

# Smarter Sewage Treatment with Probiotic Cleaners



# Introduction

Annex IV of MARPOL sets strict regulations regarding discharge of sewage from ships. In order for the sewage treatment plant to work effectively, it is important you use the right products that do not kill the bacteria required for an effective decomposition of sewage.



In addition, ship-owners or managers also need to deal with grey and black water pipes being clogged, which is a problem for ships due to its design, requiring long horizontal runs. The horizontal pipes do not aid gravitational flow and as the vessel rolls and pitches, soil lines will run backwards. These pipes accumulate soil, progressively reducing the pipe bore until blockage occurs. It is then very difficult for the crew to locate the exact position of the blockage. When located, the pipe must be opened for clearance whereupon obnoxious waste erupts in an uncontrollable flow. These pipes are often in the passenger or crew area, above deck heads, or behind bulkheads. A pipe blockage could cut off a whole deck of passenger or crew cabins, causing serious complaints. Using the right products will prevent this from happening.

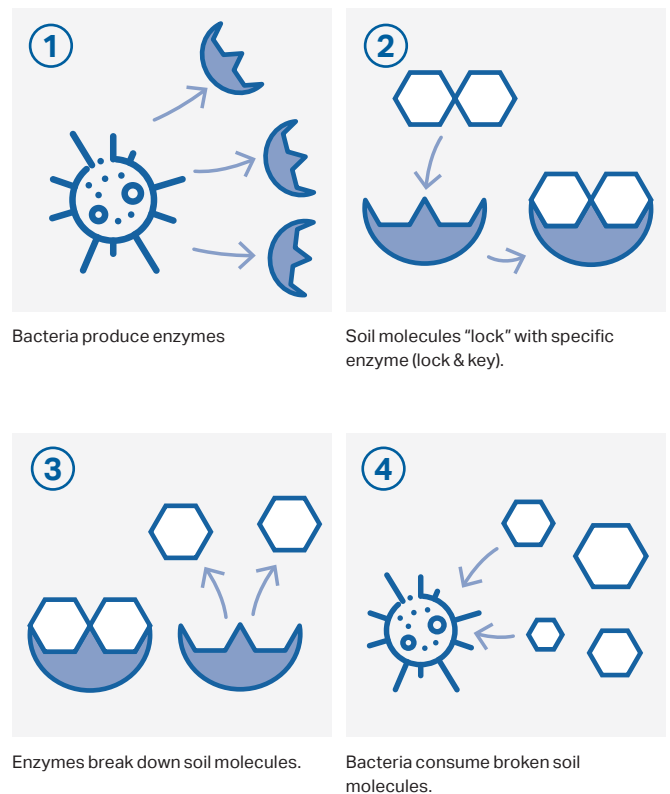


## What is Gamazyme?

Unitor™ Gamazyme are probiotic cleaners, specifically designed for safe and effective treatment of drain lines and grease traps, cleaning and odour control, and septic and waste treatment onboard ships.

### How it works

Gamazyme cleaners contain active bacteria cultures from nature that digest organic fat and grease, converting it into water and CO<sub>2</sub>. In cleaning and odor control applications, microbial action penetrates cracks and pores of surfaces where soils collect, destroying residual organics and the odours they cause. When all of the soil is digested, the bacteria die of starvation. The by-products of this bio-enzymatic action are harmless CO<sub>2</sub> and water.





# Why Gamazyme?

Traditional cleaning chemicals usually involve toxic chemicals such as caustic acids, chlorine and other disinfectants that are potentially harmful to the user and the environment. These cleaners break down the soil, lift it into suspension and carry it away. These hazardous slops containing soil and chemical cleaners are then moved into the environment. Furthermore, the biological activity in the sewage treatment plant may be rendered useless by these toxic cleaners as they can kill the bacteria required for an effective degradation of the sewage.

Unitor™ Gamazyme cleaners are an effective and environmentally safe alternative.



## Safer

Probiotic cleaners are safer for the environment and human health compared to chemical products.



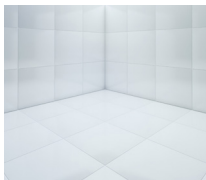
## Residual Cleaning

Continue cleaning well after the product has been applied, therefore contributing to increased productivity.



## Good Bacteria

Through natural competition for food and resources, the non-pathogenic “good” bacteria can help to displace pathogenic (disease-causing) bacteria.



## Deep Cleaning

The micro-organisms can penetrate into very small cracks and crevices, eliminating soils and malodours that traditional chemicals cannot remove.



## Better Return On Investment

Probiotic cleaners provide a much larger return on investment because they reduce labour costs, protect assets and infrastructure and do not need to be applied as often.



## Smarter Sewage Treatment with Probiotic Cleaners

Applications	Sewage treatment			Galley Areas			Accommodation			Product recommendation and benefits
	Treatment plants	Holding tanks	Pipe cleaning	Drain lines, grease traps, scuppers	Waste collection areas, pulper system	Floors	Cabins, sinks, showers, drain lines, scuppers	Hard and soft surfaces, tiled areas, carpet, deck	Toilet and rest room	
Marine sewage treatment plants	●	●	●							<b>Gamazyme 700 FN</b> <ul style="list-style-type: none"> <li>Increases treatment plant performance</li> <li>Greatly increases the degradation of organics commonly found in waste water (starch, protein, cellulose, fats, oils, greases, hydrocarbons, detergents, sulphide, paper)</li> <li>Stabilizes existing biomass and maximizes its degrading abilities (bio-augmentation) / plant start-up, maintenance and upset recovery</li> </ul>
Drain lines, grease traps, pulper systems			●	●	●					<b>Gamazyme Digestor</b> <ul style="list-style-type: none"> <li>Allows free flow in drain lines by degrading fats, grease, starch, organic waste</li> <li>Maintains drains &amp; traps free of fats and grease</li> <li>Used to open clogged lines</li> </ul>
Drain lines, holding tanks		●	●	●			●			<b>Gamazyme DPC (Drain and Pipe Cleaner)</b> <ul style="list-style-type: none"> <li>Keeps sinks, drains and pipes – black and gray water tanks free of organic matters (fats, grease, starch, organic waste)</li> <li>Eliminates malodours from showers, sinks and drains</li> </ul>
Odour control					●				●	<b>Gamazyme BOE (Biological Odour Eliminator)</b> <ul style="list-style-type: none"> <li>Control odours with a powerful combination of:                             <ul style="list-style-type: none"> <li>A fast-acting odour neutralizer for immediate odour relief</li> <li>Beneficial microorganisms for malodorous organic degradation</li> </ul> </li> </ul>
Floors						●				<b>Gamazyme FC (Floor Cleaner)</b> <ul style="list-style-type: none"> <li>Highly effective for cleaning commercial kitchen floors</li> <li>Deep-cleans by removing grease and grime that collects in the pores and cracks of floor surfaces</li> <li>Increases traction by eliminating the greasy buildup that causes slipperiness, making floors safer for employees</li> </ul>
Surfaces and odour control							●	●	●	<b>Gamazyme MSC (Multi-Surface Cleaner)</b> <ul style="list-style-type: none"> <li>Cleans sinks, showers, floors, drains, tiled surfaces, carpets and fabrics</li> <li>Eliminates malodors</li> <li>Degrades organics all the way to the marine sewage plants</li> </ul>
Vacuum toilets, drain lines							●		●	<b>Gamazyme BTC (Biological Toilet Cleaner)</b> <ul style="list-style-type: none"> <li>Keeps toilet bowls and urinals clean</li> <li>Eliminates bad odours</li> <li>Can be used as a complete bathroom cleaner for toilets, sinks, showers</li> </ul>
							●		●	<b>Gamazyme TDS (Toilet DeScaler)</b> <ul style="list-style-type: none"> <li>Cleans up toilet and drain lines fouled with scale and organic matters – dual action:                             <ul style="list-style-type: none"> <li>Mild acid component dissolves the pipe scale</li> <li>Selected microorganisms digest the organic waste</li> </ul> </li> </ul>

Scan now



for a closer look

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