
Technical Information

Librel[®] BMX

Multi-Micronutrient EDTA Chelate.

March 2020 | Supersedes issue dated April 2010 | Last change WF-No. 22963

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® = Registered trademark of BASF in many countries.

Product information

Product type

Multi-micronutrient fertilizer.

Description

Ethylenediamine tetraacetate (EDTA) chelates of iron, copper, manganese and zinc as their sodium or disodium salts, also inorganic salts of boron and molybdenum.

PRD-No.

30483053

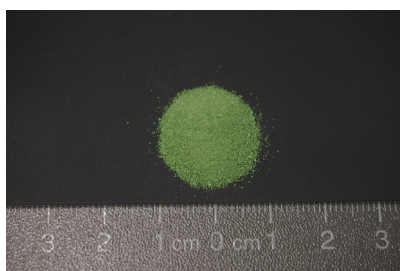
* BASF's commercial product numbers.

Intended use

Correction of multiple micronutrient deficiencies in most crops by foliar application or "fertigation".

Appearance

Librel® BMX is a green spray-agglomerated microgranule.



Original Size



Enlarged Image

Handling and storage

Handling

- Librel® BMX should be stored indoors in a dry place.
- Care must be taken to exclude moisture. Drums/bags/boxes must be tightly resealed each time they are opened.
- Big bags are not to be stacked during storage in order to prevent lumping/agglomeration due to weight compression.
- Please refer to the latest Safety Data Sheet for detailed information on product safety.

Shelf life

Librel® BMX has a shelf life of at least four years in its original packaging, provided it is stored correctly and drums/bags are kept tightly sealed.

Materials

Containers made of the following materials are appropriate for the storage of Librel® BMX:

- HDPE – high density polyethylene
- LDPE – low density polyethylene
- PP – Polypropylene

Transport precautions

No special precautions are necessary for transport by air, sea, rail or road.

Harmonised tariff no.

3105 90 99 90

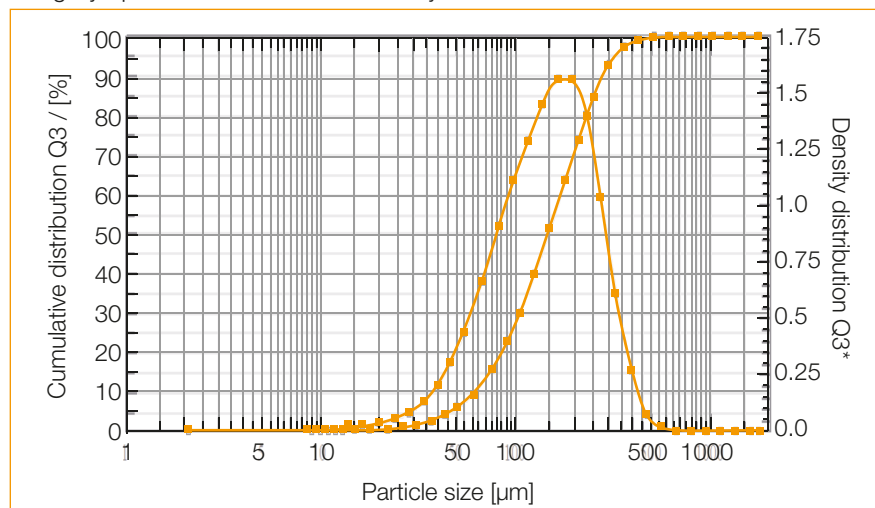
Properties

Some physical properties are listed in the table below. These are typical values only and not all of them are monitored on a regular basis. They are correct at the time of publication and do not necessarily form part of the product specification. A detailed product specification is available on request or via BASF's WorldAccount: <https://worldaccount.basf.com> (registered access).

Librel® BMX	Unit	Value
Physical form (20 °C)		microgranule
Iron (as Fe) (BASF method, ICP-OES/AAS)	%	approx. 3.35
Copper (as Cu) (BASF method, ICP-OES/AAS)	%	approx. 1.70
Manganese (as Mn) (BASF method, ICP-OES/AAS)	%	approx. 1.70
Boron (as B) (BASF method, ICP-OES/AAS)	%	approx. 0.875
Zinc (as Zn) (BASF method, ICP-OES/AAS)	%	approx. 0.60
Molybdenum (as Mo) (BASF method, ICP-OES/AAS)	%	approx. 0.023
Dry weight (BASF method, 110 °C)	%	approx. 95
Bulk density (BASF method)	g/L	approx. 650
Solubility (BASF method in water @ 20 °C)	g/L	approx. 150
pH value (BASF method, 2% in water)		approx. 7.0

Particle size distribution

The following graph shows the particle size distribution curve for Librel® BMX using Sympatec Helos H1594 Gradis System with an R7 lens:



X 10 μm	X 50 μm	VMD μm	X 90 μm	X 100 μm	Peak μm
62.57	148.04	162.24	282.12	610	175

Directions for use

General information

Librel® BMX gives best results when crops have adequate supplies of water 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 deficiencies are confirmed before treatment is carried out.

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 fertilizers.

Mixing with water

Simply add the powder to water while it is being agitated, do not pre-mix. Continue agitation for a short while to ensure complete dissolution.

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 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 later 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% (1g/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. Do not apply during flowering.
Cereals e.g. wheat, barley millet, sorghum	1.0 1.0 1.0	Early 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 the 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. Do not apply during flowering. 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% (1g/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 use a knapsack sprayer. Prepare a 0.05 – 0.10% (0.5 – 1.0g/L) solution and apply 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 variation of crop 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
40	1.34	0.68	0.68	0.240	0.320	0.0080
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 mixture, 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 1kg per 10,000 litres until the deficiency has been corrected.

Rates of Use

Composts	Rates of Use
Seedling composts	20 – 30 g/m ³
Potting composts	40 – 60 g/m ³
Grow Bags	75 – 115 g/m ³

Statutory Caution

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

Safety and Labelling

Please refer to the safety data sheet for information on classification & labelling, safe use, handling and transport.

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