[CLAIMS]

[Claim 1]

A membrane separation method in which a membrane separation treatment is performed by an intermittent addition of a combined chlorine agent containing a sulfamic acid compound to water to be treated which is supplied to a reverse osmosis membrane separation unit comprising a reverse osmosis separation membrane,

wherein in the intermittent addition, an intermittent addition water supply period and a non-addition water supply period are repeated,

during the intermittent addition water supply period, the combined chlorine agent is added at such a concentration as to inhibit the activity of microorganisms in a biofilm to the water to be treated and the water is supplied to the reverse osmosis membrane separation unit, and

during the non-addition water supply period, the water is supplied to the reverse osmosis membrane separation unit without adding the combined chlorine agent;

the intermittent addition water supply period continues for 0.25 to 5 hours,

wherein the membrane separation method is characterized in that the non-addition water supply period continues for 1 hour or more and less than 6 hours.

[Claim 2]

The membrane separation method according to claim 1, wherein when one intermittent addition water supply period and one non-addition water supply period are regarded as one cycle, the one cycle continues for 1.25 to less than 11 hours.

[Claim 3]

The membrane separation method according to claim 1 or 2, wherein a time ratio of [the non-addition water supply period/the intermittent addition water supply

period] is 0.2 to less than 24.

[Claim 4]

The membrane separation method according to any one of claims 1 to 3, wherein the intermittent addition water supply period continues for 0.5 to 1 hour, and/or the non-addition water supply period continues for 1 to 4 hours.

[Claim 5]

The membrane separation method according to any one of claims 1 to 4, wherein when one intermittent addition water supply period and one non-addition water supply period are regarded as one cycle, an average concentration of the combined chlorine agent in the water to be treated is 0.05 to 1.5 mg/L (as combined chlorine) per the one cycle.

[Claim 6]

The membrane separation method according to any one of claims 1 to 5, wherein the membrane separation method is performed in a state that a salinity concentration in the water to be treated is in a range of 0 to 50000 mg/L.

[Claim 7]

The membrane separation method according to any one of claims 1 to 6, wherein during the intermittent addition water supply period, a composition ratio of a chlorine-based oxidizing agent to an alkali metal component in the water to be treated is 2×10^{-5} to 1×10^{-3} in terms of Cl/alkali metal (molar ratio).

[Claim 8]

The membrane separation method according to any one of claims 1 to 7, wherein during the intermittent addition water supply period, a ratio of Br and Cl in the water to be treated is 5×10^{-3} or less in terms of Br/Cl (molar ratio).

[Claim 9]

The membrane separation method according to any one of claims 1 to 8, wherein the membrane separation method is performed in a manner that a membrane surface flow velocity in the reverse osmosis separation membrane is 4 cm/sec to 15 cm/sec.