

Carbon Remover is designed to make short work of separating and removing coke deposits from all manner of piping, exchangers and infrastructure without damage to substrates.



The proprietary Carbon Remover separates & lifts carbon molecules off of all substrates and enables safe and easy carbon sludge removal.

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

Carbon Remover is a proprietary, safe-to-use nano-formulation designed to separate tight carbon bonds from adherence to all manner of substrates.

The now separated coke will not re-adhere and is easily removed from the vessel. Coke Remover negates the need for caustics, mechanical separation equipment or man-entry removal processes.

Carbon Remover Benefits:

- 25 – 60% reductions in turnaround time creates increased operating up-time and commensurate revenue bumps.
- Minimizes or entirely eliminates the use of pigs or other mechanical carbon separation devices.
- Will not damage, scar, pit or blemish aluminum, stainless steel or other ferrous and non-ferrous metals or synthetic surfaces.
- Leaves behind a nano-emulsion adhered to substrate to extend times between carbon removal cycles.

Carbon Remover formulation is:

- Dilutable with fresh, produced and salt water or with diesel fuel, HVGO etc.
- Product is Non-flammable and contains no Volatile Organic Chemicals (VOC's)

Additional benefits of its ZERO hazard, super-concentrated formulation:

- Work safe costs, safety equipment and liabilities are reduced
- Handling/transportation, storage & disposal costs are decreased.
- Minimized disposal costs for spent product.

TECHNICAL DATA SHEET

Description

RAW's Carbon Remover is a concentrated blend of readily biodegradable ingredients which revert back to their original state when in contact with naturally occurring micro-organisms, oxygen and water.

In its diluted form, product is compatible with all surfaces and will not harm or damage substrates.

Physical State

Liquid

Colour	Amber
Odour	Soapy Odour
pH	9.3 – 9.8
Base	Plant Extracts
Persistence & Degradability	Readily Biodegradable

Directions for Use

Product formulation is a super-concentrate. Product efficacy is activated by dilution with fresh, produced or salt water or with diesel fuel, HVGO etc.

Product use strategy is dependent on:

1. Dilution Medium:

- The thickness of deposits and how loose or tightly adhered to substrate the carbon deposits are will determine which dilution factor will obtain the best results.
- Always test dilution strength prior to cleaning process.
- a) **Water Dilution** will range from 10 – 100 parts water to 1-part product.
- Produced water will require a lower dilution rate than fresh water. The dilution variable is dependent on the hydrocarbon concentration in the produced water.
- b) **Diesel dilution** will range from 25 – 200 parts

diesel to 1-part product.

2. **Temperature** is an essential ingredient in removing coke. Process fluid temperature combined with the dilution strategy will determine speed of separation.
 - a) Recommended fluid temperatures range from 71° – 220°C (160° to 430°F). Higher temperatures will accelerate carbon removal.
 - b) If used in conjunction with steam, product may be added prior to, or after the burner.
3. **Agitation:**
 - a) Vertical surface: Apply product with broom, brush or pressure washer and allow to dwell. Continue application of product to keep surface wet at all times.
 - b) Pipelines, vessels & exchangers should have diluted product aggressively recirculated with turbulent flow until satisfactory results are achieved.
4. **Dwell Time:**
 - a) It is critical to recognize that depth and volume of coke adhered to substrate will determine dwell time.
 - b) Vertical surfaces may require longer dwell times. The inability for liquids to remain in-situ will require reduced dilution rates and may also require re-application.

Test dilution rates, temperature, agitation levels and dwell time in lab or on-site prior to coke removal process.

Contact your RAW representative or distributor for further assistance in determining optimum results and application methods for your application.