

Description

Remediator is a dual purpose oil/fuel absorbent and bioremediation agent for use on direct spills or on hydrocarbon contaminated soil. The product contains naturally occurring bacteria commonly found in oil bearing plants and common soils. When given a hydrocarbon food source and kept moist, the bacteria propagate rapidly within the fibres and break down the soil contaminant into its non-harmful constituents.

Application

Remediator is applied by blending the dry absorbent carrying the micro-organisms with the contaminated soil as thoroughly as possible. Once the hydrocarbon comes in contact with Remediator, it will be absorbed and encapsulated by the fibrous active sites. Remediator is dispersed by tilling and there is no requirement for washing, milling or surfactant addition. Remediator has been used successfully to clean up many sites. To-date, over 40 recorded projects, conducted in a variety of countries (including Australia), show an average reduction in total hydrocarbons (TPH) of 82% in 77 days. Most of these remediation projects involved soil contaminated with common petroleum hydrocarbons such as diesel and sump oils. However, Remediator has also proven effective in the in-situ bioremediation of transformer (mineral) oils and has also been shown to bioremediate some PAHs (depending on ring structure) and even synthetic compounds. The Remediator technology can be applied in both in-situ and ex-situ situations, but is most effective for use in emergency land-based hydrocarbon spills where conventional remediation treatments are not practical due to environmental sensitivities or remoteness.

Description

The bacteria in Remediator are common, well-known oil degraders. Using embedded nutrients in the fibrous matrix, the bacteria (and other micro-organisms) cause a rapid bioremediation of the contaminant compounds. Supplementary nitrogen addition is not usually required, except in heavily contaminated soils.

Nutrients and Bacteria

- Remediator will not decompose until it has bioremediated the encapsulated hydrocarbons.
- Proven to bioremediate a wide variety of compounds. Technology verified by University and Government testing.
- Rapid encapsulation and immobilisation eliminates leaching of hydrocarbon.
- Safe and simple to use - requires no special training and crews are not required to be expert personnel.
- Remediator is non-toxic, non-abrasive, noncarcinogenic and non-volatile.
- Produced from a recycled, natural and renewable resource.

Basic Instructions for Use

A generic application protocol is available upon request. However, as every bioremediation project is unique, Enretech will work with the client to ensure the most suitable application protocol for a rapid, cost effective and complete site remediation.



Product Code: ENR010

SIZE: 10kg bag
 PALLET QUANTITY: 72/pallet
 BAG WEIGHT: 10kg
 BAG DIMENSIONS (cm): 36 x 12 x 52

Also Available:
 5 kg bag ENR012
 20L pail ENR011

The Remediator hydrocarbon biodegradation process is an extension of the company's highly efficient oil and fuel absorbents. These are made from recycled cellulose by-products from the Australian cotton industry, as the company has a strict policy of not using virgin raw material when existing waste sources can be converted.

The use of certain portions of cotton by-products allowed the use of the indigenous micro-organisms that exist in this special type of cotton fibre. By engineering a complex nutrient system, we have enhanced a natural process where a powerful wicking action effectively 'feeds' the contaminant to the microbes who exist in small, fibrous "active sites". Effective encapsulation of the hydrocarbons means leaching is essentially eliminated.

Refinements over several years of R&D have produced a complex and robust remediation process that transfers easily to different soil types and climatic conditions. However, because application is straightforward and non labour intensive, and relatively little monitoring is required, it is also a very cost-effective process. No genetic modification or bioengineering of the micro-organisms has taken place.

For soil contamination of up to 40,000 ppm of petroleum hydrocarbons, thorough mixing of the absorbent-microbial blend with single moisture addition is usually sufficient for bioremediation to be completed to compliance level within 1 to 3 months. Higher contamination levels may take between two and six months, depending on the type and age of the hydrocarbons, and the soil structure. On average, we see around 82% TPH reductions in 77 days. Hydrocarbon sludges can be remediated with regular tilling, the addition of an organic bulking agent and additional nutrients, but will require further additions of Remediator to achieve the fastest possible results. Detailed application protocols are available from Enretech Australasia, upon request.

Remediator has been used to successfully bioremediate contaminated soils in a variety of projects in Australia and overseas. A list of projects details has been posted on our web site. Most projects involved petroleum hydrocarbons such as used diesel fuel and motor oil, however we have also had good success with treating: fuel oil in New Caledonia (above), oil sludges in Kazakhstan, light sweet crude in Mississippi, and oily sludges in the ACT (Figures 1 and 2). Remediator is used extensively by the mining industry in Australia.

