

4% Magnesium and 10% Sulfur
Magnesium Thiosulfate Fertilizer Solution

MagThio®

Application Guide



Tessenderlo KERLEY

The Speciality Liquid Fertilizer People™

GUARANTEED ANALYSIS

Soluble Magnesium (Mg)	4%
Combined Sulfur (S)	10%

Plant Nutrient Sources

Soluble Magnesium: Magnesium Thiosulfate,

Density:

Lbs. per Gallon @ 60°F	10.3
Gallons per Ton	194.0

GENERAL INFORMATION

MagThio is a neutral to slightly acidic chloride free, clear solution, containing 4% magnesium and 10% thiosulfate sulfur. Each gallon of MagThio contains 0.4 pound of magnesium (Mg) and 1.0 pound of thiosulfate sulfur (S). MagThio may be applied by drip, sprinkler or flood irrigation. It may be blended with other fertilizers or applied as a foliar treatment on selected crops. When used as a foliar fertilizer, MagThio should first be diluted with water before applying. Blends of MagThio should not be acidified below a pH of 6.0.

MagThio may be blended with KTS® to supply both potassium and magnesium in a liquid blend.

MagThio is an efficient source of soluble magnesium and thiosulfate sulfur to aid in the correction and supplementation of these nutrient deficiencies in fruit and vegetable crops.

MagThio is compatible with some fertilizer solutions. **MagThio is not compatible with polyphosphate, sulfate and ammonium thiosulfate fertilizers.** In absence of specific recommendations and data, a jar test is recommended before mixing large quantities. The addition of water to the mixture may be helpful to maintain blend stability.

When blending with micronutrients and pesticides, trial blends should be conducted before beginning large-scale mixing.

When mixing other liquid fertilizers and/or pesticides with MagThio, the blend sequence should be as follows: water, pesticide, MagThio and/or other fertilizers.

KEEP OUT OF REACH OF CHILDREN • USE CAUTION WHEN HANDLING

APPLICATION AND USE GUIDELINES

MagThio may be applied to a wide variety of ornamental, turf, greenhouse, and other agricultural crops. **Application of MagThio should be made based on soil, fruit and/or plant tissue analysis for magnesium.**

For most growing conditions, magnesium should be applied during the early growing period for the best result.

SOIL APPLICATION

MagThio may be broadcast, banded or knife injected as a source of magnesium and sulfur. Rates may vary between 10 to 30 gallons gpa.

Preplant treatment, apply 15 to 30 gpa of MagThio via the irrigation water.

FERTIGATION

MagThio may be applied through most irrigation systems. Do Not inject MagThio directly in contact with an acid. Separate injection points by at least 5 feet with MagThio downstream from the acid.

OVERHEAD IRRIGATION

Apples:

Apply 3 to 6 gallons per acre (gpa) per application. Repeat as needed to achieve magnesium tissue levels desired.

Young Tree and Vine Crops:

Apply 2 to 4 gpa per application. Repeat as required.

Mature Tree and Vine Crops:

Apply 3 to 6 gpa per application. Repeat as required.

Potatoes:

Apply 5 to 10 gpa per application. Repeat as required to maintain adequate magnesium tissue levels.

Corn:

Apply 4 to 6 gpa per application. Repeat as required, every 2 weeks.

Other Crops:

Apply 4 to 8 gpa as needed, every 2 weeks.

DRIP IRRIGATION

Young Tree and Vine Crops:

Apply 4 to 6 gpa per application during the growing season. Allow 7 to 10 days between applications.

Mature Tree and Vine Crops:

Apply 5 to 10 gpa per application. Repeat two to three times during the growing season or as needed. Allow 7 to 10 days between applications.

Vegetable and Row Crops:

Apply 3 to 5 gpa per application. Repeat as needed during the growing season. Allow 7 to 10 days between applications.

FOLIAR APPLICATION

Apply when adequate canopy is present to intercept spray volume. Apply in sufficient volume to achieve good plant coverage, usually 20 gpa of spray solution for field crops. Always use a surfactant or TKI's N-Sure® liquid nitrogen product when applying foliar fertilizers to improve nutrient absorption.

The rates listed are for MagThio only. If other foliar nutrients are to be used along with MagThio, the applicator should contact the fertilizer dealer or a TKI representative for recommendations before treating. Do Not foliar apply within 30 days of an oil spray.

Field Crops

Potatoes:

Apply 3 to 5 quarts per acre (qts/acre) beginning when crop is 6 inches tall. Repeat application 3 to 4 times during the growing season.

Wheat and Grass Crops:

To help prevent Grass Tetany apply 2 to 2.5 gpa in enough water for good coverage; apply early in the season when warm weather is expected and before rapid growth occurs.

Corn, Cotton and Soybeans:

Apply 1 to 2 gpa in enough water for good coverage.

Other Crops:

Apply 1.0 to 1.5 gpa per application. Repeat applications as required. Before applying as a foliar spray to corn or other crops sensitive to sulfur, contact your fertilizer dealer or TKI representative for further information on proper rates and timing.

Tree Crops

Apples, Cherries, Pears, Filberts:

Apply 2 to 4 qts/acre in 100 gal of water. Treat as needed during the growing season.

Citrus:

Apply 4 to 8 qts/acre per 100 gal of water. Treat as needed during the growing season.

Vines:

Apply 2 to 4 qts/acre in enough water for good coverage. Treat as needed during the growing season.

ORNAMENTALS/ TURF

Ornamentals:

Apply one quart of MagThio per 1000 square feet, in the irrigation water, to growing plants.

Turf:

Apply MagThio in the irrigation water at 15 to 30 ounces per 1000 square feet. Apply as needed during the growing season as indicated by soil and tissue testing.

CAUTION (APPLICATION)

Do Not apply MagThio to foliage of crops sensitive (foliar burn) to sulfur.

Do Not mix with acid or acidic fertilizers below a pH of 6.0.

Do Not inject MagThio while chlorinating irrigation system. MagThio will neutralize the chlorine.

Be sure to check other manufacturers' labels concerning dormant oil treatment spray guidelines and foliar nutrient applications containing sulfur.

Do Not apply to foliage of any crop when temperatures are above 90° F. Apply MagThio in the early morning or late evening.

When mixing MagThio or any liquid fertilizer with pesticides, always keep agitators running during filling and spraying operations. Failure to maintain agitation may cause separation of products resulting in uneven spray application.

Pop Up Fertilizers: Many crops are sensitive to salts during germination. When soil moisture is low, delayed crop emergence and/or phytotoxicity may occur when fertilizer is placed too close to the seed. **Do Not use MagThio in pop up fertilizer when soil moisture is limited, soil salinity is above an electrical conductivity of 1.0 or when irrigation is delayed such that germination may be affected.**

Do Not apply MagThio with knife injectors or other types of fertilizer injecting equipment that may cause root pruning.

Sprinkler application of MagThio and other liquid fertilizers over an established crop may cause foliar injury to a crop if: injection period is short enough to cause an excessive amount of fertilizer to accumulate on the leaves; temperatures are above 90° F and humidity less than 30%; fertilizer rates are higher than recommended; irrigation pump breaks down during or immediately after injecting fertilizer; and/or any combination of these conditions.

Crop injury may result from unusual weather conditions, failure to follow application guide directions, or improper application practices, all of which are out of control of the manufacturer or seller. The directions on this application guide are believed to be reliable and should be followed carefully.

IN CASE OF SPILL

Contain spill and maximize recovery. Keep spill out of water sources. Exercise caution in area of spill for slippery conditions. Dispose of spilled material in accordance with regulatory requirements.

See MSDS sheet for additional information on safety and handling or visit our website at: www.tkinet.com.

TECHNICAL DATA - MagThio®

4% Magnesium and 10% Sulfur

PLANT NUTRIENT CONTENT WT. %

Soluble Magnesium (Mg).....	4.00
Total Sulfur (S).....	10.00
10% Combined Sulfur	

TYPICAL PROPERTIES

Specific Gravity.....	1.236
pH.....	6.50 - 7.50
Appearance	Clear, Colorless
Salting Out Temperature, °F	<15

FORMULATION AND APPLICATION FACTORS, 60° F

Density, lbs/gallon	10.30
Volume, gallons/ton	194.00
Pounds, Mg per gallon41
Pounds, S per gallon.....	1.00

PLANT NUTRIENT SOURCE

Magnesium Thiosulfate MgS₂O₃



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