



**PRODUCT INFO
& DATASHEET**

CHELASTAR SINGLE ELEMENT CHELATES

CHELASTAR MANGANESE 13% EDTA

PREMIUM MICROGRANULAR MANGANESE CHELATE

Revised 06/2020

1. INTRODUCTION

* The CHELASTAR EDTA chelates are **produced using a unique patented micro-granulation process**. This method guarantees a strawberry-shaped microgranule that is free flowing, dust-free and caking-free, and easily soluble. As probably Belgium's main specialist in chelated micronutrients, SAP International Corporation offers also a line of trace element mixes, next to its line of single element micronutrients. This line of products contains a set of chemical mixtures of trace elements (compounds) and of physical mixtures of trace elements (blends).

Where required macronutrients and/or additives as amino acids and humic acids can be added to our blends of trace elements. Mainly used for nourishing plants in fertigation systems and as an ingredient for NPK's. EDTA chelates will not injure leaf tissue, which makes the product also ideal for foliar spraying.

*** What is EDTA ?**

EDTA, short for ethylenediaminetetraacetic acid, is a chelate which protects nutrients against precipitation in a moderate pH-range (pH 4 – 6.5). It has a similar pH-range to DTPA and the biodegradable IDHA chelate. The stability constant of EDTA is moderate, though slightly less than the stability constant of DTPA chelate.

2. PRODUCT SPECIFICATIONS

a) Description

Brand name : CHELASTAR Manganese 13% EDTA
 Chemical formula : $C_{10}H_{12}N_2O_8Na_2Mn$
 Chemical name : Ethylenediaminetetraacetic acid, manganese-disodium complex
 Appearance : white/yellowish microgranules

b) Chemical composition

Manganese (Mn), EDTA chelated : 13.0% +/-0.4% w/w

c) Physical properties

Density : 0.70 +/-0.05 g/cm³
 pH : 6 +/-1 (in 1% solution) // 5.5 +/-1 (in 0.1% solution)
 Electric conductivity (EC) : 3.2 +/-0.2 mS/cm (in 1% solution) // 0.4 +/-0.02 mS/cm (in 0.1% solution)
 Solubility : 412 g/L
 Insolubles : < 0.05 %
 Moisture : < 5 %
 Percentage of nutrient chelated : 100 %

d) Heavy metals

Arsenic (As) : < 0.5 mg/kg
 Cadmium (Cd) : < 2 mg/kg
 Chrome (Cr) : < 1 mg/kg
 Mercury (Hg) : < 0.01 mg/kg
 Lead (Pb) : < 1 mg/kg

3. PRODUCT CHARACTERISTICS

- A unique porous micro-granule: dust free, no caking and easily soluble. White/yellowish.
- Protection of the micro-nutrient against precipitation in a moderate pH-range (pH 4-6.5).
- For fertigation, foliar and as raw material in NPK's.
- Compatible with most water-soluble fertilisers.

4. RECOMMENDED APPLICATIONS & DOSING INSTRUCTIONS

a) Foliar applications

| Crop | dosage in kg/ha | Amount of water in l/ha | Application date |
|---------|-----------------|-------------------------|--------------------------------------|
| Cereals | 0.6 kg/ha | 200 – 300 l water | 2 applications : - 3 leaves stage |

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| | | | |
|--|------------------------------------|--|--|
| | 0.6 – 1.2 kg/ha | 200 – 300 l water | - propagation phase |
| Fruits general preventive treatment: curative treatment: | 0.1 – 0.3 kg/ha 0.2 – 0.5 kg/ha | 500 – 1,000 l water 500 – 1,000 l water | 1 application after blooming 2-3 applications, as of the first symptoms of chlorosis |
| Potatoes | 0.6 – 1.2 kg/ha | 200 – 300 l water | Three weeks after germination |
| Rape | 0.6 – 1.2 kg/ha | 200 – 300 l water | Before blooming |
| Sugar beet | 0.6 – 1.2 kg/ha | 200 – 300 l water | Before intercrop densening |
| Vegetables and flowers | 0.3 – 0.6 kg/ha | 500 – 1,000 l water | 2 applications, depending on crop |

In the case of foliar feeding as part of a spray-mix, testing the intended spray-mix on a small area is recommended prior to commercial treatment.

The mentioned indicated dosages and application stages are subject to soil and climatic conditions, influence of previous crops and other specific conditions. Exact dosage and application stages can only be given after an objective diagnostic procedure by e.g. soil, substrate and/or plant analyses.

b) Fertigation

| kg/1000 l water | Manganese (Mn) content | |
|-----------------|------------------------|--------|
| | g/1000 l water/ppm | mmol/l |
| 0.1 | 13 | 0.23 |
| 0.5 | 65 | 1.15 |
| 1.0 | 130 | 2.30 |

| Crop | Total dosage in kg/ha | Total dosage in g/tree | Application date |
|----------------------|-----------------------|------------------------|--|
| Banana | 2 - 5 kg/ha | 1.4 – 3 g/unit | 3 applications: - 1x: establishment stage - 2x: during intensive vegetative growth |
| Citrus | 3 – 5 kg/ha | 6 – 10 g/ha | 3 applications: - at fruit setting - at fruit filling - after harvest |
| Stone fruit | 0.34 – 4 kg/ha | 0.3 – 4 g/tree | 3 applications: - just after fruit setting - during intensive vegetative growth - after harvest |
| Strawberry | 0.5 – 1.5 kg/ha | | 3 applications: - just before blooming (white bud-stage) - at fruit growth - after harvest |
| Vegetables & flowers | 2 – 3 kg/ha | | 2-3 applications: - 4-6 leave stage - during intensive growth |

The pH in the tank should be above 4.

5. PACKINGS

Available in packings of 1, 5, 10, 25 and 1000 kgs.