

Lewatit® MK 51 can especially be used for:

- » the removal of boron from waste water
- » the removal of boron from RO permeate
- » the removal of boron traces in the production of ultrapure water or chemicals
- » the purification of concentrated magnesium chloride solutions from boric acid

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.

PRODUCT INFORMATION

LEWATIT® MK 51



General Description

Ionic form as shipped	OH-/Cl-
Functional group	Polyalcohol
Matrix	crosslinked polystyrene
Structure	macroporous
Appearance	yellow white, opaque

Physical and Chemical Properties

	metric units	
Uniformity coefficient*	max.	1.7
Bead size* > 90 %	mm	0.315 - 1.25
Effective size*	mm	0.44 - 0.54
Bulk density (+/- 5 %)	g/l	710
Density	approx. g/ml	1.1
Water retention	wt. %	48 - 55
Total capacity*	min. eq/l	0.8
Total boron capacity*	min. g/l	6
Volume change OH- --> Cl-	max. vol. %	15
Storability of the product	max. years	2
Storability temperature range	°C	-20 - 40

* Specification values subjected to continuous monitoring.

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Recommended Operating Conditions*

		metric units			
Operating temperature		max. °C	30		
Bed depth		min. mm	600		
Specific pressure loss	(15 °C)	approx. kPa*h/m²	1.4		
Pressure loss		max. kPa	150		
Linear velocity	exhaustion	max. m/h	30		
Linear velocity	backwash (20 °C)	approx. m/h	8	-	12
Bed expansion	(20 °C, per m/h)	approx. vol. %	10		
Freeboard	backwash (extern / intern)	vol. %	100		
Regenerant			1. HCl	+	2. NaOH
Regenerant	level	approx. g/l	HCl	50	-
			NaOH	60	-
Regenerant	concentration	approx. wt. %	HCl	5	-
			NaOH	2	-
Linear velocity	regeneration	approx. m/h	3		
Linear velocity	rinsing	approx. m/h	5		
Rinse water requirement	slow / fast	approx. BV	5	-	10

* The recommended operating conditions refer to the use of the product under normal operating conditions. It is based on tests in pilot plants and data obtained from industrial applications. However, additional data are needed to calculate the resin volumes required for ion exchange units. These are to be found in our Technical Information Sheets.

Additional Information & Regulations

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.

The manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested formulations and recommendations are beyond our control. Therefore, it is imperative that you test our products, technical assistance and information to determine to your own satisfaction whether they are suitable for your intended uses and applications. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by us. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. It is expressly understood and agreed that you assume and hereby expressly release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with patents covering any material or its use. No license is implied or in fact granted under the claims of any patent.

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For more information or a quote, please use the

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