

In cooperation with ProDecon UK, PH Borneo offer a broad range of decontamination services, from project design through execution to effluent handling. Working closely with you to understand each issue helps us to apply the best solution from our wide range of REACH-compliant proprietary chemicals.

Refinery Decontamination

We specialise in delivering hydrocarbon-free units, including fluidised catalytic crackers, crude distillers, vacuum distillers, cokers, hydrocrackers, vis-breakers, and amine, sour-water and vapour-recovery systems.

To reduce turnaround times, we use our engineering expertise to integrate our hydrocarbon decontamination services into your shutdown programmes. A high standard of cleaning and safe entry with zero LEL, H₂S and pyrophoric materials can be achieved in less than 10 hours.

In addition to specialty chemicals for heavy hydrocarbon fouling, we offer online and in situ chemical cleaning for scaling and corrosion deposits.

Vapour and Liquid-Phase Decontamination Refinery Decontamination

Our V-Purge™ and Decon-88™ chemicals offer highly effective vapour-phase decontamination. The chemistry is introduced into the steam flow to free and remove the hydrocarbon contaminants. Our engineered process integrates with normal refinery steam-out procedures to accelerate degassing and significantly improve hydrocarbon deposit removal. V-Purge™ chemistry oxidises pyrophoric iron sulphide, thereby leaving the columns and vessels safe for people to enter with zero LEL, H₂S and benzene in 8–12 hours. With a minimally invasive setup and little effluent generation, our vapour-phase decontamination is a cost-effective and rapid option for all fractionation columns.

For heavier circuits and fouling, we provide a full liquid-phase decontamination service, including circuit design, temporary piping, pumps and effluent handling. The service helps to minimise and often eliminate the need for subsequent mechanical cleaning.

Liquid and vapour-phase decontamination are commonly combined to provide rapid vessel cleaning and gas-free conditions, thereby enabling maintenance to proceed immediately on handover and reducing the overall turnaround schedule.



Fractionator redistributor after decontamination



Stripper column internals

Heavy Residue and Slurry Circuits

Asphaltene, wax and tar fouling in vis-breakers, vacuum residue distillers, cokers and slurry circuits can develop into hard deposits that cause efficiency losses and present mechanical-cleaning challenges. Our Pro-Flow™ range and Pro-Solve™ products are designed to alleviate this issue. Working in the wash-oil phase during a turnaround, Pro-Flow™, which also has online applications, breaks down heavy asphaltenes, thereby improving sludge removal and accelerating handover. Both products can be applied to heat exchangers in situ to help restore performance and thus save energy and increase productivity.

Ammonia Salt Treatment

Ammonia salt deposits can damage refinery systems, cause energy losses and foul systems thus restricting flows and inhibiting valve and PSV operation.

ACF™ is an online treatment that helps to prevent salt fouling and corrosion for stable feed rates, higher productivity and increased reliability. Importantly, the reaction is irreversible and the salts are transported safely out of the system without being deposited elsewhere.

It is environmentally friendly and can also be used to treat chloride fouling in fractionators, compressors, heat exchangers and fuel gas and flare systems.

H₂S and Sulphide Treatment

We supply a range of sulphide treatment solutions for different applications, including downhole injection, cleanflaring, sour-water treatment and odour control. The ProDecon® -216™ range offers rapid H₂S removal from oil, water and gas in an irreversible reaction without the formation of elemental sulphur.

Heat Exchanger Performance Restoration

We offer a range of services to restore and maintain heat exchanger performance, including the ability to perform online fouling removal and prevention. These services help to minimise downtime by removing fouling in shell-and-tube exchangers caused by heavy hydrocarbons, asphaltenes, scaling and corrosion deposits.

We use our wide range of proprietary chemicals to specifically target different sets of foulants for in situ removal of heavy hydrocarbon deposits without the need to pull the bundle. All the required temporary pumps, piping and temporary heat exchangers are provided to meet refinery specifications.

Mercury Decontamination

It is a known fact that metallic mercury is adsorbed and chemisorbed by steel. It settles its metallic form in crevices as well as on crystal borders and remains after scales and hydrocarbon sludges have been removed. As mercury evaporates readily, vapour readings of polluted steel go up quickly especially when the steel is warmed up.

The mercury concentrations on the polluted surface (wall bound mercury) often exceed safe levels to allow for confined space entry, hot work or recycling. Our mercury decontamination program is aimed at lowering surface mass loads and thus mercury vapour emissions. Internationally recognised limits are 25 µg(Hg)/m³ for vapour, 20 µg(Hg)/cm² for wall bound mercury and 5 to 20 mg(Hg)/kg for steel for recycling, subject to smelter's requirements.

Our mercury decontamination program includes waste minimalisation.

We look forward to go into detail on the subject.