DREWGARD® ZX

DESCRIPTION

DREWGARD ZX is a cooling water treatment in an ethylene glycol base. It provides excellent protection from corrosion, cavitation, and deposits in marine diesel engines. It is formulated to protect ferrous and non-ferrous metals, including aluminum, from corrosion. DREWGARD ZX can be used in high, medium, and low-speed marine diesel engines. It also prolongs the normal working life of auxiliaries such as water pumps and heat exchangers. DREWGARD ZX is exceptionally effective for high-speed engines that require excellent aluminum and ferrous metal protection.

DREWGARD ZX does not contain phosphates, borates, nitrites, or amines; and, instead uses non-depleting additives that provide long lasting protection. When diluted 50% with water, DREWGARD ZX protects engine components from coolant freezing at low temperatures and from coolant boiling in high temperature water circuits.

DREWGARD ZX cooling water treatment also contains a high quality defoamer. It is compatible with common gasket and seal materials such as Viton, synthetic rubber, standard elastomers, and ceramic seals in water pumps.

DREWGARD ZX cooling water treatment is approved by the diesel engine manufacturer, MTU Friedrichshafen GmbH. DREWGARD ZX cooling water treatment is formulated to meet or exceed specification ASTM D6210.

APPLICATION & USE

System Preparation

To obtain the maximum benefits from DREWGARD ZX, the system should first be inspected for deposits and corrosion. If the system is contaminated, it must be chemically cleaned before the treatment program begins. Your Drew Marine representative can provide specific cleaning recommendations specific to your systems.

FEATURES

- Organic acid technology
- Multi-metal corrosion inhibitors
- Compatible with common gaskets and plastics
- Ethylene glycol based
- Non-nitrite formula

DREWGARD ZX Antifreeze Coolant

FREEZE PROTECTION		BOIL PROTECTION
% Antifreeze Concentration	Freezing Point, °C / °F	Boiling Point, °C / °F
40	-24 / -11	125 / 257
50	-36 / -33	128 / 262
60	-48 / -54	133 / 271
70*	-67 / -89	135 / 275

*Maximum freeze protection is at 70% Concentration. Always consult engine manufacturer guidelines on the use of ethylene glycol based products.

Sacrificial anodes (magnesium or zinc) in the cooling system should be removed prior to adding DREWGARD ZX. Sacrificial anodes are not necessary with this complete chemical treatment program, and may cause undesirable deposits in the circulating water system.

DOSAGE

Add DREWGARD ZX to the cooling water system at 50% of the system's water capacity, then top off the system with good quality fresh or distilled water. After filling the system, circulate for 30 minutes to ensure good mixing and distribution, and to establish a protective surface film. The concentration of DREWGARD ZX must be maintained above 45% to provide adequate corrosion protection, and should not exceed 70% as no further benefits can be obtained.

DREWGARD ZX may be used with water containing total hardness up to 170 ppm, or otherwise recommended by the engine manufacturer, whichever is less. The chloride level in the cooling water system should be limited to 100 ppm, or as otherwise recommended by the engine manufacturer, whichever is less.

BENEFITS

- Protects aluminum in addition to ferrous and yellow metals providing complete protection for critical components in medium and high-speed engines.
- Protects ferrous and non-ferrous metals throughout the cooling system.
- Protects engines from the effects of freezing in cool climates and boiling at elevated temperatures.
- Does not promote bacterial growth.

Contact your Drew Marine representative for more information

Continued on Page 2

TESTING AND CONTROL

DREWGARD ZX must not be mixed with other corrosion inhibitors or glycols because the accuracy of testing will be lost. The proper concentration of DREWGARD ZX can be monitored and controlled by testing a cooling water sample with the Drew Marine OPTISCOPE-50 (PCN 1AB4382). The OPTISCOPE-50 measures a change in the direction of transmitted light that increases linearly with the concentration of DREWGARD ZX. Normally, testing once each week is satisfactory, or when makeup added to the system is large, or if unusual changes are noticed.

SATISFACTORY RANGES

System	Optiscope Scale Reading	DREWGARD ZX Concentration
Standard Cooling	30.0 - 45.0	45% - 69%

CONTROL AND DOSING

Test Results	Action
Below 45%	Add DREWGARD ZX
Satisfactory Range	No additions necessary
Above 70%	Partially drain and add good quality water.

Chloride testing should be performed on the makeup water using the Drew Chloride LMP Test Kit (PCN 0373019). Hardness levels of the makeup water should be tested using Total Hardness Titrets (PCN 0378019). The hardness level of the cooling water system should be tested on a weekly basis using the Total Hardness Titrets to detect seawater in-leakage. Contact your Drew Marine representative for detailed testing procedures and control methods.

TYPICAL PROPERTIES

Appearance:	Clear, pink liquid
Specific Gravity @ 20°C:	1.13
pH (50% V/V):	8.3 - 8.8
Flash Point:	121°C / 250°F
Freeze Point (diluted 50% with water):	-36°C / -33°F

NOTE: Always wear the appropriate personal protective equipment when using this product.

PACKAGING

DREWGARD ZX is available in 19-liter containers (PCN 8688337). Please check with your Drew Marine representative for availability.

IMPORTANT INFORMATION

Drew Marine maintains Safety Data Sheets on all of its products. Safety Data Sheets contain health and safety information for your development of appropriate product handling procedures to protect your employees.

Our Safety Data Sheets should be read and understood by all of your supervisory personnel and employees before using Drew Marine products.

Drew Marine

333 Church Street
Naugatuck, CT 06770 USA
1-973-526-5700
Drew-Marine.com