P3-ultrasil® 67

Description:

Neutral, enzymatic, liquid detergent for membrane filtration plants

Product strengths:

- excellent soil removal
- compatible with most kinds of commonly used membranes
- excellently biodegradable
- pH neutral

Properties

Concentrate

Appearance:	yellow liquid, sometimes slightly cloudy *
Storage stability:	0 - 30 °C in original sealed container on storage, the product may separate out slightly, which has however no effect on the product quality and will redisperse without any problem
Solubility:	at 20 °C miscible with water in any proportion
Density:	0.98 - 1.08 g/cm³
P content:	< 0.1 %
N content:	approx. 0.9 %
Flash point:	not applicable
pH:	7.3 - 7.7 in concentrate *

* Parameters subject to incoming goods control

Material compatibility: **P3-ultrasil 67** is, under the application conditions described below, compatible with

- **Metals** austenitic CrNi steels (quality at least DIN 1.4301 = AISE 304)
- **Membrane materials** all commonly used membranes such as polysulphone, fully aromatic polyamide, polyacrylonitrile, polyvinyl difluoride, polypiperazine amide , cellulose, cellulose acetate, polypropylene, polyether urea, α-aluminium oxide, zirkonium dioxide and electrodialysis membranes

Application

P3-ultrasil 67 is a neutral, liquid detergent, containing a combination of stabilized enzymes and surfactants.

Field of application

P3-ultrasil 67 is suitable for cleaning micro-, ultra- and nanofiltration plants as well as reverse osmosis plants in the Dairy Industry, especially with cleaning filtration equipment used for the concentration of whey, milk treatment and cheese making.

Moreover, **P3-ultrasil 67** is suitable for cleaning electrodialysis plants.

Mode of application

Following a suitable pre-rinse with water, concentrations of 0.2 to 0.5 % **P3-ultrasil 67** in combination with 0.5 – 1.5 % P3-ultrasil 69 at a temperature up to 55 °C are recommended.

Exceptionally, higher concentrations and temperatures are permitted. After cleaning, all treated surfaces should be rinsed residue-free with water.
As additional control, the measurement of the surface tension in the rinsing water is recommended.

Indication

At the combined application of **P3-ultrasil 67** with P3-ultrasil 69 or a similar product, the material compatibility of these products has also to be considered. For the cleaning of cellulose acetate membranes, the separate application of **P3-ultrasil 67** or the combined use of **P3-ultrasil 67** with neutral P3-ultrasil products is recommended.

Generally, the manufacturers' limitations, especially regarding pH and temperature stability of membranes and modules should be adhered to.

Specific cleaning recommendations can only be given after intensive technical consultation.

Important indications !

- Effluent, containing chemicals, must only be discharged according to the local regulations
- Chemicals containing effluent must only be discharged into the biological treatment station after passing the neutralization- and buffer tank
- When discharging chemically polluted effluent, it is essential to pay specific attention to the bacteria toxicity of this water. This is especially important when dealing with biocide containing effluents and anaerobic sewage plants
- In case of doubt please seek advice from our technical service

Monitoring

Concentration control

The dosage of **P3-ultrasil 67** can be performed automatically volume- or time-proportional (e. g. by means of **P3-Elados EMP**-dosage pumps).

Our P3-System brochures are available on request.

Safety

P3-ultrasil 67 is labelled as "irritating" (symbol "Xi")

The relevant risk and safety phrases are given in the EC Safety Data Sheet. We recommend our safety concept "P3 - immer auf Nr. Sicher" (P3 - safety first) as an aid to training your employees in how to handle cleaning agents and disinfectants safely. We will be glad to answer any questions you may have in this context.

General recommendations for a successful cleaning of membrane filtration equipment

Crossflow-microfiltration

During the first 1 - 3 minutes (depending on the plant size) of the cleaning process the plant should be set to the highest possible feed flow and the lowest possible filtration rate.

Afterwards the filtration capacity should be increased.

Whenever the membranes permit the highly effective back flushing from the permeate side, this procedure should be applied right at the beginning of the cleaning process.

During the disinfection of the filtration plant, the filtration capacity should be set to an average value.

Ultrafiltration

Ultrafiltration plants should be cleaned with applying a high feed flow and a low filtration capacity. Nevertheless, closing of the permeate side as standard procedure should be omitted. Especially when cleaning plants with a large dead volume on the permeate side the permeate volume should be drained before cleaning starts, or the permeate side should be cleaned using an individual cleaning circuit with a small, separate circulation pump.

Indication!

The pressure on the permeate side should never exceed the pressure on the concentrate side!

As suggested for crossflow-microfiltration, during the disinfection process an average filtration capacity should be established.

Nanofiltration, Reverse Osmosis

For cleaning nanofiltration and reverse osmosis plants, the highest feed flow and the lowest possible pressure and filtration rate should be chosen. Plants with a large dead volume on the permeate side should be cleaned as described above.

During disinfection, the pressure should be adjusted to obtain about half the nominal flux capacity of the membranes.

For recommendations of cleaning and sanitising agents, suitable for the type of membranes and filtration process please consult our technical P3-ultrasil data sheets.

This leaflet only describes general standard procedures. Regarding a specific plant inconsistent recommendations may be found. In case of any contradiction the plant and membrane manufacturers directions must be strictly followed.

The statements, information and data presented herein are believed to be accurate and reliable. The information describes the characteristic features of **P3-ultrasil 67** in ordinary use but can not be taken as a guarantee, express warranty or implied warranty for the suitability for a particular purpose and shall not extend mandatory warranty rights (if any). The specifications and performance may vary subject to the operational conditions. Since numerous parameters will influence product performance and applicability, this information does not exonerate the user from liability with respect to the suitability of the product and the appropriate safety measures to be taken. Moreover, a possible infringement of patent rights must be avoided at all times.

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