

RBC 300

Overview

Heavy Industrial waste water

Chemical Industry

Soil Bioremediation

(ketones, alkanes, naphthalene, polyaromatics, solvents, hard COD)

A special blend of microbial cultures selected and adapted to improve their ability to degrade complex chemical hydrocarbons from industrial processes, chemical and drug intermediates, some pesticides and some heavy refinery wastes. This product can improve removal of toxic or difficult to degrade complex mixtures of organic compounds and those containing halogenated hydrocarbons.

Technical description

RBC 300 is a proprietary formulation of selected microorganisms capable of degrading alkyl and polyaromatics, halogenated, chlorinated and nitrated hydrocarbon compounds. The bacterial consortium contained is highly efficient in degrading petroleum oil and is highly adaptable and versatile in extreme conditions.

The production of bio-surfactants enables greater removal and mobilization of hydrocarbons bound to soil particles and other solid surfaces. The biodegradability and lower toxicity of bio-surfactants means a reduced reliance on chemical surfactants. The bio-surfactants produced by the bacteria in RBC 300 form as part of a biofilm on solid surfaces and around oil droplets in water. Bio-surfactant production is a key functionality of RBC 300 that ultimately makes oily hydrocarbons more readily available for biodegradation by the micro-organisms in the product but more crucially to the natural microflora.

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Key features & advantages

Performs within a broad temperature range from between 4°C to 35°C
Can degrade a wide range of alkyl, aromatic and substituted hydrocarbons.
Utilizes alkanes, a type of hydrocarbon in its metabolic process as its source of energy to break down oil into harmless compounds.
The bacteria cultures in RBC 300 produce a bio-surfactant.
Effective for the treatment waste waters containing large amounts of aromatics (eg COD >50,000 mg/l) and land remediation projects (eg TPH >50,000 mg/kg)
Improves maximum rates of organic removal as measured by BOD, COD and TOC.
Provides the ability to degrade a wide spectrum of recalcitrant industrial chemicals.

Physical aspect	Brown free-flowing powder
Packaging	100g water-soluble pouches / 10kg plastic pail 10kg bulk powder
Stability	12 months*
Product pH range	5.5 to 7.0
Product density	0.7 – 0.8g/cm ³
Moisture content	Below 15%
Nutrient content	Biological nutrients and stimulants Humic and fulvic acids
Bacterial concentration	Min 5x10 ⁹ bacterial CFU per g Bacillus (6 species) Pseudomonas (2 species)
Usage conditions	Do not freeze. Take care not to inhale dusts. Avoid excessive skin contact. Refer to SDS

Applications

RBC 300 can be used for multiple applications from waste water and leachate treatments to complex soil remediation projects. RBC 300 can be used in the following areas:

- Soil remediation
- Waste water treatment plants
- Facultative lagoons
- Leachate treatments
- Aerated lagoons
- Collection systems and basins

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Product preparation

RBC 300 may be added directly to the waste influent stream or aerated basin. For toxic wastes or short retention times, re-hydration for between 30 to 90 minutes prior to its addition to a waste system is recommended, using 9L of water per 500g of RBC 100.

For best results, the make-up water temperature range should be between 21°C and 31°C.

Optimum conditions for use

The bacteria in RBC 300 perform within a pH range of between 6.5 and 8.5, with optimum activity near a pH of 7.0. Temperature affects the growth rate of the bacterial population and activity improves with a temperature of between 30°C and 37°C. No appreciable activity can be expected below 5°C and above 55°C.

Storage and handling

- Store in a dry place at room temperature. The recommended storage temperature is within a range of 1°C and 23°C.
- Avoid excessive inhalation.
- Avoid eye contact.
- Wash hands thoroughly with warm, soapy water after handling.

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