

Organic Solvent Nanofiltration

Membrane Data Sheet **oNF-1**, **oNF-2** and **oNF-3**

Organic Solvent Nanofiltration (OSN) or **Organophilic Nanofiltration** (oNF) offers attractive solutions for challenging separation in the molecular range between ultrafiltration and reverse osmosis, focusing on the treatment of organic liquids.

General

- Silicone polymer-based composite type
- Flat sheet: A4 size (210 x 297 mm)

Typical operating conditions

- Pressure: 15 ... 35 bar
- Temperature: up to 60 °C

Note: working conditions are subject to application!

Solvent stability

- Alkanes (e.g. pentane, hexane, heptane)
- Aromatics (e.g. toluene, xylene)
- Alcohols (e.g. methanol, ethanol, 2-propanol)

Identified applications

- Homogeneous catalyst recovery from reaction mixtures
- Conditioning of liquid hydrocarbons
- Purification of organic solvents and process liquids
- Product concentration in process liquids

- Ethers (e.g. tetrahydrofuran, 1,4-dioxane)
- Ketones (e.g. acetone, methyl-ethyl-ketone, methyl-iso-butyl-ketone)
- Others (e.g. ethyl acetate)

Performance data¹

Membrane		oNF-2 ²	oNF-1 ²	oNF-3 ³
Permeability [L/m²hbar]				
- Toluene		2	4	8
- Hexane		3	6	8 ⁴
- 2-Propanol		0,3	0,4	1,5
Rejection				
- Tetracosane ⁵	[339 g/mol]	75 %	55 %	-
- Hexatriocontane ⁵	[507 g/mol]	98 %	96 %	-
- Polystyrene ⁶	[580 g/mol]	-	-	50 %
- Polystyrene ⁶	[1300 g/mol]	-	-	80 %

¹Performance data are approximate | ²Test conditions: 30 bar, 30 °C | ³Test conditions: 7 bar, 20 °C | ⁴for heptane | ⁵in toluene | ⁶in heptane

Instruction for use

- No pre-treatment such as washing out of lubricating oil is required prior to operation.
- Membrane stamp shall be immersed in the solvent prior to testing for at least 2 hours. The conditioning solvent shall be disposed afterwards.
- For re-use of membrane drying-out has to be avoided once the membrane is wetted.

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