

THE VERSATILE

MAGNESIUM THIOSULFATE

O-O-O-10S-4Mg

FERTILIZER SOLUTION

MagThio® – Magnesium Thiosulfate Solution

Soluble Magnesium (Mg)	4%
Combined Sulfur (S)	10%
Density: pounds per gallon at 68°F	10.4
Volume: gallons per ton	192

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 many 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.



ADD ESSENTIAL MAGNESIUM

WITH A VERSATILE LIQUID FERTILIZER

APPLICATION & USE RECOMMENDATIONS

See Application Precautions
on Page 3 Before Applying

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 per acre. For preplant treatment, apply 15 to 30 gallons per acre of MagThio via irrigation water.

FERTIGATION

Fertigation is the practice of injecting soluble fertilizer through irrigation systems using water as a nutrient delivery system to the crop.

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.

Before injecting MagThio into an irrigation system, make sure that the irrigation system is in good condition and provides uniform distribution to

the field. Application of nutrients like MagThio should be made in the middle third or second half of an irrigation set.

The injection of MagThio should be done slowly, and should last at least as long as it takes irrigation water to travel from the point of injection to the last emitter or sprinkler in the field. The injection of MagThio should be done with fertilizer injection pump and should be done over a 1 to 4 hour time period. Rapid injections of MagThio may lead to uneven distribution of fertilizer and may cause crop damage. For additional information about injection of nutrients into an irrigation system, consult with your local agronomist and review University of California publication 21620 "Fertigation with Microirrigation," or University of Florida Bulletin #250 "Injection of Chemicals Into Irrigation Systems: Rates, Volumes, and Injection Periods."

OVERHEAD IRRIGATION

Apples: Apply 3 to 6 gallons per acre per application. Repeat as needed to achieve magnesium tissue levels desired.

Young Tree and Vine Crops: Apply 2 to 4 gallons per acre per application. Repeat as required.

Mature Tree and Vine Crops: Apply 3 to 6 gallons per acre per application. Repeat as required.

Potatoes: Apply 5 to 10 gallons per acre per application. Repeat as required to maintain adequate magnesium tissue levels.

Corn: Apply 4 to 6 gallons per acre per application. Repeat as needed, every 2 weeks.

Other Crops: Apply 4 to 8 gallons per acre as needed, every 2 weeks.

DRIP IRRIGATION

Young Tree and Vine Crops: Apply 4 to 6 gallons per acre per application during the growing season. Allow 7 to 10 days between applications.

Mature Tree and Vine Crops: Apply 5 to 10 gallons per acre 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 gallons per acre 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 gallons per acre of spray solution for field crops. Always use a surfactant or N-Sure® 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 Tessengerlo Kerley, Inc. 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 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 gallons per acre 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 gallons per acre in enough water for good coverage.

Other Crops: Apply 1.0 to 1.5 gallons per acre 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 Tessengerlo Kerley, Inc. representative for further information on proper rates and timing.

TREE CROPS

Apples, Cherries, Pears, Filberts: Apply 2 to 4 quarts per acre in 100 gallons of water. Treat as needed during the growing season.

Citrus: Apply 4 to 8 quarts per acre per 100 gallons of water. Treat as needed during the growing season.

Vines: Apply 2 to 4 quarts per acre in enough water for good coverage. Treat as needed during the growing season.

ORNAMENTALS/TURF

Ornamentals: Apply 1 quart of MagThio per 1000 square feet, in irrigation water, to growing plants.

Turf: Apply MagThio in 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.

APPLICATION PRECAUTIONS

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 applications 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; temperature is above 90° F and humidity less than 30%; fertilizer rate is higher than recommended; irrigation pump breaks down during or immediately after injecting fertilizer; 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.



See SDS for additional information on safety and handling at: cropvitality.com/magthio

**Keep out of reach of children.
Use caution when handling.**

TECHNICAL DATA

MagThio 0-0-0-10S-4Mg



PLANT NUTRIENT CONTENT WEIGHT %

Magnesium (Mg)	4
Total Sulfur (S)	10

TYPICAL PROPERTIES

Specific Gravity	1.25
pH	6.5 - 8.0
Appearance	Colorless
Salt-Out Temperature	< 25°F

FORMULATION AND APPLICATION FACTORS, 68°F

Density: pounds per gallon	10.4
Volume: gallons per ton	192
Pounds of Magnesium per gallon	0.41
Pounds of Sulfur per gallon	1.0

The manufacturing process of MagThio is patent protected.

Warranty and Limitation of Damages

Tessenderlo Kerley, Inc. (TKI) warrants only that this product conforms to the product description in the Application Guide. Except as warranted by this description, TKI makes no representation or warranty or guarantee, whether expressed or implied, of fitness for a particular purpose of merchantability, or of product performance. TKI does not authorize any agent or representative to make any such representation, warranty or guarantee. To the extent consistent with applicable law, TKI's maximum liability for breach of its warranty or for use of this product, regardless of the form of action, shall be limited to the purchase price of this product. To the extent consistent with applicable law, buyer and user acknowledge and assume all risks and disposal liability resulting from handling, storage, use and disposal of this product. If buyer does not agree with or accept these warranty and liability limitations, buyer may return the unopened container to the place of purchase for full refund. Buyer's use of this product shall constitute conclusive evidence of buyer's acknowledgment and acceptance of the forgoing limitations. Some jurisdictions do not allow the exclusion of implied warranties or the limitation of certain damages, so the above may not apply. The purchase, delivery, acceptance and use of this product by the buyer are subject to the terms and conditions of seller's sales invoice for this product.

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CONTACT INFORMATION

TESSENDERLO KERLEY, INC.
2910 N. 44TH STREET, SUITE 100 | PHOENIX, AZ 85018
TELEPHONE: 602-889-8300 | TOLL-FREE: 800-525-2803
EMAIL: INFO@CROPVITALITY.COM | CROPVITALITY.COM

