

# MANGANESE-PLUS™

Liquid Manganese

0-0-0 +8% Mn



FERTILIZERS

## TECHNICAL BULLETIN

### DESCRIPTION

**MANGANESE-PLUS™** provides this essential micro-nutrient with ACT®. Manganese is one of the essential nutrients that plants require for growth. Many processes are dependent on this nutrient, including chloroplast formation, photosynthesis, nitrogen metabolism and synthesis of some enzymes.

Manganese (Mn) is required by plants in the second greatest quantity compared to iron. Like any other element, it can have a limiting factor on plant growth if it is deficient or toxic in plant tissue.

### BENEFITS

- Promotes dark green leaf color
- Supports the photosynthetic pathway in all plants
- Improves plant respiration of atmospheric carbon dioxide
- Promotes root cellular elongation
- Activates resistance to root pathogens
- Improves nitrogen metabolism within the plant
- Promotes stress tolerance
- Easy to use liquid formula
- Use year-round

### APPLICATION

**SHAKE WELL OR STIR BEFORE USE.**

**MANGANESE-PLUS™** is highly concentrated and should be mixed with water to ensure adequate coverage. Jar test for compatibility prior to final tank mixing with other products.

**AGRICULTURE & HORTICULTURAL:** Apply 1-4 quarts per acre every 30 days with a fertilizer injection system or as directed by a qualified field rep.

**GREENS, TEES & TURF:** Foliar apply 1-2 quarts per acre in 25-50 gallons of water per acre or for smaller areas apply 1-2 ounces per 1000 square feet in 5-10 gallons of water. Apply every 7-10 days or as needed with sprayer. Water normally following application.

**FOLIAR FEEDING OF TREES & SHRUBS:** Dilute 1-2 quarts in 100 gallons of water and spray on foliage to point of runoff.

**DEEP ROOT FEEDING OF TREES & SHRUBS:** Mix 1-2 quarts to 100 gallons of water along with Biofeed ARBOR-PLUS™.

### GUARANTEED ANALYSIS

Sulfur (S) ..... 4.0%  
Manganese (Mn) ..... 8.0%

Derived from Manganese Sulfate.

### AVAILABILITY

- 2.5-gallon (9.46 L) jugs (2 per case)
- 30-gallon (113.56 L) drum
- 55-gallon (208.2 L) drum
- 275-gallon (1040.99 L) tote

### PHYSICAL CHARACTERISTICS

Appearance: Brown liquid

Weight: 10.6 lbs./gal.

pH Range: 7.2-8.2

Enzymatic activity may affect pH during storage.

### STORAGE AND CONTAINER DISPOSAL

Store at 50°-95°F / 10°-35°C. Do not store in direct sunlight.

Keep product in original container. Triple rinse and empty for recycling. Always dispose of container in accordance with local, state and/or federal regulations.

### CAUTION

**KEEP OUT OF REACH OF CHILDREN.** May be harmful if swallowed.

SDS available upon request.

Information regarding the contents and levels of metals in this product is available on the internet at:  
<http://www.aapfco.org/metals.html>

### CONDITION OF SALE

The information herein is believed to be accurate and reliable. Buyer and user assume all liability from use of this material. Follow directions carefully. Timing, method of application, weather, plant, crop or turf conditions and other factors are beyond the control of the seller.

*Amino-Carbon Technology® (ACT) is our proprietary base additive that is tested and proven to improve nutrient absorption, and promote plant growth and crop production.*



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