

DEOXID



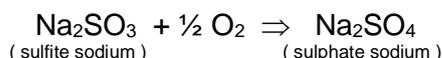
Deoxygenating/scales remover for steam systems



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APPLICATIONS:

DEOXID is a scales remover and deoxygenating agent (one drum formulation) for heating systems working up to 63 Bar pressures also under FDA specifications for the production of pure steam. Deoxygenating action is done by sulfite sodium. Its reaction with oxygen can be schematized as follows:



For a correct use of the product it is necessary to take the following measures:

- Increase the bleeding of the boiler in order to check the concentration of dissolved solids;
- Always maintain an excess of sulphite sodium;
- Make the reaction happen in the following pH range: $8,3 \leq \text{pH} \leq 9,5$.

The active ingredient used in "DEOXID" is EDTA - ethylene-diamine-tetraacetic acid - approved as an additive for boiler water systems according to FDA specifications. The chelating agents have the ability to complex and prevent the deposition of many cations (hardness and heavy metals) in the conditions of the boiler water. The best approach for the control of iron oxides is a combination chelator-polymer

It should be dosed into the system a sufficient amount of chelating agent to complex hardness and soluble iron and give to the polymer the conditioning and dispersion of all other forms of iron oxides.

DISPERSING/DEFLOCCULANT EFFECT:

The adsorption of anionic polymers increases the negative charge that normally characterizes airborne particles, reducing their tendency to agglomerate and, through its continued suspension, inhibits the formation of deposits.

DOSAGE:

We suggest to measure out 50 ÷ 60 DEOXID ppm for each O₂ ppm dissolved, leaving at least 15-30 ppm of unreacted sulfite into water circuit (to extract the value use a sulfites kit).

In order to protect the entire system (including economizers), it is suggested to dose the product into the food tank or under the degasser (if present).

CHEMICAL-PHYSICAL FEATURES:

Physical status	limpid liquid
pH	> 12,0
Shelf – life	1 year, at environment temperature
Active principle	sulphite sodium – chelator agents – polycarboxylic-phosphine acid



OXYGEN SOLUBILITY AND PRODUCTS DOSAGE FOR HEATING PLANT

The quantity of oxygen in the water depends on its partial pressure and temperature. At environment pressure and temperature, one liter of water contains from 8 to 10 milligrams of O₂. This concentration decreases while temperature increases however, the solubility of oxygen in the water does not vanish at any temperature. Therefore, even at high temperature, pressurized water can contain significant amounts of dissolved oxygen.

The following table shows the oxygen content according to different temperatures:

OXYGEN CONCENTRATION (ppm)	TEMPERATURE (°C)
9.09	20
7.49	30
6.41	40
5.94	45
5.50	50
4.69	60
3.81	70
2.81	80
2.20	85
1.59	90
0.86	95

PRODUCTS DOSAGE FOR HEATING PLANT:

To locate the correct quantity to be entered in the circuit, multiply the concentration of oxygen corresponding to the temperature of the boiler **feed** water, for the dosage indicated on the technical note of the recommended product.

Matches: 1 ppm = 1 mg/litre = 1 gram/ton.

Example:

- Inlet water temperature = 85 °C
- From the table we find 2.20 ppm of oxygen dissolved in water

Therefore \longrightarrow 50 ppm di DEOXID x 2.20 ppm di O₂ = 110 gr/m³

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