



## Chemical Cleaning by products Using Reverse Osmosis Method

Christian Jensen\*

Department of Geochemistry, Copenhagen University, Copenhagen, Denmark

### DESCRIPTION

Wastewater is any water that has been affected by human use; this can be from domestic, industrial, commercial or agricultural activities. It can be transported to sewers or wastewater treatment plants. It is also important to identify the perfect cation/anion balance and possible impurities before considering reverse osmosis processing.

Reverse osmosis, also called RO, and it is widely used for industrial water purification. However, it is important for the pre-treatment of water in order to protect the membrane from mineral deposits, organic fouling and chemical degradation.

This system creates a very pure form of water. It is a water purification process that uses the pressure and semi-permeable membrane which is used in dissolved solids for removing disinfectants. The traditional water treatment method requires the chemicals, that which poses more than one risk. These applications include treatment and recycling of wastewaters that are generated from metal finishing and plating operations; printed circuit board and semiconductor manufacturing, food and beverage (concentration of wastewater for reuse and reduction of BOD prior to discharge); groundwater and landfill leachate.

To enhance the purification, different tertiary membrane filtration technologies are utilized. The concentration which is produced in the membrane filtration is a voluminous waste stream, which is further treated. These includes ammonium or struvite recovery with the help of electrodialysis that is combined with crystallization or with struvite crystallization as well as calcium phosphate recovery with EPR process or with combined process of electrodialysis and crystallization. Also the valuable component in the concentration remains typically un-utilized.

The water is mainly used for cooling facilities, process and environmental-technical applications, such as wet gas cleaning, and sanitary applications, particularly in the integrated route, which produces steel from iron ore and fossils. The hazardous and complex materials of industrial waste treatment processes are

currently of great interest. The Reverse Osmosis (RO) has proven to be an efficient and cost-effective process step for remediation of wide range for the industrial waste water complex.

The power generator uses a combination of coagulation, flocculation and ion exchange resin beds to convert high purity water to steam. However, these techniques require the use of hazardous chemicals such as sulfuric acid and caustic soda. The advantage is that ecological recovery of solid waste. The wastewaters results from different processes which have specific characteristics, and the water management variability is mainly due to differences in the local conditions, particular plant configuration, water availability, water quality and legislation.

In the areas with high salinity of tap water, the wastewater is not suitable for reuse in agriculture, especially for sensitive crops. On another method it reduces the brackish nature of secondary wastewater through desalination.

Few technologies were seen potential for the value of component recovery. As a result, many power plant operators have been adopted to the RO membrane filtration as a water purification technology because it does not require the use of hazardous chemicals. Spent membranes can be treated with strong chemical oxidants to strip the active separating layer and convert them into microfiltration or ultrafiltration elements. On the other hand, used reverse osmosis membranes can be reused as filters in advanced treatment stages to reduce suspended solids in secondary wastewater.

### CONCLUSION

As high pressure water is passed through either thin film composite or cellulose acetate membranes to produce high quality of water that is suitable for all cleaning applications. It grows rapidly, but not as fast as power generation. The holding chemicals on-site, transporting at which manages the health and safety risks. The water treatment in power generation is estimated more than 30 percent of all industrial water treatment sales. A filtration step is also required prior to the desalination.

**Correspondence to:** Christian Jensen, Department of Geochemistry, Copenhagen University, Copenhagen, Denmark, Email: jensen@geus.dk

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