Water Technologies & Solutions
fact sheet

Kleen* MCT400

membrane biofouling and organic cleaner

- Specially formulated membrane cleaner for removal of bio-fouling and organic based material
- Powder product for ease of storage, use and handling
- Optimum use and membrane recovery when followed by a high pH cleaner
- Excellent results when used to clean Desal and Brackish water membranes
- Cost effective cleaner
- Compatible with PA and CA type membranes

description and use

Kleen MCT400 comes in dry form and is formulated with organic acids, anionic surfactant and solubilizing actives. It is recommended for the removal of microbiological fouling, bioproteins and organic foulants. Use rate depends on the severity of the foulants and can range from 1% to 4%.

treatment and feeding requirements

Kleen MCT400 should be used in conjunction with the RO- Membrane cleaning CIP equipment supplied by the Manufacturer. Check to make sure the product is compatible with materials of construction. If such a system is not available, contact your SUEZ representative for information CIP suitable for the RO system.

makedown and dilution

Being a powder, Kleen MCT400 must be made down prior to circulating into the membrane system. The recommended use and dilution of the product is: one pound (0.45 kg) per 5 gallons (19 L) of the total CIP volume.

The total CIP water volume = water volume in CIP tank + water volume in RO system including piping.

When making down the product, the % product strength, pH and conductivity need to match to have best results.

Concentration %	pH	Conductivity (µS)
0.5	3.21	4,484
1	2.98	8,313
1.5	2.85	11,892
2	2.75	15,290
2.5	2.68	18,550
3	2.62	21,470
3.5	2.57	24,570
4	2.54	27,600

general cleaning instructions

The procedure listed below can be followed to achieve effective cleaning results. However, if more intensive cleaning is required, contact your SUEZ representative for additional treatment options.

1. Inspect cleaning tank, hoses, and cartridge filters. Clean tank and flush hoses, if necessary. Install new cartridge filters.
2. Fill cleaning tank with RO permeate or DI water. Turn on agitator or tank recirculation pump.

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3. Slowly add the recommended amount of Kleen MCT400 to the CIP cleaning tank and allow to mix thoroughly.
4. Check solution temperature. If solution temperature is lower than recommended level, adjust heating control to provide optimum temperature. If manufacturer's recommendation is not available, contact your SUEZ representative. Do not allow the temperature to exceed 95°F (34°C).
5. Check solution pH. The solution pH should be 2.0 to 3.0, or as recommended by the membrane manufacturer. If pH is too low, adjust pH upward with NaOH, or other chemical as recommended by the membrane manufacturer. If pH is too high, adjust with hydrochloric acid. Consult with your SUEZ representative regarding your system's ability to tolerate this pH range.
6. Circulate solution through one stage at a time in the direction of feed flow for 30 minutes. Circulate at the flow rate recommended by the membrane or system manufacturer. If manufacturer's recommendation is not available, contact your SUEZ representative. Pressure should be low enough so that minimal permeate is produced during cleaning, but always less than 60 psig (4.2 kg/cm^2). In cases of heavy fouling, the first return flow (up to 15% of the cleaning tank volume) should be diverted to drain to prevent redeposition of removed solids. For optimum results, each stage must be cleaned separately in a multistage system.
7. If the first stage cleaning solution becomes turbid or discolored, dump the tank and prepare a fresh cleaning solution before proceeding. If solution pH or temperature moves out of the recommended range, a new solution should be prepared.
8. Rinse with RO permeate water before returning system to service.
9. When returning the unit to service, divert product water to drain until any residual cleaning solution has been rinsed from system.

Depending on the nature of the fouling, a soak period may be necessary for optimum results. Consult your SUEZ representative for details.

storage and handling

Corrosion-resistant equipment, such as PVC and cross-linked polyethylene, should be used for the storage and preparation of this product. Pumping materials coming in contact with concentrated or diluted products should also be corrosion resistant.

safety precautions

A Safety Data Sheet containing detailed information about this product is available on request.