

## Product Data Sheet

### Dissolvine® M-X PLUS

Dissolvine® M-X PLUS is a high purity, versatile and readily biodegradable chelating agent in solid form. Dissolvine® M-X PLUS has a majority (>50%) bio-based carbon content.

#### Applications

##### Household cleaning

- Dissolvine® M-X PLUS effectively replaces phosphorous containing builders in dishwashing detergents.
- It enhances the cleaning power of a cleaner / detergent by sequestering the metal ions like Ca and Mg.
- It prevents the deactivation of surfactants from hard water metal ions.

##### Industrial & Institutional cleaning

- Dissolvine® M-X PLUS forms stable, water-soluble metal complexes with all potentially harmful metal ions.
- It dissolves existing and prevents new scales from causing problems in water circulation equipment (in e.g. the power, brewing, and sugar industries).
- Because of its low molecular weight this chelate performs very well in short contact cleaning.

#### Specifications

| Checkpoint                    | Specification  | Units | Method     |
|-------------------------------|----------------|-------|------------|
| Appearance                    | White granules |       | Visual     |
| Assay as MGDA- $\text{Na}_3$  | min. 81        | %     | SMA 916.02 |
| pH of 1% aqueous solution     | 10.5 – 12.5    |       | SMA 176.18 |
| Color of 40% aqueous solution | max. 250       | APHA  | SMA 898.06 |

#### Main Characteristics

Free flowing granules  
Bulk density: 700 – 1000 kg/m<sup>3</sup>

Sequestering values for **Dissolvine® M-X PLUS** are approximately (theoretical calculated figures):

| Metal ion | pH range | mg metal/g<br>Dissolvine® M-X PLUS |
|-----------|----------|------------------------------------|
| Calcium   | 6 – 14   | 115                                |
| Copper    | 1 – 11   | 185                                |
| Ferric    | 0 – 8    | 160                                |
| Magnesium | 7 – 11   | 70                                 |
| Manganese | 4 – 11   | 160                                |
| Zinc      | 2 – 11   | 190                                |

#### Environmental aspects

Readily biodegradable, non-hazardous, Ecolabel compliant  
COD: 580 mg/g

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|                            |   |
|----------------------------|---|
| <b>Chemical Name</b>       | Methylglycine N,N-diacetic acid, trisodium salt   |
| <b>Chemical formula</b>    | MGDA- $\text{Na}_3$   |
| <b>Structure</b>           | <chem>[Na]O=C(CN(C)C(=O)[O-])[Na]C(=O)C</chem>  |
| <b>Mol. Weight</b>         | 271.1   |
| <b>CAS Number</b>          | 164462-16-2   |
| <b>Packing</b>             | For information on possible packing types and sizes, please contact your nearest Nouryon representative.  |
| <b>Storage</b>             | Store in original packing at a dry place.<br>Opened bags must be closed again properly.<br>It is advised to re-test the material after three years of storage.  |
| <b>Further information</b> | For transport, handling and first aid instructions, please refer to the Safety Data Sheet, which is available on request.<br>For samples, technical service and further information, please contact your nearest Nouryon representative or: |
| <b>Internet</b>            | <a href="http://www.nouryon.com">www.nouryon.com</a>  |
| <b>Addresses</b>           | You can find the addresses of our offices at<br><a href="http://www.nouryon.com/company/locations">www.nouryon.com/company/locations</a>  |

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