

# RemActiv<sup>™</sup>

## Bioremediation Enhancer



RemActiv accelerates the bioremediation of petroleum hydrocarbon contaminated soil.

RemActiv contains natural surfactants and a specially formulated nutrient mix that result in faster remediation times and cheaper processing costs.

RemActiv is supplied as a liquid concentrate (20:1) and can be simply applied using a water truck or hand sprayer.

RemActiv has been independently proven and used at a number of sites with outstanding results by the likes of Pacific National and Fortescue Metals Group (FMG). Most recently, RMIT University evaluated the efficacy of bioremediating Total Petroleum Hydrocarbons (TPH) using RemActiv, their findings summarised in Figure 1 showed a 50% increase in degradation of TPH over a 28 week period using RemActiv vs natural attenuation.

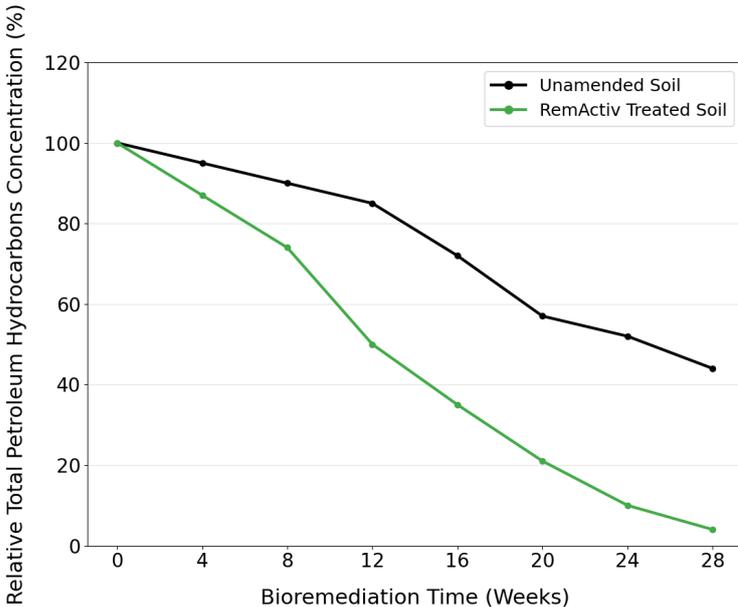


Figure 1: RMIT University study showing a 50% increase in degradation of TPH using RemActiv vs natural attenuation

Element	%
Nitrogen	20
Phosphorus	2
Potassium	1
Sulphur	2.4
Zinc	0.5
Calcium	0.4
Manganese	0.4
Magnesium	0.2
Iron	0.1

Table 1: Nutrients designed for stimulating and enhancing the growth of local/indigenous micro-organisms

### Benefits

- Faster bioremediation times
- Easy and quick to apply
- Cheaper than standard fertilizers
- Reduced freight costs

### Features

- Convenient liquid concentrate (20:1)
- Available in 20 L, 200 L or 1000 L containers
- Nutrients optimised for microbial growth
- Used to degrade aliphatic and aromatic hydrocarbons

### Applications

- Bioremediation
- Emergency spill response
- Biofarming
- Organic waste treatment

# RemActiv<sup>™</sup>

## Bioremediation Enhancer

### Shelf Life, Storage, Transport, Handling and Safety

- Shelf life: Unlimited
- Storage: Keep out of direct sunlight
- Temperature tolerance: 2 to 50 °C (storage and use)
- Mix well before use
- Classified: Non Dangerous Good - Non Hazardous
- Precautions: S25 – use protective eye wear and gloves when handling
- Safety - It is the user's responsibility to handle and apply RemActiv safely. Please refer to SDS

### Important Site Parameters For Successful Bioremediation

- Soil type, porosity and moisture content
- Type and level of contaminants
- Regulatory targets
- Available oxygen
- Consistency and method of application

### Product Specifications

- Specific Gravity: 1.16g/mL
- Bingham Yield Stress ( $\tau_{yB}$ ): 0.291 Pa
- Plastic Viscosity ( $\eta_{pB}$ ): 0.0061 Pa.s

### Application Rates

Suggested application rates described in Table 2 are for the diluted form of RemActiv.

The recommended dilution rate for RemActiv is 20:1 with non-chlorinated water; however some users have reported success with dilution rates as low as 1:100.

In certain cases where low dose rates over a given area are required, it may be easier to achieve even and consistent application by using higher rates of dilution.

Application rates referred to in Table 2 are suggested as a guide only. Many site variables will impact upon the application rate and ongoing use should be adjusted according to analytical results obtained during the bioremediation process.

Table 2: RemActiv Application Rates

Application	TPH Contamination		Application Rate Dilution : 20:1
Land Farms	Low	<5,000 mg/kg	0.5 L/m <sup>2</sup>
	Medium	5,000 to 25,000 mg/kg	1.75 L/m <sup>2</sup>
	High	>25,000 mg/kg	3.0 L/m <sup>2</sup>
Biopiles	Low	<5,000 mg/kg	10 L/m <sup>3</sup>
	Medium	5,000 to 25,000 mg/kg	42.5 L/m <sup>3</sup>
	High	>25,000 mg/kg	75 L/m <sup>3</sup>
Spill	Low	<5,000 mg/kg	0.25 L/m <sup>2</sup>
	Medium	5,000 to 25,000 mg/kg	0.625 L/m <sup>2</sup>
	High	>25,000 mg/kg	1 L/m <sup>2</sup>



RemActiv being used to degrade hydrocarbons from fuel spills at a mine site in Western Australia