

## APPLICATIONS

*BIOGUARD* gives complete protection against corrosion and fouling by marine growth such as algae, moss, shellfish and micro-organisms in seawater cooling systems. It is also used as an effective biocide to treat diesel engine cooling water systems against micro-organisms and bacteria.

## DIRECTIONS FOR USE

It is essential that systems are completely free from marine growth before treatment with *BIOGUARD*. Therefore where necessary, clean the systems with *DESCAL LIQUID*.

## SEAWATER COOLING SYSTEMS

*BIOGUARD* should be injected into the sea chests with *UNIMARINE* dosing equipment, once every two days for one hour, according to the flow rate of seawater in each particular system. When vessel is in harbor, or in prolific zones of shellfish, the frequency of treatment should be increased to once every other day.

3 PPM of *BIOGUARD* is sufficient to prevent fouling. To achieve this dose rate 0.3 lt. of product is required for every 100 ton per hr. of seawater flowing through the system.

## FRESH WATER COOLING WATER

*BIOGUARD* is also a recommended biocide to be used in conjunction with *NCLT COOLING WATER TREATMENT* in case of contamination of microorganisms in the fresh water cooling system. It is effective over a broad pH range and gives a wider spectrum of protection against micro-organisms in marine diesel engine cooling system. In this case, 100 PPM of *BIOGUARD* or 1Ltr for 10 tons of water, added on a weekly basis. The product should be applied to the expansion tank to ensure immediate circulation into the system.

## NATURE OF SPECIAL RISKS AND SAFETY ADVICE

S2 : Keep out of reach of children  
S24/25 : Avoid contact with skin and eyes  
S36/37/39 : Wear suitable protective clothing, gloves and eye / face protection

## BIOGUARD

Anti-foulant and corrosion inhibitor  
for sea water cooling systems

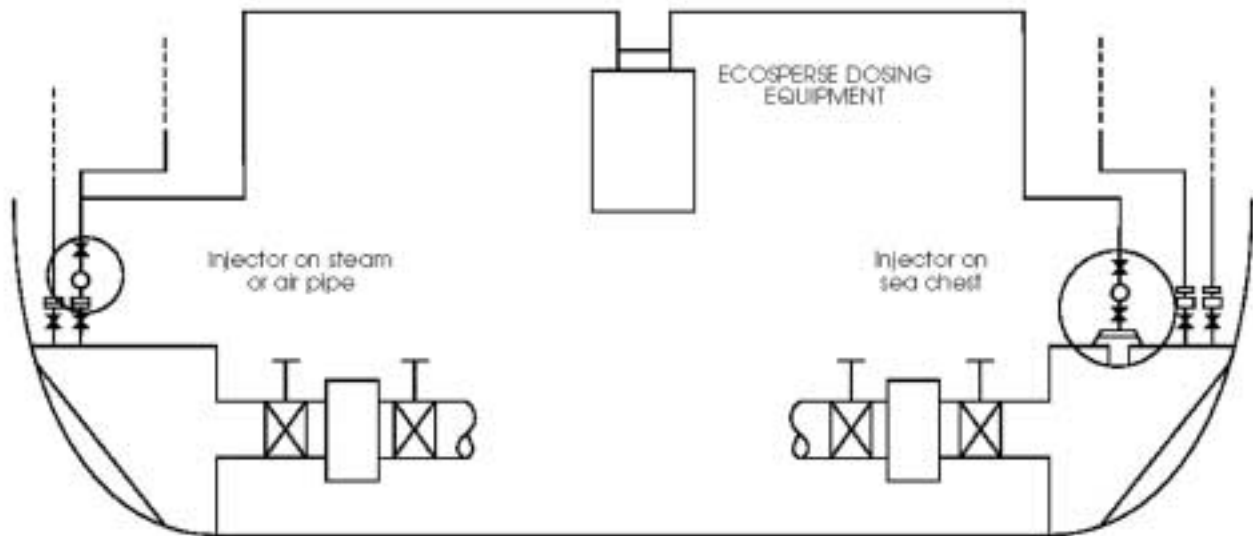
- Prevents marine growth in filter boxes, sea water lines and heat exchangers
- Filming properties protect systems against corrosion
- Ensures maximum thermal efficiency by keeping heat transfer surfaces free from deposits
- Consistent usage provides long lasting protection
- Reduces maintenance and down time
- Non-toxic and non-pollutant product

## PRODUCT CHARACTERISTICS

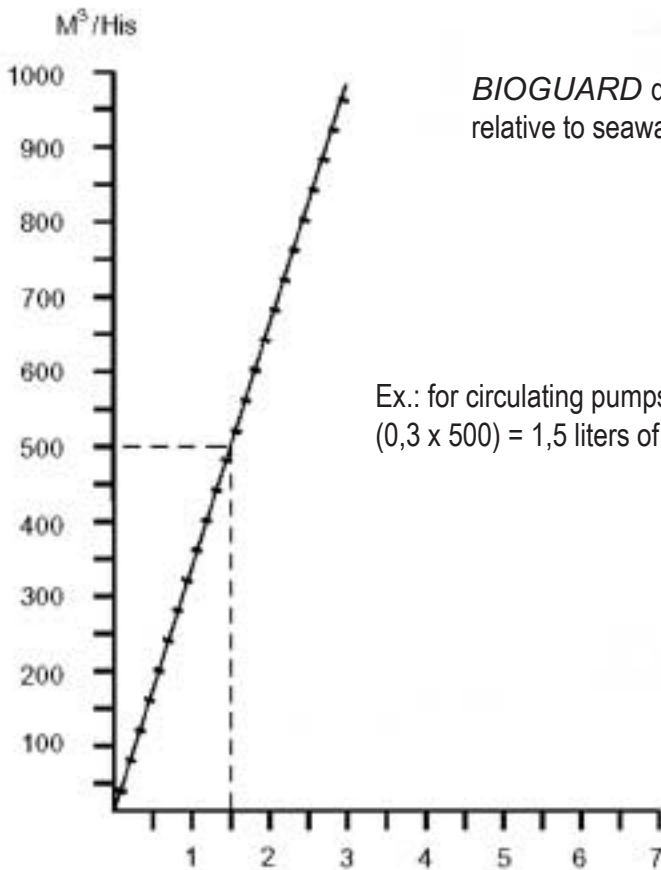
Appearance:	clear gold liquid
Corrosive action:	none on metals and plastics, rubber will swell slightly
Specific gravity:	0,85 - 1,0 (20°C)
Flash point:	80°C
IMO Class:	not regulated
UN Number:	not regulated
ADR:	not regulated

## BIOGUARD

THE MOST ADVANCED AND ECOLOGICAL VERSION OF ANTIFOULANT IT PREVENTS AND CONTROLS MARINE GROWTHS AND REDUCES CORROSION IN SEA WATER COOLING SYSTEM DUE TO ITS EXCELLENT FILMING PROPERTY



Typical installation of *BIOGUARD* dosing equipment  
Injection point can be fitted also in the sea-chest strainer box



*BIOGUARD* dosage in LITERS per HRS  
relative to seawater circulating pump. Capacity in M3/Hr.

Ex.: for circulating pumps of 250 T/H Dose  
(0,3 x 500) = 1,5 liters of *BIOGUARD* for 1 hour.

### DEEPSEA VESSEL

*BIOGUARD* should be metered into the suction box or strainers at the rate of 0,3 liters every 100 Tons flow over a period of one hour every 48 hours.

### COASTAL VESSEL

*BIOGUARD* should be metered into the suction boxes or strainers at the rate of 0,3 liters every 100 tons of sea water flow over a period of 24 hours.