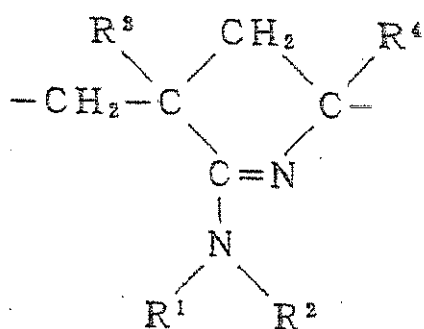


flux of permeation, and that this treatment not only recovered the rejection in the application to permeable membranes having a decreased rejection after the use but also increased the rejection in the application to unused permeable membranes. The present invention has been completed based on the knowledge.

Summary

In a first aspect, there is provided an agent for increasing rejection with a permeable membrane which comprises an ionic macromolecule having a weight-average molecular weight of 100,000 or greater, wherein the ionic macromolecule is a cationic macromolecule which is a polyvinylamidine or a derivative thereof; wherein the polyvinylamidine has the structural unit shown by general formula [1]:



... [1]

wherein R1 to R4 represent hydrogen atom or an alkyl group.

In a second aspect, there is provided a process for increasing rejection with a permeable membrane which comprises treating the permeable membrane with the agent for increasing rejection with a permeable membrane described above.

In a third aspect, there is provided a permeable membrane which is treated in accordance with the process for increasing rejection with a permeable membrane described above.

In a fourth aspect, there is provided a process for water treatment which comprises using the permeable membrane described above.

The present invention ~~and~~ disclosure also provides:

- (1) An agent for increasing rejection with a permeable membrane which comprises an ionic macromolecule having a weight-average molecular weight of 100,000 or greater;
- (2) The agent for increasing rejection with a permeable membrane described in (1), wherein the permeable membrane is a nano filtration membrane or a reverse osmosis membrane;
- (3) The agent for increasing rejection with a permeable membrane described in (1), wherein the ionic macromolecule is a cationic macromolecule;
- (4) The agent for increasing rejection with a permeable membrane described in (3), wherein the cationic macromolecule has a heterocyclic ring;
- (5) The agent for increasing rejection with a permeable membrane described in (4), wherein the cationic macromolecule having a heterocyclic ring is a polyvinylamidine or a derivative thereof;
- (6) The agent for increasing rejection with a permeable membrane described in (1), wherein the ionic macromolecule is an anionic macromolecule;
- (7) The agent for increasing rejection with a permeable membrane described in (6), wherein the anionic macromolecule is polyacrylic acid or