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Removal of Oil and Diesel
Phenol Compounds
Volatile Aliphatics
Heavy Aliphatics and Aromatics
Chlorinated and Bromated Hydrocarbons

EU 80 is a water soluble biological product that removes contamination from Soil, Waste water and Biological air filters. Effective treatment for emergency spills and brown field sites.

EU 80 contains group 1 non-pathogenic micro-organisms and a high proportion of nutrients that quickly breakdown the contaminants. The bacteria are facultative and will adapt to most environments. Fastest results are achieved under aerobic conditions.

The bacteria have been isolated from contaminated sites and screened to select the most suitable strains. These are grown by single strain deep fermentation and freeze dried to ensure high quality and stability. After remediation has been completed the bacteria die back to naturally occurring levels.

Unique to EU80 are the strains of pseudomonas bacteria capable of breaking down long chain and chlorinated hydrocarbons. Because pseudomonas do not form spores EU80 is supplied as a water soluble powder with a twelve month shelf life. When mixed with water the product needs to be used within three weeks.

Treatment methods

The type of application is based on analysis of the contamination combined with physical aspects such as buildings, access and time constraints. For a large site the outcome will usually be a mixture of several methods.

Hydrocarbon contamination whether simple short chain molecules or complex ring structures is a common problem and can be treated on site in the following ways.

Windrows: Where time is of importance and space is available, soil or sludge is sprayed with a solution of EU80 and placed into long piles. Ideally the material would be on top of a non-permeable barrier and surrounded by a shallow moat to collect rain water and prevent contamination spreading.

Turning the windrows will improve aeration and even out any hot spots. This speeds up remediation and gives a more consistent treatment.

Soil has good insulation properties and even in cold weather the process of biological breakdown will still proceed and generate heat.

A major factor for remediation is the bio availability of nutrients. The breakdown process requires trace amounts of Nitrate and Phosphates. EU80 meets this requirement by combining nutrients with the correct bacteria in a one shot water-soluble product.



Injection: For soil and ground water. This is the least invasive treatment and the best method to use near buildings, especially in residential areas and places of restricted access.

A solution of EU80 is injected into the ground under low pressure. The bacteria spread out and break down the contamination without disturbing the area or requiring large machinery. Sampling from the injection points gives a good indication of progress. For large sites apply over a five meter grid, for smaller areas and fuel spills requiring quicker results use a 1m pattern.

Due to the shortage of Oxygen this process takes on average four times longer to remediate the soil compared to windrow treatment.

However the reduction in cost per m³ and the limited disruption to the client make this an attractive option.

Manual spraying: Cost effective for small areas. EU80 mixes easily with cold water at a rate of 1kg of EU80 to 5Litres of water.

Due to the high solubility this can be safely applied with most garden type spray equipment and sprayed onto the soil surface or excavation.

If contamination has entered buildings this can be treated by spraying the floor and affected walls. Especially suitable for such as cellars and garage examination pits.

Application rates

For soil and sludge:
Medium contamination levels i.e. over 800 mg/Kg 125g per m³

Higher levels 250g per m³

Chlorinated Hydrocarbons 300g per m³

Application rates should be increased if the contamination contains anything with antimicrobial properties. Dilution is dependant on the soil type and moisture levels, the important factor is to give enough volume that makes it practical to apply at the above rates.

Contained water: Tank bunds, bilge water and extracted ground water.

100g per m³. For best results provide aeration through small bubble diffusers.

Specification

| | |
|----------------------|---|
| Form: | Free flowing powder |
| Colour: | White |
| Solubility in water: | > 99.5 % @ 20 deg C |
| pH: | 6.5 to 7.5 |
| Pack type: | 10 kg polythene lined container and 25kg bags |

When used as directed **EU80** is a safe and completely biodegradable product. It is harmless to people, animals and the environment.



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