

Sul-Fight

Hydrogen Sulfide

As utilities stretch the limits in providing wastewater service and maximizing the efficiency of conserving water in their processes, hydrogen sulfide (H₂S) grows as an issue. There are three major concerns with H₂S: odor, corrosion, and health.

- **Odor:** H₂S has the odor of rotten eggs. As an odorant, H₂S is considered offensive at levels as low as 2 ppm.
- **Corrosion:** H₂S causes corrosion to metals and concrete. However, it's not the H₂S that is corrosive, but the conversion of H₂S by Thiobacillus bacteria. This is proven by looking at the corrosion that is on concrete and metal above the liquid level.
- **Health:** H₂S is a severe danger to human exposure. View the H₂S Toxicity Chart for all health and safety related information.

Factors that Influence H₂S Odor/Corrosion

- **Time:** As residence time increases, H₂S concentration increases.
- **Temperature:** 37°C is ambient temperature for sulfate reducing bacteria (SRB) growth. As the temperature increases, the bacteria count increases as well.
- **Agitation:** Agitation does not increase the amount of H₂S but does increase the amount of H₂S in the air.
- **Concentration:** As BOD increases, the sources for oxygen decreases. SRB turn to sulfates for their source of oxygen, producing H₂S.

Sul-Fight

When Sul-Fight comes in contact with H₂S and other sulfurous compounds, the negative ion on the sulfur bonds with one of the positive ions on the Sul-Fight. This reaction produces a non-odorous and non-corrosive sulfonated compound. The reaction is instantaneous and irreversible at ambient temperatures. Unlike metal ions, the Sul-Fight compound is water soluble and does not precipitate out in lift stations, force mains, or gravity sewer lines.

Sul-Fight is designed for preventing corrosion and removing odors at locations where H₂S already exists (manholes, lift stations, sludge holding tanks, air scrubbers, and belt press rooms). However, Sul-Fight has also been proven at removing H₂S in force mains where the retention time exceeds three to five days.



AULICK
Inspired innovation.

Sul-Fight

Feed Locations

Manholes	When H ₂ S and corrosion are an issue, Sul-Fight can be fogged into the station using Aulick's B.C. Fogging System.
Lift Stations	For H ₂ S removal, fog Sul-Fight using the B.C. Fogging System. For long retention time force mains, drip feed Sul-Fight into the wet well or direct inject into the wastewater force main. Sul-Fight has shown effective at retention times greater than 5 days.
Sludge Holding Tanks	Inject Sul-Fight into the sludge line going to the holding tank.
Belt Filter Press	Inject Sul-Fight into the sludge line at least 30 feet from polymer injection point. The Sul-Fight will aid in polymer efficiency.
Headworks	If headworks are covered, fog Sul-Fight about the influent using the B.C. Fogging System. If the headworks are uncovered, inject Sul-Fight into the effluent prior to the headworks.
Air Scrubbers	Sul-Fight can replace bleach as a non-hazardous alternative.

