

Invert Cutting Remediation fluid can remove >99% of all hydrocarbons from cuttings which enables land spread of in-organics or for use in road way construction.



RAW's Invert Cutting Remediation formula reduces transportation and landfill costs and its' active micelle ingredients are repeatedly re-used before losing their strength.

### RAW Biochem Is

- Readily Biodegradable
- Non-Reactive
- Non-Toxic
- Non-Corrosive
- Non-Hazardous
- Not Flammable
- Contain No VOC's

### RAW Biochem Products Do NOT Contain

- Petroleum Distillates
- Glycol Ethers
- Caustics
- Ozone Depleting Agents
- Nonylphenols
- Endocrine disruptors

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

This effective treatment includes a combination of surfactants and solvents which break long chain molecules making rapid separation and hydrocarbon recovery easy to enact.

RAW's Invert Cuttings Remediation Fluid is ideal for use at all drilling locations where cuttings must be secured and disposed of as hazardous goods. It is also an ideal product to be used at a central facility as Invert Cuttings Remediation Fluid can be repeatedly used and recycled without significant loss of efficiency. In the event that strength of solution appears to be less than originally designed, the addition of more concentrate will bring fluids back to their full capacity to fully clean invert cuttings.

Resulting remediated tailings can be safely applied as roadway fill, for inclusion in concrete products or safely spread over land surfaces.

Biodegradable and made with domestically sourced renewable plant-based materials, RAW Invert Cuttings Remediation Fluid is an extremely effective cleaner that remediates all form of invert cuttings by separating hydrocarbons entrained in the cuttings.

Alternatively, RAW's innovative surfactant-enhanced technology enables chemical oxidation to address the contaminants and hydrocarbons contained in the invert cuttings with a resulting >99% reduction in LNAPL & DNAPL. The resulting by-products include oxygen gas, water and small amounts of CO2. The process renders the now remaining short chain hydrocarbons easily digestible to resident bacteria.

## TECHNICAL DATA SHEET

### Description

Invert Cuttings Remediation formula is a super-concentrated blend of readily biodegradable ingredients derived from domestically grown sources. Product easily separates and lifts organic and refined hydrocarbons from cuttings which enables land spreading of inorganics as an alternative to conventional landfill and disposal methods

The active ingredients are safe to use on all substrates and will not damage steel, glass, fiberglass or plastic.

### Physical State

### Liquid

Colour	Amber
Odour	Mild
pH	8.0 – 9.8
Base	Plant Extracts
Persistence & Degradability	Readily Biodegradable

### Directions for Use

Invert Cuttings Remediation is formulated as a water miscible product for the removal of refined and unrefined hydrocarbon constituents.

1. Select appropriate dilution rate according to site requirements.
2. Dilute with 1-part product to 50 up to 250 parts.
3. Heated fluids will accelerate hydrocarbon separation and demulsification.
4. Combine cleaning solution with dirty cuttings.
5. Agitate thoroughly.
6. Separate liquid and solid phases
7. Rinse cuttings with fresh water
8. Test resulting solids for hydrocarbon contaminants.

9. Change dilution rates by adding more product to diluted fluids if solid cuttings not adequately cleaned.

### C.H.A.T.

**Chemical:** Unlike typical petrochemicals, RAW formulations may not perform as well with higher concentrations of product than they would with higher dilution rates. In a new process or application, trials are strongly recommended to achieve the correct chemical concentration.

**Heat:** The optimum temperature ranges from 43°C – 80°C. Product can be used in steam applications up to 490°C (540°F).

**Agitation:** Where applicable, agitation aids in dislodging soils from surfaces so they can be rinsed away.

**Time:** Dwell time is dependant on the application, heat and chemistry but generally speaking, longer dwell times enable more satisfactory results.