



# Technical Sheet

## Manganese 22% Water Soluble Fertilizer

### Properties:

**Chemical identity:**..... Manganese Ammonium Citrate  
**Guaranteed Analysis:**..... 22% Manganese Sulphate  
**Formulant:**..... 20% Citric Acid  
**Bag size:**..... 11.34 kg (25 pounds)  
**UAP Product Code:**..... 04268  
**Physical State:**..... dry crystalline water soluble  
**Color:**..... white  
**Density:**..... not applicable  
**pH:**..... 1% solution = 2  
**Solubility:**..... 100%  
**% Chelated:** ..... not applicable  
**Fertilizer Registration #:**..... 2001036B  
**Storage:**..... keep dry

### General Use and Precautions:

- ✓ Use of this product is intended for ***foliar*** applications only.
- ✓ Mixing:
  - Use stainless steel, fiberglass, polyethylene, or certain other plastic materials for mixing.
  - Addition of the Manganese 22% will lower the pH of the spray solution
  - Add water to spray tank, then slowly add Nortrace Manganese 22% while agitating allowing enough time for the soluble nutrient to completely dissolve. Apply in a water volume of 5 to 20 gallons/acre. Once dissolved, it will stay in solution. When tank mixing with other materials, add and dissolve the Manganese 22% first. Always conduct jar test to ensure compatibility of pesticide or fertilizer products. *Jar test only indicates compatibility and does not guarantee efficacy. Consult label of pesticides or fertilizers for more details.*
- ✓ Foliar application should be made in early morning or late evening. Some foliar burning could result if applied during hot, dry daytime conditions.
- ✓ Consult the product label for specific recommendations on storage, warranty, first aid, use on crops and compatibility with other products.
- ✓ Addition of a non ionic surfactant is recommended.

### Typical Rates and Timing of Application: Field Crops

Crop	Rate pounds/acre		Timing
	Low	High	
Beans	1	2	between 2nd and 4th trifoliolate and subsequent applications. split applications are preferred over single applications
Cereals	0.5	1.5	late tillering to flowering, split applications are preferred over single applications
Corn	0.5	1.5	late tillering to flowering, split applications are preferred over single applications
Potatoes	1	1.5	early spring, repeat applications every 2 to 4 weeks where deficiencies are known to occur.
Other	0.5	1.5	prior to first bloom and subsequent blooms, split applications are preferred over single applications

**NOTICE:** Nortrace, Ltd. warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for the purposes stated on such label only when used in accordance with the directions under normal use conditions. It is impossible to eliminate all risks inherently associated with the use of the product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Nortrace, Ltd. In no case shall Nortrace, Ltd. be liable for consequential, special or indirect damages resulting from the use or handling of this product. All such risks shall be assumed by the buyer. Except as expressly provided herein, Nortrace, Ltd. makes no warranties, guarantees or representations of any kind, either express or implied, or by usage of trade, statutory or otherwise, with regard to the product sold, including, but not limited to merchantability, fitness for a particular purpose, use or eligibility of the product for any particular trade usage. Buyer's or user's exclusive remedy, and Nortrace Ltd.'s total liability, shall be for damages not exceeding the cost of the product.