



## FILMTEC Membranes

### Cleaning and Sanitization: Safety Precautions

#### Safety Precautions

1. When using any chemical indicated here or in subsequent sections, follow accepted safety practices. Consult the chemical manufacturer for detailed information about safety, handling and disposal.
2. When preparing cleaning solutions, ensure that all chemicals are dissolved and well mixed before circulating the solutions through the elements.
3. We recommend that the elements be flushed with good-quality chlorine-free water (20°C minimum temperature) after cleaning. Permeate water is recommended. Prefiltered raw water or RO/NF feed water can be used for flushing out the cleaning solution, however there is a risk that cleaning chemical and/or foulant precipitation may occur. Care should be taken to operate initially at reduced flow and pressure to flush the bulk of the cleaning solution from the elements before resuming normal operating pressures and flows. Despite this precaution, cleaning chemicals will be present on the permeate side following cleaning. Therefore, when starting up after cleaning, the permeate must be diverted to drain for at least 10 minutes or until the water is clear.
4. During recirculation of cleaning solutions, there are temperature and pH limits. Please refer to Table 6.1.
5. For elements greater than 6 inches in diameter, the flow direction during cleaning must be the same as during normal operation to prevent element telescoping because the vessel thrust ring is installed only on the reject end of the vessel. This is also recommended for smaller elements. Equipment for cleaning is illustrated below.

**Table 6.1 pH range and temperature limits during cleaning**

	Max temp 95°F (35°C)	Max temp 122°F (50°C)
NF90 and all RO membranes	1 - 12	2 - 10
NF270, NF200	1 - 11	2 - 10

**FILMTEC™ Membranes**  
For more information about FILMTEC  
membranes, call the Dow Liquid  
Separations business:

North America: 1-800-447-4369  
Latin America: (+55) 11-5188-9222  
Europe: (+32) 3-450-2240  
Pacific (ex. China): +800-7776-7776  
China: +10-800-600-0015  
<http://www.filmtec.com>

Notice: The use of this product in and of itself does not necessarily guarantee the removal of cysts and pathogens from water. Effective cyst and pathogen reduction is dependent on the complete system design and on the operation and maintenance of the system.

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