



D.C.W.T. NON CHROMATE™

DESCRIPTION

DIESEL COOLING WATER TREATMENT NON CHROMATE is a concentrated liquid product used as a corrosion inhibitor and scale controller for the treatment of cooling water in closed systems. It is suitable for use in all diesel engines systems, as well as any other closed water cooling or heating systems.

D.C.W.T. NON CHROMATE is a complex mixture of corrosion and scale inhibitors, antifoaming agents and pH adjusters.

A corrosion inhibitor is any substance which effectively decreases the corrosion rate when added to an environment. The corrosion inhibitors comprising **D.C.W.T. NON CHROMATE** form a protective oxide film on the metal surfaces. These inhibitors are to be used in economical concentrations, and the protective film formed, which can be repaired if damaged, is maintained by the correct level of dosed treatment in the system. Corrosion in a closed water system is the result of, acidic conditions, oxidation caused by exposure of metal surfaces to air, which is caused by excess foam within the system and the electrolytic action of different metals which are common within the system.

In marine cooling systems corrosion in the form of pitting, which is caused by the above mentioned parameters allows for the build up of scale, which leads to a reduction in the cooling properties of the system and potentially overheating of the engine.

A system that is contaminated by scale, formed due to the salts from within the fresh water used in the system or oil due to a leakage from the engine, need to be efficiently removed to ensure protection of the metals surfaces.

ADVANTAGES & CHARACTERISTICS

- ◆ Prevents corrosion and scale formation.
- ◆ Prevents acid attack.
- ◆ A chromate-free product.
- ◆ It is not an oil compound and does not create foaming.
- ◆ Protects various metal surfaces and is compatible with non-metals.
- ◆ Increases the engine's efficiency.
- ◆ Prevents scale overheating and maintains regular heat transfer.
- ◆ Has no effect on rubber and plastic compounds, hoses.

- ◆ Compatible with glycol-based antifreeze and sealing products.
- ◆ Cost effective, easy to handle and apply.

PHYSICAL PROPERTIES

D.C.W.T. NON CHROMATE is a non-Chromate, Nitrite-based liquid compound consisting of corrosion and scale inhibitors, antifoam agents and pH adjusters.

Appearance/Color	: Clear, pale/yellow liquid
Specific gravity	: 1.10–1.20 gr/cm ³ at 20°C
pH value	: 11.0–12.5
Odor	: Odorless
Solubility in water	: Soluble

PACKAGING

Order Number	: 673004 (30 ltrs)
Container	: Plastic jerrican

APPLICATION AND USE

A. Dosing Procedure

Initially, a volume proportion of 7litres of **D.C.W.T. NON CHROMATE** per ton of distilled or fresh water must be used. However, appropriate dosing can and must be determined, after the testing of water samples, using the **MARICHEM NITRITE TEST KIT**.

For optimum results, a nitrite concentration of 1,200 to 3,600ppm in the cooling system is recommended.

The following dosage rates (as appearing in Table 1) should be applied anytime the Nitrite concentration is not within the satisfactory levels.

B. Feeding Procedure

After the volume of **D.C.W.T. NON CHROMATE** to be dosed is determined and while the cooling system is in operation; feed the solution into the expansion tank or in any cross flow of the cooling system to ensure circulation. Moreover, proper distribution of the solution must be accomplished and a protective film is created. Only then is the treatment complete. After the application and while the cooling water system is in operation, let the solution circulate for approximately 2 hours. Then, test the Nitrite concentration in the water using the **MARICHEM NITRITE TEST KIT**. Repeat the testing procedure and make up with **D.C.W.T. NON CHROMATE** solution in order to stabilize the Nitrite concentration in the water due to losses/leakage of



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the system. For optimum results a nitrite ions concentration of 1,200–3,600ppm in the cooling system is recommended. The engineer has to make sure that a proper distribution of the solution is accomplished and that a protective film is created.

For a better level of corrosion protection in the system, the use of **CHLORICOOL WT TEST KIT** is suggested, for measuring the chloride ions concentration. The chloride ions concentration must be maintained below the level of 60ppm. The concentration of chloride ions could be controlled by partial drain and make up with fresh water.

Moreover, the pH value must be checked within certain intervals. The satisfactory pH value level is 8.5–10. The desired corrosion and scale inhibition can be achieved within that range.

APPROVALS AND CERTIFICATIONS

D.C.W.T. NON CHROMATE is approved by the following Engine manufacturers:

WARTSILA NSD

ALSTOMENGINES

MaK/CAT DIESEL ENGINES

MAN B&W DIESEL ENGINES

TABLE 1: Nitrite ions (NO₂⁻) concentration in ppm & requested D.C.W.T. NON CHROMATE dosage

Quantity of Nitrite (NO ₂ ⁻) ppm as appearing in the Nitrite test kit, in a dilution of the cooling water	1–5	5–10	10–15	15–20	20–60	Over 60
Quantity of Nitrite (NO ₂ ⁻) ppm in the cooling water	0–300	300–600	600–900	900–1,200	1,200–3,600	Over 3,600
D.C.W.T. NON CHROMATE dosage per ton of water	6 litres	4 litres	2 litres	1 litre	Satisfactory	Partial Drain required

! SAFETY AND HANDLING

HANDLING	Handle with care. Store in a dry, cool and well ventilated environment.
SAFETY	IMMEDIATE ACTIONS
Eye Contact	Avoid Eye contact. Otherwise, flush with plenty of water for a few minutes. Seek medical attention.
Skin Contact	Avoid Skin contact. Otherwise, wash contaminated area thoroughly with water. Seek medical attention.
Inhalation	Avoid inhalation of vapors. Otherwise, seek fresh air source at once. Seek medical attention.
If Swallowed	Avoid ingestion. Otherwise, consume a considerable quantity of water. Do not induce vomiting. Seek medical attention.
GENERAL INSTRUCTIONS	Avoid spillage, splashing and mishandling. Precautionary measures for body protection are strongly recommended before use.

Read the Material Safety Data Sheet before using this product.

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

MARICHEM MARIGASES Worldwide Services or any subsidiary or associated companies warranties of merchantability and competence, if any, along with any expressed warranties concerning this merchandise, shall not be actionable or pertinent or effective if the good is used contrarily or differently to the directions herein and in no other way due to impending hazards from inappropriate use of the good explained herein. Merchandise might vary insubstantially depending on country of origin. The information provided concerning merchandise is exclusively presented to the customer.