

Company Overview

We have been offering expertise and products for refinery and chemical plant maintenance, operations, and environmental needs since 1991.

Our main focus is providing procedures for (and supervision of) chemical cleanings in order to prepare entire process units for turnaround maintenance (or for long-term lay-up or closure).

In today's constantly expanding oil and gas industries every minute of production time is necessary to fulfill production requirements. Lost production time means lost revenue. With this in mind, we have developed a chemical cleaning process that can be completed in less than 24 hours, and leaves the entire unit gas-free and ready for hot work. The proprietary buffered cleaning solution we use is non-corrosive and can be drained directly to the plant sewer (with no ill effect on the wastewater treatment plant).

As a consulting firm (not a contractor) we will provide the best procedure to clean a particular process unit, and work with the plant's staff (or a qualified contractor) to complete the project successfully.

We have developed procedures for and supervised chemical cleanings of process units of many types, including:

- ◆ Atmospheric Crude Distillation
- ◆ Gas Oil Fractionator
- ◆ Distillate Fractionator
- ◆ Vacuum Crude Distillation
- ◆ Visbreaker
- ◆ Visbreaker Vacuum Flasher
- ◆ Delayed Coker
- ◆ Flexicoker
- ◆ FCC
- ◆ Cat Poly
- ◆ HF and Sulfuric Alkylation
- ◆ Naphtha Hydrotreater
- ◆ Hydrocracker
- ◆ Platformer

References are available for each of these projects.

The EnvTech Process

In general, each process unit is cleaned by recirculation of ETI Cleaning & Gas Freeing Solution™ using the unit's pumps. All vessels and exchangers are liquid filled except for large columns such as main fractionators or isostrippers, which are cascaded. The solution is heated to a temperature range of 180°F to 200°F using process unit reboilers, furnaces, and/or direct steam injection. The goal is to provide adequate flow through the entire system while minimizing the amount of temporary connections and blinding required prior to the start of the cleaning.

Heavy Oil Units

In process units or equipment containing atmospheric resid or heavier hydrocarbon, a refinery cutter stock containing a proprietary surfactant additive is re-circulated and heated to as high a temperature as is safe with the cutter stock used (up to 350° F). This mixture is drained to slop tankage prior to re-circulation of ETI Cleaning & Gas Freeing Solution™. The surfactant additive does not stabilize slop tank emulsions (and can help to break them.) The goal of this additional step is to remove the bulk of the heavy hydrocarbon prior to the water-based cleaning. This method provides nearly total recovery of the hydrocarbon value.

ETI Cleaning & Gas Freeing Solution™

Our proprietary ETI Cleaning & Gas Freeing Solution™ utilizes a strong buffer system in combination with appropriate chelants and surfactant in order to: neutralize polythionic acids on contact, dissolve all scales found in nearly any refinery process unit, and emulsify any hydrocarbon residue contained in a system. The mixture also renders pyrophoric substances inactive and has proven excellent for polymer removal. Additionally, Benzene and other regulated air contaminants have been absent from the vapor spaces of vessels opened after these cleanings.

ETI Cleaning & Gas Freeing Solution™ is effective, non-toxic, non-flammable, non-hazardous, and non-corrosive. It does **not** make **stable** emulsions. Any emulsified hydrocarbons can be recovered in the refinery's API separator and in most locations the solution can be drained directly to the plant sewer with no ill effect on the wastewater treatment plant. Thus, ETI Cleaning & Gas Freeing Solution™ not only saves valuable time, but also virtually eliminates waste disposal costs. Please contact us for a free estimate at (916) 455-9690 or e-mail at info@envtechinc.com.