

# 12-0-0 with 6% Fe and 2% Mn

## LIQUID FEED FOR TURF AND ORNAMENTALS

### MATERIAL SAFETY DATA SHEET

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#### **I NOMENCLATURE**

**Product Name:** 12-0-0 with 6% Fe & 2% Mn  
**Chemical Name:** solution of Ferrous and Manganese sulfates  
**Synonyms:** Horticultural Iron nutritional spray:

#### **II HAZARDOUS INGREDIENTS**

	Nominal %	CAS-No.	OSHA/TWA	OSHA Ceiling
Ferrous sulfate heptahydrate	29%	7782-63-0	Not listed	
Soluble iron salts as Fe			1 mg/m <sup>3</sup>	
Manganese sulfate	6.8%	10034-96-5	Not listed	
Manganese compounds as Mn				5 mg/m <sup>3</sup>

#### **III HEALTH HAZARD DATA**

**Routes of Entry:** Inhalation (yes) Skin (Yes) Ingestion (Yes)

##### **Hazards Acute and Chronic:**

**Inhalation:** Irritation to trachea and lungs, breathing difficulty.

**Skin: & Eyes:** Corrosive to skin and eyes

**Ingestion:** GI Tract irritation, shock, liver damage, tachycardia and death.

The ingredients in this product are not listed or not established as carcinogens by IARC, NTP, or OSHA.

**Signs & Symptoms of exposure:** Irritation or itching, stinging of eyes, breathing problems, stomach ache, acidic or sour taste.

**Medical conditions generally aggravated by exposure:** Dermatitis, asthma, conjunctivitis, stomach or digestive problems. .

#### **IV FIRST AID**

**EYE Exposure:** Flush eyes for 15 minutes with gentle stream of water, lift upper and lower lids occasionally while flushing. Remove contact lenses while flushing. Get medical attention.

**SKIN Exposure:** Remove contaminated clothing and flush all exposed skin surfaces thoroughly with water, then with soap and water. If irritation develops, see a physician.

First Aid for **INHALATION:** Remove from exposure. If irritation develops, see a physician.

First aid if **SWALLOWED:** If victim is conscious, give large amounts of milk or water. Induce vomiting by sticking finger down throat. Vomiting may occur spontaneously. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. Seek immediate medical attention.

**SYMPTOMS of OVEREXPOSURE:** Eye irritation, respiratory difficulties, nausea and vomiting and dermal allergic response.

#### **V PHYSICAL PROPERTIES**

Boiling Point: < 212°F water base

Vapor Density: 0.60 gr/L @ 100°C & 760 mm

Density: 11.2 lb/gal

Odor: Acidic

Solubility in water: Soluble

Appearance: Brownish Green

pH: 3-3.5

#### **VI FIRE AND EXPLOSION DATA**

**Flash point:** None (water base)

**Flammable limits:** Not applicable

**Extinguishing media:** None. Consider surrounding materials.

**Special fire fighting procedures:** Use water spray to prevent overpressurization of containers.

Fight fire upwind and wear self-contained breathing apparatus, and full protective equipment.

**Unusual fire and explosion hazards:** None expected.

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**Incompatibility (materials to avoid):** Oxidizing agents, Alkalies. Storage at high temperatures

**Hazardous decomposition products:** Oxides of sulfur

**Hazardous polymerization:** Will not occur.

**Stability:** Stable under normal storage conditions. Storage temperatures preferably above freezing and below 75°F

**Conditions to avoid for stability:** High storage temperatures.

**VIII SPILL OR LEAK PROCEDURES** Dike and absorb on absorbent material such as clay or soil.

Shovel absorbed material into recovery drums. If possible, use recovered material according to label instructions. Dispose of discarded material in accordance with federal, state and local regulations.

Wear recommended protective clothing during spill recovery.

**IX Exposure Control Data** Avoid breathing spray mist. Avoid contact with skin and eyes. Wear safety glasses with side shields or chemical goggles, acid resistant gloves, clean body covering work clothing and a NIOSH approved mask for mists. Do not wear contaminated clothing.

Material is to be diluted with water. Where exposure to diluted material is prolonged follow exposure controls above.

**X SPECIAL PRECAUTIONS:**

Material will severely stain concrete and other masonry and painted surfaces.

**XI TRANSPORTATION AND SELECTED REGULATORY INFORMATION**

Material is regulated by US DOT for surface transportation in packing sizes offered.

**SHIPPING CLASS:** Manufactured Fertilizer Compounds, NOI, Liquid NMFC 68140 sub 6.

**Hazardous Shipping Description:** Corrosive liquid, acidic, inorganic nos (ferrous sulfate solution) 8, UN 3264 PG III.

**Sara Title III:** Section 311/312 This product is a hazardous chemical under 29 CFR 1910.1200 and is categorized as an immediate and delayed health hazard.

**CERCLA and SARA Title III section 304:** This material has A component with A reportable quantity (RQ).  
Ferrous sulfate CAS# 7720-78-7      RQ 1000 LB

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