Metaqua® 8140

Scale and corrosion inhibitor for drinking water systems with medium hard to very hard water

Principal Applications:

Metaqua® 8140 is a scale inhibitor with corrosion protection properties for drinking water systems, containing water with a total hardness content above 2.5 mol/m^3 (TH > 250 ppm $CaCO_3$).

General Description:

Metaqua® 8140 is a blended powdery product, based on special alkali phosphates and alkali silicates.

The compounds of Metaqua® 8140 and the recommended dosage comply with the German legislation.

Metaqua® 8140 is germ-free.

Appearance:

white powder

Bulk Density:

750 ± 50 kg/m^3

pH (1 % Solution):

10.9 ± 0.5

Solubility in Water:

maximum 13 % @ 20°C/68°F

Total P-Content (calculated as $PO4^{3-}$):

62 ± 3 %

P_2O_5-content = PO_4-content x 0,7473
P-content = PO_4-content x 0,3261

SiO_2 Content (calculated as SiO_2):

11 ± 2 %

Effect on Environment:

For information please see material safety data sheet.

Mode of Action:

Metaqua® 8140 is able to stabilize the hardness building compounds by threshold effect. Due to this, it prevents scale formation in the field of warm and cold water. Above 65°C/150° F the scale prevention decreases. Beyond the stabilization limit an amorphous precipitate is obtained.

Metaqua® 8140 prevents corrosion, the precipitation of corrosion products and the forming of "brown water" by complexing heavy metal ions e.g. iron or manganese.

Metaqua® 8140 inhibits corrosion by the formation of protecting layers due to the synergism of silicates and phosphates.

Dosage:

The dosage depends on several parameters and should preferably be selected with the help of a Kurita representative.

Generally a concentration between 3 and 8 g Metaqua® 8140 / m^3 drinking water is recommended.

According to the German legislation the dosage limit is 10.3 g/m^3.

Application:

Metaqua® 8140 is used as a 5 to 12 % solution.

The dosing solution should be made with softened water. By using water with a high amount of hardness the produced solution could become turbid. Nevertheless, this tubidity does not reduce the efficiency of the product.

The manufacturing and storing container of the dosing solution should be made from plastic or iron. A stirring equipment is recommended.

The product solution of Metaqua® 8140 should be added continuously by an automatic dosing system regulated by the quantity of drinking water.

The complete feeding equipment (containers, pumps, pipes) must be made of alkaline resistant material.

In bigger plants, e.g. in waterworks, it could be advantageous to install a special equipment for an automatic manufacturing of the dosing solution before the dosing system.

Analysis:

The determination of Metaqua® 8140 is made by standard phosphate test methods (see Analysis method A7E Inorganic Phosphate II) in consideration of the PO_4^{3-} content before treatment.

1 g/m³ Metaqua® 8140 = 0.62 g/m³ PO_4^{3-}
1 g/m³ PO_4^{3-} = 1.6 g/m³ Metaqua® 8140

Handling Precautions:

For information please see material safety data sheet.
The expiry date of the product is given on the packaging labels.

Certification

Our quality management system (ISO 9001:2008) and environmental management system (ISO 14001:2005) are successful certified by DQS.

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