

# Biogas & Sour Gas Solutions

Purified Biogas Through Efficient Hydrogen Sulfide Removal



# How can KSS help you?

## Trusted Leader in Gas-Liquid Contacting Processes

KOVALUS SEPARATION SOLUTIONS™ (KSS) is a global leader in innovative process separation technology. In addition to the world's largest membrane-based product portfolio, we have expanded to incorporate the proprietary ion exchange systems, gas contactor, and media filtration developed by Eco-Tec, a leader in water treatment and chemical recovery and purification.

Established in 1970 in Ontario, Canada, Eco-Tec developed a proprietary, highly efficient gas-liquid contacting process for biogas treatment. With installations worldwide, Eco-Tec's technology is a trusted solution across a variety of municipal and industrial markets and applications.



## Biogas Purification

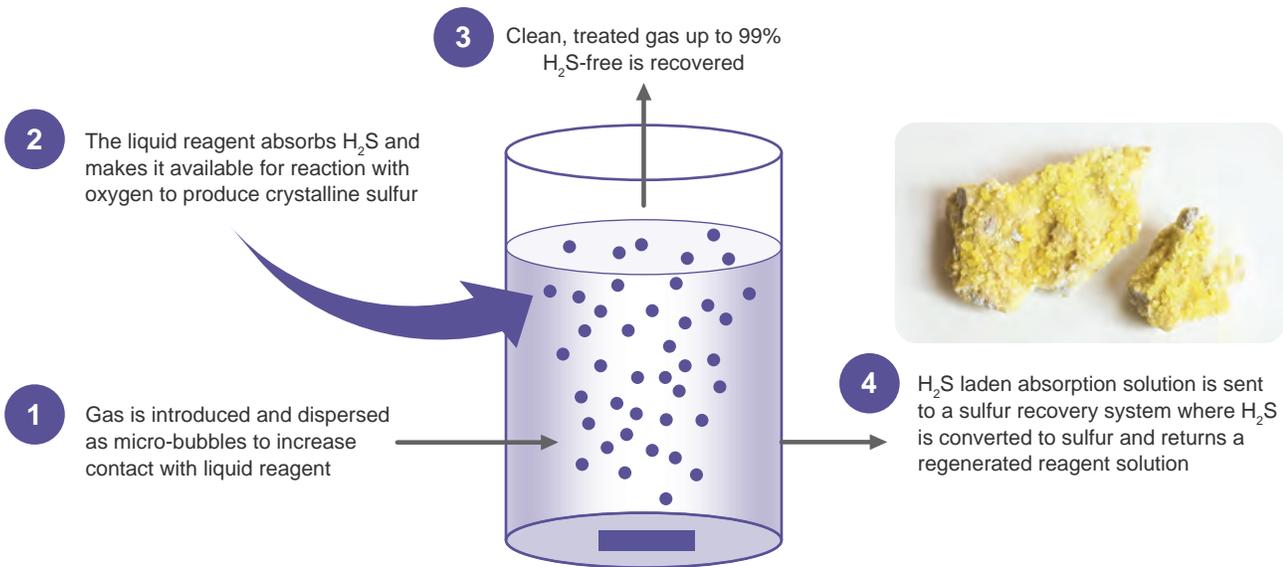
Biogas is a mixture of methane and carbon dioxide from which energy can be recovered. This process can often be hampered by high levels of hydrogen sulfide ( $H_2S$ ) found in the biogas, a contaminant that poses health, safety, and environmental risks. When combined with other process elements such as carbon dioxide and water, it can cause corrosion to boilers, piping, and other equipment resulting in increased maintenance requirements and operating costs.

## Hydrogen Sulfide Removal from Biogas

To efficiently treat biogas, Eco-Tec developed the BgPur™ System for removal of  $H_2S$ . The system uses a proprietary combination of a liquid catalyst and gas-liquid contacting process to absorb  $H_2S$  and leave behind purified biogas. The  $H_2S$  is removed and converted to a solid crystalline sulfur by-product with re-sale potential. The system is capable of treating biogas with  $H_2S$  concentrations of a few hundred ppmv to over 15,000 ppmv (1.5%) while reducing  $H_2S$  levels to just a few ppm to meet downstream requirements for power regeneration or heating fuel, or to be sold for pipeline or transportation fuel.

# Major Applications

The BgPur™ System can be configured with single or dual contactor tanks to accommodate processes with high or low oxygen tolerance in the product gas, respectively. The process operates continuously to maximize output of purified biogas and regenerates the liquid reagent to minimize waste. Designed to be compact and easily installed and operated, the BgPur System is available in a range of standard models manufactured at Eco-Tec's own facility.



| Benefits  | Applications   |
|---|--|
| <ul style="list-style-type: none"> <li>• Consistent performance with &gt;99% H<sub>2</sub>S removal</li> <li>• Reliable operation without plugging, fouling, or foaming</li> <li>• Reduced equipment corrosion</li> <li>• Lower operating, installation, and waste treatment costs</li> <li>• Increased health and safety</li> <li>• Automatic control of contaminant levels</li> <li>• Marketable solid crystalline sulfur by-product</li> </ul> | <ul style="list-style-type: none"> <li>• Municipal wastewater treatment plants</li> <li>• Industrial wastewater treatment plants</li> <li>• Landfill gas</li> <li>• Agriculture</li> <li>• Food &amp; beverage processing</li> <li>• Industrial processing</li> <li>• Pulp and paper mills</li> <li>• Sweep air</li> </ul> |

## Sour Gas Treatment

The SgPur™ System is designed to remove H<sub>2</sub>S from sour gas used in oil and gas operations. Adapted from the BgPur System, the SgPur System removes H<sub>2</sub>S in a gas sweetening process and converts it to solid crystalline sulfur.



## KOVALUS SEPARATION SOLUTIONS

KOVALUS SEPARATION SOLUTIONS™ (KSS) is a global leader in separation technologies.

With best-in-class domain expertise, technologies and systems, KSS is uniquely positioned to help customers purify and recover valuable process streams and achieve sustainability goals across food and beverage, life science, and general industrial markets.

### Services & Support

After-Sales Services & Maintenance Programs • SepTrac™ Smart System



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