

## Material Safety Data Sheet

Date Printed: 06/DEC/2004

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Version 1.2

According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

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1 - Product and Company Information

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Product Name                   BARIUM MANGANATE, TECH., 90%  
Product Number                210196

Company                        Sigma-Aldrich Pty, Ltd  
                                  Unit 2, 14 Anella Avenue  
                                  Castle Hill NSW 1765  
                                  Australia

Technical Phone #             +61 2 9841 0555  
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2 - Composition/Information on Ingredients

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Product Name	CAS #	EC no	Annex I Index Number
BARIUM MANGANATE	7787-35-1	232-109-6	056-002-00-7

Formula                        BaMnO4  
Molecular Weight               256.28 AMU

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3 - Hazards Identification

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SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT  
Harmful by inhalation and if swallowed.

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4 - First Aid Measures

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## AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

## AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

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5 - Fire Fighting Measures

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## EXTINGUISHING MEDIA

Suitable: Water spray.

## SPECIAL RISKS

Specific Hazard(s): Contact with other material may cause fire.  
Emits toxic fumes under fire conditions.

## SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

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## 6 - Accidental Release Measures

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### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

### METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

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## 7 - Handling and Storage

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### HANDLING

Directions for Safe Handling: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure. Use only polyethylene tools and containers.

### STORAGE

Conditions of Storage: Keep tightly closed.  
Unsuitable: Do not store near, nor allow contact with, clothing and other combustible material.

SPECIAL REQUIREMENTS: Moisture sensitive.

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## 8 - Exposure Controls / Personal Protection

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### ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

### GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

### PERSONAL PROTECTIVE EQUIPMENT

Special Protective Measures: Wear appropriate government approved respirator, chemical-resistant gloves, safety goggles, other protective clothing. Rubber apron.

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## 9 - Physical and Chemical Properties

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Appearance	Color: Deep grey Form: Fine crystals	
Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	N/A	
Flash Point	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
Vapor Pressure	N/A	
SG/Density	4.85 g/cm <sup>3</sup>	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	

Bulk Density	N/A
Decomposition Temp.	N/A
Solvent Content	N/A
Water Content	N/A
Surface Tension	N/A
Conductivity	N/A
Miscellaneous Data	N/A
Solubility	N/A

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## 10 - Stability and Reactivity

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### STABILITY

Conditions to Avoid: Moisture

Materials to Avoid: Acids, Reducing agents.

### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Nature of decomposition products not known.

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## 11 - Toxicological Information

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### SIGNS AND SYMPTOMS OF EXPOSURE

Men exposed to manganese dusts showed a decrease in fertility. Chronic manganese poisoning primarily involves the central nervous system. Early symptoms include languor, sleepiness and weakness in the legs. A stolid mask-like appearance of the face, emotional disturbances such as uncontrollable laughter and a spastic gait with tendency to fall in walking are findings in more advanced cases. High incidence of pneumonia has been found in workers exposed to the dust or fume of some manganese compounds. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

### ROUTE OF EXPOSURE

Inhalation: Material is irritating to mucous membranes and upper respiratory tract.

Multiple Routes: Harmful if inhaled or swallowed. Causes eye and skin irritation.

### TARGET ORGAN INFORMATION

Nerves. Blood. Kidneys. Lungs.

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## 12 - Ecological Information

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No data available.

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## 13 - Disposal Considerations

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### SUBSTANCE DISPOSAL

Cautiously acidify a 3% solution or a suspension of the material to pH 2 with sulfuric acid. Gradually add a 50% excess of aqueous sodium bisulfite with stirring at room temperature. An increase in temperature indicates that a reaction is taking place. If no reaction is observed on the addition of about 10% of the sodium bisulfite solution initiate it by cautiously adding more acid. If manganese, chromium, or molybdenum are present adjust the pH of the solution to 7 and treat with sulfide to precipitate for burial as hazardous waste. Destroy excess sulfide, neutralize, and flush the solution down the drain. Observe all federal, state, and local environmental regulations.

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## 14 - Transport Information

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### RID/ADR

UN#: 1479  
Class: 5.1  
PG: II  
Proper Shipping Name: Oxidizing solid, n.o.s.

### IMDG

UN#: 1479  
Class: 5.1  
PG: II  
Proper Shipping Name: Oxidizing solid, n.o.s.  
Marine Pollutant: No  
Severe Marine Pollutant: No  
Technical Name: Required

### IATA

UN#: 1479  
Class: 5.1  
PG: II  
Proper Shipping Name: Oxidizing solid, n.o.s.  
Inhalation Packing Group I: No  
Technical Name: Required

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## 15 - Regulatory Information

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### CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

ANNEX I INDEX NUMBER: 056-002-00-7  
NOTA: A  
INDICATION OF DANGER: Xn  
Harmful.  
R-PHRASES: 20/22  
Harmful by inhalation and if swallowed.  
S-PHRASES: 28  
After contact with skin, wash immediately with plenty of water.

### SWITZERLAND

SWISS POISON CLASS: 2

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## 16 - Other Information

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### WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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