



TECHNOLOGY

Efficient Sulfur and Energy Recovery With Novel Isothermal Thermal Flame Reactor

OVERVIEW

The Claus process is considered to be an industry standard for recovering elemental sulfur from gaseous hydrogen sulfide (H₂S). The removal of H₂S is desirable due to the detrimental effect H₂S has on the environment and human health. However, the gases which accompany H₂S in the recovery/removal process impact the optimum reactor temperature for enhanced sulfur recovery.

The present invention provides a more efficient method of removing sulfur in a Claus process by using a novel thermal flame reactor and detailed analysis of the gas composition. A most desirable reactor operating temperature for enhanced sulfur removal efficiency is determined and implemented by this method. When the thermal reactor operates at an optimum temperature through the improved process, sulfur conversion efficiency is maximized.

The invention is ideal for use in natural gas and oil refineries, as well as conversion and process industries having high concentrations of H₂S streams in the gas.

For additional information, please contact the Office of Technology Commercialization, University of Maryland College Park, via e-mail at otc@umd.edu or phone at 301-405-3947.

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Additional Information

INSTITUTION

University of Maryland, College Park

PATENT STATUS

Patent(s) pending

LICENSE STATUS

Contact OTC for licensing information

CATEGORIES

- Chemical
- Engineering
- Clean Technology

- Industrial Processing

EXTERNAL RESOURCES

- [US Patent 8,449,860](#)

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