

## THE CHALLENGE

Traditional methods for removing foulants and decontaminating vessels often involve utilizing high volumes of liquid-based solvents and/or mechanical removal through confined space entry. These methods can be inefficient, require significant downtime, and pose higher safety risks.

Utilizing vapor phase cleaning techniques, **RTI Upstream's OutRigger can reduce vessel downtime for cleaning and decontamination by up to 90%.**

OutRigger is a customized aromatic hydrocarbon blend with a non-ionic surfactant package, designed to dissolve and mobilize organic solids using vapor phase cleaning techniques. It effectively removes hydrocarbon foulants commonly found on offshore facilities, such as asphaltenes, paraffins, and hydrocarbon-based sludge. Additionally, it helps mobilize non-organic foulants, like sand, by eliminating the hydrocarbon binders that cause build-up.

## OUTRIGGER BENEFITS

The aromatic solvent package in OutRigger is optimized to dissolve and mobilize destabilized asphaltenes, while also tackling paraffin and other hydrocarbon-based foulants.

The elevated flash point of ~145°F allows for safer handling and heating facilitating faster penetration and significantly improving the foulant dissolution rate.

OutRigger is compatible with all metallurgies, making it ideal for use in a variety of turnaround and routine maintenance applications.

Traditional Method vs RTI's Vapor Phase

Benefits	Traditional Cleaning Method	Vapor Phase Cleaning with OutRigger
Speed	✗	✓
Safety - No CSE	✗	✓
High Flashpoint (vs. xylene)	✗	✓

## APPLICATION CONSIDERATIONS

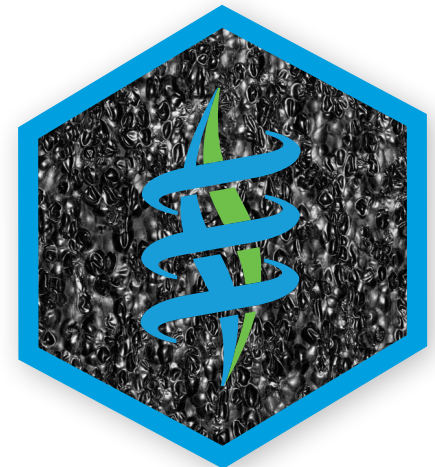
In many cases, OutRigger's effluent can be managed through the platform's processing equipment. However, confirmation testing and system limitations should be considered during the planning phase of the job.

OutRigger can be injected with steam and used in the vapor phase or liquid phase circulation processes. Steam injection is required to remove foulants, while nitrogen or other gases can be used as carriers for the removal of LEL/H<sub>2</sub>S.

## ADDITIONAL PRODUCT FEATURES

### WHEN IMPLEMENTING OUTRIGGER AS A BEST PRACTICE:

OutRigger is an inherently biodegradable, hydrocarbon-based cleaner and degreaser, formulated from aromatic hydrocarbons with a non-ionic additive package.



**Improve timelines and simplify the cleaning process in offshore facilities.**

