

# SulfaTrap™

*Taking Sulfur Out of the Equation*

## PRODUCTS FOR BIOGAS

Biogas is produced as a byproduct of anaerobic digestion or decomposition of organic wastes into methane and carbon dioxide (CO<sub>2</sub>). Effective utilization of biogas in fuel cell applications requires the removal of impurities such as sulfur (e.g., hydrogen sulfide, mercaptans, and disulfides), and siloxanes to prevent degradation of cell stacks and poisoning of the catalysts used in the fuel processor.

The sulfur concentration in biogas can be very high (400 - 15,000 ppmv) and the gas is saturated with water (~5-8% vol. H<sub>2</sub>O). SulfaTrap™-R8 is formulated as a moisture tolerant sorbent; it can achieve high sulfur capacity not only for hydrogen sulfide (H<sub>2</sub>S) but also for all mercaptans, organic di-sulfides and tri-sulfides. SulfaTrap™-R8 can reduce the sulfur concentration in the biogas to low ppbv levels in one step. SulfaTrap™-R7 is offered as a low-cost sorbent designed for bulk removal of H<sub>2</sub>S.

Siloxanes are a family of man-made organic compounds that contain silicon, oxygen and methyl groups used in personal hygiene, health-care and industrial products. At wastewater treatment plants and landfills, the low molecular weight siloxane species volatilize and contaminate the digester gas. Modified SulfaTrap™-R8 sorbents remove siloxanes from biogas without the use of refrigeration.



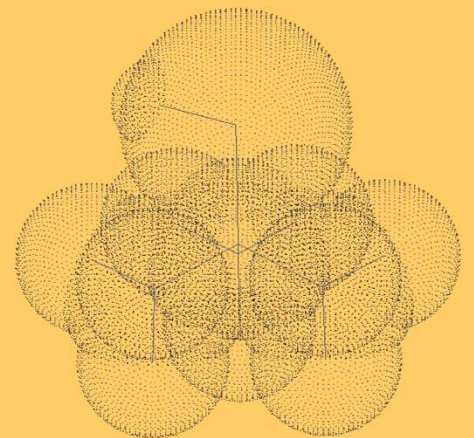
- **High selectivity** and removal efficiency of all sulfur species
  - Reduces sulfur concentration to less than 5 ppbv
- **High capacity** for mercaptans, disulfides and H<sub>2</sub>S
- **High Sulfur capacity** (in excess of 30% wt.)
- **Operates at high levels of moisture and CO<sub>2</sub>**
- **Easy disposal**
  - No flammability, toxicity or pyrophoricity
- **Expendable operation**

Product	Application
SulfaTrap™-R7	Biogas desulfurization, bulk H <sub>2</sub> S
SulfaTrap™-R8	Biogas desulfurization, siloxane removal, polishing bed



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