

**Lewatit® HD 50** is a NPK-fertilizer based on ion exchange resin with a long-term effect. It is especially suited for continuous nourishment of soil-less cultures of ornamental plants (hydroculture).

**Lewatit® HD 50** is in compliance with the German Fertilizer Decree 2002.

**Lewatit® HD 50** is an ion exchange resin loaded with nutrient substances necessary for plant nourishment, mainly nitrogen, phosphorus and potassium, which are usually not contained in water. If so only in insufficient quantities.

**Lewatit® HD 50** is completely insoluble in water, yet ensures healthy growth for plants by means of the following exchange processes.

Only some of the salts contained in water, such as calcium and magnesium sulphate are useful for plant nourishment. The great majority of these salts however cannot be utilized by the plant and some of them, e.g. common salts are even harmful to it. It is the task of **Lewatit® HD 50** to adsorb these non-useful salts and in return, to release nutrient substances into the water. **Lewatit® HD 50** removes e.g. common salts or calcium carbonate from the water and releases e.g. ammonium nitrate or potassium phosphate in return.

In the same way, **Lewatit® HD 50** also provides trace elements which are important in plant nourishment. For example iron, manganese, copper, zinc, boron and molybdenum in a form immediately usable for the plant.

No matter how large an amount of **Lewatit® HD 50** is, that has been added to the water, the salt concentration will not increase. While the salts without nutrient value for the plant contained in the water migrate into the water insoluble ion exchange resin, the corresponding amount of nutrient salts is released into solution.

The main advantage of **Lewatit® HD 50** is, that it continuously releases nutrient salts into the water. This release is according to the consumption of the plant. This product thus offers a much wider range of uses than liquid fertilisers for optimum nourishment of plants.

According to our experience 20-30 ml **Lewatit® HD 50** per 0.5 metre of each plant height is sufficient to ensure complete nourishment for 3-4 months. The water which evaporates simply needs to be refilled. After 3-4 months, another 20-30 ml of **Lewatit® HD 50** should be added with the irrigation water to ensure nourishment of the plant for another 3-4 months.

The special properties of this product can only be fully utilized if the technology and process used correspond to the current state-of-the-art. Further advice in this matter can be obtained from Lanxess, Business Unit Ion Exchange Resins.

Lewatit HD 50 / Specification		
pH-declaration		4.5 - 6.5
Bulk weight	(wet) in g/l	680 - 780
Bulk weight	(dry) in g/l	320 - 420
Water retention	approx. %	50
Nutrients (Macro)		
	Total nitrogen (%N)*	2
	Phosphate (% P <sub>2</sub> O <sub>5</sub> )*	1
	Potassium (% K <sub>2</sub> O)*	2
Nutrients (Micro)		Traces of Copper Manganese Zinc Iron Boron Molybdenum
Typical bead size distribution		
	< 0.315 mm (max.) %*	1.0
	0.4 - 1.25 mm (min.) %*	90
	> 1.25 mm (max.) %*	5

\* Specification values subjected to continuous monitoring.

## Additional Information & Regulations

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### **Safety precautions**

Strong oxidants, e.g. nitric acid, can cause violent reactions if they come into contact with ion exchange resins.

### **Toxicity**

The safety data sheet must be observed. It contains additional data on product description, transport, storage, handling, safety and ecology.

### **Disposal**

In the European Community ion exchange resins have to be disposed, according to the European waste nomenclature which can be accessed on the internet-site of the European Union.

### **Storage**

It is recommended to store ion exchange resins at temperatures above the freezing point of water under roof in dry conditions without exposure to direct sunlight. If resin should become frozen, it should not be mechanically handled and left to thaw out gradually at ambient temperature. It must be completely thawed before handling or use. No attempt should be made to accelerate the thawing process.

This information and our technical advice – whether verbal, in writing or by way of trials – are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to check its validity and to test our products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with the current version of our General Conditions of Sale and Delivery.

This document contains important information and must be read in its entirety.

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