

# Chemical Cleaning Services

## Fact Sheet

Chemical cleaning is an efficient, cost-effective way to remove corrosion, deposits, residual oils/grease, and other obtrusive contaminants from tainted surfaces. This process is used for passivation to eliminate fouling, oxidation, process system corrosion, and decontamination of process lines and vessels.

## Comprehensive Analysis

Each chemical cleaning process Clean Harbors performs begins with a comprehensive analysis to determine the techniques best suited for the application. Whether in the form of liquid, foam, vapor-phase cascading, or circulation, we incorporate the proper chemistry to eliminate deposits and scaling by identifying, through bench testing, materials that are compatible with the integrity of the system being cleaned. Customers profit from reduced downtime and less process variation.

## Chemical Cleaning Treatments

Clean Harbors commonly uses the following cleaning treatments:

- Alkaline/solvent wash for hydrocarbon sludge removal from process equipment
- Acid/chelant treatment for scale build-up on the inside of pipes and tubes in boilers or cooling water service
- Safe and non-toxic form of enzyme based chemical cleaning

## Improved Effectiveness for all Cleaning Projects

Clean Harbors is equipped with portable boilers and heat exchangers that can be utilized to improve the effectiveness of any cleaning project. In some cases, generated waste can be conditioned on-site during the cleaning process to meet on-site treatment capabilities of our customers.

## Variety of Equipment

Clean Harbors' vast array of equipment includes chemical blending / circulating units, filtration units, heating units, injection units, and high volume pumping equipment.



## Applicability to a Wide Array of Industrial Settings

Through our service center network, Clean Harbors professionals routinely apply chemical cleaning in the following industrial settings:

- Boilers
- Cooling system de-fouling
- Destruction of Legionnaires bacteria
- Heat exchangers
- Passivation processes
- Pickling processes
- Refrigeration system cleaning
- New power plant installation pre-cleaning
- Removal of iron fouling from packed stripper towers
- Condensers
- Degreasing
- Digesters
- Tanks
- Process piping and systems
- Rail car cleaning
- Surface preparation

## Focus on Safety

Clean Harbors' number one priority is the health, safety and compliance of our operations on your sites and ours.

Employees at all levels of the company share this philosophy and are committed to ensuring our safety goals are met.