

## Environmental Product Innovation **Liquid Remediate™**



### Summary

Liquid Remediate™ from the EnviroLogic SpillAway Brands™ range of bio-remedial probiotic products for industrial & commercial hydrocarbon contamination clean-up.

- Removal of hydrocarbon contamination
- Environmentally friendly
- Easy to use
- Low cost

Using Liquid Remediate™ can significantly reduce the carbon footprint of dealing with hydrocarbon contamination as it may be used in-situ to eradicate the contamination without posing a threat to the environment. By augmenting the natural process of bio-remediation, Liquid Remediate removes the hydrocarbons, leaving just water and very small traces of inert gases.

Liquid Remediate™ is provided as a concentrate so the impact on carbon footprint and actual costs for transport, storage and handling is low. The product has the ability to bio-remediate most hydrocarbons with a minimum amount of equipment, labour and costs and it will cover a broad range of contamination projects as it can be used both in situ and ex situ in either soil or water. The product is simple to use, requiring no additional PPE than needed for the contamination, so the problem can be solved in-house for most industries.

In addition to using on its own, Liquid Remediate™ can also be used in conjunction with other products in the SpillAway Brands range which are similarly environmentally friendly and provide additional benefits such as:

- Immediate absorption of the hydrocarbon odor
- Breakdown of long chain hydrocarbons, PAHs, PCBs, reduce Heavy Metals

Liquid Remediate™ is a versatile and modern product which solves a contamination problem with due consideration to maintaining the environment.

### How is the product different from what is already on the market? What are its unique features/applications?

Liquid Remediate™ is unique due to a combination of features:

- Used for bio-remediation of hydrocarbons in both soil and water
- Contains beneficial probiotic live bacteria
- Long shelf life (unopened product at least 2 years)
- Minimal requirement for labour, equipment and cost
- Can be used in-situ or ex-situ
- Environmentally friendly
- Low hazard

What sets Liquid Remediate™ apart from most chemical solutions (which are hazardous) is that it can be used in situ with minimal concerns for safety and environmental impact. What sets it apart from solutions using enzymes is that the bacteria in Liquid Remediate™ not only produce enzymes, but also remediate the contamination, so the bio-remediation is a continual probiotic process. Also, in comparison with services offering to bio-remediate hydrocarbons by aerating the soil, using Liquid Remediate™ is faster and considerably much less costly, particularly in terms of the equipment and manpower required.

Liquid Remediate™ simply requires the product to be diluted, then added to the soil or water by the most appropriate method (eg Geoprobe injection; Pressure spraying; Land Farming etc), the soil should be kept moist and possibly turned over after 30 days. Liquid Remediate™ should clean-up the toughest contamination within 60 days leaving water and some traces of inert gases.

Because Liquid Remediate™ has a low hazard rating as a concentrate, and when diluted at the standard rate of 10:1 with water the hazard category is negligible, there is no requirement for specialist PPE other than that is required for the contamination hazard.

#### What does it do and what environmental benefit does it deliver?

Liquid Remediate™ harnesses the natural process of bio-remediation which “digests” hydrocarbons leaving water and small amounts inert gases as by-products. There is bacteria present in soil which will naturally digest hydrocarbons. However, this process normally takes a very long time if left to nature simply because there is not enough of the correct bacteria present or the indigenous bacteria are overwhelmed by the amount of toxins from the contamination.

Liquid Remediate™ holds the relevant bacterial cultures in suspension until ready to use on a spill. By adding water and agitating the diluted mixture the bacteria are activated and produce a biomass in the soil which digests the hydrocarbons. This process takes 30-60 days.

The environmental benefit of using Liquid Remediate™ is that the product is merely augmenting a natural process – just doing what nature does only more quickly with the proper bacteria for the job. Being able to deal with hydrocarbon contamination in situ means that the organization is able to keep the contamination where it occurred rather than transport it off site. The transporting from Point “A” to Point “B” only serves to contaminate a second site & adds to the carbon footprint.

As the company where the problem originated is able to solve their own contamination issue using Liquid Remediate™, instead of resorting to a third party, it helps to foster a responsible attitude towards maintaining the environment. The product itself is bio-degradable and produced from sustainable sources.



### How broad is its reach across business sectors and/or scalability?

The types of applications that Liquid Remediate™ are varied, and scalability is impressive when used with compatible products from the SpillAway Brands™ product range. But the biggest factor for its reach across business sectors is that it can save a lot of money in comparison with other clean-up solutions – some examples:

- Transformer oil which has seeped into shallow earth in gardens
- Heating oil spills up to 1m deep (with Dry Remediate™ to absorb smells and start the remediation process)
- Industrial sites where heavy oils have been spilled and seeped into deep ground (with Dry Remediate™; HC™ either for soil or for water to breakdown long-chain hydrocarbons)
- Housing development sites (with Dry Remediate™; HC™)
- Farmland where oil pipes have been broken and seeped oil into the ground (

Liquid Remediate™ can be used wherever there have been fuel spills, oil spills, oil leakages that have penetrated the ground; anything from small household kerosene leaks to complete pipe burst situations or major spills. Used in conjunction with other products for breaking down heavy oils or bunker fuels, Liquid Remediate is used at refinery sites to clear spillage in reed beds.

### How easily can the product be installed/retrofitted?

Because the product is a fluid it is simple to use and there is very little disruption of surrounding non-contaminated areas. And after bio-remediation is completed the environment is virtually restored to its pristine condition.

For in-situ projects if space is tight the product can be applied manually – the solution is all about getting the product mixed into the soil and keeping it moist.

For ex-situ projects the soil can be applied with standard spray or farm equipment. Or simply added to a contained & banded area, keeping the soil moist, where the Liquid Remediate will bio-remediate, removing the contamination.

Projects vary in scale and size, Liquid Remediate™ is used by many parties to treat and remove hydrocarbon contamination in a simple and highly effective manner.

[www.spillaway.com](http://www.spillaway.com)

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