



**BIOGLOBE**



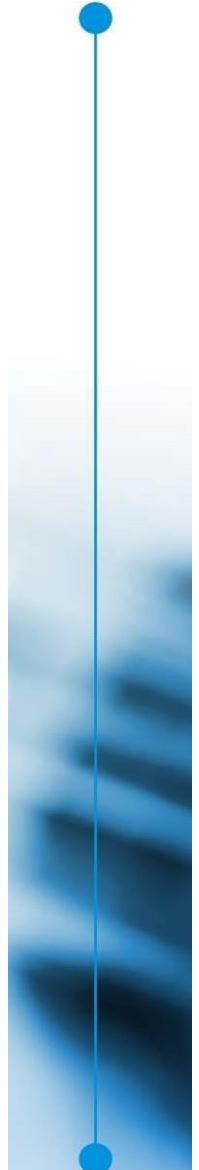
Organic Eco-Friendly  
Water Remediation Enzyme Solutions



## ABOUT US

Organic Ecosolutions are engaged in the research, development and manufacture of customised enzyme-based formulations for various specialised uses.

Our Research and Development centre operates to the highest standards and enables us to create bespoke products, suitable for a wide variety of applications.



# Organic Ecosolutions



# BENEFITS OF OUR SOLUTIONS

## MISSION

To set the bar high as an industry leader, in creating unique Organic Enzyme-Base formulations, for a wide variety of remediation applications, prioritising environmental concerns in every aspect of our business.

## VISION

To offer Organic Eco-friendly solutions to many of the world's pollution issues, including water, land and waste remediation.



# ABOUT ENZYMES

Enzymes are biological active proteins made by all living organisms. They are found everywhere in nature. They catalyse biochemical reactions in cells.

In today's world, they are considered a preferred alternative to use of chemicals. Amongst other benefits, enzymes minimise energy consumption.

# BENEFITS OF OUR SOLUTIONS

Our products offer multiple benefits, that cannot be obtained by traditional chemicals and processes. Our eco-friendly Organic Enzymatic solutions are sustainable by nature, they are superior quality and offer lower production costs as well as less wastage and they help to reduce the energy consumption.

We have developed Organic Enzymatic solutions for niche and unique areas, we innovate continuously and work incessantly towards offering more and better products, applications and solutions.

A wide-angle photograph of the ocean under a clear blue sky. In the foreground, a large, dark, iridescent oil spill spreads across the water's surface, reflecting light in shades of purple, blue, and green. In the middle ground, a dark blue ship with a white superstructure is visible on the horizon. The text "ORGANIC ECO-FRIENDLY CRUDE OIL SPILL REMEDIATION" is overlaid in white, bold, sans-serif font across the center of the image.

**ORGANIC ECO-FRIENDLY  
CRUDE OIL SPILL REMEDIATION**



# ECO-ENZYME CRUDE OIL SPILL REMEDIATION

ECOENZYME - CRUDE SPILL is a novel product developed by our scientists. The product is a mix of multi Enzymes and microbes which is used in degradation of hydrocarbon crude oil spilled over a water or land surface.

## PRODUCT SPECIFICATIONS

- **Form:** Available in powder and liquid form
- **Miscibility:** Forms solution in water
- **Working pH range:** 6 – 8
- **Working temperature range:** 20 - 40 °C




## APPLICATIONS AND BENEFITS



Once ECOENZYME - CRUDE SPILL is applied to the targeted area. The Enzymes and Microbes will attach themselves to the hydrocarbons and start to attack their carbon structure and metabolise it to get energy and multiply themselves.

Thus the hydrocarbon chains in the spilled crude oil are consumed as food by these microbes. These growing colonies of microbes feeding on the crude oil themselves become food for the aquatic ecosystem. Thus the crude oil is basically converted to food and fed back to nature.

An aerial photograph showing a coastline with a small boat on the water. The land is brown and appears to be a beach or a small island. The water is a mix of blue and green, suggesting some algae or other marine life. The boat is small and has a white sail.

ECOENZYME - CRUDE SPILL generally takes a few hours to penetrate the molecular walls of hydrocarbons. Warmer conditions favour faster biological action whereas colder conditions may reduce the speed of decomposition.

Within hours, odour will be negligent and changes will be noticeable in seven to fifteen days, depending on the temperature, mixing and nutrients available. Once ECOENZYME-CRUDE SPILL has been applied to the oil, even if the oil disperses, sinks or fragments, it will not be able to evade decomposition, until every last drop of oil has been totally broken down.

ECOENZYME - CRUDE SPILL will also break down the adhesive properties of the hydrocarbons, preventing the oils from attaching to animals, vegetation, rocks or earth.

ECOENZYME - CRUDE SPILL can be applied with any commercially available spray apparatus, such as small hand held tanks, backpacks, large mixing tanks with mechanical pumping devices, vessels with booms for spraying wide paths, or liquid spray devices on crop duster airplanes or helicopters. ECOENZYME- CRUDE SPILL can also be applied by eductor systems from vessels, fire trucks, or any other outfitted vehicle.

First, start by spraying the outer perimeter of the spill and systematically work towards the middle of the affected area, making sure to cover the entire surface area of the spill.



## BENEFITS OF ECOENZYME - CRUDE SPILL:

- Highly concentrated formula.
- Maximum hydrocarbon crude oil elimination.
- Effective under a wide range of conditions.
- Work under both aerobic and anaerobic conditions.
- Can withstand toxic shock load.
- Never stops working.
- Mitigates odour problem.
- Safe and Eco-friendly.
- Converts spilled crude oil into food for ecosystem.



A wide-angle, low-perspective shot of a vast, flat field of dark brown soil. The soil is uneven and textured, with many small clumps and scattered dry, light-brown plant stalks and debris. The field extends to a flat horizon line under a clear, bright blue sky. The lighting is natural, suggesting a sunny day, with soft shadows cast across the soil.

# ECO-ENZYME SOIL REMEDIATION

# ORGANIC ECO-ENZYME SOIL REMEDIATION

ECOENZYM E- SOILREM is a specifically designed and formulated blend, containing enzymes and microbes for the remediation of soil. Enzyme-mediated remediation of soil renders the contaminants harmless or less toxic.

## PRODUCT SPECIFICATIONS:

- Form: Greyish coloured powder
- Miscibility: Forms solution in water
- Working pH range: 3 -12
- Working temperature range: 15 - 60°C



## APPLICATIONS AND BENEFITS



There can be various reasons for soil contamination and the traditional soil remediation techniques are associated with several negative impacts on the environment. ECOENZYME-SOIL REM is an environment friendly approach for decontamination of soil.

ECOENZYME - SOIL REM formulation is suitable to work on soil that is contaminated with heavy metals, mineral oil, Polycyclic Aromatic Hydrocarbons (PAH), Aromatic Hydrocarbons (BTEX), Chlorinated Hydrocarbons.

(CHC), Cyanides and Phenols, etc. The microbes present in ECOENZYME - SOIL REM alter the contaminants present in the soil to carry out their normal life functions, using chemical contaminants as an energy source, in turn, making these contaminants harmless





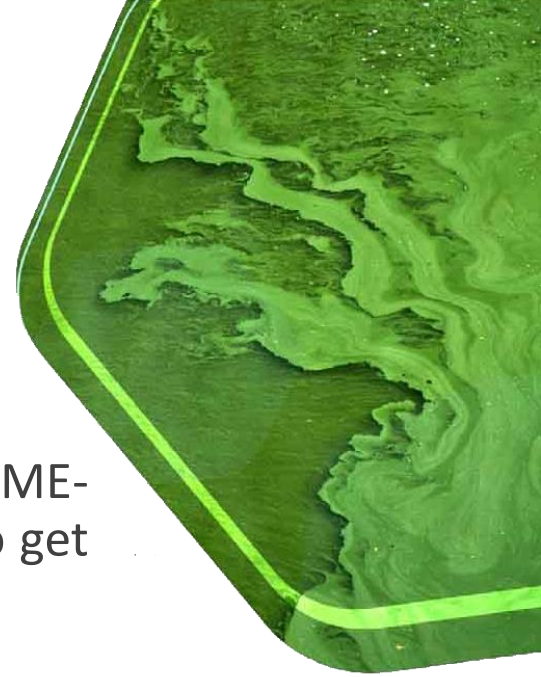
**ORGANIC ECOENZYME ALGAE REMEDIATION**

# ORGANIC ECOENZYME ALGAE REMEDIATION

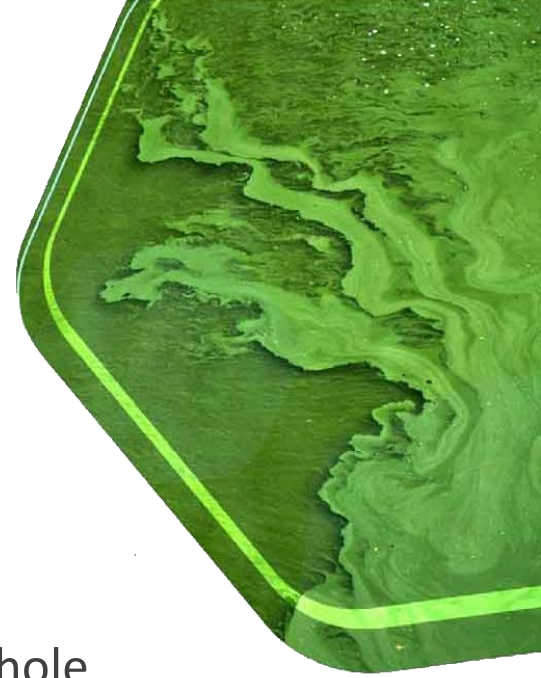
Our specialised formulation effective in eliminating Algae. ECOENZYME-ALGAE is a novel product containing a mix of enzymes, a biological way to get rid of algae blooms.

## PRODUCT SPECIFICATIONS:

- Form: White to off white coloured powder
- Miscibility: Partially miscible in water
- Working pH range: 5- 9
- Working temperature range: 15-50°C



## APPLICATIONS AND BENEFITS



Algae Bloom is a very common phenomenon, observed affecting the whole ecosystem. A broad range of technologies, commercially available, but a bit less known and applied, are Enzymes.

The enzymes and chlorine based derivatives in ECOENZYME - ALGAE are a quick and easy solution to remove algae. ECOENZYME - ALGAE works by interrupting the vital life processes of algae and disrupts the cell wall, in turn inhibiting its growth

# ENZYME WASTE WATER TREATMENT



# ECO-ENZYME WASTE WATER TREATMENT

Wastewater treatment has gained immense significance in today's context where protecting the environment is a prime concern. The main objective of enzymes for waste water treatment is to treat the effluents before they are discharged so that the environment is not polluted. Enzymes for wastewater treatment in general refers to treatment of suspended, floatable material and treatment of biodegradable organics.

The wastewater from the food processing industry contains carbohydrates, proteins, fats and pectinaceous materials that are barely decomposed by microbes during the activated-sludge treatment.

Enzymes start degrading organic waste immediately upon addition, while existing bacteria strains use the organic wastes as carbon and nitrogen sources for growth and effectively treat the system for the long term.





## Role of Enzymes in Wastewater Treatment

Water like air is one of the necessities for humans and other living organisms alike. Without water, we cannot function. It is even projected that the third world war may be fought over water resources. Our water reservoirs including rivers, perennial or seasonal

In addition to treating suspended and biodegradable organic matter, enzymes used in wastewater treatment also contribute to odour removal. These enzymes act as a key component in enzyme-based odour eliminators, effectively neutralizing and eliminating unpleasant odours associated with wastewater. By targeting the organic compounds responsible for the odour, enzyme-based odour eliminators ensure a more comprehensive and efficient wastewater treatment process while improving the overall environmental impact.



To enhance the treatment of wastewater from these processing industries, combination of specialised enzymes facilitates hydrolysis of BOD and renders it suitable for decomposition by activated sludge treatment and composting.

Our formulated enzymes for wastewater treatment product effectively breaks down organic waste and increases the quality of wastewater effluent without the use of harsh chemicals.

Enzymes start degrading organic waste immediately upon addition, while existing bacteria strains use the organic wastes as carbon and nitrogen sources for growth and effectively treat system for the long term.



**ORGANIC ECOSOLUTIONS  
SAVING EVERY DROP**





The background of the image shows several pieces of laboratory glassware, including beakers and Erlenmeyer flasks, arranged on a dark surface. The glassware is slightly out of focus, creating a sense of depth. The lighting is dramatic, highlighting the glass surfaces and creating strong shadows.

**Tests showed 86.36% efficiency and 90.48% biodegradation of the MSL-crude oil mix after 96 hours, meeting EPA dispersant guidelines**

**Toxicity tests on phytoplankton, shrimp and fish populations revealed MSL can be safely used without affecting aquatic life up to certain concentrations.**

**Field tests spraying MSL in Limassol coastline reduced petroleum hydrocarbons (TPH) by 95% and bacterial colonies significantly in seawater samples.**

A group of dolphins swimming in clear blue water. The dolphins are silhouetted against the light blue background, moving in various directions. The water is clear and bright, suggesting a healthy marine environment.

**MSL achieved significant reductions in contaminants like BOD, COD, FOG and TPH in tests at Ayia Napa Port, indicating effectiveness across locations.**

**As a natural, biodegradable and non-toxic agent, MSL has advantages over chemical dispersants without causing secondary pollution.**

**On an oil spill off the coast of Limassol, Cyprus, MSL reduced total petroleum hydrocarbons (TPH) by 95% over 6 months.**



# **ORGANIC ECO-FRIENDLY WATER REMEDIATION**



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