

Products of Nature

**Natural fertiliser range for
Organic Farming**



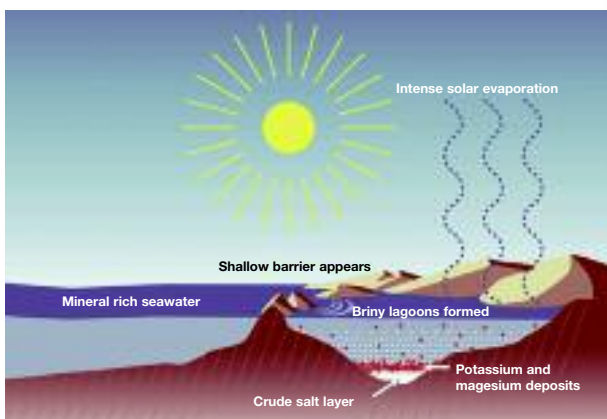
The principles of organic agriculture are based around minimising external inputs to the farming system and the recycling of plant nutrients is central to this concept. Farm manures and other waste products when returned to the land also help to add valuable humus to soils to give structure and increased biological activity. The farm system however is not a closed system and whenever agricultural products leave the farm gate, so do large quantities of plant nutrients. Nitrogen can of course be 'manufactured' in the soil by the careful use of rotational legumes but the mineral nutrients P, K, S and Mg must be replenished if soil fertility is to be maintained. This fact is recognised by the International Federation of Organic Agriculture Movements (IFOAM) which permits growers not only to use organic fertilisers but also certain natural mineral fertilisers to replenish these nutrient losses and maintain soil fertility. IFOAM guidelines endorse the application of these permitted fertilisers based on the soil nutrient status as determined by soil analysis. The EU regulation EC 834/2007 and EC 889/2008 permits, in addition to other minerals, the use of the following

K and Mg mineral fertilisers in organic farming:

- Crude potash salt (Magnesia-Kainit)
- Potassium sulphate (KALI SOP) and magnesium containing potassium sulphate (Patentkali), produced by physical extraction process
- Magnesium sulphate produced from natural salt deposits (ESTA® Kieserit, EPSO products)
- **The K+S KALI GmbH products – KALI SOP, Magnesia-Kainit, EPSO products, Patentkali and ESTA® Kieserit are therefore the only European produced fertilisers to fully comply with Commission Regulation (EC) 834/2007 and EC 889/2008.**

Fertilisers from K+S KALI GmbH are Products of Nature

The elements potassium and magnesium occur widely in our natural ecosystems and are essential nutrients for plants, animals and people. The discovery of potash and magnesium fertiliser deposits has made it possible to correct an imbalance of these nutrients in agriculture. In Germany these natural deposits were formed some 200 million years ago resulting from the solar evaporation of seawater during the Zechstein period. Specific conditions during the solar evaporation phase resulted in the formation of deposits not only rich in potash minerals but also containing magnesium sulphate. K+S KALI GmbH mines these unique crude salts and transforms them into quality fertilisers containing potassium, magnesium and sulphur with the help of environmentally friendly physical means, e.g. electrostatic separation, solution and re-crystallisation processes.



As a consequence, many of our fertiliser products are also certified by the Soil Association as suitable for use in organic farming.



Magnesia-Kainit®

EC FERTILISER

Kainit 11 (+5+27+10)

11 % K₂O	water-soluble potassium oxide
5 % MgO	water-soluble magnesium oxide
27 % Na₂O	water-soluble sodium oxide (= 20 % Na)
10 % SO₃	water-soluble sulphur trioxide (= 4 % S)

Is a mined crude potash salt containing valuable magnesium sulphate (kieserite). All nutrients are in plant available form and thus immediately available to crops.

- is a granular potash fertiliser containing substantial amounts of potassium, magnesium and sodium in a ratio particularly suited to the production of grass, fodder beet and other forage crops.
- enriches the fodder with magnesium and sodium and hence improves health, productivity and fertility of animals.
- releases its nutrients independent of soil pH and thus is suitable for all soil types.
- is ideally suited to alleviate potassium, magnesium and sulphur deficiencies in organic farming systems.
- should be applied at least 3 weeks prior to the onset of spring growth.
- should be applied to chloride tolerant crops only (application to potatoes and fruit crops in particular is not recommended).
- Magnesia-Kainit is certified by the Soil Association as suitable for use in organic farming.



ESTA® Kieserit

gran.

EC FERTILISER Kieserite 25+50

25 % MgO water-soluble magnesium oxide
50 % SO₃ water-soluble sulphur trioxide (= 20 % S)

Truly a product of nature, ESTA® Kieserit is naturally occurring magnesium sulphate recovered from dried seawater deposits.

- contains magnesium in the plant available sulphate form (available regardless of pH).
- is the ideal fertiliser to correct magnesium and sulphur deficiencies and to build long term soil magnesium levels.
- contains 20 % sulphur (= 50 % SO₃), a particularly valuable nutrient in organic farming systems.
- does not affect the calcium content or alter the soil pH.
- can be universally used in agriculture, horticulture and specialised crops.
- ESTA® Kieserit is certified by the Soil Association as suitable for use in organic farming.



Patentkali®

EC FERTILISER

**Sulphate of Potash containing
Magnesium salt 30 (+10+42)**

30 % K_2O water-soluble potassium oxide
10 % MgO water-soluble magnesium oxide
42 % SO_3 water-soluble sulphur trioxide (= 17 % S)

Is characterized by its high content of both potassium sulphate and magnesium sulphate, originating from crude potash salt and the natural mineral 'kieserite'.

- is ideally suited to meet the crop requirements of potassium, magnesium and sulphur.
- has been a well established fertiliser in organic farming systems for decades.
- was introduced and endorsed by organic farming pioneer Rudolf Steiner as a 'unique' potassium fertiliser suitable for organic farming.
- is ideally suited for both agriculture and horticulture.
- is effective regardless of soil pH and thus is suitable for all soils.
- Patentkali is certified by the Soil Association as suitable for use in organic farming.



KALISOP

EC FERTILISER

Sulphate of Potash 50 (+45)

50 % K_2O water-soluble potassium oxide
45 % SO_3 water-soluble sulphur trioxide (= 18 % S)

KALI SOP is obtained without any chemical additives by re-crystallization of mined crude potash salt with natural magnesium sulphate (kieserite).

- has a high content of potassium and sulphur for rapid fertility building.
- is ideally suited for both agriculture and horticulture.
- is crop available regardless of soil type and pH value.
- is ideal for crops with a high potassium and / or sulphur demand (silage leys, cereals, potatoes, fruit and vegetables).
- has a low content of chloride (< 0.5–1 % Cl) and is hence ideal for chloride sensitive crops (fruit, most vegetables, trees, potatoes and ornamentals).
- KALI SOP is certified by the Soil Association as suitable for use in organic farming.



HORTISUL[®]

EC FERTILISER

Sulphate of Potash 52 (+45)

52 % K₂O water-soluble potassium oxide
45 % SO₃ water-soluble sulphur trioxide (= 18 % S)

HORTISUL is a powdered form of sulphate of potash designed specifically for use in fertigation or foliar application techniques.

- dissolves rapidly and forms a residue free solution.
- does not contain powerful acids which can drastically alter pH (HORTISUL is around pH 7).
- quickly corrects K and / or S deficiency in growing crops.
- HORTISUL is certified by the Soil Association as suitable for use in organic farming.



EPSO[®]Top

EC FERTILISER

Magnesium Sulphate 16+32

16 % MgO water-soluble magnesium oxide

32 % SO₃ water-soluble sulphur trioxide (= 13 % S)

Is natural Epsom salts or 'bittersalz', a highly soluble, residue free derivative of the mineral kieserite which is suitable for foliar application.

- dissolves rapidly to give a clean residue free nutrient solution.
- is used for foliar application or for fertigation techniques.
- is ideal for the rapid correction of acute magnesium and sulphur deficiencies.
- is very crop safe with little risk of crop scorch when used at 5–7 % concentration w/v.
- EPSO Top is certified by the Soil Association as suitable for use in organic farming.



EPSO Microtop[®]

EC FERTILISER

Magnesium Sulphate with micro-nutrients 15+31

- 15 % MgO** water-soluble magnesium oxide
- 31 % SO₃** water-soluble sulphur trioxide (= 12 % S)
- 0.9% B** water-soluble boron
- 1 % Mn** water-soluble manganese

Epsom salt fertiliser with added trace elements boron and manganese for rapid and reliable correction of nutrient deficiency.

- enables quick and accurate application of boron and manganese in combination with magnesium and sulphur.
- meets the increasing requirements for micronutrients. Immediate foliar absorption and fast response.
- prevents and rapidly alleviates magnesium, sulphur, boron and manganese deficiencies in growing crops.
- is particularly suited to the production of potatoes, oilseeds, vegetables, fodder beet and fruit crops.
- is fully effective irrespective of soil pH due to the direct foliar absorption.



EPSO Combitop[®]

EC FERTILISER

Magnesium Sulphate with micro-nutrients 13+34

13 % MgO	water-soluble magnesium oxide
34 % SO₃	water-soluble sulphur trioxide (13 % S)
4 % Mn	water-soluble manganese
1 % Zn	water-soluble zinc

Epsom salt fertiliser with added trace elements manganese and zinc for rapid and reliable correction of nutrient deficiency.

- enables quick and accurate application of manganese and zinc in combination with magnesium and sulphur.
- meets the increasing requirements for micronutrients.
- immediate foliar absorption and fast response.
- prevents and rapidly alleviates magnesium, sulphur, zinc and manganese deficiencies in growing crops.
- particularly suited to the production of cereals, maize, alliums, potatoes and top fruit.
- fully effective irrespective of soil pH due to the direct foliar absorption.





K+S UK & Eire Ltd.

Unit 13, Watermark Way
Foxholes Business Park
Hertford SG13 7TZ

Tel. 01992 517400 · Fax 01992 535733

info@ks-ukeire.co.uk · www.ks-ukeire.co.uk

Technical Helpline on FREEPHONE 0800 0322480