P3-ultrasil® 69 NEW

Description:

Alkaline, liquid detergent free of EDTA and NTA for membrane filtration plants

Product strengths:

- surfactant-free
- free of EDTA and NTA
- improved buffering properties

Properties

Concentrate	**Appearance:**	clear, brown liquid *
	Storage stability:	0 - 35 °C in original sealed container
	Solubility:	at 20 °C miscible with water in any proportion
	Density:	1.32 - 1.34 g/cm³
	P content:	approx. 1.55%
	N content:	approx. 0.24%
	COD:	approx. 74 mg O_2/g
	Flash point:	not applicable
Application solution	**pH:**	10.9 - 11.5 * (1 %, 20 °C, 0 °d water)
	Conductivity:	4.5 mS/cm (1 %, 20 °C, deionized water)

* Parameters subject to incoming goods control

Material compatibility: **P3-ultrasil 69 NEW** is, under the application conditions described below, compatible with

- **Metals** austenitic CrNi steels (quality at least DIN 1.4301 = AISE 304)

  Discolorations may occur with copper and brass.

- **Membrane materials** — all commonly used membranes such as polysulphone, fully aromatic polyamide, polyacrylonitrile, polyvinyl difluoride, polypiperazine amide , cellulose, polypropylene, polyether urea, α-aluminium oxide, zirkonium dioxide and electrodialysis membranes

  P3-ultrasil 69 NEW is not intended to be used with cellulose acetate membranes, as they may be irreversibly damaged.

Application

P3-ultrasil 69 NEW is an alkaline, liquid detergent, containing a combination of organic and inorganic sequestering agents and buffers.

Field of application

P3-ultrasil 69 NEW is suitable for cleaning micro-, ultra- and nanofiltration plants as well as reverse osmosis plants e.g. in the Dairy Industry, especially with cleaning filtration equipment used for the concentration of whey, milk treatment and cheese making.

Moreover, **P3-ultrasil 69 NEW** is suitable for cleaning electrodialysis plants.

Mode of application

Following a suitable pre-rinse with water, concentrations of 0.4 to 1.5 % **P3-ultrasil 69 NEW** in combination with 0.2 – 0.5 % P3-ultrasil 67 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.

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 determination

- **Titration**

Receiving flask:	100 ml application solution
Titration solution:	0.5 n hydrochloric acid (HCl)
Indicator:	Methyl orange
Titration factor:	0.12

Volume added in ml x 0.12 = % **P3-ultrasil 69 NEW**

Concentration control

The dosage of **P3-ultrasil 69 NEW** can be performed automatically conductivity-controlled - if desired also volume- or time-proportional (e. g. by means of **P3-Elados EMP**-dosage pumps and inductive conductivity measuring devices **P3-LMI 01** or **P3-LMIT 08**).

Our P3-System brochures are available on request.

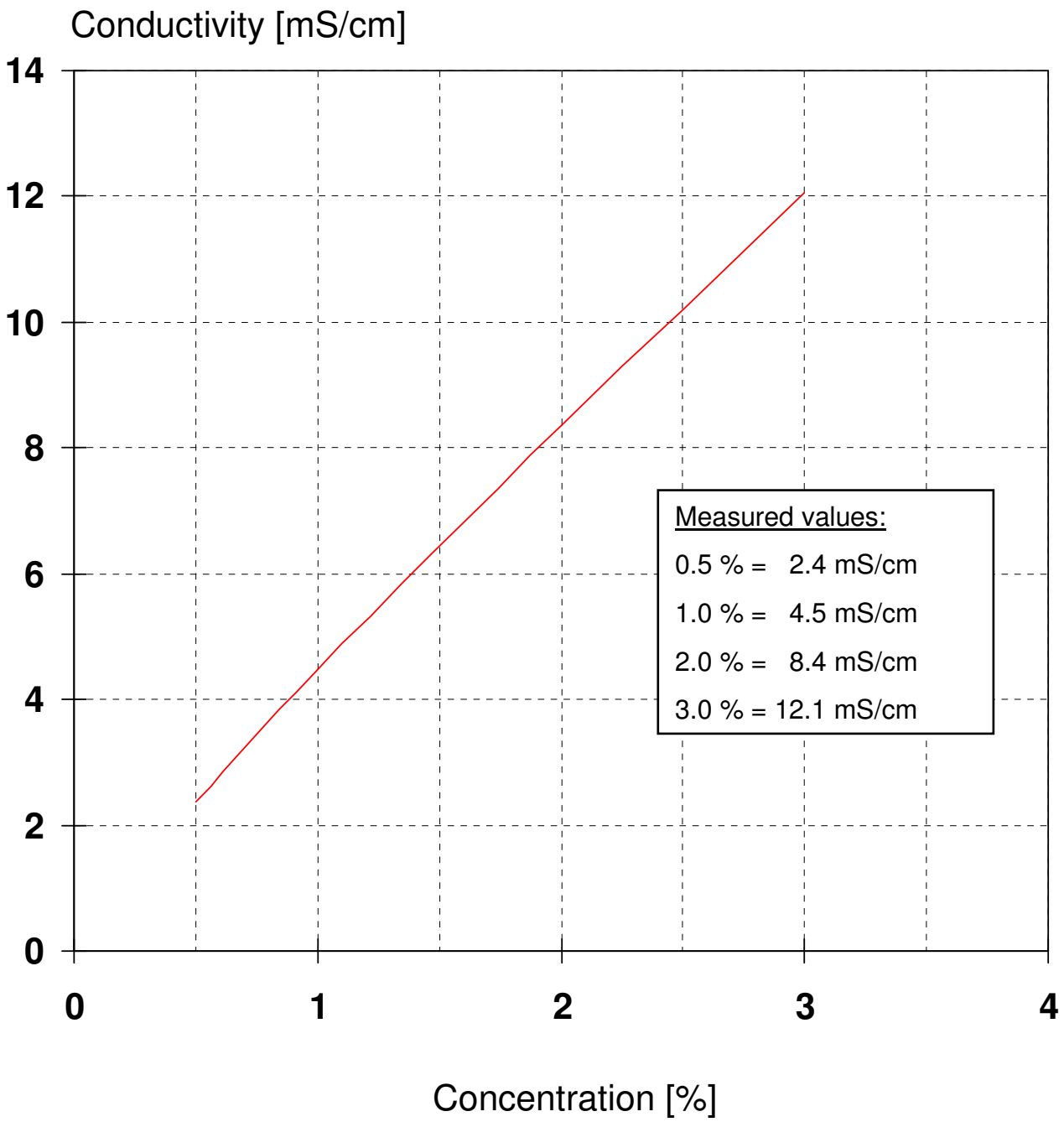
Safety

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.

P3-ultrasil 69 NEW

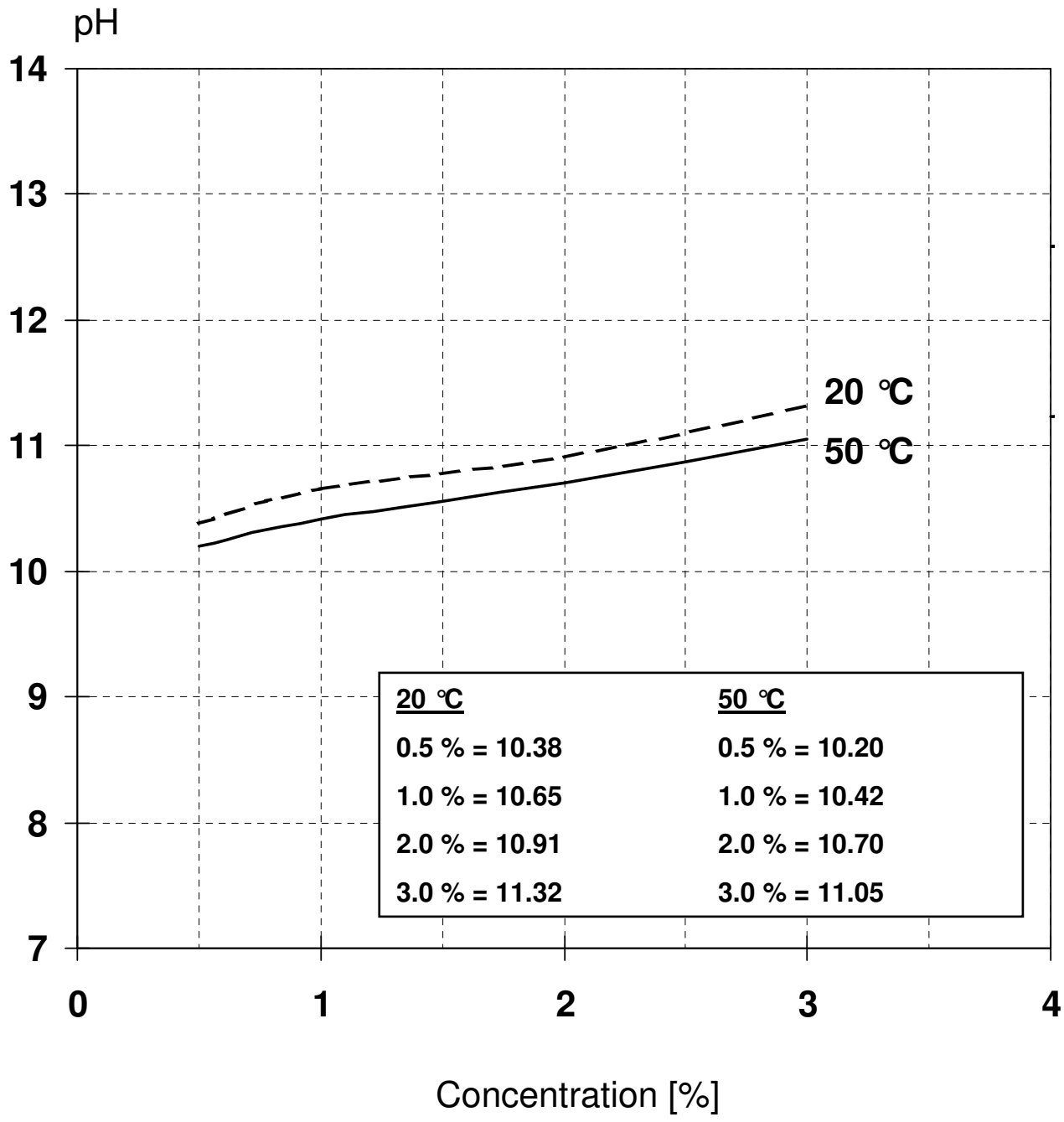
Specific Conductivity (20 °C, 0 °d)

Temperature coefficient: α 2.4 % / °C



P3-ultrasil 69 NEW

pH-value (16 °d)



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 69 NEW** 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.

(Version September 2005)

Ecolab Europe GmbH
Richtistr. 7
CH-8304 Wallisellen
www.ecolab.com

ECOLAB®