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## Technical Information

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® = Registered trademark of BASF group

# Librel<sup>®</sup> BMX

**Multi-Micronutrient EDTA Chelate**

## Product Information

<b>Product Type</b>	Multi-micronutrient fertiliser conforming to the definition of an “EC FERTILISER”.
<b>Description</b>	Ethylenediamine tetraacetate (EDTA) chelates of copper, iron, manganese and zinc, as their disodium salts, also inorganic salts of boron and molybdenum.
<b>Intended Use</b>	<ul style="list-style-type: none"> <li>To correct multiple micronutrient deficiencies in most agricultural, horticultural and ornamental crops. Recommended for foliar application.</li> <li>As a micronutrient source in hydroponics, liquid feed solutions and soilless growing media.</li> </ul>

### Typical Analysis

Element	Water Soluble (%)	Chelated by EDTA (%) min
Boron (as B)	0.875	As sodium borate
Copper (as Cu)	1.70	1.62
Iron (as Fe)	3.35	3.18
Manganese (as Mn)	1.70	1.62
Molybdenum (as Mo)	0.023	As sodium molybdate
Zinc (as Zn)	0.60	0.57

<b>Practical pH Stability Range</b>	4 – 9 (in aqueous solution)
<b>Analytical Method</b>	Available on request
<b>Appearance</b>	Green spray agglomerated microgranule
<b>PRD-No.</b>	30483053
<b>Solubility (in water)</b>	~150 g/l (at 20 °C)
<b>Specification</b>	See separate document: “Standard Specification” available via BASF’s WorldAccount: <a href="https://worldaccount.basf.com">https://worldaccount.basf.com</a> (registered access).
<b>Packaging</b>	Detailed information on the packaging is available via BASF’s WorldAccount: <a href="https://www.worldaccount.basf.com">https://www.worldaccount.basf.com</a> (registered access).
<b>Storage</b>	Librel BMX 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.
<b>Transport Precautions</b>	No special precautions are necessary for transport by air, sea, rail or road.
<b>Harmonised Tariff No.</b>	3105-9099-90
<b>Health &amp; Safety</b>	Detailed information on the product described in this leaflet can be found in our relevant Health and Safety Information (Material Safety Data Sheet) available via BASF’s WorldAccount: <a href="https://worldaccount.basf.com">https://worldaccount.basf.com</a> (registered access).

## Directions for Use

### General Information

Librel BMX gives best results when crops have adequate supplies of water and major nutrients and are not under stress for any other reason. Conditions that are responsible for one particular deficiency can also induce deficiencies of other micronutrients. Always ensure that deficiencies are confirmed before treatment is carried out.

### Mixing With Water

The powder should be added slowly to the main bulk of the water while it is being agitated. Continue agitation for a short while to ensure complete dissolution.

### Compatibility

Librel BMX is compatible with all other Librel chelates and many crop care chemicals. It is also fully compatible with solutions containing soluble phosphates such as liquid feeds and foliar fertilisers.

## Foliar Application

### General Information

Librel BMX should be dissolved in a convenient volume of water to suit the spraying machine being used and the target crop leaf area. 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.
4. If rain is imminent, spraying should be postponed. If rain falls within 4 hours of spraying, the crop should be re-sprayed 3 or 4 days later.

### Fruit Crops

Do not exceed a solution of 0.1% (1 g/l) for any one or combination of Librel chelates. Some fruit varieties and cultivars can exhibit unpredictable sensitivity to EDTA chelates. Where local experience of successful use is not available, we strongly recommend small-scale test applications before wide spread use.

### Rates of Use

Crop	Rates of Use (kg/ha)	Timing
Ornamentals	0.5 – 1.0	As necessary during the growing season. <b>Do not apply during flowering.</b>
Cereals e.g. wheat, barley millet, sorghum	1.0 1.0 1.0	Early in season (GS 26) Mid season (GS 37) At ear emergence (GS 50)
Rice	1.0 2.0	Before planting out After crop is established in field
Potatoes and other root crops	1.0	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 and especially during periods of rapid growth
Fruit	0.5  0.5	Repeat the application several times in the season. <b>Do not apply during flowering.</b> After fruit set (high volume)

**Water Volume**

The amount of Librel BMX 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 – 600 litres per hectare.

Fruit crops: 500 – 1000 litres per hectare.

NB: Do not exceed a solution concentration of 0.1% (1 g/l)

**Wetting Agent**

Unless Librel BMX is to be applied with a pesticide containing sufficient wetter, then a standard, agricultural non-ionic wetting agent should be used as recommended by the manufacturer.

**Small Scale Use**

For example using a knapsack sprayer. Prepare a 0.05 – 0.1% (0.5 – 1.0 g/l) solution and apply so as to coat the leaves and stems with a thin film of moisture with little or no run-off.

**Soil Application**

Please contact your supplier for appropriate recommendations.

**Hydroponic Application****General Information**

Librel BMX provides a convenient and effective pre-formulated source for “Rockwool” and other hydroponic growing systems. There are no problems of sourcing, purchasing and stock control or accurately weighing small quantities of six individual materials. Also the risk of mistakes which could lead to deficiencies or toxicities is considerably reduced.

**Rates of Use**

Due to the variety of crops and cropping systems, it is not possible to give exact recommendations for rates of use. The following table may be used as a guide.

Quantity of Librel BMX (g) per 1000 litres	Concentration in Feed Solution (ppm)					
	Fe	Cu	Mn	Zn	B	Mo
1	0.03	0.02	0.02	0.006	0.008	0.0002
5	0.15	0.10	0.10	0.030	0.040	0.0010
10	0.34	0.17	0.17	0.060	0.080	0.0020
20	0.67	0.34	0.34	0.120	0.160	0.0040
<b>40</b>	<b>1.34</b>	<b>0.68</b>	<b>0.68</b>	<b>0.240</b>	<b>0.320</b>	<b>0.0080</b>
80	2.68	1.36	1.36	0.480	0.640	0.0160

Where additional iron is required, 1ppm Fe in the final solution may be obtained by adding 7.5 g of Librel Fe-Lo or 15 g of Librel Fe-DP per 1000 litres

For use in stock tanks (Tank B), the quantity of Librel BMX may be proportioned up by the dilution factor. e.g. for 40 g (the most widely used rate) in 1000 litres then dissolve 1 kg in 250 litres and dilute 1:100.

## Addition to Composts

### General Information

In addition to the NPK base mixture (and calcium carbonate where appropriate) in order to provide a suitable balance of all the trace elements needed as well, Librel BMX and the same amount of Librel Mg should be added and incorporated into the compost.

As it is difficult to distribute these small quantities uniformly throughout the mix, dissolve the chelates in water and add slowly through a sprinkler tube while the compost is mixing.

If iron deficiency develops, Librel Fe-Lo should be added to the irrigation water at the rate of 1 kg per 10,000 litres until the deficiency has been corrected.

### Rates of Use

Composts	Rates of Use
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>

### Statutory Caution

To be used only where there is a recognised need. Do not exceed the appropriate dose rate.

### Note

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