S-7 / S-7 Liquid

PRODUCT DESCRIPTION
S-7 is a catalyzed sodium sulfite based oxygen scavenger designed to protect low to medium pressure boiler systems against corrosion. Oxygen present in feed water can cause severe damage to boiler equipment if left unchecked. An oxygen induced attack can lead to pitting corrosion on the metal surface, which can result in rapid failure of the boiler. Ten parts of S-7 are necessary to remove one part oxygen. It is not recommended to use S-7 in high pressure boilers.

\[(10 \times \text{Dissolved Oxygen}) + \frac{\text{Residual}}{\text{Feed Water Cycles}} = \text{ppm Sodium Sulfite Required}\]

S-7 Liquid is a bisulfite-based oxygen scavenger which will rapidly remove oxygen from feed water or boiler water. S-7 Liquid can also be used in softening treatments and reverse osmosis systems. S-7 Liquid is easy to use - it can be fed directly from container.

FEATURES
- Economical
- Safe to use
- Easy control
- Effective against dissolved oxygen
- Compatible with other Cortec additives such as M-645
- Compatible with Cortec’s corrosion inhibitors for boilers, such as VpCI®-615 and VpCI®-617

TYPICAL PROPERTIES
S-7
Color
Off-white to tan
Physical Form
Granular powder
pH
9.5-10.5 (1% aqueous)
Specific gravity
2.63 @ 68°F (20°C)
Solubility in water
17%
Shelf Life
up to 2 years
(properly sealed container)

S-7 Liquid
Color
Clear yellow to green
Physical Form
Liquid
pH
3.7-5.3 (1% aqueous)
Specific gravity
1.33 @ 68°F (20°C)
Solubility in water
Complete
Shelf Life
up to 2 years
(properly sealed container)
Density
10.9-11.1 lb/gal
(1.31-1.33 kg/l)

DOSAGE
The dosage will vary depending on the amount of dissolved oxygen in the boiler water. A starting dosage of S-7 is 100 ppm. S-7 should continue to be added until desired dissolved oxygen level is reached in the boiler water.

A sufficient amount of S-7 Liquid should be fed to maintain a sulfite (SO₃)²⁻ residual of 20-40 ppm in the boiler water. Feed 20 ppm per ppm of oxygen.

APPLICATION
Maximum and minimum limits are specified for control of boiler water sodium sulfite concentrations. Do not hesitate to increase or decrease the feed of this chemical, as necessary, in order to keep boiler water sulfite concentrations between the specified limits. 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:

<table>
<thead>
<tr>
<th>Boiler Pressure</th>
<th>Sodium Sulfite Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-150 psi</td>
<td>30-60 ppm</td>
</tr>
<tr>
<td>150-300 psi</td>
<td>20-40 ppm</td>
</tr>
<tr>
<td>300-600 psi</td>
<td>20-30 ppm</td>
</tr>
<tr>
<td>600-900 psi</td>
<td>10-15 ppm</td>
</tr>
<tr>
<td>900-1200 psi</td>
<td>5-10 ppm</td>
</tr>
<tr>
<td>1500 psi</td>
<td>Sodium Sulfite Not Recomended</td>
</tr>
</tbody>
</table>

Test kits can be purchased from companies such as the HACH Company to monitor the level of dissolved oxygen.
FOR INDUSTRIAL USE ONLY
KEEP OUT OF REACH OF CHILDREN
KEEP CONTAINER TIGHTLY CLOSED
NOT FOR INTERNAL CONSUMPTION
CONSULT SAFETY DATA SHEET FOR MORE INFORMATION

LIMITED WARRANTY

All statements, technical information and recommendations contained herein are based on tests Cortec Corporation believes to be reliable, but the accuracy or completeness thereof is not guaranteed.

Cortec Corporation warrants Cortec® products will be free from defects when shipped to customer. Cortec Corporation's obligation under this warranty shall be limited to replacement of product that proves to be defective. To obtain replacement product under this warranty, the customer must notify Cortec Corporation of the claimed defect within six months after shipment of product to customer. All freight charges for replacement products shall be paid by customer.

Cortec Corporation shall have no liability for any injury, loss or damage arising out of the use of or the inability to use the products.

BEFORE USING, USER SHALL DETERMINE THE SUITABILITY OF THE PRODUCT FOR ITS INTENDED USE, AND USER ASSUMES ALL RISK AND LIABILITY WHATSOEVER IN CONNECTION THEREWITH. No representation or recommendation not contained herein shall have any force or effect unless in a written document signed by an officer of Cortec Corporation.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. IN NO CASE SHALL CORTEC CORPORATION BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.