Innovative soliutions
for water treatment

Ferrofos® 8441

Hardness stabilizer and dispersant for treatment
for the treatment of cooling water systems and industrial water

APPLICATION

Ferrofos® 8441 is a hardness stabilizer with high dispersion capacity, for the treatment of cooling water and industrial water. The product is recommended for use in open cooling systems, condensers, etc., where, due to the high hardness of water or large quantities of sludge, deposits are formed. The product prevents scale formation when using very hard tap water.

SPECIFICATION

Ferrofos® 8441 is a liquid product consisting of phosphonic acid and polycarboxylate acid.

Form:	clear or slightly cloudy liquid
Density (20°C/68°F):	1,12 ± 0,03 g/cm^3
pH (1% liquid):	2,4 ± 0,3
Solubility in the water:	completely dissolve
Freezing point:	below -3 °C
Viscosity:	< 30 mPa/s
Total P (based on PO_4^{3-}):	8,5 ± 0,3 %

ENVIRONMENTAL IMPACT

The product isn't volatile or combustible. Ferrofos® 8441 contains no nitrogen compounds and very little phosphorus. Please read the safety data sheet.

ACTION

Ferrofos® 8441 prevents the formation of water hardness crystals by blocking crystal growth (*Threshold effect*). During stabilization, amorphous sediments break up, preventing the formation of sediments. The precipitation is then drained from the system into the drain. Sludge deposits also enter the dispersed phase and are removed from the system during drainage.
The usage of Ferrofos® 8441 is possible when the pH range is between 7.0 and 10.0.

DOSAGE

The dosage depends on many factors, e.g. concentration coefficient, stiffness, total alkalinity, chloride content, temperature, half-time (curing index) and should be chosen with the help of ŠOMIS's experts.
In the recirculation water of cooling systems the Ferrofos® 8441 concentration should be kept in the range from 3 to 30 g/m^3.
It is recommended to dose 10% Ferrofos® 8441 aqueous solution to the washing zones. Depending on the water hardness, 0.2 - 0.3l of the 10% solution can be treated with 1000 l of water. This corresponds to 20-30g of Ferrofos® 8441 per 1000l of water.

USAGE

The Ferrofos® 8441 can be added to the system as an undiluted or as aqueous solution. The product should be added using an automatic dosing system, which is regulated according to the amount of water supplied, especially in systems where the amount of feed water varies greatly. All parts of the equipment which are in contact with the product must be made of acid-resistant material. It is best to use synthetic materials (PE, PVC).
The product should be fed into the system at or before the highest mixing point. The dosage of Ferrofos® 8441 can be adjusted according to the capacity of the dosing system by dilution.

ANALYTIC ANALYSIS

The concentration of Ferrofos® 8441 can be determined by the concentration of $PO4^{3-}$. It is necessary to pay attention to the amount of $PO4^{3-}$ in the feed water. The determination of $PO4^{3-}$ can only be done after the phosphonic acid oxidation decomposition.
Method of analysis:
A2-organophosphate
1 g/m^3 Ferrofos 8441 = 0.085 g/m3 $PO4^{3-}$
1 g/m^3 PO43- = 11.8 g/m^3 Ferrofos 8441

SAFEGUARDS

Please read the safety data sheet. Product expiry date is shown on the packaging.

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