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Swapsol Announces Discovery Of Reaction To Convert CO2 And H2S To Harmless Compounds, Contributes To Climate Change Fight

MONMOUTH JUNCTION, N.J.

Two New Jersey scientists at Swapsol Corp. have discovered a chemical process that reacts hydrogen sulfide (H2S) with carbon dioxide (CO2), eliminating both. Swapsol will hold a seminar on the science and potential industrial applications during National Chemistry Week on Oct. 21, on the Rutgers University Cook Campus in New Brunswick, N.J.

The discovery may shatter preconceived notions about energy and chemistry and play a role in the fight against climate change and global warming, the company said. Unlike a carbon capture process, the Stenger-Wasas Process or SWAP is a carbon conversion process, verified in the laboratory to break down CO2 into its inert compounds.

Ray Stenger and Jim Wasas discovered the SWAP, a suite of hydrocarbon reactions based on the previously unknown reaction between CO2 and H2S. The SWAP was verified in the laboratory to reduce H2S below detectable levels (below four ppb) by gas chromatography while converting proportionate amounts of CO2 into carbon, water and sulphur.

Sour gas processors and high-sulphur crude oil refiners may be the first to benefit from the SWAP which could substantially reduce operating costs and mitigate CO2 emissions. The SWAP may also have potential applications in other sectors where H2S is present, such as landfills, tanneries and coke ovens.

Thermodynamic and chemical kinetics studies indicate that the SWAP is exothermic and the heat liberated can be easily managed and controlled.

Thermal Hazard Solutions, Inc. (THS), a company that provides scientists with quantitative thermodynamic and kinetic information, verified the SWAP and determined the kinetic and thermodynamic parameters of the process.

"The Swapsol discovery may have deep industrial applications," said Roy Drayton, president of THS, who submitted the thermodynamic and kinetic studies. "The reaction between CO2 and H2S was very impressive and I believe signals strong potential for continuous-flow operations."

Gas chromatography (GC) was independently conducted by Gene Hall, PhD, professor of analytical chemistry at Rutgers University. He found the SWAP reaction reduced H2S to below four ppb.
"My GC studies demonstrated the SWAP has strong potential for

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dramatic H2S reduction," said Hall, adding the SWAP discovery was extremely important. "It appears they may have something very special indeed."

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