

## Metaqua® 187 L

### Polyphosphate-combination as corrosion inhibitor and hardness stabilizer for drinking water systems

#### Applications

Metaqua® 187 L is a combination product based on polyphosphate. It is used as Hardness Stabilizer and corrosion inhibitor for Hard water.

The polyphosphate-combination stabilizes Water Hardness and reduces corrosion and the formation of brown water primarily in sections of low flow or stagnation zones.

#### Product description

Metaqua® 187 L is a combination product based on sodium polyphosphates.

#### Appearance:

white granulated powder

#### Phosphate content:

$90.5 \pm 2.0$  % t-PO<sub>4</sub>

#### Conversion factors:

PO<sub>4</sub>-content x 0.7473 equates P<sub>2</sub>O<sub>5</sub>-content

PO<sub>4</sub>-content x 0.3261 equates P-content

#### pH (1 % solution):

approx. 6.5

#### Max. solubility in 1 litre water

at 20 °C: ca. 1.000 g

#### Legal requirement:

The composition of Metaqua® 187 L and the recommended dosage is in accordance with the German Drinking Water Ordinance. Metaqua® 187 L is complying with DIN EN standards as well as the requirements in this respect to the, FAO/WHO Expert Committee on Food Additives" (7. and 19. Report).

#### Mode of action

Metaqua® 187 L stabilizes the water hardness and prevents the formation of scale deposits in warm and cold water even at high pH.

The corrosion inhibition of Metaqua® 187 L at steel-, galvanised steel- and copper systems is based on the formation of a protective layer by the phosphates.

Metaqua® 187 L prevents the formation of brown water. It masks heavy metal ions like iron or manganese.

The polyphosphate component of Metaqua® 187 L also works as orthophosphate reservoir. In long water lines the polyphosphate hydrolyzes to orthophosphate. Thus the corrosion protection of end lines is also assured.

#### Dosage:

The dosage to be applied depends on water parameters and operating conditions. The general dosage of Metaqua® 187 L is in the range of 3.0 to 5.0 g Metaqua® 187 L per m<sup>3</sup> water.

Process control includes monitoring of the effect of the water conditioning as well as an analytical control of the water quality.

#### Application:

Metaqua® 187 L is applied as 1-40% solution.

Metaqua® 187 L should be added continuously by an automatic dosing system proportional to the quantity of drinking water.

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

It is recommended to use soft water for the dosage solution. During the dissolution Metaqua® 187 L should be added slowly and under stirring into the water. Higher Temperatures until 50°C fastens the dissolution.

## PRODUCT INFORMATION – METAQUA® 187 L

### Analysis:

The determination of Metaqua® 187 L is made by standard test methods (see Method of Analysis A 21 E inorganic phosphate) in consideration of the PO<sub>4</sub> content of the raw water.

$$1 \text{ g/m}^3 \text{ Metaqua}^{\circledR} 187 \text{ L} = 0.90 \text{ g/m}^3 \text{ t-PO}_4^{3-}$$
$$1 \text{ g/m}^3 \text{ t-PO}_4^{3-} = 1.11 \text{ g/m}^3 \text{ Metaqua}^{\circledR} 187 \text{ L}$$

### Storage:

Storage containers and barrels have to be impervious to light and closed tightly.

### Precautions:

For further 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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The information contained herein reflects our current level of technical knowledge and experience. It does not constitute a legal warranty of particular characteristics or of fitness for a specific purpose and, due to the abundance of possible influences, does not exempt the user from making its own examinations and taking appropriate precautionary measures. It shall be the responsibility of the recipient of our products to respect any intellectual property rights and comply with any laws or other provisions.

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