

Lewatit® GF 202 is a macroporous cation exchange resin with beads of uniform particle size. The monodispersity imparts excellent kinetics to this mechanically and chemically very robust resin. It has been developed for the removal of glycerine and soaps from biodiesel in fixed beds. After simple preconditioning with 2 BV of methanol it is ready for use. Preconditioning with methanol has the purpose to strip water from the resin.

Features of this resin are:

- » high glycerine capacities (up to 250 g/l)
- » simultaneous removal of soaps and salts
- » low pressure drop across the bed (40 - 50 kPas)

Benefits of the biodiesel purification based on ion exchange technology instead of the conventional purification by washing with water are:

- » no waste water
- » robust and low-cost process
- » regenerant methanol is simply recycled to the transesterification stage

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.

General Description

Ionic form as shipped	Neutral
Functional group	acidic
Structure	macroporous
Appearance	opaque

Physical and Chemical Properties

	metric units	
Glycerine capacity at 1 - 2 BV/h throughput	max. g/l	250
Uniformity Coefficient*	max.	1.1
Mean bead size*	mm	(0.65 +/- 0.05)
Bulk density (+/- 5 %)	g/l	740
Density	approx. g/ml	1.24
Water retention	wt. %	52 - 57
Storability of the product	max. years	2
Storability temperature range	°C	-20 - +40

* Specification values subjected to continuous monitoring.

Recommended Operating Conditions*

		metric units	
Operating temperature		°C	rec. 30 - 50
Bed depth		min. mm	1000
Bed depth		max. mm	3000
Pressure drop		max. kPa	1200
Linear velocity	operation	max. m/h	4 - 5
Specific flow rate	exhaustion	max. BV/h	2 - 3
Freeboard	backwash (extern / intern)	vol. %	20
Regenerant			Methanol
Regeneration	level	approx. g/l	10
Linear velocity	regeneration	approx. m/h	2

* 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 data 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.

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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4/4

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