



## Best Simulator for Tail Gas Treating

**Reliability? Get the ultimate with ProTreat®**



Treating the tail gas from an SRU aims to *minimize H<sub>2</sub>S leak* to incineration and minimize the CO<sub>2</sub> recycled to the SRU by *maximizing CO<sub>2</sub> rejection*. Because TGU absorbers handle very low pressure gas, they usually contain either random or structured packing to minimize pressure drop. If you don't use ProTreat® for simulating TGTUs, experience is your only guide, but with ProTreat®, estimating HTU or HETP values is no longer necessary, and design is more certain. ProTreat® knows how your column internals work.

ProTreat® is the only commercially available simulator that uses a rate-based model and the characteristics of the tower's real internals to calculate directly not just hydraulic performance but the separation performance in terms of H<sub>2</sub>S leak, CO<sub>2</sub> slip, plus detailed maps of how composition and temperature are changing inside the bed. Simulate 31 types of random and structured packings in all the available sizes, and with hydraulics that match supplier data.

MDEA and phosphoric-acid-promoted MDEA are the solvents of choice for TGTUs. But the gas from an SRU quench column often contains SO<sub>2</sub> which degrades MDEA. DEA and MMEA are two of the degradation products. Both react with CO<sub>2</sub>, with MMEA reacting faster than any other gas treating amine except piperazine. MMEA is an activator. *The result is a very significant loss in selectivity.* H<sub>2</sub>S leak to the incinerator can increase by 10 or 20 times compared to clean solvent, and the load on the SRU will go up because of excessive CO<sub>2</sub> recycle from the tail gas.

ProTreat® very precisely simulates TGTUs with degraded amine solvent, it allows for the effect of HSSs formed from HCN and other contaminants, and it accounts accurately for the benefit that can be realized by using the stripping promoter phosphoric acid or in-situ heat stable salts from SO<sub>2</sub> breakthroughs.

**Unit Engineers Deal with *Reality* — Shouldn't your Simulator?**



**Optimized Gas Treating, Inc.**

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