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The Monitor

GENERAL MONITORS

Your total solution provider for gas and flame detection

Welcome to *The Monitor*!

IR400 Combustible Gas Detector is Performance-Verified for Ethylene Detection

Our IR400 Combustible Gas Detector now sets a new industry standard as the first combustible point infrared (IR) ethylene monitor to achieve dual FM and CSA performance verification, meeting FM 6310, FM 6320, and CSA C22.2 No. 152 requirements. With a precision IR point sensing element, the Model IR400 Point IR Combustible Gas Detector reliably protects people, equipment, and facilities against the hazards of ethylene gas vapors.

Ethylene is one of the most widely produced organic chemicals worldwide and a major building block for the production of polymers and other materials. It has thousands of applications, with diverse industrial uses ranging from plastic, textile, and detergent production to its properties as a fruit ripening agent. Ethylene is combustible over a wide concentration range and an asphyxiant, requiring high-accuracy monitoring in order to protect workers and plants.

Ethylene production is a highly complex multi-part process. Feed stock can come from multiple sources, including ethane, propane, butane, naphtha, gas oils, or hydrocracked vacuum gas oils. In general, the first step involves steam cracking to separate hydrogen and methane components, which is followed by the recovery of other components including ethane, acetylene, butane, and propane. A final cryogenic phase at the end of the process results in ethylene recovery.

The ethylene production process is energy intensive, and the components are combustible and toxic. Some of the recovered components are reused within the production plant to provide energy. Production of ethylene requires the use of multiple furnaces, compressors, tanks, piping, and valves. The production system and equipment offer multiple sources for potential combustible and toxic gas leaks that require continuous safety

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Industry news

Monitor For Small Hydrogen Leaks With TS4000H Gas Detector

Accurately detecting hydrogen at 0-500 ppm levels, our new TS4000H Intelligent Hydrogen Gas Detector offers reliable monitoring for small hydrogen leaks in a variety of industrial and commercial facility environments.

Learn more about detecting small hydrogen gas leaks

Students Win $50,000 for New Hydrogen Production Method

A novel way to produce hydrogen from plant sugars in agricultural waste was worth $50,000 to four UW-Madison undergraduates who won an annual competition for new methods to fight climate change.

The $50,000 top prize in the third annual Climate Leadership Challenge was awarded to Joseph Keuler, Matthew Kirk, Patrick Kirk and David Osmalov, according to a news release from the UW-Madison news service.

The project created by the team, Cellulose Digesting Biogas Plants for Hydrogen Production (CDBP), also showed how the technology could be applied in biogas plants.

"The CDBP team really stood out," said

hazard monitoring. The potential for explosion and fire is great as well as for worker asphyxiation.

Worker exposure to ethylene occurs in a variety of industrial plants and commercial settings. According to US OSHA, typical worker exposure occurs through: inhalation, ingestion, skin and/or eye contact. The symptoms of exposure to ethylene include irritation to eyes, skin, nose, throat; nausea, vomiting, abdominal pain, lassitude (weakness, exhaustion); dizziness, stupor, convulsions, central nervous system depression; and skin sensitization. Immediate first aid and medical attention are required after exposure.

The low maintenance IR400 continuously monitors for ethylene in the lower explosive limit (LEL) range. It features a true fail-to-safe design for dependable gas detection performance. Its heated optics eliminates condensation and a dirty optics indicator informs end users about contaminated lenses, providing the possibility to take corrective action before detection is impaired. Additionally, the detector requires no routine calibration, a feature that reduces demand for field technician time. These advanced features help prevent unplanned plant shutdowns and improve operational efficiency.

Links of interest

- IR400 Combustible Gas Detector

Tracey Holloway, director of the Nelson Institute Center for Sustainability and the Global Environment, sponsor of the contest. "They had a clever idea for implementing a known technology in a novel way, producing two energy sources from agricultural waste."

The four students also get a free one-year lease in the University Research Park Metro Innovation Center, and other incentives to further the CDBP idea.

Three projects won $2,000 each:

- BioGRASP (Biogas Growth: Regional and Sustainable Partnerships), a regional network of biogas plants in western Uganda, by graduate students Aleia McCord, Jeffery Starke and Sarah Stefanos.
- The BrightWater Initiative, a self-sustaining water purification system designed to reduce deaths from the consumption of contaminated water in developing countries, by undergraduate students Brad Lindevig, Josh Zent, Parikshith Lingampaly and Luke Voellinger.
- The Refrigerator Aider, a ventilation system to boost the efficiency of household refrigerators by 10 percent or more without using more energy or moving parts, by graduate student Mike Hvasta.

The Climate Leadership Challenge is open to all UW-Madison students and is considered the largest university competition of its kind in the country.