



# agrichem



## ACTIVIST MAG-FLO<sup>®</sup>

**25% Magnesium, 1.7% Nitrogen & Trace Elements**

A high analysis, trace element activated source of magnesium for the correction and prevention of magnesium deficiencies



**1800 654 758**  
[www.agrichem.com.au](http://www.agrichem.com.au)



# Innovation

For 25-years Agrichem has been recognised as the pioneering market leader in the field of fluid-fertilisers, specialty crop-protection products and application technologies.

Agrichem's enduring commitment to fundamental research in the area of nutritional plant-physiology has consistently rewarded Agrichem with significant scientific breakthroughs. These technological advances combined with Agrichem's dedication to conducting intensive international field-trials allow Agrichem to frequently launch a range of innovative products.

# Our Promise

- to provide a range of quality, innovative and cost-effective products to global agribusiness.
- to enlighten all our stakeholders on the importance of efficient fertilisation
- to continue to invest in the knowledge of the communities we operate in.
- To maximise the sustainability of our operations and those of our stakeholders.

# Seal of Quality

In 2006 Agrichem was the first in the industry to achieve ISO9000 quality accreditation for its manufacturing facilities, further formalising Agrichem's commitment to quality. Agrichem's team of chemists in Australia and internationally oversee the manufacturing of every batch of product conducting a series of quality tests, including the following 10 tests.

1. pH - testing of final formulation
2. Rheology - testing of formulation flowability
3. Clarity - testing formulation for contaminants
4. Shelf life - testing for formulation stability
5. Particle sizing - analysis of final formulation
6. Dispersion - analysis of formulation
7. Pantone colour - profile adjustment
8. Odour - analysis of final formulation
9. Centrifuge - analysis of sedimentation
10. Certificate of Analysis following the manufacturing process, each batch of products is subjected to a series of Quality-Assurance tests. Only once the analysis is confirmed to be consistent with specification, is the Certificate of Analysis issued.



# Trace element ACTIVATED Magnesium Suspension

Activist Mag-Flo™ is a high analysis Magnesium suspension that contains a range of complementary micronutrients, that have proven to be the precursors for critical enzymes responsible for effectively 'ACTIVATING' Magnesium for effective plant uptake and growth. Activist Mag-Flo™ has an excellent nutrient uptake and safety profile in a wide range of crops.

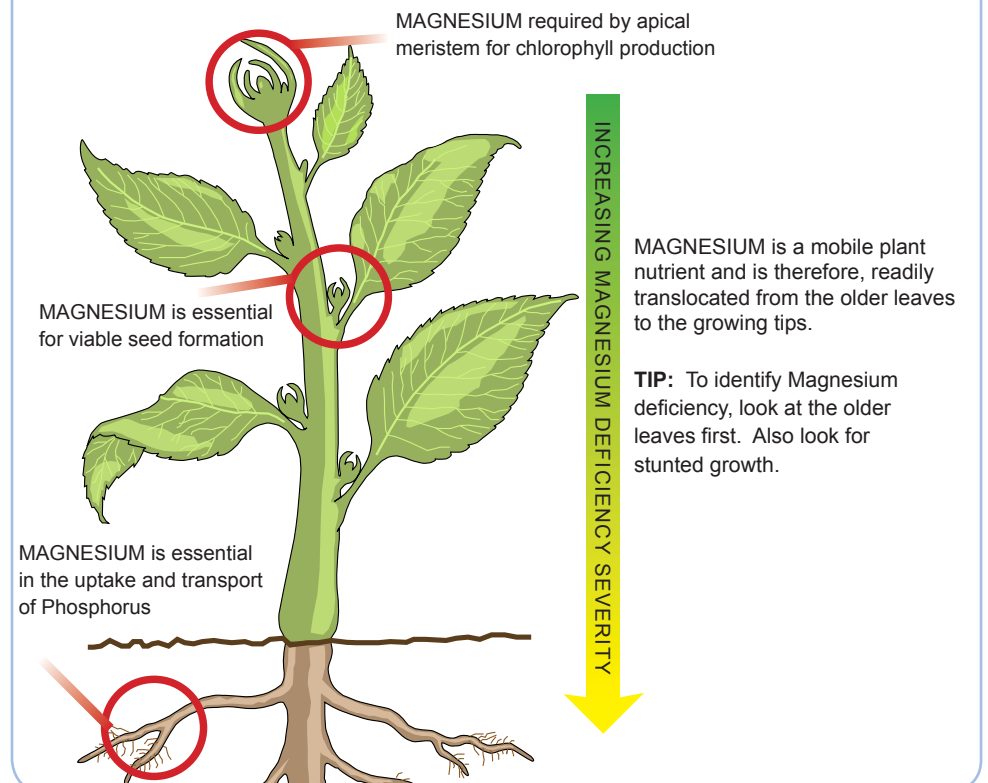
Analysis	(w/v%)
Magnesium (Mg)	25%
Nitrogen (N)	1.7%
Calcium (Ca)	0.22%
Iron (Fe)	0.21%
Manganese (Mn)	0.15%
Zinc (Zn)	0.15%

## Benefits of Activist Mag-Flo®

- ✓ Incorporates Agrichem's Activist Technology delivering both a rapid uptake profile as well as a residual effect, whilst maintaining plant safety
- ✓ Contains a range of trace elements that effectively 'activate' the uptake of magnesium enhanced uptake means lower application rates and less wastage
- ✓ Micro-fine particles ensure even coverage and effective plant uptake
- ✓ A high analysis product reduces quantity of product needed and saves on freight costs
- ✓ Free flowing formulation makes it easy to decant into spray equipment, mixing tanks and irrigation
- ✓ Can be applied with a wide range of other agricultural chemicals, reducing the number of spray applications needed

**THE ROLE OF MAGNESIUM:** Magnesium forms an essential part of chlorophyll structure. This is essential for photosynthesis and therefore most other plant functions, particularly the uptake and mobilisation of other plant nutrients, specifically phosphorus. Magnesium is very mobile in the plant and deficiencies are first seen in the older leaves with inconsistent chlorosis.

Magnesium is an essential part of the ATP activation process that helps in energy storage in cell catalysing various enzyme systems that regulate metabolic processes. Magnesium deficiencies lead to abnormal growth patterns associated with reduced yield and quality.

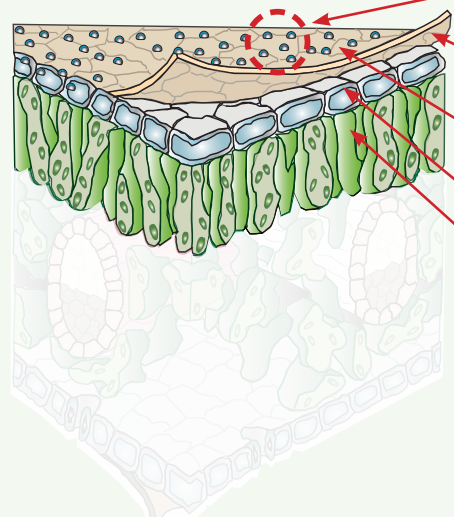


**Magnesium deficiency symptoms are usually found in older leaves**

**THE ROLE OF TRACE ELEMENT'S, Calcium, Iron, Manganese & Zinc:** The complex interaction between magnesium and these key trace elements, specifically Iron, Manganese and Zinc, are often encountered by growers which commonly find identifying the nutrient deficiency responsible for leaf yellowing and chlorotic symptoms difficult.


Activist MAG-FLO, also contains calcium as the presence of calcium in a magnesium containing fertiliser significantly improves the uptake of magnesium due to the important calcium to magnesium ratio within plants. Calcium is also important in the integrity of cell walls, and protection against disease.

# ACTIVIST™ Foliar uptake TECHNOLOGY



<b>Dispersal Agent</b>	<b>Improved Coverage</b> of leaf surface with suspended particles
<b>Cuticular Penetrant</b>	<b>Improved Penetration</b> of leaf cuticle by suspended particles
<b>Reactive Catalyst</b>	<b>Controlled Release</b> of plant available nutrient
<b>Organic-Acid Bio-Activators</b>	<b>Improved Uptake</b> by assisting in nutrient synthesis
<b>Enhanced Phyto-Chemicals</b>	<b>Enhanced Metabolism</b> of nutrient in plant growth

**Leaf-cuticle surface**



**Strong-sticking based on;**

- small particle-size
- optimal surface chemistry
- hydrophilic leaf-surface

**Mode of Action:** Magnesium Oxide is hydrolysed with water under the **control** of a proprietary **catalyst** which regulates the rate of hydrolysis providing a **controlled-release** source of Magnesium Hydroxide to supplement the **faster-acting** component of the formulation.

**Other additives in Activist Products:**

- dispersal agents
- cuticular penetrant
- organic-acid bio-activators
- phyto-chemicals

Particle Specifications	
Diameter	3 - 5 micron I O
Surface Area	high
Chemical Properties	advanced
Oxide Retention	high
Cation Dispersal	high
Cation Uptake	high
Uptake Uniformity	advanced

**agrichem Exclusive Additives**

Dispersal Agent	Cuticular Penetrant	Reactive Catalyst	Organic-Acid Bio-Activators	Enhanced Phyto-Chemicals
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Magnesium Oxide [MgO] + Water [H<sub>2</sub>O]  $\xrightarrow{\text{controlled reaction}}$  Magnesium Hydroxide [Mg(OH)<sub>2</sub>]  
controlled reaction    high plant availability

### Importance of treating Magnesium deficiencies

- Additional nutrient deficiency symptoms, specifically Phosphorus
- Stunting and reduced plant growth due to restricted photosynthesis
- Reduced fruit colouration and brix levels due to photosynthate deficit
- Increased production of anthocyanins associated with plant stress
- Premature defoliation of perennial crops
- Premature senescence of annual crops

**Activist MAG-FLO is a high analysis Magnesium suspension that contains a range of complementary micronutrients, that have proven to be the precursors for critical enzymes responsible for effectively 'ACTIVATING' Magnesium for effective plant uptake and growth.**

## Identifying Magnesium Deficiency Symptoms

**Magnesium deficiencies are characterised by interveinal chlorosis, symptoms include:**

- Strong yellowing between primary leaf veins
- Clear borders can be seen between yellowing parts of leaf
- In severe cases, entire leaves turn yellow, initially beginning at leaf tips.



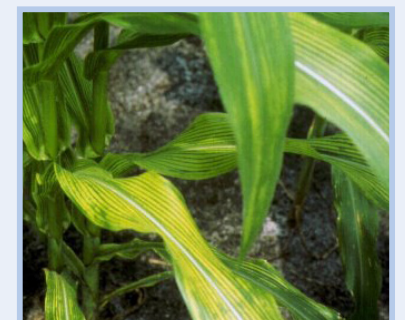
Magnesium deficiency in **Citrus**



Magnesium deficiency in **Vines**



Magnesium deficiency in **Tomato**



Magnesium deficiency in **Corn**

