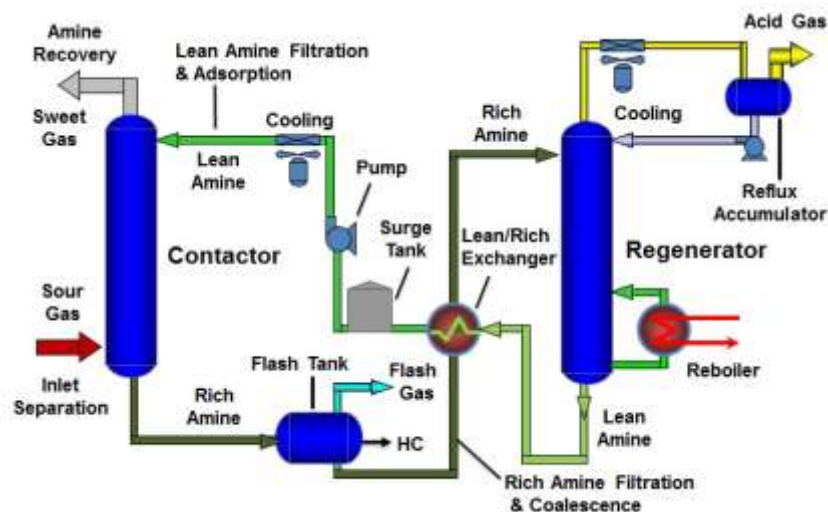




## Amine Foaming Control Assurance

Amine solvent foaming is perhaps the highest cost upset an amine unit can experience. In some cases foaming eventually leads to the shut-down of the entire unit. From a chemical stand point, foaming can be a combination of one or more factors. It is generally accepted however that lowering of surface tension is a fundamental component. For foam to exist it needs to be initiated, and lowering the surface tension of a liquid in fact facilitates foam initiation. Nevertheless, the tendency of a liquid to form foam is not enough. Foam can be very short lived, collapsing rapidly and not affecting a process to any significant extent. For foam to become a problem in a process it has to display stability over time. Foam stabilization can be attributed to contaminants such as suspended solids, molecular surfactants, or gel-like deformable residues. Effective foam control in an amine unit starts with ensuring that foam does not occur in the first place. Suspended solids in lean amine entering the absorber is one factor that can be eliminated with proper solids filtration and adsorption of soluble contaminants with activated carbon. Therefore, all amine units should have these separation systems installed. Nevertheless, lean amine filtration and adsorption is only half of the measures needed to ensure that amine foaming is not commonplace. The other source of amine foaming episodes is promoted by contaminants occurring due to the feed gas. These contaminants can be in the solid phase, liquid phase, and gas phase. The first two types are effectively removed with proper filtration and coalescence of liquids. Therefore, with correct lean amine filtration and adsorption and proper inlet separation, the frequency of foaming episodes can be greatly reduced.

Amine Filtration Company can retrofit any amine unit with a foam control assurance package that involves filtration, coalescence, adsorption, and remote monitoring.



For more information, please contact **Amine Filtration** at [Help@AmineFiltration.com](mailto:Help@AmineFiltration.com).