



## Product Data Sheet

**Bio Plant Solutions B.V.**

# Biotracius Mn (Manganese)

**For horticultural and agricultural use**

Biotracius Mn is an innovative Natural Organic Liquid Manganese fertilizer, produced out of patented biological fermentation process and is approved for use in controlled organic crop farming. The natural chelate protects Manganese, the essential plant nutrient from any adverse chemical transformations under varied soil pH and or irrigation water pH. Biotracius Mn is therefore more readily available for uptake by roots or leaves, even in higher pH environment, and it is assimilated fast by the plants.

**Biotracius Mn is a 100% plant-based, biological and water soluble liquid formulation.**

Manganese deficiencies are widespread, preventative applications in annual crops preferably before or at least soon after emergence are recommended. Application of Biotracius Mn via irrigation system (the normal fertilizing scheme) or via spray on each new growth flush or when deficiency occurs will be **highly beneficial**.

### Function

Biotracius Mn prevents and can correct common Mn deficiency disorders affecting plant growth showing as chlorosis, discolouring of the leaf's turning from green to yellow(ish). The Manganese deficiency discolouring will occur at first in the leaf's just under the newest leaf's.

Manganese acts as an enzyme activator for nitrogen assimilation, it also aids in chlorophyll synthesis. Manganese also promotes the assimilation of Phosphorus and Calcium by the plants. Manganese assists Iron (Ferrous) in chlorophyll synthesis. Mn affects lignin building qualities and is critical in preventing lodging & disease.

### Specification

Appearance	: Liquid, dark brown
Natural Mn Chelate	: 22.0 – 25.0 %
Manganese	: 1.5 – 2.0 %
pH ( dilution 3 ml/l )	: 6.0 – 7.5
EC ( dilution 3 ml/l )	: 3.0 – 5.0 mS
Specific Gravity	: 1.10 – 1.30 kg/l
Solubility in water	: 100%

*Note: it is a product of nature and values can sometimes diverge.*

### Direction for use and storage

Biotracius Mn is designed for foliar and drip applications. Shake the container Biotracius Mn very well before use and stir the diluted stock solution before use.

Biotracius Mn must be stored with closed lid at room temperature (max. between 17-45 degrees Celsius) in a well ventilated place. Keep the containers tightly sealed when not in use and always keep out of direct sunlight. In situations of prolonged storage, big temperature differences and/or sudden temperature change there may be slight settling of the contents. This is reversible by shaking. Molecular Crystals can very rarely be formed when storage instructions are not followed, when this exceptional situation occurs these Crystals must be sieved out before use.

*Note: All organic matter based fertilizers have an unstable electrical conductivity after some time and as such it is not recommended to hold diluted stock solutions longer than two days. Store the solution in a cool/dark place.*

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### **Rate of Application**

Nature of crop, soil type and hence extent of Manganese deficiency will determine the rate of application. However, it is advised to apply Biotracius Mn in your normal fertilizing scheme through drip or other irrigation system at your desired dose and rate or @ 2 ml/L water as foliar spray at least 2 to 3 times at 15 days interval during vegetative crop growth stage.

Biotracius Mn can be applied via tank mixing, it is recommended to rinse the system after application with clean water.

*Note: Various Crop dosing specifics for application in various system are available, all dosing rates advised are a guide only.*

### **Compatibility**

Biotracius Mn is compatible in tank mixes with other Bio Plant Solutions (BCT) products as well as commonly used (biological) fertilizers and other water soluble products.

However, when used with other biological fertilizers, water soluble bacterial products, agrochemicals and water soluble fertilizers a practical test on small area prior to extensive use is advised.

### **Packaging**

Biotracius Mn is available in 5, 20, 200 and 1000 Litre containers. Customised packing in bottles or other containers is possible.

### **Precautions**

Biotracius Mn is a non-hazardous and non-inflammable liquid. It is advised to keep the product out of reach of children and to use the product with care. The use of protecting gloves and goggles is advisable.

Inhalation: No risk of vapour inhalation.

Skin Contact: Wash with soap and water. Seek medical advice if skin reaction occurs.

Eye Contact: Wash with copious amounts of water, monitor for an allergic reaction. Seek medical advice if allergic reaction occurs.

Ingestion: Rinse mouth with copious amounts water, drink copious amounts of water. If large quantities are ingested induce vomiting and seek medical advice.

*There are no warranties of merchantability or fitness for a particular purpose which extend beyond the description of the product in this Product Data Sheet or other product literature. Suggestions for use and information on results obtained with its use are assumed by the manufacturer to be reliable.*

*Since conditions of use are outside the control of Bio Plant Solutions, the buyer is responsible for all results, including injury and damage stemming from the use of this product alone or in combination with other materials.*