

KEM WATREAT R 932

(Membrane cleaner)

Description

KEM WATREAT R 932 is membrane maintenance offline chemical cleaner specifically developed for metal oxide, calcium carbonate scale removal from poly-amide thin film composite membranes. The use of high quality membrane cleaners is an important part of any Reverse Osmosis plant maintenance programme.

KEM WATREAT R 932 is most powerful cleaning product which exhibits excellent performance by penetrating & evading the membranes from serious causes of scaling such as inorganic salts of calcium chloride, calcium sulphate, calcium carbonate, barium sulphate, Strontium sulphate etc.

What is KEM WATREAT R 932?

KEM WATREAT R 932 is a highly effective cleaner of blend of sodium salts .

Where can KEM WATREAT R 932 be used?

KEM WATREAT R 932 finds application for removal of inorganic salts, iron base scales.

How does KEM WATREAT R 932 work?

Membrane chemical cleaning is an integral part of membrane process operation and economics of membrane processes. Inorganic fouling or scaling is caused by the accumulation of inorganic precipitates such as metal hydroxides, and “scales” on membrane surface or within pore structure. Precipitates are formed when the concentration of chemical species exceeding their saturation concentrations. Scaling is a major concern for reverse osmosis (RO) which rejects inorganic species. These species form a concentrated layer in the vicinity of membrane-liquid interface – a phenomenon referred to “concentration polarization”. Inorganic fouling

due to concentration polarization is much less profound, but can exist most likely due to interactions between ions and other fouling materials via chemical bonding. Some pretreatment processes for membrane filtration such as coagulation and flocculation, if are not designed or operated properly, may introduce metal hydroxides on membrane surface or within pore structure. These would result to performance decline of membrane with respect to salt passage, increased differential pressure & reduced permeate flow.

Under such circumstances, **KEM WATREAT R 932** once used will act on the inorganic scaling, scales of iron by thorough cleaning action. The liquid product **KEM WATREAT R 932** makes it easy for use like shorter mixing time, enhanced performance at elevated temperature. Below figure depicts the performance before & after cleaning.



Figure 1: Membrane Module Before & After Cleaning

When to clean RO membranes?

Elements should be cleaned whenever:

- The normalized permeate flow drops by 10%
- The normalized salt contents of the permeate increases by 10%
- The differential pressure (feed pressure – concentrate pressure) increases by 15% from the reference conditions It is important to clean the membrane at an early stage of fouling. If performance deteriorates by 20- 30% (or more), it may be impossible to recover plant performance by routine cleaning procedures.

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In a badly fouled membrane the flow pattern of the cleaning solution fails to penetrate the fouling medium.

Typical Chemical and Physical Properties

Appearance : Pale yellow clear liquid

pH : Acidic

Sp. Gravity : 1.16 ± 0.05

Feeding

Always follow the membrane manufacturer's recommendations for pH, temperature and contact time. The typical dilution ratio for **KEM WATREAT R 932** is a 1-5% range but never exceed membrane pH limitations. CWTL representative will help to decide the optimum concentration necessary required to clean the membranes. Few instructions had been outlined in the cleaning procedure of CWTL.

Depending upon nature of fouling the cleaning steps need to perform.



Why use KEM WATREAT R 932?

- Simple, safe and reliable
- Eco friendly maintenance
- Broad-spectrum mild cleaner
- Effective against scales of inorganic salts & metal

oxides

- Reduced cost of cleaning
- Improved membrane efficiency

Storage and Safety

To prevent deterioration, store the chemical in a cool and dry place away from sunlight. Avoid very low & freezing temperatures.

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