

LEWATIT® VP OC 1026 is a solvent impregnated resin (SIR) with a macroporous styrene DVB copolymer matrix which contains di-(2-ethylhexyl)phosphonic acid (D2EHPA). This liquid extractant is directly incorporated during the formation of the copolymer. Generally it can be assumed that ions which can be removed with D2EHPA are also adsorbed by this product. The selectivity order for the extraction of cations from sulfate containing solutions can be assumed as follows:

$VO^{2+} = UO_2^{2+} = Fe^{3+} = In^{3+} > Al^{3+} > Pb^{2+} = Zn^{2+} > Ca^{2+} > Cd^{2+} = Mn^{2+} > Cr^{3+} > Mg^{2+} > Co^{2+}$

LEWATIT® VP OC 1026 is especially suitable for:

- The removal of ferric and zinc from chromium(III) containing acid baths
- The adsorption of zinc and ferric from sulphuric acid streams
- The recovery of rare earth metals and indium from acidic solutions

The advantages of this product compared to conventional solvent extraction are:

- No organic solvent for the dilution of the liquid extractant is required
- No phase separation problems
- Simple equipment similar to conventional ion exchange processes with a smaller plant footprint
- Very low leakage of the cations to be removed

Important advice:

- Exposure to any alkaline media (e.g. sodium/potassium hydroxide or sodium/potassium carbonate) should be avoided because the active ingredient might be washed out. **It is crucial to maintain the pH below 4 at all times (even during backwash and rinsing operations)!**
- Since the resin density is lower than water it tends to float. Therefore, the resin layer is recommended to be covered by inert material (e.g. **LEWATIT® IN 42**).

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 Liquid Purification Technologies.

Common Description

| | |
|------------------|----------------|
| Delivery form | H ⁺ |
| Functional group | D2EHPA |
| Matrix | Styrenic |
| Structure | Macroporous |
| Appearance | White, opaque |

Specified Data

| | | | |
|---|--|----------|-----------|
| Uniformity coefficient | | max. | 1.9 |
| Range of size for >90 vol% of all beads | | mm | 0.315-1.6 |
| Zinc capacity (delivery form) | | min. g/L | 13 |

Typical Physical and Chemical Properties

| | | | |
|---------------------------------|----------|------------------|-----------|
| Bulk density for shipment | (+/- 5%) | g/L | 590 |
| Density | | approx. g/mL | 0.97 |
| Water retention (delivery form) | | approx. weight % | 27-34 |
| Stability pH range | | | 0-4 |
| Stability temperature range | | °C | 1-60 |
| Storage temperature range | | °C | -20 - +40 |

Operation

| | | | |
|-------------------------------------|-------------------|---------|------|
| Operating temperature | | max. °C | 60 |
| Operating pH range | during exhaustion | | 1-4 |
| Bed depth for single column | | min. mm | 1000 |
| Max. pressure loss during operation | | kPa | 250 |

Regeneration

| | | | |
|---|---------------|---------------|----|
| HCl regeneration | concentration | approx. wt. % | 10 |
| H ₂ SO ₄ regeneration | concentration | approx. wt. % | 15 |

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.

Packaging

The experience has shown that the packaging stability for reliable resin containment is limited to 24 months under the storage conditions described above. It is therefore recommended to use the product within this time frame; otherwise the packaging condition should be checked regularly.

LENNTECH
WATER TREATMENT SOLUTIONS

info@lennotech.com Tel. +31-152-610-900

www.lennotech.com Fax. +31-152-616-289

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.