

CC KLEAN 115 MEMBRANE CLEANER

- **Suitable for membranes with moderate pH tolerance**
- **Can be used in conjunction with chlorine addition**
- **Used for spiral wound ultrafiltration membranes**
- **Buffered to maintain an effective pH over a range of dilutions.**
- **Enhanced performance at elevated temperatures**
- **No adverse effects with repeated use.**

DESCRIPTION AND USE

CC KLEAN 115 is a moderate pH liquid cleaner that effectively removes fat, proteins, whey precipitations and milk residues.

CC KLEAN 115 provides very effective cleaning resulting in longer interval between cleanings, reduced energy consumption and longer system running time.

MUST NOT BE USED ON ALUMINUM OR OTHER NON ALKALINE RESISTANT SURFACES.

TYPICAL APPLICATIONS

CC KLEAN 115 is used for cleaning ultrafiltration units using spiral wound membranes.

CC KLEAN 115 is a very effective cleaner in dairy applications and applications where fat is a problem.

Accumulation of foulants in dairy applications, such as fat, proteins, whey and milk residues leads to fouling of the membranes restricting the flow through the membranes. If left untreated the result can be a system that operates with unacceptably low production, high operating pressure, or an excessive pressure drop in the system. Results can be irreversible membrane damage.

Additionally, the accumulation of foulants can result in a drop in product quality due to increased amount of dissolved material passing through the membrane.

Regular clean-in-place CIP offline cleaning of the membranes prevents these scenarios and keeps the system operating within the design specifications and prolongs membrane lifetime.

Indications of the need for cleaning include a significant decrease in normalized permeate flow or a significant increase in pressure drop across the system (or individual stage).

Your Copenhagen Chemicals partner can assist you with monitoring your system and determining when cleaning is advised.

CC KLEAN 115 can be used with chlorine dosing to a concentration of max. 150 ppm free chlorine.

Consult your Copenhagen Chemicals partner for details.

FEED REQUIREMENTS

Feed System - This product should be used in conjunction with the membrane cleaning equipment supplied by the manufacturer of the membrane system.

Dilution – The product must be diluted prior to introduction into the membrane system. The recommended dilution is a 1-4% (w/w) strength solution.

Materials Compatibility – Corrosion resistant equipment, such as PVC, should be used for the storage and preparation of this product. Pumping materials coming in contact with the diluted products should also be corrosion resistant.

Must not be used on aluminum or other non-alkaline resistant materials.

PACKAGING INFORMATION

CC KLEAN 115 is a liquid, colorless material and is available in 22 kg pails or 220 kg drums.

GENERAL MEMBRANE CLEANING INSTRUCTIONS

The following general cleaning procedure can be followed.

For the optimum cleaning procedure for your system, contact your Copenhagen Chemicals partner.

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.

3. Slowly add CC KLEAN 115 to cleaning tank (0,5-2 kg of product for every 50 L water) and allow to mix thoroughly.

4. Heat solution to a temperature of 50-60 °C, or the maximum allowable temperature for the membrane if this is lower than recommended interval. If membrane manufacturer's recommendation is not available, contact your Copenhagen Chemicals partner.

5. Check solution pH. The solution pH should be about 11,6 (1%) or as recommended by the membrane manufacturer. If pH is too low, adjust pH upward with NaOH. If pH is too high, adjust with hydrochloric acid.

6. Circulate solution through one stage at a time in the direction of feed flow for 30-45 minutes. Circulate at the flow rate recommended by the membrane or system manufacturer. If the manufacturer's recommendation is not available, contact your Copenhagen Chemicals partner. Pressure should be low enough so that no permeate is produced during cleaning, but always less than 4 bar.

In cases of heavy fouling, the first return flow (up to 20% of the cleaning tank volume) should be diverted to drain to prevent redeposition of

removed material.

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. In any event, a new cleaning solution should be prepared for each stage.

8. Rinse with water (drinking water quality) permeate before returning system to service. All surfaces coming into contact with food & beverages must be rinsed thoroughly with water before being returned to service.

9. When returning unit to service, divert product water to drain until any residual cleaning solution has been rinsed from system.

SAFETY PRECAUTIONS

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