



*"The suppliers of micronutrient products are many and various and micronutrient quality & efficacy can vary considerably. Chelastar efficacy micronutrient products are designed to meet the needs of the soils and the crops and the pockets of the growers and farmers who produce them for a living"*

Noël Sap, CEO



**CHELASTAR®**  
**CHELATED MICRONUTRIENTS POWDERS AND LIQUIDS**  
**YOUR KEY TO EFFECTIVENESS**







# MULTI MICRONUTRIENT FERTILISER



## PRODUCT DESCRIPTION

### CHEMICAL DATA

Description: Ethylenediamine tetraacetic acid (EDTA) chelates of copper, iron, cobalt, magnesium, manganese and zinc. Also inorganic salts of boron and molybdenum.

Typical Analysis (Conforms to the definition of an "EEC fertiliser". Deviations allowed as per EEC regulations)

Element		
Mg	5.0%	(partly chelated with EDTA)
Fe	4.5%	(EDTA chelated)
Mn	4.5%	(as EDTA)
Cu	1.0%	(as EDTA)
B	0.5%	(as Na salt)
Zn	1.25%	(as EDTA)
Co	0.05%	(as EDTA)
Mo	0.1%	(as Na salt)
Practical pH Stability Range: 4 - 9 (in aqueous solution). EEC Harmonised Tariff No: 31 05 90 99		



**STORAGE:** CHELASTAR® COMBI SP will store indefinitely under normal conditions. For user convenience it is recommended that the product is stored in a dry place. Re-seal partly used packs tightly.

## PRODUCT USE

### 1) FOLIAR APPLICATION

CHELASTAR® COMBI SP should be applied to the crop as a foliar spray using a conventional hydraulic spraying machine. The following points should be observed:

- 1) The sprayer should be fitted with nozzles that produce a fine mist.
- 2) Only sufficient spray solution should be applied to coat the leaves and stems with a film of moisture with little or no "run off".
- 3) Spraying should be carried out on a calm day BUT NOT DURING STRONG SUNSHINE OR HIGH TEMPERATURES. The best time is late afternoon or evening.

Rates of Use and Timing: CHELASTAR® COMBI SP may be applied in one application of 3.0 kg/ha but optimum results can be expected if repeat applications are used. In general foliar applications should be started early in the season as soon as there is sufficient leaf area to absorb the spray.







Crop	Rate of Use (kg/ha)	Timing
Ornamentals	0.5 - 1.0	As necessary during the growing season. DO NOT APPLY DURING FLOWERING.
Cereals	1.0	Early in season (GS 26).
e.g. wheat, barley	1.0	Mid season (GS 37).
millet, sorghum	1.0	At near emergence (GS 50). Repeat application after 10 to 14 days.
Rice	1.0	Before planting out.
Potatoes and other root crops	1.0	After crop is established in field. Apply three times at 2-3 week intervals after the crop meets in the rows.
Vegetables	1.0	Apply three times at 2-3 week intervals after the 5 true leaf stage
Fruit	1.0	and esp. during periods of rapid growth.
		Repeat the application several times in the season.
		DO NOT APPLY DURING FLOWERING.
	0.5	After fruit set (high volume).

**Water volume** : The amount of CHELASTAR® COMBI SP to be applied should be mixed with a volume of water appropriate to the crop leaf area of the type of spraying machine being used.

**Arable crops** : 200-300 litres per hectare

**Fruit crops** : 500-1000 litres per hectare

NB. Do not exceed a solution concentrate of 0.1% (100 grams per 100 litres of water).

**Small-Scale Use** : For example using a knapsack sprayer. Prepare a 0.05-0.1% (0.5-1.0 gram per litre) solution and apply so as to coat the leaves and stems with a thin film of moisture with little or no run-off.

**Mixing** : Simply add the CHELASTAR® COMBI SP slowly to the spray tank whilst the contents are under agitation.

**Compatibility**: CHELASTAR® COMBI SP is compatible with all other Chelastar products and many herbicides, fungicides, insecticides and other crop sprays.

## 2) FERTIGATION

CHELASTAR® COMBI SP should be added periodically at a rate of 100 g per 1000 L of final feed solution.

Frequency of addition will depend on degree of deficiency and crop response. CHELASTAR® COMBI SP can also be applied via drip irrigation : 300-500 g per 1000 L water every 10 days.

## 3) LIQUID FEEDS

In order to provide the trace element component of concentrated liquid feeds add CHELASTAR® COMBI SP at 1.5 - 3.0 kg per tonne.

## 4) COMPOSTS

CHELASTAR® COMBI SP should be incorporated at the following rates:

Seedling composts	20-30	g/m <sup>3</sup>
Potting composts	40-60	g/m <sup>3</sup>
Grow bags	75-115	g/m <sup>3</sup>

## 5) SOIL APPLICATION

When the plants are very chlorotic and/or very sensitive, then foliar application is not possible. CHELASTAR® COMBI SP can be applied via the soil : prepare a 0.5-2.0% solution (= 5-20 g Chelastar Combi SP/1 litre water) and apply 1 litre per square metre. On alkaline soils the effect is improved by adding 3-5 kg ammonium sulphate per 100 L solution. Adequate levels of soil applied micronutrients offer the most practical means of preventing plant micronutrient deficiencies. The economics certainly favour this approach.



DISTRIBUTOR :





SAP INTERNATIONAL CORPORATION  
offers a wide range of water soluble micronutrients,  
based on a range of chelates and complexing agents.



## CHELASTAR EDTA and EDDHA CHELATED MICRONUTRIENTS

At the top end of the market we have the micronutrients chelated with EDTA and EDDHA.

SP (SOLUBLE POWDER) - survey of our standard products :

CHELASTAR 13% Mn EDTA	CHELASTAR 10% Ca EDTA
CHELASTAR 14% Cu EDTA	CHELASTAR 6% Fe EDDHA
CHELASTAR 14% Zn EDTA	CHELASTAR 6.5% Fe EDDHA
CHELASTAR 6% Mg EDTA	CHELASTAR 10% Fe HEDTA

### CHELASTAR COMBI SP **TOPSELLER**

multi micronutrient fertiliser EDTA Chelates of copper, iron, cobalt, magnesium, manganese and zinc. Also inorganic salts of boron and molybdenum.

### CHELASTAR TONIC

economic fully soluble powder plant tonic for foliar and drip irrigation. Containing : 5.4% Mg - (8.96% MgO) 4% Fe - 4% Mn - 1% Cu - 0.5% B - 1.5% Zn - 0.1% Mo. Chelating agent : EDTA

### LIQUID EQUIVALENTS

- are ready to use - are available upon request -

### CHELASTAR-L BORON 15 **TOPSELLER**

a specially formulated liquid containing Boron (B) for the treatment of crops by foliar application. The formulation also contains a unique blend of surfactants and adjuvants to improve tank mixing compatibilities and enhance the topical spread, adhesion and absorption of the nutrients to the crop.

Contents : Boron (B) 11% w/w - 15.0% w/v - 150 g/l

### TROPICAL CHELASTAR NR.1

contains the following wide array of essential elements : 0.5% B - 1.5% Cu - 4% Fe - 4% Mn - 0.1% Mo - 5.4% Mg (8.96% MgO) - 1.5% Zn - 0.05% Co. Chelating agents : EDTA and 2-hydroxy-1,2,3-propane tricarboxylic acid.

### TROPICAL CHELASTAR NR.2

contains the following wide array of essential elements : 0.5% B - 0.4% Ca - 0.5% Cu - 4% Fe - 3% Mn 0.05% Mo - 2% Mg (3.32% MgO) - 4% Zn - 0.05% Co 6% S. Chelating agents : EDTA and 2-hydroxy-1,2,3-propane tricarboxylic acid.

Various CUSTOMISED MIXTURES that can include B and Mo.

### CHELASTAR-L SUPERMIX **TOPSELLER**

a liquid formulation of essential nutrients for foliar application to all responsive growing crops. The formulation also contains a unique blend of surfactants and adjuvants to improve tank mixing compatibilities and enhance the topical spread, adhesion and absorption of the nutrients to the crop.

Contents : 12% N - 5% P<sub>2</sub>O<sub>5</sub> - 5% K<sub>2</sub>O - 400 mg/kg Ca 500 mg/kg Mg (828 mg/kg MgO) - 150 mg/kg Mn (as Mn EDTA) - 350 mg/kg Fe (as Fe EDTA) - 150 mg/kg Cu (as Cu EDTA) - 100 mg/kg B - 100 mg/kg Zn (as Zn EDTA) 50 mg/kg Ni - 25 mg/kg Mo

## CHELASTAR CAC - CITRIC ACID CHELATED MICRONUTRIENTS

The CAC products perform in exactly the same way as the EDTA chelated materials, however they may be more efficient, economical and more environmentally and biologically compatible and friendly. Survey of our products :

CHELASTAR 6% Ca CAC (8.4% CaO)  
CHELASTAR 20% Mn CAC  
CHELASTAR 20% Cu CAC  
CHELASTAR 20% Fe CAC  
CHELASTAR 25% Zn CAC  
CHELASTAR 10% Mg CAC

Various CUSTOMISED MIXTURES are available with the addition of B and Mo.

### CHELASTAR-MIX SUGAR CANE

citric acid chelate for sugar cane, a fully soluble plant tonic for foliar application. Contents : 6% Fe (as CAC) 6% Mn (as CAC) - 5% Cu (as CAC) - 1% B (as Na salt) 2% Zn (as CAC) - 0.1% Mo (as Na salt)

### CHELASTAR MICROMIX CAC available in :

High Zinc variation : 10% Zn - 5% Fe - 2.5% Mn 2.5% Cu - 0.05% B - 0.01% Mo  
High Iron variation : 10% Fe - 2.5% Cu - 2.5% Mn 2.5% Zn - 0.05% B - 0.01% Mo.