, open flame, static electricity or any other potential ignition source should be avoided. Avoid contact with incompatible materials.

**Unusual fire and explosion hazards:**

Dust suspended in air is readily ignited by flames, static electricity or friction spark. Every reasonable step must be taken to minimize dust formation. Dust tight castings should be equipped with explosion relief vents. Spark less electrical equipment is recommended. Handling equipment must be grounded or bonded to avoid static electricity. Keep away from source of flame or sparks. Detailed recommendation in Manufacturing Chemists Association SD-74 and National Safety Council 612 Bulletins covering "Sulphur" should be followed when handling TIGER MANGANESE<sup>®</sup> sulphur

## Section 6 – Accidental Release Measures

**Personal protection:**

Wear required personal protection equipment.

**Environmental Precaution:**

Do not release into sewers or waterways.

**Methods for cleaning up:**

Sweep up and try keeping dust to a minimum. Cover with tarp. For landfill disposal, mix with limestone 3 times the weight of sulphur.

## Section 7 – Handling and Storage

### **Ventilation:**

Local exhaust if dusty conditions prevail.

### **Normal Handling:**

Avoid breathing dust and keep clothing as free from dust as possible.

### **Storage:**

Solid becomes corrosive to metals when stored wet. Sulphur/bentonite fertilizer will physically break down when exposed to water or moisture.

## Section 8 - Exposure Controls and Personal Protection

### **Engineering Controls:**

Avoid high dust concentration and provide ventilation where necessary.

### **Personal Protection**

#### **Eye and face protection:**

Dust-tight goggles with plastic or rubber frames may be helpful in dusty conditions

#### **Respiratory Protection:**

Dust-type respirators shall be provided for dusty conditions. Breathing apparatus must be available for emergency in case of fire.

#### **Hands, Arms and Body Protection:**

Workers whose skin may be sensitive to sulphur dust should button collars, roll sleeves down, and gather trousers at the ankle. Gloves may be helpful.

#### **Other Protective Clothing or Equipment:**

Hard hat and safety shoes. Fire-retardant fabrics are recommended. Sulphur impregnated clothing should not be worn.

## Section 9 – Physical and Chemical Properties

<b>Boiling Point:</b>	444 °C
<b>Melting Point:</b>	119 °C
<b>Vapour Density:</b>	> 1
<b>Physical State and Appearance:</b>	Charcoal grey/black (pellet or pastille in shape)
<b>Odour threshold:</b>	Not applicable
<b>Specific Gravity:</b>	Solid, 2.07 g/ml
<b>Vapour Pressure (mm Hg at 20 °C)</b>	Solid: less than 0.0001 mm Hg at 20 °C
<b>Volatiles by Volume:</b>	Not applicable
<b>Evaporation Rate:</b>	Not applicable

## Section 10 – Stability and Reactivity

### **Stability:**

Stable

**Conditions to avoid:**

Fire and dust explosions

**Materials to avoid:**

Zinc clad, copper bearing alloys and aluminium. Water reactive materials.

**Hazardous Polymerization:**

Will not occur.

### Section 11 – Toxicology

**Toxicological Information:**

**Primary routes of entry:**

**Inhalation:**

Sulphur dust may irritate the mucous membranes of the respiratory passage.

**Ingestion:**

Minimal toxicity, irritating to mouth, throat and stomach. May cause digestive tract disorder/damage.

**Eyes:**

Sulphur dust is capable of irritating the inner surfaces of the eyelids.

**Permissible concentration:**

None established

**Unusual Chronic Toxicity:** Not applicable

### Section 12 – Ecological Information

Users should ensure that they comply with local, provincial and national environmental legislation.

**Environmental fate and mobility:** No information available

**Persistence, degradation, bioaccumulation available:** No information available

**Effect on effluent treatment:** No information available.

### Section 13 – Disposal Considerations

**Disposal:**

Contact your supplier for detailed recommendation. Follow applicable federal, state and local regulations. This product has been evaluated for RCRA characteristics and should not meet criteria of a hazardous waste if discarded in its purchased form. It is the responsibility of the user of the product to determine at the time of disposal, whether the product meets the RCRA criteria for hazardous waste, as product uses, transformations, mixtures, processes etc. may render the resulting material hazardous.

**Disposal Regulatory Requirements:** Follow applicable federal, state or local regulations.

**Container Cleaning and Disposal:** Wipe containers clean.

### Section 14 – Transport

SANA 10228:2006. Special Provisions 242 states that sulphur is considered non dangerous for transport when it has been formed into a specific shape (prills, granules, pellets, flakes). It is therefore considered low hazardous.

	Land	Air	Sea
<b>UN:</b>			
<b>Proper Shipping name:</b>	Not regulated		
<b>Transport Hazard:</b>			
<b>Packing Group:</b>			
<b>Subsidiary Risk:</b>			
<b>ERG:</b>			
<b>Marine Pollutant:</b>			
<b>Special Provisions: SANS 10228: 2010 Section 242</b>			
<b>Transport in bulk SANS 1031:2010</b>			
<b>Hazchem Label</b>			

### Section 15 – Regulatory Information

Users should ensure that they comply with relevant local, state or national legislation

## Section 16 – Other Information

### **NFPA Hazard Ratings:**

Health: 1

Fire: 0

Reactivity: 0

0 = insignificant, 1 = slight, 2 = moderate, 3 = high, 4 = extreme

### **DISCLAIMER:**

Chemical Initiatives (PTY) Ltd provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a proper-trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. Chemical Initiatives (Pty) Ltd makes no representations or warranties, either express or implied, including without limitation any warranties of merchantability, fitness for a particular purpose with respect of the information set forth herein or the product to which the information refers. Accordingly, Chemical Initiatives (Pty) Ltd will not be responsible for damages resulting from use of or reliance upon this information.

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