REFINING INDUSTRY **CASE** STUDY

RYDALL HD
BIODEGRADABLE Heavy Duty Degreaser ™

ETHYLENE REFINING COLUMN CLEANING

A world renowned petrochemical manufacturer had inspected one of their ethylene refining columns during a regularly scheduled shutdown. As ethylene is arguably the most important organic chemical in the plastics manufacturing process, serving as the starting block for a variety of products, the ethylene column is an essential piece of equipment. Upon inspection, the column was found to be in poor condition and required cleaning. The past method of cleaning was labor intensive, time consuming, and required manual brushing and a small maintenance team to enter confined spaces. This method required more than four days for the team to remove all contaminants within the column. Prior to the completion of the shutdown, the senior maintenance coordinator was tasked with determining a more effective cleaning technique.

Within the following month, after brief discussions with Apex Engineering Technical Staff and an onsite meeting with product representatives, ***RYDALL HD*** Heavy-Duty Degreaser was selected to be utilized for the subsequent cleaning because of its safety, neutral pH, low VOC and the fact that it's environmentally friendly. Typically, ***RYDALL HD*** would be diluted 1:1 with clean water, heated to approximately 160°F and circulated through equipment for a period of 4-8 hours prior to rinsing. This enables the sludge, oil and other contaminants to become emulsified and removed from the equipment's surfaces safely, quickly and effectively. However, the maintenance team was unable to heat the ***RYDALL HD*** solution and therefore extended the circulation time to 18 hours. Pictures before and after the cleaning are shown below. Other plant heat exchangers and parallel columns have been cleaned more recently with the same exceptional results, all without the prerequisite of elevated temperature.

CHALLENGE

Ethylene column clogged with sludge residue and oil buildup. Minimal time available for cleaning and dangerous, confined conditions for maintenance personnel.

SOLUTION

A single 330 gallon tote of ***RYDALL HD*** was diluted and circulated at ambient temperature for 18 hours.

RESULTS

All contaminants removed, spotless surfaces throughout the column! Less than 24 hours to completely finish this cleaning without personnel in confined spaces!

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