

## Using Compliance GT and Compliance GTO for Controlling Hydrogen Sulfide in Wastewater Streams/Systems

Hydrogen sulfide ( $H_2S$ ) is a dense, colorless, toxic gas with a strong odor that corrodes infrastructures and impairs the performance of wastewater treatment operations. Because  $H_2S$  is naturally converted to sulfuric acid, which is corrosive to steel and concrete, as well as being toxic when inhaled, it is advantageous to control levels of this gas.  $H_2S$  is produced from anaerobic matter such as the decomposition of organic matter by bacteria. The lower the pH of the sewage, the greater the portion of sulfide that is present as  $H_2S$ .

There are many approaches for dealing with hydrogen sulfide, which fit into two categories:

- Prevent sulfide formation.
- Remove sulfide after it has formed.

In the first category, the general approach is to create an environment in which anaerobic bacteria do not produce  $H_2S$ . In systems where anaerobic reactions have retention times greater than four hours, **Compliance GT and Compliance GTO** can be added to provide the facultative anaerobic denitrifying bacteria a source of bound oxygen which is metabolized preferentially over other sources of sulfate.

The second approach to reducing  $H_2S$  in wastewaters is removal after it has formed. There are several techniques for accomplishing this. These include biofilters or activated carbon filters, but both are expensive and require the components to be changed often. Biofilters contain sulfur bacteria that convert the  $H_2S$  into other sulfur compounds, including corrosive sulfuric acid. Activated carbon filters create the dilemma of disposing the saturated carbon when after it is depleted.

**What is the answer? Compliance GT and Compliance GTO are cheaper than other methods, and are the only method that utilizes both Prevention and Removal approaches when dealing with hydrogen sulfide.**