

# HYDRA



# Bio HC Buster

Breaks Down Hydrocarbons In Soil & Water



# HYDRA<sup>®</sup>



## Features & Advantages

- ◆ Environmentally friendly technique to remove hydrocarbon contamination from soil and water.
- ◆ Converts Harmful Petroleum Products into Carbon Dioxide & Water.
- ◆ Highly effective microbial remediation.
- ◆ For use on Oil Spills, Petroleum.
- ◆ Synergistic blend of specially chosen natural bacteria.
- ◆ Use in Oil / Water Separators & Interceptors.
- ◆ Completely biodegradable & homogeneous.
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- ◆ Completely biodegradable & homogeneous.
- ◆ Effective Against: Mineral Oils - Hydraulic Oils - Phenolic Compounds, Volatile Aliphatic - Heavy Aliphatics and Aromatics, Chlorinated and Bromated Hydrocarbons.

## The Problem

A large number of different chemicals enter the environment on a daily basis either via industrial discharges or other activities. Some of the most problematic are the types of hydrophobic organic chemicals with toxicological characteristics that accumulate in the environment. These include:

- ◆ Crude Oil.
- ◆ Automotive fuels: petrol and diesel.
- ◆ Aromatic Hydrocarbons.
- ◆ Aliphatic Hydrocarbons.
- ◆ Halogenated Hydrocarbons.

The occurrence of a number of high profile global oil spills including most recently the BP oil spill off the Gulf of Mexico has brought this issue to the forefront. These accidents can be catastrophic for both the environment and coastal towns and cities nearby.

These catastrophe's however make up for only a small number of the hydrocarbons that find their way into the environment. Contamination comes largely from oil refineries, industry and passive ships and boats.

### Deepwater Horizon oil spill containment efforts in the Gulf of Mexico



Currently, physical and chemical methods of clean up of hydrocarbon contamination are most common. This can include: skimming, crude slick and the introduction of poisonous sorbents and dispersants. There is becoming an increasing awareness of the problems associated with these traditional methods and an emphasis on the development of environmentally friendly and natural ways of water and land remediation.

### Contaminated Land



**Bioremediation** describes the method of using microorganism metabolism to remove pollutants and contaminants. Bio-augmentation is the introduction of a group of natural microbial strains or a genetically engineered variant to treat contaminated soil or water.

The microbes have an affinity towards a specific contaminant and are typically suspending by a stabilizing agent and lie dormant until activated in solution.

The microbes cleave the hydrocarbons to harmless by products: carbon dioxide and water using parts of the hydrocarbons to maintain their own metabolic process. When the food source (hydrocarbon contamination) has been depleted, the remaining microbes self-remediate resulting in clean soil or water.

## Description

**Hydra Bio HC Buster** contains oil bioremediation bacteria that converts petroleum / hydrocarbons into water and carbon dioxide.

Highly effective blend of natural bacteria that act synergistically on oil spills, phenolic compounds, hydraulic oils, mineral oils, both volatile and heavy aliphatics, aromatic compounds, mineral oils, hydraulic oils, bromated hydrocarbons and chlorinated hydrocarbons.

### Effective Against

◆ Mineral Oils
◆ Hydraulic Oils
◆ Phenolic compounds
◆ Volatile Aliphatics
◆ Heavy Aliphatics
◆ Aromatics Chlorinated/Bromated Hydrocarbons

### Its Own Energy Source

Unlike many other products **Hydra Bio HC Buster** contains its own source of nitrates and phosphates nutrient source for the bacteria to quickly breakdown the contaminants. These nutrients are sufficient for small spills i.e. those that will be removed within 4 weeks. For large spills also use **Hydra Bio Nutrient Booster** for optimum performance.

The bacteria are facultative which mean they will work in aerobic and anaerobic conditions and will adapt to most environments. However best results are obtained under aerobic conditions.



### Where it is used

Use in Oil / Water Separators & Interceptors - Cofferdams, ships, decks and equipment, engineers oily waste holding tanks and associated piping, soil, bilges, tarmac, railway ballast etc.



## How To Use

### Heavy Duty Degreasing

Dilute 1:10 - 1:30 with water.

### Ships Bilges

Treat at 100ml per m<sup>3</sup> capacity - apply once only.

### Existing Hydrocarbon Deposits

Use **Hydra Bio HC Buster** either diluted with water for spraying or injection, or apply in its liquid concentrated form for small spillages.



### Interceptor Application

Continuous Hydrocarbon Feed: If large amounts of sludge are present ensure that there is adequate aeration.

When bacteria have additional nutrients and oxygen and hence function aerobically, they produce roughly 20 times as much energy as anaerobic activity yields. This results in faster, more aggressive remediation.

### Windrow Application

Use at 500ml concentrate per m<sup>3</sup> contaminated soil.

### All Applications

Feed every 4 weeks with **Hydra Nutrient Booster** at 100ml concentrate per m<sup>3</sup> until contamination has been removed.

**N.B.** Do not allow cutting oils into interceptor systems as these contain biocides which will kill the bacteria in **Hydra Bio HC Buster**.



## Laboratory Facilities

Hydra International Ltd.'s Research & Development Laboratories are a hub of activity where new products are developed and formulated. We have working relationships with our raw material suppliers, many of these suppliers are major world-wide chemical manufacturers with their own development laboratories.

As a company we are well known in the chemical industry for being receptive to cutting edge new chemicals which can be incorporated into our products to achieve performance advantages. An important part of the International Standards that we hold is that of constant improvement. We show that we have achieved this at every independent audit.



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