



# CARETREAT 4 CONDENSATE

## Organic oxygen scavenger and corrosion inhibitor for feed, steam and condensate systems

### DESCRIPTION

Caretreat 4 Condensate is an oxygen scavenger based on neutralized organic acids and a blend of volatile/neutralizing amines. It is normally used in conjunction with Caretreat 3 Boiler as part of the water treatment program. It removes oxygen efficiently in open feed systems and gives effective corrosion inhibition of boiler/exhaust gas economizer system surfaces by converting  $\text{Fe}_2\text{O}_3$  (rust) to an organic iron compound. It also protects copper based metals. The amines pass over with the steam and have the dual function of elevating the pH of the steam/condensate and putting a protective micro film on the system's pipe work. Acidic condensate is the result of carbonic acid ( $\text{H}_2\text{CO}_3$ ) being formed as  $\text{CO}_2$  is released in the steam. The use of Caretreat 4 Condensate prevents corrosion by carbonic acid on live systems. Its filming properties also reduce corrosion on shut down lines, when moisture and oxygen are present.

### ADVANTAGE

- Environmentally safe, non-toxic product.
- Unique single product for control of corrosion throughout the condensate system.
- Simple and accurate testing.
- Effective under all operating conditions.
- Protects boiler surfaces by forming an iron tannate film.

### APPLICATIONS

Caretreat 4 Condensate can be used in any type low and medium pressure boilersystem.

Caretreat 4 Condensate can be used in the following make-up water types: evaporated water, reversed osmosis water or demineralised water.

- Eco-friendly
- Excellent corrosion protection
- Low product consumption
- Simple testing
- According FDA
- Marinfloc approved

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## DIRECTIONS FOR USE

Caretreat 4 Condensate is dosed at a rate which maintains a pH of 9.0 to 10.0 in the condensate returns. Oxygen entrainment largely depends on Hotwell temperatures and if these are maintained at above 80 °C the condensate pH range of pH 9.0 to 9.5 is adequate. If Hotwell temperature control is irregular and averages less than 80 °C, tighter control is necessary and condensate returns should be kept in the range pH 9.5 to 10.0. It is not necessary to carry out oxygen or product residual tests.

### *Initial dosage*

Caretreat 4 Condensate is initially dosed at 0,2 ltr/m<sup>3</sup> boiler water. Systems showing signs of corrosion should be dosed at up to 0,7 ltr/m<sup>3</sup> boiler water for the first few days in order to passivate all metal surfaces.

### *Daily dosage rates*

After initial dose, the dosage depends on the quantity of steam production. A minimum of 15 ml/ton steam produced, should be dosed to maintain correct treatment levels in conjunction with regular top and bottom blown down and a correct condensate pH.

## DOSING SYSTEMS

Caretreat 4 Condensate must be dosed continuously in conjunction with Caretreat 3 Boiler in a metering pump/tank unit, discharging directly into the feed system and/or the exhaust gas economizer circulating pump discharge. It must NEVER be slug dosed to a running system via a Hotwell or by-pass feeder.

Marine Care supplies a complete range of dosing systems, from manual operated systems, to custom built computer operated high tech systems, for every application.

## PROPERTIES

Article number	14404
pH	10,5
Density	1,01 g/cm <sup>3</sup>
Flashpoint	Not applicable
Physical state	Liquid

## APPROVALS

- Caretreat 4 Condensate is according the FDA regulations for indirect food contact
- Marinfloc Approved OWS Compatible

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

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