lower nucleophilicity, covalently-bonding a high electron density part having π-electrons, which is highly reactive to an electrophile, to a cross-linked hydrophilic polymer and making hypochlorite preferentially attack the part. The inventors experimentally proved the idea; and as a result, finally completed the invention.

[0017]

A filter medium for a water treatment filter according to the present invention is characterized in comprising a porous base material having a hydrophilic coating layer; wherein the hydrophilic coating layer has a cross-linked hydrophilic polymer and a high electron density part; a hydrophilic polymer in the cross-linked hydrophilic polymer is cross-linked with an aliphatic saturated hydrocarbon group which may contain one or more functional groups selected from a group consisting of an ether group, a hydroxy group and an amino group; the high electron density part has π electrons; ~~and~~ the high electron density part is covalently bonded to the cross-linked hydrophilic polymer, the porous base material, the main chain of the cross-linked hydrophilic polymer and the main chain of the cross-linking chain of the cross-linked hydrophilic polymer do not have π electrons.

[0018]

The high electron density part in the filter medium for a water treatment filter preferably has one or more selected from a group consisting of an aliphatic unsaturated hydrocarbon group, an aromatic hydrocarbon group, a heteroaromatic hydrocarbon group, a carbonyl group, a nitrile group, a sulfoxide bond, a sulfonyl bond and a sulfonic group.

[0019]

The high electron density part preferably has an amide bond or an aromatic hydrocarbon part.

[0020]

covalently bond the high electron density part to the cross-linked hydrophilic polymer.

[0027]

A method for improving oxidation resistance property of a filter medium for a water treatment filter according to the present invention is characterized in comprising the step of covalently bonding a high electron density part having a π electron to a porous base material having a hydrophilic coating layer, thereby improving the oxidation resistance property against an oxidizing agent used for washing the water treatment filter, wherein a hydrophilic polymer in a cross-linked hydrophilic polymer is cross-linked with an aliphatic saturated hydrocarbon group which may contain one or more functional groups selected from a group consisting of an ether group, a hydroxy group and an amino group, the porous base material, the main chain of the cross-linked hydrophilic polymer and the main chain of the cross-linking chain of the cross-linked hydrophilic polymer do not have π electrons.

EFFECT OF THE INVENTION

[0028]

In a large scale wastewater treatment plant and others, 5 to 10 years of life is required of the water treatment filter to be used for removing insoluble components. However, since the hydrophilic groups or the cross-linked hydrophilic polymers constituting the hydrophilic coating layer are attacked by a washing treatment with an oxidizing agent such as hypochlorite, the filter itself is deteriorated together with the hydrophilicity thereof and it is actually obliged to exchange the filter at an interval about 1 to 5 years.

[0029]

On the other hand, since the water treatment filter according to the present invention has a high electron density