

# Soil RX “The Hydrocarbon Solution”



**Product Overview** Soil Rx utilizes a new approach to solving soil and water hydrocarbon contamination problems. Specifically formulated for safe, effective and environmentally friendly applications, **Soil Rx** utilizes a blend of Polyelectrolyte Enhanced Bio-Polymers, highly concentrated live, hydrocarbon-oxidizing bacteria, and a readily biodegradable natural amino acid complex consisting of a nutrient-rich extract with a broad-spectrum package of identifiable amino acids and other proteins. This triple action product works together synergistically to degrade hydrocarbons with minimal use of equipment, labor and cost. **Soil Rx** is a low-cost liquid, making it an easy-to-use, cost effective means to eliminate hydrocarbon contamination problems within various types of industry. **Soil Rx** is an excellent product to remediate hydrocarbons in soil and water. It is effective on gasoline, jet fuels, diesel fuels, grease, tar, motor oils, crude oils, organic solvents, etc.

**Application Methods** Soil Rx is a liquid concentrate that must be diluted prior to use. **Soil Rx** can be sprayed after dilution using standard spray application equipment including but not limited to hand sprayers, mechanical sprayers, water trucks, fire or emergency response equipment, pressure washers, aerial spray equipment, soil injection, well injection, wastewater injection, etc.

**Soils Applications:** Mix and saturate diluted mixture with contaminated soils thoroughly for maximum performance. For shallow/surface contamination, drench affected areas with enough dilution to fully saturate the soil using normal spray equipment or water trucks. For general contamination less than two feet, contaminated soil may require tilling or excavation to properly mix concentrate/water dilution into soils. For deeper contamination greater than two feet, product application can be applied through boring-n-pour method, soil injection, or on-site soil land farming and/or bio-piling.

**Water Applications:** For contaminated water such as marshes, shorelines and open water with floating hydrocarbons, apply dilution directly to the contaminated areas using appropriate spray equipment or water cannons. For wastewater systems, contact 3 Tier Technologies directly for appropriate treatment methods.

**Application Rates** Soil Rx must be diluted using 1 part concentrate to 10 parts clean water prior to use. Product can be diluted up to 100 parts water as directed for specific applications. Application rates are determined by level of contamination, area of application, and speed required for cleanup. Specific application rates are determined prior to sale by the manufacturer and/or distributor.

**Soil:** Standard application rate for contaminated soil is one gallon (5 liters) 10:1 diluted product per cubic yard (meter) of soil.

**Water:** Normal application rate for water applications is three gallons (12 liters) 10:1 diluted product per 1000 sq. feet (93 sq. meters) of contaminated surface area. Wastewater systems will receive application rates between 5 and 100 PPM of the average GPD or system volume.

**Technical Information** Soil Rx contains naturally occurring, single-celled, hydrocarbon-oxidizing microorganisms; a biodegradable natural amino acid complex consisting of a nutrient-rich extract with a broad-spectrum package of identifiable amino acids, coenzymes, and other proteins in a blend of organic bio-polymers.

**Product Effectiveness:** The effectiveness and “speed” of this product is determined by several factors. In general, these factors are:

**Temperature:** Optimum performance temperatures range from 40°F (5°C) to 98°F (36°C).

**pH:** Maximum performance range is 5 – 9, acceptable range is 4 – 10.

**Soil Moisture:** Optimum soil moisture is 15% to 20% moisture content.

**Remediation Speed:** Factors that influence speed of process include type, level, depth, and age of contaminants as well as method of applications, regulatory standards, and urgency.

**Performance Tips:** Various strategies may be used to maximize performance like application rate & frequency, the addition of aeration, and method of application.

**Shelf Life:** Properly stored unopened containers have a shelf life of 2 years, 1 year after opening.

**Benefits:** Cost Effective In-Situ Method  
No Dig-N-Dump Costs for Contaminated Soils  
“Green” Remediation Technology  
Significant Labor & Application Cost Savings  
Can be Used Through Multiple Application Methods

**For more information Contact:**





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

NOV 17 2010

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OFFICE OF  
SOLID WASTE AND  
EMERGENCY RESPONSE

Dear Mr. Burdette,

Thank you for providing the technical product data required by the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300, on your product "Soil Rx (aka, Bio-Regen Hydrocarbon)." After conducting our review, your data submissions have satisfied the requirements contained in Title 40 of the CFR section 300.915 of the NCP. "Soil Rx (aka, Bio-Regen Hydrocarbon)" will be listed on the NCP Product Schedule under the Bioremediation Agent category and may be authorized for use by Federal On-Scene Coordinators in accordance with 40 CFR section 300.910. The technical data for this product will be kept on file by the Office of Emergency Management Regulation and Policy Division Oil Program Center pursuant to 40 CFR section 300.920.

Enclosed are some of the relevant provisions in the NCP on restrictions regarding the listing of your product. Please note, you are required to notify the Environmental Protection Agency (EPA) of any changes in composition, formulation, handling procedures, or application of your product. Based on this notice, EPA may require retesting of the product.

Also, note that the listing of "Soil Rx (aka, Bio-Regen Hydrocarbon)" on the NCP Product Schedule does not constitute approval, certification, authorization, licensing or promotion of the product; nor does it imply compliance with any criteria or minimum standards for such agents. Failure to comply with these restrictions or the making of any improper reference to EPA in an attempt to demonstrate approval or acceptance of the product will constitute grounds for removal of the product from the schedule.

Please review the enclosed information and contact Ms. Leigh DeHaven in the Office of Emergency Management at (202) 564-1974 if you have any corrections or questions.

Sincerely,

A handwritten signature in black ink that reads "R. Craig Matthiessen".

R. Craig Matthiessen, Director  
Regulation and Policy Development Division  
Office of Emergency Management