

# CARETREAT 4 CONDENSATE

## **An organic oxygen scavenger and corrosion inhibitor for feed, steam and condensate systems**

- \* One of the five Marine Care Water Treatment Program Products.
- \* Environmentally safe, non-toxic product.
- \* Unique single product for control of corrosion throughout the condensate system.
- \* Simple, accurate testing.
- \* Effective under all operating conditions.
- \* Protects boiler surfaces by forming an iron tannate film.

### **Introduction**

Caretreat 4 Condensate is an oxygen scavenger based on neutralized organic acids and a blend of volatile/neutralizing amines. It is normally used only 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 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.

### **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  $80^\circ\text{C}$  the condensate pH range of pH 9.0 to 9.5 is adequate. If Hotwell temperature control is erratic and averages less than  $80^\circ\text{C}$ , 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  $0,2 \text{ ltr/m}^3$  boiler water. Systems showing signs of corrosion should be dosed at up to  $.07 \text{ ltr/m}^3$  boiler water for the first few days in order to passivate all metal surfaces.

**Daily dosage rates**

After initial dose, start metering at a minimum of 0.4 ltr/24 hours continuously and adjust to obtain correct condensate pH.

**Dosing system**

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. For further details on dosing equipment refer to the equipment information sheets.

**Properties**

Brown aqueous solution of neutralized organic acids and amines.

Specific gravity (20°C)	: 1.05
Flashpoint PM CC	: none
pH (1% solution)	: 10.8

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

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