



PRODUCT DATA

PD 138

AQUARIGHT ZF-100

Information for the desalination industry

AQUARIGHT ZF-100 antiscalant is an aqueous solution based on acrylic acid. It is used for the prevention of organic scale deposition in water purification system that use membrane technology.

AQUARIGHT ZF-100 has the following features :

- It is multifunctional inhibitor with activity against calcium carbonate, calcium sulphate, barium sulphate and strontium sulphate.
- It has been listed by the US National Sanitation Foundation (NSF). KIWA and DWI for use in systems producing potable water.
- It is chemically stable over a wide range of pH and temperatures.
- It has been approved for use by all the major membrane manufactures. Membrane approvals are available on request
- The manufacture of AQUARIGHT ZF-100 involves no components or products regulated under California Proposition 65.
- It is classified as non-hazardous under OSHA and EC directive 67/548 for supply and conveyance.

Typical properties

The following are typical properties and should not be regarded as specification limits. Because AQUARIGHT ZF-100 is produced by a batch process there may be slight variations from these values.

Appearance	Colorless
Odor	Slight
pH	About 3.5
Specific gravity at 25	1.17
Viscosity gravity at 25	20 m ² /sec
Freezing point	-2 ^o
Solubility	miscible with seawater, brackish water and permeate in all proportion
Solids content	36% w/w

A product specification is available on request.

Calculation of the dose level of AQUARIGHT ZF-100 for use in membrane separation systems

A computer programme is available to calculate the appropriate dose level required to inhibit the precipitation of the inorganic scaling species in the feedwater.

The following critical information is required prior to using the programme :

- Feed water analysis
- Ambient or operation temperature of the feed water
- Membrane type
- Pressure of the feed water to the 1st array
- % recovery

A copy of the programme is available to OEMs and Consultants on request.

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Summary

In solving the problem of inorganic scale formation it is vital that other types of fouling are not introduced. AQUARIGHT ZF-100 has been shown to have excellent performance in preventing scale formation without contributing to microbiological fouling of the membrane system in any way.

- No bacterial growth in solution above 5% AQUARIGHT ZF-100 which allows dosing of dilute solutions.
- Solutions below 5% AQUARIGHT ZF-100 can be protected using 0,01% sodium metabisulphite without impairing the antiscalant performance.
- AQUARIGHT ZF-100 does not act as a *nutrient for bacteria*.

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