

CARETREAT 3 BOILER

Advanced organic boiler water treatment to control ph, corrosion, scale and sludge.

- * One of the five Marine Care Water Treatment Program Products.
- * Advanced polymer technology.
- * Organic corrosion control.
- * Simple accurate testing.
- * Prevents caustic corrosion.
- * Low "Totally Dissolved Solids".
- * Effective scavenging of nominal oxygen presence.

Introduction

Caretreat 3 Boiler has been developed to meet the demands for a modern, practical boiler water treatment. Caretreat 3 Boiler is a dark brown liquid based on neutralized organic acids, pH, corrosion, scale and sludge conditioners.

The neutralized organic acids remove nominal oxygen presence and inhibit the boiler corrosion forming an organic iron compound. The correct pH is maintained by a unique blend of low molecular weight compounds which avoid pitting corrosion caused by chlorides. Use of these compounds also avoids "under deposit" corrosion which is caused by excess alkalinity in conventional treatment.

A blend of advanced polymers stops the formation of scale and maintains clean surfaces in the boiler. These conditions are maintained with a low total solids level, avoiding heavy sludge, making blow down of the boiler more efficient.

Application

Marine Care Water Treatment Program

Suitable for all auxiliary boiler plants on motorships including dual pressure boiler primary systems of up to 50 Bar.

Standard Water Treatment

This program is suitable for boilers up to 20 bar, results we strongly recommend continuous dosage into the feed system, via a dosing pump and tank unit.

Directions for use

Marine Care Water Treatment Program

If the product is used as part of the Marine Care Water Treatment Program, it must be continuously dosed in conjunction with Caretreat 4 Condensate using the Marine Care dosing pump / tank unit. For further details on dosing equipment refer to equipment information sheet.

Standard Water Treatment

Caretreat 3 Boiler can be added directly to the feed water. We strongly recommend this and this is achieved by using a dosing pump.

Control limits

Standard Water Treatment

The boiler water must meet the following conditions:

p-Alkalinity	: 100-200 ppm CaCO ₃
Chloride content	: max. 200 ppm Cl
pH	: 10.5 to 11.0
Conductivity	: 400 to 2000 uMho

Initial dosage

Caretreat 3 Boiler is dosed at 0,4 litres per metric ton boiler water. Allow the boiler water to be conditioned for 24 hours and then carry out a p-alkalinity test. Adjust product dosage as necessary to obtain a p-alkalinity of 100 - 200 ppm.

At the same time determine the chloride content. If the chlorides are too high, give the boiler a top and bottom blow down in a ratio in time 2 to 1.

Daily dosage

Recheck p-alkalinity and increase dosage of Caretreat 3 Boiler if necessary to maintain pH or p-alkalinity level. A minimum of 0,2 ltr/day should be dosed to maintain correct treatment levels in conjunction with regular top and bottom blown down. This dosage can vary according eg. size of the boiler system, make up water quality etc.

Properties

Caretreat 3 Boiler is a dark brown liquid containing neutralized organic acids, pH, corrosion, scale and sludge conditioners. After using the treatment the boiler water will be clear and straw coloured.

Specific gravity : 1.21 (20° C)
Flash point PM CC : None
pH (1 % solution) : 13

For detailed information on safety and health, please refer to Material Safety Data Sheet and / or Product label.

The details of our product are given completely free of undertaking. Since their application lies outside our control we cannot accept any liability for the results.

BOILER WATER TREATMENT TEST (CARETREAT 3 BOILER & CARETREAT 4 CONDENSATE)

TEST	TEST METHOD	DOSAGE												
<p>P-ALKALINITY</p> <p>* (Limit: 100-200ppm)</p>	<ol style="list-style-type: none"> 1. Completely fill the plastic measuring tube with boiler water. Pour the contents of the tube into the mixing bottle. 2. Fill the bottle with distilled water up to 15ml 3. Add 1 phenolphthalein indicator powder pillow to the mixing bottle and mix 4. A pink color will appear (if colorless, P-Alkalinity is zero). Add drop by drop sulphuric acid standard solution counting the number of drops, until the solutions is colorless. <table border="1" style="margin: 10px auto; border-collapse: collapse; text-align: center;"> <tr> <td style="padding: 2px;">Drop:</td> <td style="padding: 2px;">0</td> <td style="padding: 2px;">3</td> <td style="padding: 2px;">6</td> <td style="padding: 2px;">9</td> <td style="padding: 2px;">12</td> </tr> <tr> <td style="padding: 2px;">PPM:</td> <td style="padding: 2px;">0</td> <td style="padding: 2px;">50</td> <td style="padding: 2px;">100</td> <td style="padding: 2px;">150</td> <td style="padding: 2px;">200</td> </tr> </table>	Drop:	0	3	6	9	12	PPM:	0	50	100	150	200	<p>** CARETREAT 3 BOILER **</p> <p>* Initial dosage: 0.75 ltr/ ton</p> <p>* Over 200ppm p-Alkalinity - decrease dosage by 25%</p> <p>* p-Alkalinity level between 100-200ppm - satisfactory.</p> <p>* Below 100ppm p-Alkalinity - increase dosage by 25%</p> <p>** pH: 10-11,5</p>
Drop:	0	3	6	9	12									
PPM:	0	50	100	150	200									
<p>CHLORIDE</p> <p>* (Limit: up to 300ppm)</p>	<ol style="list-style-type: none"> 1. Completely fill the plastic measuring tube with boiler water. Pour the contents of the tube into the mixing bottle. 2. Fill the bottle with distilled water up to 15ml 3. Add 1 Chloride 2 indicator powder pillow and mix well. 4. Add silver nitrate solution drop by drop to the mixing bottle counting the number of drops, until the solution changes from yellow to red/ brown in color <p style="text-align: center; margin-top: 10px;">Amount of drops x 30 = Chloride PPM</p>	<p>*Up to 200ppm: satisfactory</p> <p>* Over 200ppm: blowdown</p>												
<p>CONDENSATE PH</p> <p>* (Limit: pH 9-9.5)</p>	<ol style="list-style-type: none"> 1. Take condensate water sample, and immerse pH paper. 2. Read the pH value.. 	<p>** CARETREAT 4 CONDENSATE **</p> <p>* Initial dosage: 0.2 ltr/ ton</p> <p>* 0.4 ltr/ 24 hours - normal daily dosage</p>												

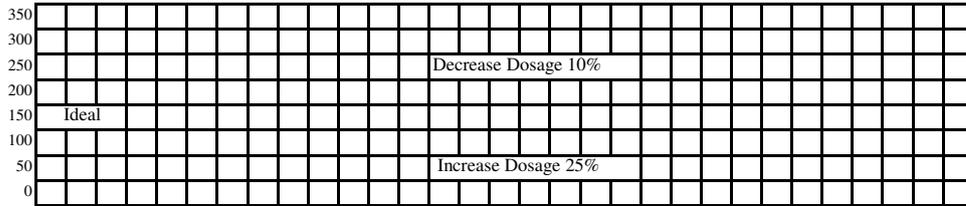
*** TEST KIT 1. TEST SET FOR P-ALKALINITY 2. CHLORIDE TEST KIT 3. PH PAPER ***

BOILER WATER GRAPHIC LOG

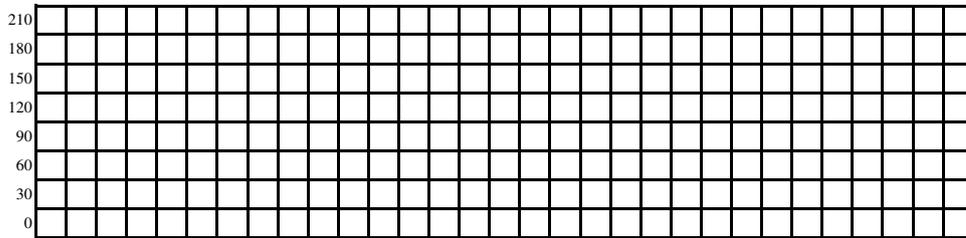
Date:

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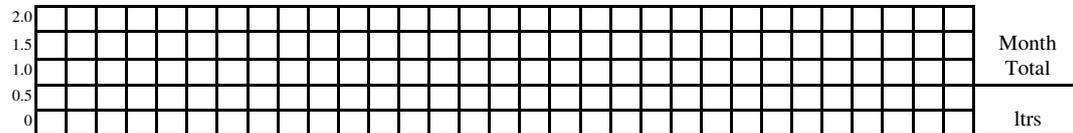
P. ALKALINITY / ppm CaCo3



CHLORIDES / ppm Cl

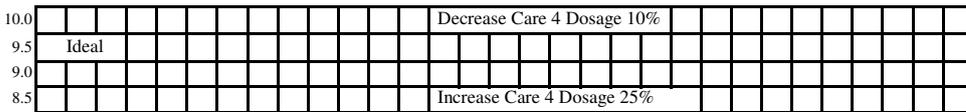


CARETREAT 3 BOILER - DOSAGE (LTRS.)

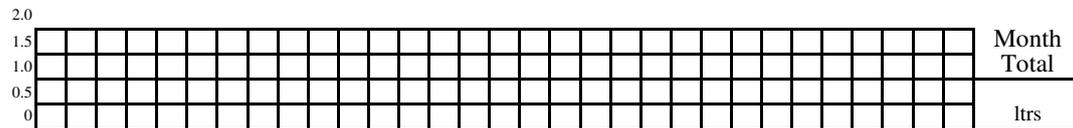


Maintain min. Dosage 0.2 LTR. / 24 HRS

CONDENSATE / pH



CARETREAT 4 CONDENSATE - DOSAGE (LTRS.)



Maintain Minimum Dosage 0,4 Ltr. / 24 Hrs.

Vessel name: _____ Remarks: _____
 Month: _____
 Year: _____
 Boiler Type: _____
 Pressure: _____ bar Submitted by: _____