

MEMBRANE CLEANING

REGENERATION & SANITATION

COMPLETE RANGE OF DETERGENTS AND ENZYMES

CLEANING FOR ALL TYPES OF MEMBRANE FILTRATION

**WASHING PROCEDURES THAT RESTORE FLOW RATES
AND CORRECT PRESSURES**

**QUALIFIED TECHNICAL ASSISTANCE TO STUDY
EACH SPECIFIC NEED**

FEEL SAFE WITH US



CHRISTEYNS

FOOD HYGIENE



COMPLETE SYSTEM FOR MEMBRANE REGENERATION

Filtration is a physical procedure that allows the separation of different molecules present in a liquid according to their size. After use, the processor needs to clean the membranes. In order to clean the filters we need to know the characteristics of the soiling and the water, in addition we must understand the type of membranes and materials used in the plant.

Christeyns Food Hygiene has developed a portfolio of specialist membrane cleaning chemicals. The chemicals are suitable for use with spiral wound, thin film composite membranes, plate and frame and ceramic style filtration plants.

The cleaning system comprises alkali, acid and enzyme technology specifically developed to remove complex soil types in the dairy, beverage and brewing industries.

MAIN FOOD APPLICATIONS

In the food and beverage industries, membrane filtration is state-of-the-art technology for clarification, concentration, fractionation (separation of components), desalting and purification of a variety of beverages. It is also applied to improving the food safety of products while avoiding heat treatment. Some examples of final products using this technique are fruit and vegetable juices, like apple or carrot; cheeses, like ricotta, ice cream, butter or some fermented milks; skimmed or low-lactose dairy products; microfiltered milk; non-alcoholic beers, wines and ciders, etc.

Christeyns Food Hygiene has experience with dairy, beverage, brewing, food processing, and effluent treatment using membrane technology.

Membrane filtration processes depend on pore size and separation done by a driving force. According to this, membrane processes are classified in Microfiltration (MF), Ultrafiltration (UF), Nanofiltration (NF) and Reverse Osmosis (RO).

Our chemistry combined with the skill and knowledge of our team have allowed us to reduce energy and water consumption in both cleaning and production. Micro results and flux rates reflect the standard and integrity of the cleaning regimes in place.

We offer technical expertise and assistance in troubleshooting and cleaning of membranes to give you an optimum system performance.

Keep the membranes like the first day.

With our range of products for membrane cleaning you will be able to maintain the membrane life.

REGENERATION - SANITATION

During the production process, filtration equipment and installations inevitably get dirty. Some of the molecules that do not pass through the membrane and that are collected in the concentrate, accumulates during production causing a progressive occlusion of the pores of the membrane.

When the flow rates are reduced and the working pressures increase, a washing process also known as "regeneration" is necessary.



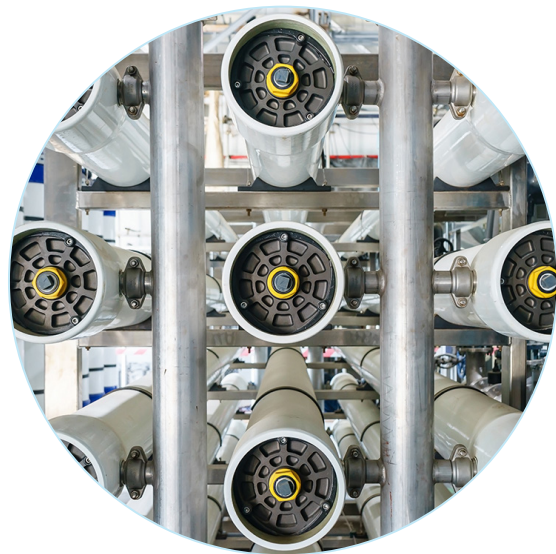
Do you need choosing the right membrane cleaning chemical solution for your system?

To identify the most suitable cleaner, you must know:

- The kind of water
- The materials from which membranes are made
- Restrictions in the type of chemicals that can be used
- The type of soiling

It is important to always check the membrane limits before setting the washing conditions.

Considering the materials from which membranes are made and their structure, it is easy to understand that its cleaning is not a simple matter and cannot be improvised, either from the point of view of the products or from that of the procedures.



Filtration with reverse osmosis.

CHLORINE REDUCTION - MEMBRANE CLEANING

Using our specially blended products we are able to clean plants whilst reducing the amount of chlorine based products. By reducing the chlorine, we can help increase the membrane life and ensure that there are no residual chlorates or chorites in product, retentate or permeate.

Christeyns Food Hygiene has introduced range of cleaning products to clean membranes in the filtration systems used in dairy and beverage industries.

The cleaning system comprises alkali, acid and enzyme technology specifically developed to remove complex soil types in dairy, beverage and brewing industries with limited use of chlorine to meet the needs of modern production plants with an improved surfactant structure and more complex enzyme chemistry.

CHRISTEYNS has the range MIDA MEMCARE to clean and to keep the life of membranes. CHRISTEYNS Food Hygiene has experience with all aspects of dairy, beverage, brewing, processed food, and effluent treatment using membrane technology. This incorporates MF, UF, NF and RO processes.

CLEANING PROCEDURE

Membranes have a porous structure in which processing residues accumulate. They can be damaged if washing solutions have extreme pH or if the temperatures are too high.

In addition, the use of surfactants and oxidizers must also be analysed and studied on a case-by-case basis.

In the food industry, different kind of soil can be found depending on the food and water composition: protein, fat or starches or hardness. These substances can be removed with alkaline detergents, enzymatic products and/or acid descaling detergents, surfactants and sequestrant and chlorinated products. These features together with CHRISTEYNS expertise on the subject will help you to reach the highest level of hygiene of your membrane system.

Our range include both high pH, low pH, neutral pH and enzymatic cleaners each designed to give superior performance in combination with low cost in specific applications for both organic and ceramic membranes.

From our wide range of product any membrane cleaning challenge can be solved, including scaling problems, biological fouling and complex cleanings of membranes in food industry applications.

MEMBRANE MATERIALS / MEMCARE DETERGENTS					
	MIDA® MEMCARE				
	504 - 505	508 - 509	506	515	510
	Alkaline	Alkaline	Alkaline	Alkaline	Acid
PS	✓	✓	✓	✓	✓
PES	✓	✓	✓	✓	✓
PVDF	✓	x	x	✓	✓
TFC	✓	x	x	x	✓
Ceramic	✓	✓	✓	✓	✓

MEMBRANE MATERIALS / MEMCARE DETERGENTS						
	MIDA® MEMCARE					
	518	519	520	521	540	541
	Enzyme	Enzyme	Enzyme	Booster	Booster	Booster
PS	✓	✓	✓	✓	✓	✓
PES	✓	✓	✓	✓	✓	✓
PVDF	✓	✓	✓	✓	✓	✓
TFC	✓	✓	✓	✓	✓	✓
Ceramic	✓	✓	✓	✓	✓	✓
CA	✓	✓	✓	✓	✓	✓
RCA	✓	✓	✓	✓	✓	✓
AN	✓	✓	✓	✓	✓	✓

APPLICATIONS

Membranes used in different applications differ not only in the materials used but also in the average size of the pores. Additionally, there are a lot of applications in membrane cleaning: beer, wine, milk or blood, among others.

WINE	
SOILING TYPE	TYPES OF CLEANING CHEMICALS
Organic residues Tartrates	<ul style="list-style-type: none"> • Caustic detergent with booster. • Chlorinated alkalines. • Caustic detergent with enzymes.
Inorganic scale	<ul style="list-style-type: none"> • Acid detergent

FRUIT JUICE	
SOILING TYPE	TYPES OF CLEANING CHEMICALS
Organic residues	<ul style="list-style-type: none"> • Caustic detergent with booster. • Chlorinated alkalines. • Caustic detergent with enzymes.
Inorganic scale	<ul style="list-style-type: none"> • Acid detergent

BREWING	
SOILING TYPE	TYPES OF CLEANING CHEMICALS
Beer	<ul style="list-style-type: none"> • Caustic based detergents.
Organic residues	<ul style="list-style-type: none"> • Caustic detergent with booster. • Chlorinated alkalines. • Caustic detergent with enzymes.
Beerstone	<ul style="list-style-type: none"> • Caustic based detergents. • Acid.
Microorganisms	<ul style="list-style-type: none"> • Chlorinated alkalines. • Disinfectants.

DAIRY	
SOILING TYPE	TYPES OF CLEANING CHEMICALS
Fat	<ul style="list-style-type: none"> • Caustic based detergents. • Caustic detergent with booster.
Protein	<ul style="list-style-type: none"> • Caustic detergent with booster. • Chlorinated alkalines. • Caustic detergent with enzymes. • Acid based detergents.
Milkstone	<ul style="list-style-type: none"> • Caustic based detergents. • Acid detergent
Microorganisms	<ul style="list-style-type: none"> • Chlorinated alkalines. • Disinfectants.

PROCESSED FOOD	
SOILING TYPE	TYPES OF CLEANING CHEMICALS
Fat & Greases	<ul style="list-style-type: none"> • Caustic detergent with booster.
Protein	<ul style="list-style-type: none"> • Caustic detergent with booster. • Chlorinated alkalines. • Caustic detergent with enzymes. • Acid based detergents.
Mineral	<ul style="list-style-type: none"> • Acid detergent
Microorganisms	<ul style="list-style-type: none"> • Chlorinated alkalines. • Disinfectants.
Starch	<ul style="list-style-type: none"> • Caustic based detergents. • Chlorinated alkalines. • Caustic detergent with enzymes. • Acid based detergents.



SERVICES

CHRISTEYNS offers its customers a range of products specifically designed for membrane regeneration. An expert team will also analyse the characteristics of the plant, the filtered product and all that is needed to completely ensure the regeneration of the membranes and its long-lasting durability.

- 🔄 Preliminary audit with questionnaire and analysis of parameters.
- 🔄 Drafting of washing procedures in accordance with membranes manufacturers.
- 🔄 Validation of the sanitation system of the filtration plant.
- 🔄 Periodic visits to verify the parameters of the plant and the concentrations in use.

MORE INFORMATION

Contact your local CHRISTEYNS representative to help you find a solution that fits your personal situation.



CHRISTEYNS

FOOD HYGIENE

Afrikalaan 182, B - 9000 Gent

T + 32 9 223 38 71

E info@christeyns.com

CHRISTEYNS.COM