

Technical Bulletin

RSA Liquid Manganese 5%

RSA MicroTech LLC
P.O. Box 64589, St Paul, MN 55164-0589
1.800.426.5969 www.rsamicrotech.com

Introduction

RSA Liquid Manganese 5% can be used to correct manganese deficiencies in plants. RSA Liquid Manganese 5% is a lignosulfonate and is a premium formulation. It is derived from manganese nitrate and manganese sulfate. RSA Liquid Manganese 5% contains 2% nitrogen for improved nutrient uptake. RSA Liquid Manganese 5% is a lignosulfonate which has been successfully used in foliar applications for more than 30 years.

Symptoms

Major symptoms of manganese deficiency include:

- Pale green to yellow-red color between green veins
- Tips of small grains turn grey to white (grey-speck in oats)
- Mottled effect of yellowing in most plants with veins remaining dark green to olive green color.



Function of Manganese in Plants

- Serves as reducing agent to change Fe^{+++} to Fe^{++}
- Aids in synthesis of chlorophyll and functions in photosynthesis and nitrate assimilation
- Activates enzymes
- Essential for assimilation of carbon dioxide in photosynthesis
- Formulation of riboflavin, ascorbic acid, and carotene.

Crops Labeled

Berries: blueberry, raspberry, strawberry

Nut Crops: almond and other nut crops

Grain and Other Crops: alfalfa, barley, canola, corn, hops, lentil, mint, sorghum, soybean, sweet corn, rice, wheat, and cotton

Vegetables: broccoli, cabbage, cauliflower, carrot, celery, lettuce, onion, pea, pepper, potato

Tree and Fruit Crops: apple, citrus, grape, peach, plum and other tree fruits

Use Rates and Timing

RSA Liquid Manganese 5% is most often recommended at 1 to 3 quarts per acre as foliar application. Apply early in the growing season.

Storage

Store RSA Liquid Manganese 5% in stainless steel, fiberglass, polyethylene, or certain other plastic materials.



Technical Bulletin

RSA Liquid

Manganese 5%

Contents

Guaranteed Analysis 2-0-0

Nitrogen (N).....2.0%

1% Nitrate nitrogen

1% Urea nitrogen

Sulfur (S).....2.0%

Manganese (Mn).....5.0%

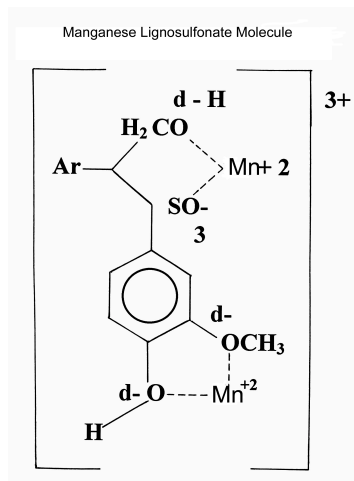
Arsenic (As).....<5 ppm

Cadmium (Cd).....<5 ppm

Lead (Pb).....<5 ppm

Derived from urea, manganese nitrate, and manganese sulfate. The manganese in this product is complexed with lignosulfonate.

Technical Specifications



Product class	fertilizer
Formulation	liquid
Weight/gallon	9.4 pounds
Specific gravity	1.13
pH (5% solution)	2.5
Solubility in water	miscible
Appearance	clear/dark brown
Odor	none
Min. storage temp.	32°F
Container size	bulk 250 gallon mini-bulks 2 x 2.5 gallon package

This bulletin provides some technical information and is not intended to give complete information for all applications. Always read and follow label directions.

Liquid Manganese 5% is manufactured for RSA MicroTech, LLC.

