Technical Data Sheet

Agriculture Grade Manganese Sulfate Monohydrate (Powder/Granular)

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1. Product Description

Agriculture grade manganese sulfate monohydrate is a vital micronutrient source specifically designed for crop nutrition. Available in both powder and granular forms, it provides a consistent manganese (Mn) content with minimal impurity levels. This product is highly suitable for integration into fertilizer manufacturing processes and for direct soil correction applications. It adheres to stringent agronomic quality standards, ensuring efficient plant uptake and optimal crop health.

2. Technical Specifications

The following table details the key technical parameters of the agriculture grade manganese sulfate monohydrate:

Parameter	Typical Value
$MnSO_4 \cdot H_2O$ Purity	≥ 98.5%
Manganese (Mn) Content	30–32%
Moisture (Powder)	≤ 1.0%
Moisture (Granular)	≤ 0.5%
Particle Size (Powder)	95% pass 100 mesh
Particle Size (Granular)	2–4 mm
Bulk Density	0.9–1.2 g/cm³
Iron (Fe)	≤ 0.05%
Calcium (Ca)	≤ 0.2%
Magnesium (Mg)	≤ 0.2%
Lead (Pb)	≤ 10 ppm
Copper (Cu)	≤ 10 ppm
Zinc (Zn)	≤ 10 ppm

Note: Controlled levels of Fe, Ca, Mg, and heavy metals ensure consistent micronutrient delivery in fertilizer blends and soil applications.

3. Key Features

- **High Purity and Stable Mn Content:** Guarantees predictable crop response due to its high purity and consistent manganese levels.
- **Flexible Forms:** Offered in both powder and granular forms, allowing for versatile integration into various fertilizer blends and soil amendment programs.
- **Low Impurity Levels:** Minimized Fe, Ca, and Mg impurities reduce antagonistic interactions with other essential nutrients, promoting balanced uptake.
- **Minimized Heavy Metals:** Lead (Pb), Copper (Cu), and Zinc (Zn) levels are strictly controlled to meet agricultural safety standards, safeguarding crop and environmental health.

- **Consistent Particle Size:** Ensures uniform distribution and blending efficiency in compound fertilizers or micronutrient packages.
- **Versatile Application:** Suitable for direct soil application, solubilization in liquid fertilizers, and incorporation into controlled-release granules.

4. Applications

- **Micronutrient Fertilizer Blends:** Serves as a reliable manganese source in NPK (Nitrogen, Phosphorus, Potassium) + micronutrient products.
- **Soil Correction Programs:** Effectively corrects manganese deficiencies in soils, which are crucial for enzyme activity and chlorophyll synthesis in plants.
- **Foliar Spray Solutions:** The soluble powder form is ideal for preparing foliar manganese treatments, allowing for quick nutrient absorption.
- **Crop Nutrition Programs:** Supports the healthy growth of a wide range of crops, including cereals, vegetables, fruits, and specialty crops, by providing essential manganese.
- **Controlled Release Granules:** The granular form is compatible with coated or slow-release fertilizer systems, offering sustained nutrient delivery.
- **Hydroponic and Greenhouse Feed:** Easily dissolves in nutrient solutions for precise and controlled manganese delivery in hydroponic and greenhouse cultivation.

5. Packaging & Supply

- **Standard Packaging:** Available in 25 kg kraft paper bags with an inner PE liner, ensuring product integrity and protection.
- **Export Packaging:** Palletized export packaging options are available for secure international shipping.
- **Container Shipments:** Capable of 20 GP (General Purpose) and 40 HQ (High Cube) container shipments to accommodate various order sizes.
- **Bulk Options:** Bulk packaging solutions can be provided upon request to meet specific customer needs.
- **Samples:** Product samples are readily available for agronomic testing and evaluation.