

**SulfurUnit.com**

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SAFETY SEMINAR & EXHIBITION  
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Abstract: Sulfur Unit Decontamination to Facilitate Maintenance

Over the last two decades ULI has developed the methodology to conduct equipment decontamination on sour water strippers, Claus units, tail gas units and amine units. During this presentation we'd like to present several case studies on how we have successfully and efficiently decontaminated each of these process units.

For example, amine units require additional steps when conducting the decontamination to ensure residual amine is removed from the system being decontaminated. Nearly everybody who has experience decontaminating amine units has experienced excessive foaming during the decontamination. This foaming is caused when residual amine is mixed with a surfactant and agitated. The presence of nitrogen (i.e. during a N<sub>2</sub> sweep) only makes the foaming worse. ULI will present on this topic and deliver a case study where our methods were used to prevent foaming while simultaneously decontaminating an amine unit to prepare it for maintenance.

In the case of sour water strippers hydrogen sulfide and ammonia are two major contamination concerns. ULI has developed a method to decontaminate SWS units in a single step using a product known as Zyme-HT. This new method to eliminate ammonia and sulfides in a single application has been used successfully for this purpose. ULI also has several case studies which we plan to present that detail successful sour water stripper decontamination.

We've also successfully decontaminated Claus units and can treat the contaminants that are often found in the overhead piping between the sour water strippers, Claus units and tail gas units. Compared to potassium permanganate based oxidizers, our products are not DOT regulated, non-exothermic, do not require mixing and, in many applications, can be applied by refinery personnel. For example operations personnel when preparing piping for maintenance quite often decontaminate piping using a "feed and bleed" technique by pushing steam through the piping to be worked. Refinery personnel can shorten their preparation time significantly and decontaminate the piping without any outside assistance by injecting Zyme-HT with the steam they are already using. A common failure of the piping between the Claus unit and the tail gas unit is through wall corrosion caused by sulfurous acid attack. A company who needs to repair this type of failure will have to decontaminate their piping while most likely sending the discharge from the Claus Unit to an incinerator with the very real possibility of exceeding environmental limits. Shorting the overall maintenance duration saves time, money and the environment.