PTBAC

PETROLEUM TREATMENT BACTERIA

Petroleum Treatment Solution Bacteria for Petroleum Hydrocarbon Bioaugmentation

Benefits Include

Improves degradation of hydrocarbons

Supplements and improves existing native bacteria proliferation

Economical solution compared to other available products

100% soluble for better injection ROI

Applications

Soil Mixing: Excavation and treatment of impacted soils for backfill or off site use

In-Situ Bioremediation: Direct push injection in groundwater

Soil bio piles and land farming

Combined with petroleum degrading bacteria in bioaugmented treatment approach

Crude Oil and Refined Fuel Spills in oceans, rivers, and on-land

Combined with non-toxic non-ionic surfactant to improve emulsification of residual non-aqueous phase liquids

Target Contaminants

Petroleum Hydrocarbons:
BTEX-
Benzene, toluene, ethylbenzene, xylenes
MTBE-
Methyl tert-butyl-ether
GRO- Gasoline Range Organics
DRO- Diesel Range Organics
ORO- Oil Range Organics

Polycyclic Aromatic Hydrocarbons (PAHs)
Naphtalene

PTBac™ contains a blend of facultative bacteria specifically chosen for the petrochemical industries applicable to both aerobic and anaerobic conditions. This product provides a significant boost to biodegradation when combined with PTS™ to reduce time to reach treatment goals and overall costs of remediation operations.

Product Specifications:	**Optimal Conditions:**
Hydrocarbon Bacteria Consortium	
Coliforms <10 CFU/g	
Temperature 50-120°F	70-104°F
pH Range of application 4.5-9.0	6-8

Mixing and Application:

Surface Applications: May be applied directly to soil, sludge or affected area and hydrated during mixing to achieve a minimum of 30% water moisture.

Injection Applications: Mix clean water with concentrate and inject into the soil or groundwater zone. Repeat as needed to achieve desired results. For optimal hydration of the bacteria, wait a minimum of 30 minutes after mixing with water but no longer than eight hours. Be sure to use non-chlorinated mixing water with neutral to slightly alkaline pH.

In the case of surficial spills of oil and refined fuels on land, in rivers or other surface water bodies, PTBac™ hydrated solution is sprayed directly onto the oil and petroleum hydrocarbons to promote aggressive biodegradation.

Combine with PTS™:

Can combine with PTS™ or PTS Advanced™ in most applications but can also be applied in mechanical remediation systems such as SVE, DPE, MPE and Air Sparge because those systems help induce oxygen and the bacteria benefit from additional nutrients of PTS™ and PTBac™ to increase the rate of biodegradation resulting in faster cleanup.

Safety:

It is safe to aquatic ecosystems, humans, and other living organisms and is ideal for sustainable rejuvenation of soil for reuse in the environment. It is non-toxic, non-caustic, non-acidic, non-pathogenic, non-GMO and is biodegradable.