



# CARETREAT VALVES

## Post-Combustion fuel ash modifier to reduce high temperature corrosion

- Improves exhaust valves lifetime
- Improves engine efficiency
- Prevents HTC
- Easy to apply

### DESCRIPTION

Caretreat Valves prevents for high temperature corrosion and fouling due to vanadium and sodium in the fuel. During combustion, these elements oxidize and form semi-liquid and low melting salts (vanadiumpentoxide), which adhere to exhaust valves and turbochargers. In practice, the extent of hot corrosion and fouling are generally maintained at an acceptable level through temperature control, an operational solution, and material selection. In addition, Caretreat Valves has been developed to control the formation of these salts. Vanadiumpentoxide has a melting point of 670 °C and is corrosive in a liquid state. Caretreat Valves reacts with vanadiumoxides resulting in higher melting points, over 1.100 °C. The combustion process of these components results in a relatively harmless ash.

### ADVANTAGES

- Reduces deposits caused by combinations of sodium, vanadium and sulfur in combustion zones, turbochargers and especially on exhaust valves
- Increasing exhaust valve life substantially
- Raising fuel ash sinter and melting point temperatures above the normal engine operating temperatures
- Reduces turbocharger fouling
- Reduces high temperature fused salt corrosion of valve alloys
- Modifying vanadium compounds to non-adherent ash forms

### APPLICATION

Caretreat Valves has been formulated primarily for use in 2-cycle and 4-cycle medium speed diesel engines which are highly turbocharged and in which premature exhaust valve failure is a frequent problem.

discover the difference

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## DIRECTIONS FOR USE

The dosing point location varies depending on engine fuel system's layout. The most efficient and economical dosing method is obtained with a metering pump, dosing the additive for example in the suction side of the booster pump.

Dosing rates are depending upon engine characteristics, operating conditions and especially the quality of the fuel. Consult your local Marine Care Service Engineer for recommendation of dosage, etc. based on specific problems and requirements onboard.

## GUIDE FOR APPROXIMATE DOSING RATES:

| Constituent             | Level          | Dosage Rates |
|-------------------------|----------------|--------------|
| Conradson Carbon up to: | 5%             | 1:7000       |
|                         | 5% - 10%       | 1:5000       |
|                         | 10% - 15%      | 1:4000       |
|                         | 15% and up     | 1:3000       |
| Sodium                  | up to 20 ppm   | 1:8000       |
|                         | 20-30 ppm      | 1:6000       |
|                         | 30 ppm and up  | 1:4000       |
| Sulphur                 | up to 2%       | 1:8000       |
|                         | 2% - 3%        | 1:4000       |
|                         | 3% - 4%        | 1:3000       |
|                         | 4% and up      | 1:2000       |
| Vanadium                | up to 200 ppm  | 1:6000       |
|                         | 200 - 300 ppm  | 1:5000       |
|                         | 300 - 400 ppm  | 1:3000       |
|                         | 400 ppm and up | 1:2000       |

## DOSING SYSTEMS

Marine Care supplies a complete range of dosing equipment for fuel oil treatment.

## DOSAGE

See Direction for Use

## PROPERTIES

|                |                        |
|----------------|------------------------|
| Article number | 14503                  |
| pH             | Not applicable         |
| Density        | 0,87 g/cm <sup>3</sup> |
| Flashpoint     | 63 °C                  |
| Physical state | Liquid                 |

## APPROVALS

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

This information is based on data that we believe to be accurate and reliable and is intended to be used by persons having the knowledge and skill to apply this product properly. We assume no responsibility for results or damages incurred from their use by the Buyer. No liability (including liability for negligence) will attach to Marine Care or its servants or agents arising out of or in connection with or in relation to this product information.

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