

# S-7

## DESCRIPTION

S-7 is a non-catalyzed sodium-sulfite-based oxygen scavenger designed to protect low- to medium-pressure boiler systems against corrosion during normal operations. Oxygen present in feedwater can cause severe damage to boiler equipment if left unchecked (e.g., pitting corrosion on the metal surface can result in rapid failure of the boiler). Ten parts of S-7 are necessary to remove one part oxygen. S-7 is not recommended for use in high-pressure boilers. S-7 can be used for the removal of OCl<sup>-</sup> from cooling water or wastewater where the presence of chlorine is restricted.

## PACKAGING & STORAGE

S-7 is available in 5 pound (2.3 kg), 50 pound (23 kg), and 100 pound (45 kg) drums.

To ensure best product performance, store in original packaging, indoors, and out of direct sunlight at 40-100 °F (4-38 °C).

Shelf life: 2 years

## VpCI® ADDITIVES FOR WATER TREATMENT



## FEATURES

- Economical
- Safe to use
- Easy control
- Effective against dissolved oxygen
- Compatible with other Cortec® additives such as M-645
- Compatible with Cortec's boiler water treatment products, such as VpCI®-615 and VpCI®-617
- Dechlorinating agent

## TYPICAL PROPERTIES

Appearance	Off-white powder
pH	9.5-10.5 (1% aqueous)

## APPLICATION

When fed to the storage section of a deaerator or feedwater tank, the dosage will vary depending upon the remaining level of dissolved oxygen. S-7 should be fed on a continuous basis at a dosage necessary to maintain the target range of sulfite residual in the boiler water.

Maximum and minimum limits are specified below for the control of boiler water sodium sulfite concentrations. Regular adjustments to the feed rate may be required in order to maintain the target sulfite residual. Minimum residual levels of sodium sulfite should be between 30-60 ppm when the boiler is operating below 150 psi.

The recommended limits for sodium sulfite control are:

Boiler Pressure	Sodium Sulfite Residual
0-150 psi	30-60 ppm
150-300 psi	20-40 ppm
300-600 psi	20-30 ppm
600-900 psi	10-15 ppm
900-1200 psi	5-10 ppm
1500 psi	Sodium sulfite not recommended

Source: ASME, "Consensus on Operating Practices for the Control of Feedwater and Boiler Water Quality in Modern Industrial Boilers."

$$(10 \times \text{dissolved oxygen}) + \frac{\text{residual} \times 1.6}{\text{feed water cycles}} = \text{ppm sodium sulfite required}$$

**Test kits** can be purchased from companies such as the HACH Company to monitor the level of dissolved oxygen.

4119 White Bear Parkway, St. Paul, MN 55110  
 Phone (651) 429-1100  
 Toll Free (800) 4-CORTEC  
[productinfo@cortecvci.com](mailto:productinfo@cortecvci.com)  
<https://www.cortecvci.com>  
<https://www.cortecwatertreatment.com>



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