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SILOXANE REMOVAL

What is Siloxane?

Siloxane is a class of silicone derivatives that has been used in industrial and consumer products since the 1930's. These compounds enter biogas waste streams when products such as shampoo, cosmetics, detergents, and shaving products are washed down the drain, or when their containers are disposed of in a landfill. Siloxanes are not broken down during anaerobic digestion, and as a result, waste gas captured from treatment plants and landfills is often heavily contaminated with these compounds.

Why Should I Remove Siloxane?

Even at levels of less than 0.5ppm, siloxane can cause significant damage and fouling of engines, turbines, boilers, fuel cells, and the catalysts they employ to produce energy from biogas. Siloxane damage leads to higher costs and decreased lifespan of energy generation equipment. Siloxanes can also seriously impact the upgrade of gaseous fuels. Siloxane contaminants tend to increase in concentration over time—they are persistent. Removing them is essential to producing clean biogas and protecting your investment in energy generation equipment.

How Do I Get a CMS System for Siloxane Removal?

Gas Testing: Having biogas tested for accurate levels of siloxane, sulfur, volatile organic compounds and other engine-fouling contaminants will allow CMS to provide customers with the most accurate estimates for their siloxane removal system. Gas testing data will also help CMS select the correct siloxane removal process for the customer's unique biogas waste stream.

Request a Quote: All CMS biogas conditioning systems are custom designed, as each site has its own unique amounts and types of contaminants. Our team of skilled representatives will direct customers through this process, making your system design experience informative and hassle-free.



How is Siloxane Removed?

Clean Methane Systems offers the following processes for removing siloxane from biogas waste streams:

- **SAG Media**
SAG (Segmented Activated Gradient) media is CMS's patented siloxane removal media for use in **SAGPack** systems. Siloxane contaminants from the biogas are adsorbed into the media as the gas filters through. CMS's patented technology for stratifying SAG media allows the siloxane removal capabilities of the system to be calibrated for the specific siloxane species identified from gas analysis. With over 270 different SAG media combinations, CMS is able to provide the ultimate in customized siloxane removal.
- **HOX Media**
HOX media is a silica gel-based media that removes moisture and select species of siloxanes from biogas. HOX is combined with SAG media for use in **SAGPack** systems.
- **Pressure Stripping**
Using CMS's **CO₂Strip** system, this process reduces sulfur, siloxanes, and carbon dioxide in biogas waste streams by stripping the gas with a closed-loop water process.