

Material Safety Data Sheet

No.: MSDS-UM04
Date: Mar 1, 2017

MANGANESE SULPHATE MONOHYDRATE

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Manganese Sulphate Monohydrate

CHEMICAL FORMULA: $MnSO_4 \cdot H_2O$

MOLECULAR WEIGHT: 169.01

CAS NO.: 10034-96-5 (monohydrate) 7785-87-7 (anhydrous)

Company Information

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SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS	% (BY WEIGHT)	CAS NUMBER	CLASSIFICATION
Manganese Sulphate mono	96-100% (as $MnSO_4 \cdot H_2O$)	10034-96-5 (monohydrate)	Not regulated (China GB 12268-2012)

SECTION 3 HAZARDS IDENTIFICATION

HAZARD CLASS: Not regulated by China GB 12268-2012.

ROUTES OF ENTRY: Inhalation, ingestion.

HEALTH HAZARDS: Harmful if swallowed. Irritating to eyes and skin.

ENVIRONMENT HAZARDS: Not regulated.

FIRE/EXPLOSION HAZARDS: Not classified as fire and explosion hazards.

SECTION 4 FIRST-AID MEASURES

SKIN: Take off contaminated clothing and flush skin with plenty of water.

EYES: Flush eyes with plenty of water. Seek medical attention if symptoms persist.

INGESTION: Give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Seek medical attention.

INHALATION: Remove to fresh air. Seek medical attention for any breathing difficulty.

SECTION 5 FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: This product does not burn or support combustion. Use extinguishing media appropriate for surrounding fire.

HAZARDS: This product is non-flammable.

PROTECTION: Wear a self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment.

SECTION 6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Wear protective equipment to prevent skin and eye contamination and inhalation of dust.

ENVIRONMENTAL PRECAUTIONS: Prevent entry into sewers or streams and other water bodies.

DISPOSAL METHODS: Use appropriate tools to put the spilled material into a sealed container and hold for reuse or later disposal.

SECTION 7 HANDLING AND STORAGE

HANDLING: Avoid breathing dust. Avoid contacting skin, eyes and clothing. Use with adequate ventilation. No smoking, eating and drinking water at workplace. Avoid prolonged or repeated exposure.

STORAGE: Store in dry place, keep away from moisture and avoid physical damages.

PRECAUTIONS: Please pay attention to SECTION 10 CONDITIONS TO AVOID and MATERIALS TO AVOID.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS: - CHINA GBZ 2-2002: No data for Manganese Sulphate
Manganese and inorganic compounds, as MnO₂: PC-TWA 0.15mg/m³; PC-STEL
0.45mg/m³

- OSHA PEL: 5 mg/ m³ Ceiling for manganese compounds as Mn

- ACGIH TLV: 0.2 mg/ m³ (TWA) for manganese, elemental and inorganic compounds as Mn

ENGINEERING CONTROLS: Use adequate exhaust ventilation to keep airborne concentrations below the allowable exposure limits.

RESPIRATORY PROTECTION: Dustproof respirators.

HAND PROTECTION: Protective gloves.

EYE PROTECTION: Safety glasses. Goggles.

SKIN AND BODY PROTECTION: Resistant protective clothing.

HYGIENE PRECAUTIONS: No smoking, eating and drinking water at workplace. Washing hands before eating. Taking bath after work.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Solid

COLOUR: Red or pink crystals.

ODOUR: Odourless

pH VALUE: 5.0-7.0

MELTING POINT: 700°C (1292°F)

BOILING POINT: 850°C (1562 °F) (decomposes)

DECOMPOSITION TEMPERATURE: 850°C (1562 °F) (decomposes)

FLASH POINT: N/A

AUTOIGNITION TEMPERATURE: N/A

EXPLOSION PROPERTIES: No explosion property.

VAPOUR PRESSURE: N/A

VAPOUR DENSITY(Air=1): N/A

DENSITY/SPECIFIC GRAVITY (Water=1): 2.95

SOLUBILITY: Almost insoluble in water.

OCTANOL/WATER PARTITION COEFFICIENT: N/A

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID: High temperatures, moisture

MATERIALS TO AVOID: Incompatible materials, High temperatures, moisture.

HAZARDOUS POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS: May produce oxides of iron and/or carbon.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY: Acute Oral LD50: Not Available.

Acute Dermal LD50: Not Available.

Acute Inhalation LC50: Not Available.

EYES: Pain, redness.

SKIN: Unlikely to cause adverse effects.

INGESTION: Nausea, vomiting, diarrhoea.

INHALATION: Cough, pain, shortness of breath, etc.

CHRONIC EXPOSURE: Excessive inhalation of dust may result in shortness of breath and reduced pulmonary function. Symptoms of silicosis include impaired pulmonary function and wheezing.

TERATOGENICITY: N/A

PRODUCTION TOXICITY: N/A

MUTAGENICITY: N/A

CARCINOGENICITY: Not listed as a suspected / confirmed carcinogen by IARC, NTP.

SECTION 12 ECOLOGICAL INFORMATION

OVERVIEW: Don't allow undiluted product or large quantities to penetrate into ground water, water bodies or sewage system.

BIODEGRADABILITY: N/A

ECOTOXICITY: N/A

SECTION 13 DISPOSAL CONSIDERATIONS

METHODS OF DISPOSAL: Dispose of according to all applicable governments' regulations.

CONTAMINATED PACKAGING: Empty packaging should be recycled or disposed of through an approved waste management facility.

SECTION 14 TRANSPORT INFORMATION

PROPER SHIPPING NAME: Not regulated

UN NO.: N/A

HAZARD CLASS (IMDG): N/A

PACKING GROUP: N/A

MARINE POLLUTANT: N/A

SECTION 15 - REGULATORY INFORMATION

China: Not listed as dangerous goods by GB 12268-2012.

International: Please pay attention to any applicable national regulations as to the hazard and safety information of this product.

SECTION 16 ADDITIONAL INFORMATION

Last Revised: Mar. 1, 2017 Effective date: Mar. 1, 2017

The information contained herein is presented in good faith, based on our knowledge and is intended to describe the product for the purpose of health and safety requirements only. It should not, therefore, in itself be construed as a warranty or guarantee of any special quality relating to the product, which will depend on the terms of the sales contract. No warranty is expressed or implied regarding the accuracy of this data. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.

End of Report
