

**Technical Data Sheet – Crystilium Marine Growth Remover**

**Description**

Crystilium Marine Growth Remover (MGR) is a high-performance concentrate that thoroughly removes marine growth and dissolves mineral deposits.

MGR is ideal for cleaning:

- Engines seawater cooling systems
- A/C & refrigeration cooling systems
- Heat exchangers
- Pumps
- Piping
- Seacocks
- Sea Strainers
- Boat bottoms
- Bow thrusters
- Water makers

Scale, calcium deposits, corrosion, salt and carbon build-up in your raw water-cooled systems can cause your engine to run hot or result in AC system inefficiencies by restricting water flow through the cooling jackets, tubes and heat exchangers. Calcium and scale build-up also may damage your water pumps if debris is dislodged and allowed to flow down into pump housing.

Dilution rate is 1:4 (1 part of MGR in 4 parts of water). This dilution must be performed prior to all applications.

**Technical Data:**

Appearance & Odour:	Pale blue liquid, No Odour
Base:	Water
Specific gravity:	Approx. 1.62
Boiling point:	Approx. 100 °C

**Method Statement – Crystilium Marine Growth Remover**

**There are two methods for cleaning your seawater systems**

**1. Open-Loop Circulation**

This is the quickest and most preferred method. It requires the recirculation of the product and the aid of a flushing system or system pump.

**2. Immersion**

This is the simplest method of cleaning but also the longest. It involves filling the entire system and allowing it to work overnight.

**How much MGR do I need?**

1. First, measure the lengths and diameters of all hoses and piping associated with the raw water cooling system.
2. Next, cross reference them with the pipe gallonage chart (see separate sheet).
3. Finally, add up all your finding. Remember to add enough for your flushing equipment.
4. Make MGR Solution. Dilution rate is 1:4 (1 part of MGR in 4 parts of water). This dilution must be performed prior to all applications.

**Raw Water Cooling System Types and Methods****Engines seawater cooling systems - Open-Loop Circulation**

1. First, find the best locations to inject and recover your MGR solution. Try to choose an injection point as close the seawater sea valve (or seacock) as possible, thus including as much of the system as possible.
2. Now, with both your injection and recover points ready, hook up your flushing gear. Connect the discharge from your flushing unit to the inlet point on the engine. Then connect the recovery point to the return hose.
3. Before starting, make certain there are no other systems connected to your raw water cooling system
4. Now you are ready to recirculate and clean your engine! We recommend that first you do a test-flush with water to make certain you have no leaks. If everything looks good, replace the water with your predetermined amount of MGR. Recirculate for at least 2 to 3 hours. If there is an excessive amount of buildup recirculate for 3 to 6 hours.
5. When flushing is complete, rinse the system with freshwater to remove any loose debris or leftover MGR. Reassemble the system and run the engine to ensure there are no leaks.

**Engines seawater cooling systems – Immersion**

1. First, run your engine and bring it up to temperature.
2. Disable engine by turning off the battery switch and closing the sea valve.  
Making certain the sea valve is closed, remove the suction hose attached to the valve and place it in a bucket filled with MGR
3. Next, start the engine and wait until you see MGR coming out of the overboard discharge.
4. Now, secure the engine and allow the product to work in your system for 12-18 hours.
5. Finally, reconnect the suction hose, open the sea valve, and run the engine for 5-10 minutes, making certain you have removed all of the MGR solution.

**Air Conditioning systems - Open-Loop Circulation**

1. First, find the best locations to inject and recover your MGR solution. Try to choose an injection point as close the seawater sea valve (or seacock) as possible, thus including as much of the system as possible. The outlet will likely be a hose leading away from the A/C system towards an overboard thru-hull fitting.
2. Now, with both your injection and recover points ready, hook up your flushing gear. Connect the discharge from your flushing unit to the inlet point on the unit. Then connect the recovery point to the return hose.
3. If you have multiple A/C units, fed from one central pump. You can clean all units at the same time—just make certain that all discharges return to your bucket.
4. Now you are ready to recirculate and clean you're A/C system. We recommend that you do a test-flush with water to make certain you have no leaks. If everything looks good, replace the water with your predetermined amount of MGR. Recirculate for at least 2 to 3 hours. If there is an excessive amount of buildup recirculate for 3 to 6 hours.
5. When flushing is complete, rinse the system with freshwater to remove any loose debris or leftover MGR. Reassemble the system and run the unit to ensure there are no leaks.

**Air Conditioning systems – Immersion**

1. Making certain the sea valve is closed, remove the suction hose attached to the valve and place it in a bucket filled with MGR.
2. Start the A/C raw water pump until you see MGR coming out of the overboard discharge.
3. Next, secure the pump and allow the product to work in your system for 12-18 hours.
4. When complete, reconnect the suction hose, open the sea valve, and run the system for 5-10 minutes making certain you have removed all of the MGR solution.

**Chiller condenser coil cleaning instructions**

**Email:** info@greencorpmarine.com

**Parts and Bottom cleaning**

**Email:** info@greencorpmarine.com

**Thoroughly review product label and Safety Data Sheet (SDS) for safety and cautions prior to using this product. Follow manufacturer's safety recommendations when using any solvent.**

Disclaimer

While every precaution is taken to ensure that all information furnished in this method statement is as accurate, complete, and useful as possible, Greencorp Marine cannot assume responsibility nor incur any obligation resulting from the use of any materials, coatings, or methods specified herein.

This method statement does not attempt to address problems concerning safety associated with its use. The user of this method statement, as well as the user of all products or practices described herein, is responsible for instituting appropriate health and safety practices and for ensuring compliance with all governmental regulations.