



Librel®

Highly soluble chelates
for plant nutrition

A great mixer, tackling micronutrient deficiencies effortlessly

Microgranular Librel® range dissolves rapidly and completely and offers unrivalled compatibility with other crop care products. Proven chelate chemistry guarantees outstanding performance and effectiveness. It's because at BASF, we create chemistry.

Higher Yield. Librel chelates enhance plant development and maximise yield by improving plant nutrition and soil fertility. BASF micronutrients replace key soil elements that major N-P-K fertilisers usually do not replenish.

Effective. Librel is based on well-established EDTA and DTPA chelate chemistry which provides highly stable and bioavailable micronutrient sources. Stability leads to rapid crop absorption and optimum biological performance. Librel chelates are proven in trials and by over twenty years' successful field use throughout the world.

Quality. All Librel products are manufactured and marketed under a system approved to ISO 9001:2008 quality standards. Many Librel micronutrient products conform to the definition EC FERTILISER, another measure of quality and suitability of purpose. All Librel micronutrients are manufactured with BASF high performance Trilon® chelating agents.

Compatible. All Librel chelates are compatible with a wide range of herbicides, fungicides, insecticides and other crop care products. This enables convenient and economical tank mixing. Comprehensive, up-to-date and fully endorsed recommendations with the latest products are published regularly. Librel products are also completely stable in the presence of soluble phosphates found in foliar and soluble fertilisers.

Soluble. Supplied as free-flowing, dustless microgranules, Librel chelates dissolve rapidly and completely, even in hard or cold water. There are no insoluble impurities to cause filter or nozzle blockages. They are suitable for addition to spray tanks through filter baskets or modern induction bowl systems.



Crop Safe. Because Librel chelates are not caustic at recommended rates there is minimal risk of leaf scorch or root damage, problems often associated with inorganic formulations.



Single Element Micronutrients

Product	Description	Physical form	EC Fertiliser	Principal uses			
				Soil	Foliar	Hydroponics	Pot plant
Librel Fe-LO	EDTA chelate, containing 13.2% iron, as Fe ³⁺	micro crystalline granule	■	■	■	■	
Librel Fe-HI	EDDHA / EDTA chelate, containing 7% iron, as Fe ³⁺	agglomerated microgranule		■			
Librel Fe-DP	DTPA chelate, containing 7% iron, as Fe ³⁺	agglomerated microgranule	■	■	■	■	
Librel Fe-DP 6L	DTPA chelate, containing 6% iron, as Fe ³⁺	liquid	■			■	■
Librel Fe-DP 3.5L	DTPA chelate, containing 3.5% iron, as Fe ³⁺	liquid	■			■	■
Librel Ca	EDTA chelate, containing 9.5% calcium, as Ca ²⁺	agglomerated microgranule			■		
Librel Co	EDTA chelate, containing 13% cobalt, as Co ²⁺	agglomerated microgranule	■	■	■	■	
Librel Cu	EDTA chelate, containing 14% copper as Cu ²⁺	agglomerated microgranule	■	■	■	■	
Librel Mg	EDTA chelate, containing 5.5% magnesium, as Mg ²⁺	agglomerated microgranule			■		
Librel Mn	EDTA chelate, containing 13% manganese, as Mn ²⁺	agglomerated microgranule	■	■	■	■	
Librel Zn	EDTA chelate, containing 15% zinc, as Zn ²⁺	agglomerated microgranule	■	■	■	■	

Rates of Use. The effectiveness of Librel chelates enables much lower rates of use compared to traditional inorganic micronutrients and even liquid chelate formulations.



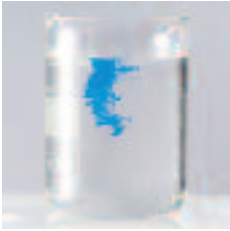
Mixed Element Micronutrients

Product	Description	Physical form	EC Fertiliser	Principal uses			
				Soil	Foliar	Hydroponics	Pot plant
Librel BMX	EDTA chelate mixture containing 1.7% Cu, 3.35% Fe, 1.70% Mn, 0.60% Zn, and inorganic salts of B (0.875%), Mo (0.023%)	agglomerated microgranule	■	■	■	■	
Librel RMX 8	EDTA chelate mixture containing 2.6% Cu, 5.6% Fe, 2.6% Mn, 2.6% Zn	agglomerated microgranule	■	■	■	■	
Librel RMX 13	EDTA chelate mixture containing 0.75% Cu, 6.8% Fe, 3.4% Mn, 1% Zn and inorganic salts of Mo (0.457%)	agglomerated microgranule	■	■	■	■	
Librel RMX 25	EDTA chelate mixture containing 0.5% Co, 1.5% Cu, 4% Fe, 4% Mn, 1.5% Zn and inorganic salts of B (0.5%), Mg (5.43%), Mo (0.1%)	agglomerated microgranule	■	■	■	■	
Librel RMX 34	EDTA chelate mixture containing 0.3% Co, 0.5% Cu, 1.5% Fe, 2.4% Mg, 1.5% Mn, 0.5% Zn and inorganic salts of B (0.3%), Mo (0.03%)	agglomerated microgranule	■	■	■	■	
Librel RMX 40	EDTA chelate mixture containing 2.5% Cu, 5% Fe, 2.5% Mn, 2.5% Zn and inorganic salts of B (1%) and Mo (0.1%)	agglomerated microgranule	■	■	■	■	
Librel RMX 56	EDTA chelate mixture containing 0.4% Cu, 7.5% Fe, 4% Mn, 0.4% Zn and inorganic salts of B (1.83%), Mo (1.83%)	agglomerated microgranule	■	■	■	■	
Librel Mix-AL	EDTA chelate mixture containing 0.3% Cu, 7.5% Fe, 4% Mn, 0.5% Zn, and inorganic salts of B (0.5%), Mo (0.2%)	agglomerated microgranule	■	■	■	■	
Librel TMX AP01	EDTA chelate mixture containing 6% Fe, 1.5% Mn, 5% Zn	agglomerated microgranule	■	■	■	■	
Librel TMX AP02	EDTA chelate mixture containing 1% Cu, 3% Fe, 1% Mn, 5% Zn, and inorganic salts of B (1%), Mo (1%)	agglomerated microgranule	■	■	■	■	
Libremix B	EDTA chelate mixture containing 1.6% Cu, 3.3% Mn, 0.6% Zn and inorganic salts of B (0.8%), Mo (2.5%)	agglomerated microgranule	■	■		■	■
Libspray 211	Complete foliar feed containing 12% Nitrogen, 5.5% Phosphorus, 4.8% Potassium Oxide, 0.9% Mg Oxide, also multi-micronutrient EDTA chelate of 0.4% Ca, 163 ppm Cu, 322 ppm Fe, 56 ppm Ni, 163 ppm Mn, 53 ppm Zn and inorganic salts of B (84 ppm), Mo (3 ppm)	liquid	■		■		

Convenience. Librel mixed element micronutrients are specifically designed for convenience and provide all necessary metals in one single product. Thus it is assured that the plant takes up all required metals for a healthy growth. Our broad range of mixed element micronutrients makes it easy for the farmer to provide adequate plant nutrition. He can pick one of the Librel mixes above that best suits the plant requirements and soil deficiencies.

Storage. No special precautions are necessary. Most liquid micronutrient formulations need to be protected from frost by storing in heated warehouses. Compared to equivalent liquid formulations, less than half the weight is needed to treat a given area.

Economical. Librel chelates offer excellent value for money. Moreover, when the advantages of multiple tank mixing are taken into account, giving savings in application costs for example, their full value becomes apparent.



Photographs taken at one-second intervals showing rapid dissolving Librel Cu when added to water

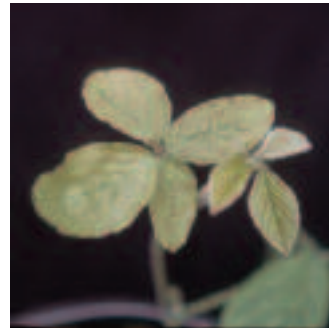


Librel has always offered you quality and effectiveness. Now, with its easy-to-use and convenient microgranular formulation, it provides a more cost-effective solution to all your micronutrient needs.

Librel Applications:

- Arable crops
- Horticultural
- Orchards
- Ornamentals
- Hydroponic systems
- Fertiliser Formulations

Soyabean leaves with spotlight necroses due to Mn deficiency



Necroses on cereal due to Mn deficiency



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Safety

We know of no ill effects that could have resulted from using our products for the purpose for which they are intended and from processing them in accordance with current practice. According to the experience we have gained up to now and other information at our disposal, our products do not exert any harmful effects on health, provided that they are used properly, due attention is given to the precautions necessary for handling chemicals, and the information and advice given in our safety data sheet are observed.

Labeling

Details about the classification and labeling of our products and further advice on safe handling are contained in the current safety data sheets.

Note

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