

Water Treatments

4 Corrosion Controller CWT

Liquid Engine cooling water corrosion and scale inhibitor

Description

Aquamarine Corrosion Controller is an easy to use liquid that inhibits electrolytic corrosion, cavitational corrosion and controls scale and sludge. It is also compatible with a wide range of hoses, gaskets and seals.

Aquamarine Corrosion Controller passivates metal surfaces and combines with sludges, scale and rust deposits to allow their gradual removal.

Uses:

- Internal combustion engine and compressor cooling systems.
- Heat pump water systems.
- Recirculating cooling water systems.
- Hot water heating systems.
- Suitable for jacket water used in evaporator feed heaters.
- Chilled water systems.
- Hot chilled water systems.
- Ice melting water systems.
- Compatible with Ethylene Glycol used as antifreeze.

Aquamarine Corrosion Controller should be fed directly by the bypass pot feeder to the main circulating line or into the cooling water expansion tank.

(For systems using totally de-ionised water raise nitrite levels to 1700 p.p.m. as corrosion is more likely.)

Control is based on nitrite concentration and additions should be made after representative sampling. Aquamarine test kit is available for accurate checking.

Target = 1500 p.p.m.

Nitrite p.p.m.	0	500	1000	1500
Ltrs/1000 Ltrs make up	12.5	8.3	4.2	0
Target Parameters				
pH	Between 8.3 and 10			
Nitrite	1500 p.p.m.			
Chloride	Less than 50 p.p.m.			
Total Hardness CaCO ₃	Less than 100 p.p.m.			

Note: Log sheets should be returned to Aquamarine by fax e.mail or post on a monthly basis for analysis – address details at front of brochure. Log sheets are supplied free of charge. A full report will be forwarded back by return with any comments or recommendations.

Visit: www.aquamarinechemicals.com for log sheet downloads.

Email your log sheets to us monthly at: logs@bayer-wood.co.uk

4b Corrosion Controller 30 Concentrate

Liquid Engine cooling water corrosion and scale inhibitor

Aquamarine Corrosion Controller is an easy to use concentrated liquid that inhibits electrolytic corrosion, navigational corrosion and controls scale and sludge. It is also compatible with a wide range of hoses, gaskets and seals.

Aquamarine Corrosion Controller passivates metal surfaces and combines with sledges, scale and rust deposits to allow their gradual removal. It is suitable for low, medium and high speed engines.

To clean out a cooling water system which has been treated previously with another chemical or has oil or scale contamination use the Diesel engine cooling water Inline Cleaner (Product No 14).

For oil only contamination use the Aquawash in circulation at a dilution of 0.5 and 7 litres per tonne of cooling water dependant on degree of contamination. Circulate for 1-2 hours, empty and then flush with clean water.

Uses

- Internal combustion engine and compressor cooling systems
- Heat pump water systems
- Re-circulating cooling water systems
- Hot water heating systems
- Suitable for jacket water used in evaporator feed heaters
- Chilled water systems
- Hot chilled water systems
- Ice melting water systems
- Compatible with Ethylene Glycol used as antifreeze.

Aquamarine Corrosion Controller should be fed directly by the bypass pot feeder to the main circulating line or into the cooling water expansion tank.

(For systems using totally de-ionised water raise nitrite levels to 1700 p.p.m. as corrosion is more likely.)

Control is based on nitrite concentration and additions should be made after representative sampling. Aquamarine test kit is supplied for accurate checking. Nitrite Target = 1500 p.p.m				
Nitrite p.p.m	0	500	1000	1500
Chlorides should be less than 50 p.p.m				
PH should be between 8.3 and 10				
Litres / 1000 litres make up / Dose	3.3	2.2	1.1	0

Try to keep Nitrites within the parameters described.

Low Nitrite levels will give rise to an unprotected system and ultimately corrosion problems. Log sheets should be returned to Aquamarine on a monthly basis for analysis by email or fax. A report will be sent back to you

25 Litre Pack Size

Ref. No. J100 6850-99-239-2381

**Visit: www.aquamarinechemicals.com for log sheet downloads.
Email your log sheets to us monthly at: logs@bayer-wood.co.uk**

5 Aluminium Corrosion Controller

Description

A biostable, fully synthetic fluid that gives significantly high levels of corrosion protection to water systems even at low concentrations and possesses extremely good scale inhibition. Due to its unique formulation which uses a combination of nitrate free properties with low foaming tendencies and the ability to protect a variety of metals in cleaning and recirculatory systems such as hot water radiators and cooling pipes.

- Suitable for large enclosed systems
- Low foaming
- Compatible with a full range of metals
- Biostable
- Effective in hard and soft waters
- Low odour
- Widely used and accepted
- Does not produce sticky residues

Application

Suitable for a wide range of ferrous and non-ferrous materials including copper and aluminium based alloys. Also outperforms nitrate-based fluids when in contact with mild steel and cast iron.

Recommended dilution rate: 2.0% - 5.0%

Suitable for enclosed systems and testing equipment at 0.5% - 1.0% dilution

IP 287 Corrosion Test: 2.5%BP

Available in 5, 25, 205 and 1000 litre containers

Ref. No. J100 6850-99-666-5296

**Visit: www.aquamarinechemicals.com for log sheet downloads.
Email your log sheets to us monthly at: logs@bayer-wood.co.uk**

6 Antifreeze

AQUAMARINE UNIVERSAL ANTIFREEZE

Description

Aquamarine Universal Anti-freeze is an Ethylene Glycol based anti-freeze, which contains inhibitors to protect radiators and engines, including aluminium engines, against rust and corrosion.

The anti-freeze should be left in cooling systems throughout the year and will thus give all year round corrosion protection.

Aquamarine Universal Anti-freeze contains no methanol and has a low flammability. It is biodegradable and does not present an environmental problem.

Note: Whilst ethylene glycol is biodegradable it is TOXIC to animal and human metabolisms.

Uses

- Ethylene Glycol based anti-freeze
- Conforms to requirements of British Standard BS 6580: 1992
- Contains no methanol
- Contains effective inhibitor to give all year round protection against rust and corrosion
- Suitable for all commonly available commercial engine cooling systems including aluminium engines.

Application

A 25% solution (1 part anti-freeze to 3 parts water) will remain fluid down to -14°C . In severe winter conditions, increase to a 33% solution (1 part anti-freeze to 2 parts water) to give protection down to -17°C .

NB: Antifreeze used in engine & most applications should be changed annually to give optimum protection

Pack Size 25 litres

Ref. No. J100 6850-99-797-2246

7 Evaporator Scale Controller

Uses

- This product is used for scale and foaming control in marine all temperature range evaporators and heat exchangers, and for scale and sludge control in boiler water systems
- Removes existing scale by in-service cleaning
- Prevents scale formation
- Low foam properties reduce evaporator foaming
- Low toxicity

Typical Uses

- To prevent scale and foam formation in marine evaporators
- To control the formation of scale deposits in heat exchangers and boilers
- For scale removal use Aquamarine Descaling Liquid

Dose

When used for treating marine evaporators, the product should be dosed continuously into the sea water feed line where all of the treatment will enter the evaporator. Since Evaporator Scale Controller is highly concentrated it should be pre-mixed with cool distillate in a separate dosing tank and dosed via a flow meter or metering pump. The recommended daily dose rate is dependent on brine density (S.G.) which should be checked daily with a hydrometer and is normally as indicated below.

Dosage

The standard dosage, applicable to most systems, is 0.01 litres of Evaporator Scale Controller per tonne of distillate produced. This is based on the production capacity of the evaporator. In a standard 25 metric tonne/day evaporator use $25 \times 0.010 = 0.25$ litres Evaporator Scale Controller/day.

Setting the Flow Rate

The treatment is added to the dosage tank and mixed with water.

For example: With the 0.25 litres of Evaporator Scale Controller add sufficient water to make up 50 litres of liquid.

Flow rate calculation:

$$\text{Flow rate} = \frac{50 \text{ litres}}{24 \times 60} = 35 \text{ml/min setting}$$

This will then last 24 hours.

N.B.

The brine density should not exceed a density of 1.038. The scaling potential increases rapidly over this level. An increase in the amount of Evaporator Scale Controller used will assist in retaining potential scale forming salts in suspension.

For example: If the density rises to 1.050 the dosage should be 0.06 litres/tonne of water produced.

Pack Size 25 Litres

Ref. No. J150 6850-99-149-8932

8 Biological Growth Controller - cooling water treatment biocide - enclosed cooling water systems

Description

Aquamarine Biological Growth Controller includes a safe biocide for preventing and controlling marine growth in fresh or seawater cooling systems. It also protects against electrolytic and acid corrosion by film formation. Fully biodegradable and non-oil based it is safe to discharge.

Aquamarine Biological Growth Controller is also effective against bacteria and algae in oil and contaminated water.

Uses

- Ballast tank cleaning
- Mollusc control in seawater intakes and cooling systems
- Algae, shellfish and micro-organism controller
- Trim tank cleaning
- Closed circuit cooling system cleaning
- Suitable in systems operating up to 130oC
- Fuel and lube oil decontamination

Application

In water systems dosage should be varied between 1 litre/tonne of water in a closed circuit system up to 10 litres/tonne for Static Ballast Tanks or Trim tanks.

In sea water intakes and cooling systems a concentration of 6 p.p.m. over a period of one hour is sought. This period is sufficient to remove the foulants before adult development, after which they are difficult to control. In the absence of the availability of Aquabac 80 this product may be used at 6 p.p.m. in the water phase of fuel oil before separation.

Pack Size 25 litres

For specific Fuel Oil Treatment use Aquabac 80 MBC treatment.(see fuel treatments)

Summary

A very strong broad-spectrum product with biocide characteristics for fuel, water or lube oil microbiological contamination.

25 litre Drum

Ref. No. J150 6840-99-433-2417

36 Aquamarine CW25B Chilled Water Plant Treatment

Description

Aquamarine CW25B contains sodium nitrite and a copper corrosion inhibitor. It is a very effective corrosion inhibitor for modern air conditioning chilled water systems, and hot water heating boilers. It is compatible with alcohol and glycol anti-freezes.

Aquamarine CW25B is a complete, easily applied, single solution treatment which provides economical waterside protection for mixed metal systems containing copper, brass and ferrous based metals.

A biocide is incorporated in the formulation to prevent bacterial contamination.

Specification

Physical State	Pale Yellow Liquid	SG	1.190
----------------	--------------------	----	-------

Dosing

5 litre Aquamarine CW25B per cubic metre water in system.

Feeding

AQUAMARINE CW25B is usually added to closed systems by utilising a pot feeder, or by a manually operated chemical injection pump.

Testing and Control

A simple test procedure is available for control of AQUAMARINE CW25B recommended normal concentration level is 800 – 1200 p.p.m of Nitrite.

Handling

Aquamarine CW25B is alkaline and contact with skin, eyes and clothing should be avoided. In case of contact flush with water.

Please refer to material safety data sheet for detailed handling/storage instructions.

Packaging

Aquamarine CW25B treatments are shipped in 25 litre and 205 litre non returnable drums.

Ref. No. J150 6850-99-724-4377

37 Marisol® CW Approved Cooling Water Scale and Corrosion Inhibitor

MARISOL CW is a liquid compound, based on nitrite/borate products, improved with active agents, which together protect iron and metal against corrosion, scale and deposits.

MARISOL CW contains no chromates. It can be mixed with ordinary anti-freeze (glycol) or water containing similar cooling water additives. It is not sensitive to moderate over-dosing. Recommended limits should be considered along with engine manufacturers instructions.

MARISOL CW is developed for use in diesel engines and main and auxiliary cooling water systems, not containing aluminium; MARISOL CW should preferably be used together with evaporated or deionised water with hardness as close to zero as possible. This type of water is chemically clean and forms less deposits. However, it is also more corrosive and contains more oxygen and needs careful chemical treatment. Ordinary tap water would be avoided but could possibly be accepted if no other water is available. The hardness must not exceed 10ppm and the pH shall be such that treated water does not exceed pH 10. MARISOL CW has been approved according to the international, and by engine manufacturers commonly accepted FW method, (Forschungs Vereinigung Verbrennungskraftmaschine), Frankfurt. Individual approval is given by New Sulzer Diesel, MAN/B&W, Wärzilä Diesel, etc.

Dose Rate

PH	8.5 - 10.0
Nitrite Concentration	1000-2000ppm

Initial Dose

Dose an untreated system with 6 litres MARISOL CW per m³ of cooling water to reach a minimum level of 1000 p.p.m and 9 litres for a medium level of 1500ppm.

If tests show too low concentration ©, an additional dosage of (q) litre/m³ should be made to reach the medium level of 1500 p.p.m: $q = 9 - (0.006 \times C)$

Example

Test figure show 800 p.p.m Nitrite in a 15m³ cooling water system.
 $q = 9 - (0.006 \times 800) = 4.2$ litres/m³ = $4.2 \times 15 = 63$ litres to be added.

Dosage should be performed by a dosing pump or manually in the header tank for 20-30 minutes, providing that at least part of the water is circulating through.

Pack Size: 25 litres

Ref. No. J150 6850-99-192-5292

**Visit: www.aquamarinechemicals.com for log sheet downloads.
 Email your log sheets to us monthly at: logs@bayer-wood.co.uk**