

How to apply EPSO Top®

Foliar application:

- For optimum results it is recommended to apply **EPSO Top®** as a split dose in tank mixture with the normal spray program. For each treatment 2 - 5 kg of **EPSO Top®**, depending on the crop type (see table next page), should be used per 100 litres of water, giving a final concentration of 2 - 5% w/v. At high temperatures and when the air is dry, lower concentrations (2%) are recommended. A total of 25 kg/ha per season generally secures the peak magnesium and sulphur demands of most crops although upto 50 kg/ha may be used in highly deficient situations or where visible symptoms are present. **EPSO Top®** should be applied either in the early morning or late afternoon.

Fertigation:

- Fertigation is the supply of nutrients through irrigation systems either in the field or under glass. There are two principal systems (soil based and soilless) to which fertigation is applied and each requires different optimum concentrations of **EPSO Top®** (see table next page).
- EPSO Top®** is compatible for tank mixing with most crop protection products and fertilisers (always follow manufacturers' recommendations and test a small quantity in a suitable container prior to application). Care should be taken with products containing calcium due to the possible precipitation of water insoluble CaSO_4 .

Recommended application of EPSO Top® to various crops

Crop	Application timing	Concentration*
Cereals (wheat, barley, oats etc.)	From stem extension to grain filling in combination with spray program	5 %
Legumes (peas, beans, lucerne etc.)	Ground cover to flowering	5 %
Potato, sugarbeet	inter-row leaf covering onwards	3 - 5 %
Oilseed rape	From rosette stage to flowering	5 %
Tomato	Prior to, and during flowering	3 - 5 %
Asparagus	Shooting after harvest	up to 10 %
Vegetables and herbs	In combination with fungicide	5 %
Fruits (apples, pears, berries, currants etc.)	During fruit formation, in combination with spray program	2 - 3 %
Fertigation	Continuously	
- Soil		0.05 - 0.075 %
- Soilless		0.05 - 0.150 %

*kg **EPSO Top®** per 100 l of applied water.

If large water volumes are used, concentrations can be reduced to the lower figure presented in the Table.

After testing for compatibility a combination in the following sequence is recommended: Fill sprayer tank to one third of volume, add **EPSO Top®**, then crop protection product and fill to the top.

For information on how you can benefit from using **EPSO Top®** in your fertiliser program, call the Technical Helpline on **FREEPHONE 0800 0322480**.

EPSO Top®

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EPSO Top®
16% MgO · 32% SO₃



EPSO Top® for foliar fertilisation

Two nutrients for high quality crop production

How to recognise Magnesium and Sulphur deficiency

EC FERTILISER

Magnesium Sulphate 16+32

16% MgO water-soluble magnesium oxide (= 9% Mg)
32% SO₃ water-soluble sulphur trioxide (= 13% S)

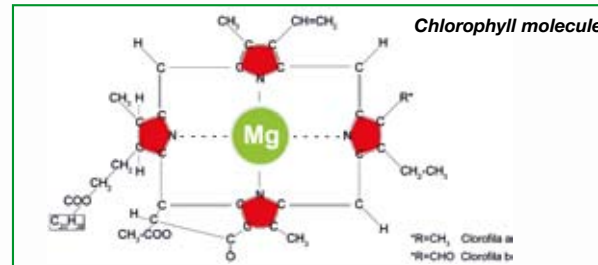
- **EPSO Top®** is an epsom salt fertiliser containing magnesium and sulphur for foliar application and fertigation.
- **EPSO Top®** is a highly purified product originating from natural MgSO₄ deposits in Germany, produced by K+S KALI GmbH.
- **EPSO Top®** contains both nutrients in the sulphate form.
- **EPSO Top®** secures adequate Mg and S supply during peak demand.
- **EPSO Top®** is the ideal fertiliser in modern agriculture for the immediate alleviation of magnesium and sulphur deficiencies in crops.
- **EPSO Top®** mixes well with most pesticides and fertilisers (manufacturers' instructions should be followed).
- **EPSO Top®** is well suited to liquid fertilisation due to its quick and residue free dissolution in water and is hence ideal for fertigation systems.
- **EPSO Top®** is suitable according to the EU directive 2092/91 and 2381/94 and is certified by the Soil Association for use in organic farming systems.



Magnesium deficiency in wheat

Magnesium:

- is the central atom of chlorophyll (green pigment) which enables the plants to trap light energy from the sun for photosynthesis.
- is important for cell wall formation.
- is essential for synthesis, translocation and storage of carbohydrates (sugar and starch), proteins and fats.
- deficiency causes growth and inhibits nutrient uptake due to impaired energy supply to roots.



Sulphur:

- is important for the formation of proteins and for the incorporation of nitrogen and hence increases the efficiency of applied N.
- is involved in the formation of fats and lipids.
- is taken up directly through the roots or through the leaves in the form of SO₄ (sulphate).
- deficiency results in a marked reduction in yield. Quality is also adversely affected due to the accumulation of unwanted nitrate in fruits and leaves as a result of inhibited protein formation.

- Magnesium (Mg) is highly mobile in the plant and is translocated to places of strongest demand, i.e., to young shoots, fruits (seeds) and roots. Therefore Mg deficiency symptoms occur first on older leaves. Typical is the yellowing between the leaf veins, while the veins themselves remain green. Leaves exposed to the sunlight show deficiency symptoms first and most severely.
- A deficiency of sulphur initially inhibits protein synthesis which causes stunting and reduced vigour. Chlorophyll production is also affected and results in the typical general chlorosis (yellowing) which is often particularly apparent in the younger leaves.

Caution!

Considerable yield depressions occur before deficiency symptoms become visible. Therefore, timely application of **EPSO Top®** ensures an adequate nutrient supply even during peak demand and hence high yields.



Effects of EPSO Top® on sulphur deficient cereals