

# Product Information

## BIOCLEAN

Bio remediation liquid used to degrade a wide variety of hydrocarbons in soils and waste waters.

### Introduction

Oils and greases can build in soil and effluent water over time. Until recently, these could only be removed with great difficulty and expense.

### Description

BIOCLEAN contains a unique blend of specialised microorganisms that have been developed specifically for the breakdown of hydrocarbons and phenols from soil and effluent water: a process called bioremediation. The product is simply applied to the soil or the wastewater as detailed in the use directions below.

**At Chemform we care about the environment, our community and your safety by providing environmentally responsible products. The CHEMFORM GREEN range of products provides performance, quality and safety, as well as environmental sustainability by meeting our strict criteria:**

- 1. Products containing detergents must use only those classified as readily biodegradable.**
- 2. Whenever possible, products made from plant based renewable resources are selected.**
- 3. Our CHEMFORM GREEN range contains no phosphates, oil-based hydrocarbons, chlorine, chlorinated hydrocarbons, carcinogens, alkyl phenol ethoxylates or heavy metals.**
- 4. Our CHEMFORM GREEN range is safe to use. Products must be classified as non-hazardous and non-dangerous.**
- 5. Industrial degreasers will be quick-breaking according to our stringent definition.**
- 6. Waste will be minimised as we believe that the biggest environmental burden on the Earth is waste. All packaging used in the CHEMFORM GREEN range is recyclable, and can be returned to Chemform for processing.**

**For more information visit [www.chemform.com.au/green](http://www.chemform.com.au/green)**

**If you care about the environment continue to choose CHEMFORM GREEN!**

## Features and Benefits

- Cost effective solution that can be used on a variety of hydrocarbons (oils, grease, diesel, petrol, kerosene, phenols, detergents, alcohols, etc.).
- Non hazardous. Does not contain pathogens.
- Environmentally safe.
- Provides a complete solution that significantly reduces clean-up costs.
- Made in WA to maximize shelf life and suit our harsh conditions.

## Use Directions

### Ideal Conditions

Bacterial degradation takes time (1-6 months) depending on a number of environmental variables. Best performance is obtained by ensuring the contaminated soil or water is within the following parameters:

Parameter	Optional	Suitable Range
Temperature	20 – 35 C	15 – 45 C
pH	6 – 8	4 – 10
Soil Moisture	Damp (15 - 20%)	15 – 20%
Chlorine	Nil	Nil

- We recommend the use of bicarbonate of soda (sodium bicarbonate) to increase pH of soil and water as it will produce a pH most suitable for multiplication of bacteria. Products such as lime, caustic and soda ash may produce very high localised pH which will adversely affect the bacteria. pH can be adjusted down by using a non-nitrogen based acidic fertilizer such as Alum (aluminium sulphate). If any adjustment needs to be made to the soil, mixing of the soil is required to ensure even dispersion.
- Water used for dilution and wetting can be dechlorinated by exposing to sunlight for 24 hours or addition of sodium thiosulphate.

### Contaminated Soil

1. Prepare the contaminated area by ploughing the soil to the depth of contamination. If this is not possible, drill holes through the contaminated plume and flood with the BIOCLEAR solution.
2. Apply 500mL of BIOCLEAR per cubic meter of contaminated soil with sufficient dechlorinated water to provide full coverage. If the contaminated soil repels the BIOCLEAR solution, treat the contaminated soil first with Chemform's SUPERWET soil wetting agent.
3. Re-apply BIOCLEAR weekly as per step 2 until contamination has been eliminated.
4. Following watering or rainfall, re-aerate the soil by ploughing.
5. Test the hydrocarbon residues monthly and adjust application rate depending on results obtained.

### Effluent Wastewater

1. Remove as much floating oil/hydrocarbon from the surface of the water.
2. Apply 500mL of BIOCLEAR per 10000L of contaminated water as the initial dose. This can be applied by mixing with sufficient dechlorinated water to provide good coverage and then sprayed over the surface or added directly to the water body.
3. Re-apply BIOCLEAR weekly as per step 2 until the contamination has been eliminated.

### Monitoring of Performance

The performance of the product is dependant on a number of factors including oxygen concentration, nutrient concentrations, pH, moisture and temperature.

### Independent Test Results

An efficacy trial was conducted using BIOCLEAR applied to sand contaminated with used engine oil. The BIOCLEAR was applied to one bed of contaminated sand and the other contaminated bed of sand was left untreated as a blank for comparison. The test beds of allowed to sit undisturbed for 3 months. The independent test results overleaf prove the effectiveness of BIOCLEAR.

The rate of effectiveness is expected to increase with ploughing (oxygenation), watering and regular application of BIOCLEAR.

## LABORATORY REPORT

ARL Lab No: 29452-54  
Date: 04 March 2009

CLIENT: ChemForm  
PO Box 188  
TUART HILL 6060

ATTENTION: Jason Domenech

SAMPLE DESCRIPTION: Two soil samples as received for analysis of total petroleum hydrocarbons in soil.

DATE RECEIVED: 18 November 2008

PURCHASE ORDER: 48476

METHOD REFERENCES:

Total Petroleum Hydrocarbons in Soil

ARL No. 010

### Total Petroleum Hydrocarbons

Date Extracted 20/11/2008  
Date Analysed 21/11/2008

ARL Lab No	Sample Marks	C <sub>6-9</sub>	C <sub>10-14</sub>	C <sub>15-28</sub>	C <sub>29-36</sub>	C <sub>&gt;36</sub>
		mg/kg				
	<b>Method Detection Limit</b>	0.2	0.2	0.4	0.4	0.4
29452	3 months after Bioclean applied to oil on sand	< 0.2	< 0.2	6100	7400	2800
29454	Blank – oil on sand after 3 months– Bioclean not used	< 0.2	< 0.2	11000	13000	5200
29454Dup	Blank – oil on sand after 3 months– Bioclean not used	< 0.2	< 0.2	11000	13000	5300

## Safety Information

Refer to our product safety information sheet (PSIS) for more information or consult your Chemform representative for further assistance.

## Packages

20L containers.