

Form: Powder — Biological Bioremediation Treatment

Application Rate: 1 kg per m3 of contaminated soil per dose

T.P.H. Benchmark: 20% Faster than International Petrochemical Standard

GEARTH EcoSpill is a cutting-edge, proprietary eco-friendly enzyme-producing bacterial hydrocarbon soil bioremediation powder, formulated for the remediation of all oil, diesel, petrol, fuel and hydrocarbon-associated spills. It contains a consortium of billions of hydrocarbon-digesting microbes together with the proprietary GEARTH Nutrient Pack, automatically included in every product batch.

GEARTH EcoSpill microbes employ aerobic co-metabolism using multiple proprietary bacterial strains which consistently demonstrate far superior hydrocarbon degradation results. When activated by water, the microbes begin rapidly breaking down organic contaminants, with by-products of carbon dioxide, water and soluble fatty acids — a water-soluble food source for fish and plants.

1 BIOREMEDIATION - SCIENCE & APPROACH

Bioremediation refers to any method that uses microorganisms to recycle organic materials and sequester inorganic ions. GEARTH EcoSpill uses Bio-Augmentation - the addition of naturally occurring microbes to the spill site - the quickest and most effective method for petroleum-contaminated spill remediation, delivering microbes in sufficient quantity and diversity for hyper-degradation.

2 PROPRIETARY TECHNOLOGY

Proprietary Bacterial Strains: Beyond the industry-standard set of hydrocarbon-degrading bacterial strains, GEARTH EcoSpill incorporates an entirely new and proprietary set of bacterial strains with far superior degradation results.

GEARTH Nutrient Pack: Automatically incorporated into every batch, developed through extensive R&D. It is the exact ratio and precise quantity of each nutrient - nitrogen, phosphorous, potassium and proprietary stabilisers - that drives the product's exceptional performance.

Hyper-Degradation Threshold: A minimum microbe density per gram of contaminant must be present to override the indigenous microbial population and trigger hyper-degradation.

3 KEY FEATURES & BENEFITS

- Proprietary bacterial strains — consistently superior T.P.H. degradation performance
- GEARTH Nutrient Pack automatically included
- Degrades petroleum hydrocarbons 20% faster than international benchmark
- By-products: carbon dioxide, water and soluble fatty acids (fish and plant food)
- Applicable to oil, diesel, petrol, fuel and related hydrocarbon compounds
- Suitable for in situ and ex situ treatment
- Pathogen free — human, animal and plant pathogen tested and cleared
- Compatible with GEARTH Marine Oil Gobbler for severe spills
- EcoChoice Approved

4 STEP-BY-STEP APPLICATION PROTOCOL

Step	Action	Detail
1	Fresh Spill Containment	Contain fresh spills with high-efficiency eco-friendly absorbents around the perimeter.
2	Site Assessment	Excavate to the deepest contamination level, calculate affected volume, take T.P.H. and pH baseline readings (soil pH must be 5.5-8.5).
3	Treatment Method	Treat in situ or move soil to a bunded containment area (ex situ) depending on site logistics.
4	Soil Preparation	Break up large soil clods for even microbe coverage.
5	Product Application	Mix at 1 kg GEARTH EcoSpill per 1 m3 of soil per dose; double dose for less severe, single-treatment cases.
6	Moisture Management	Maintain 20-30% soil moisture; spray with water if below range; add GEARTH Marine Oil Gobbler for severe contamination.
7	Monitoring & Repeat Dosing	Repeat monthly; treatment can take 1-9 months depending on T.P.H. load.

5 HEALTH & SAFETY

- Microbes are collected from naturally occurring sources.
- Confirmed human, animal and plant pathogen free.
- Microbes can be destroyed by caustics, high chlorine concentrations, some solvents and X-ray exposure — avoid contact with these during treatment.
- Water and oxygen must be present for the microbes to function correctly.
- Wear appropriate PPE during handling and application.

6 TECHNICAL SPECIFICATIONS

Physical State	Powder
pH	Not Specified — site pH must be 5.5 to 8.5 for effective microbial activity
Solubility	Activated by water — dissolve/disperse in water or mix directly into soil
Formulation Type	Proprietary consortium of billions of aerobic and micro-aerophilic hydrocarbon-digesting microorganisms with Nutrient Pack
Target Contaminants	Oil, diesel, petrol, fuel oils, and all hydrocarbon-associated spills
By-Products	Carbon dioxide, water and soluble fatty acids
T.P.H. Performance	Degrades T.P.H. 20% faster than international benchmark
Application Method	In situ or ex situ; compatible with conveyor spray systems
Treatment Duration	1 to 9 months depending on T.P.H. load and site conditions

Pathogen Status	Human, animal and plant pathogen free — routinely tested
7	STORAGE & SHELF LIFE
Shelf Life	Not Specified — contact GEARTH (Pty) Ltd for confirmation.
Storage Conditions	Store at ambient temperature, away from direct sunlight and moisture. Keep container sealed when not in use.

8 PACKAGING

Packaging sizes not specified in source documentation. Contact GEARTH (Pty) Ltd for available pack sizes and bulk supply options.

9 ENVIRONMENTAL INFORMATION

- Bioremediation uses natural biology to degrade hazardous contaminants — no harmful chemical additives.
- By-products are benign and beneficial to fish and plant life.
- Degrades hydrocarbons 20% faster than international benchmark, reducing exposure duration and associated environmental risk.
- Microbes are collected from naturally occurring sources — no synthetic or GMO organisms.
- EcoChoice Approved.

The information contained in this Technical Data Sheet is based on data believed to be accurate at the time of publication. GEARTH (Pty) Ltd reserves the right to update or revise specifications without prior notice. Users are responsible for determining the suitability of this product for their specific application. Always handle products in accordance with applicable health, safety and environmental legislation. Contact GEARTH (Pty) Ltd for site-specific application guidance.