



## News Release

# Air Products' New Hydrogen Reactions Lab Now Operational

New Lab Helps Customers Optimize Their Hydrogenation/Hydrotreatment Reactions

**December 08, 2015** Lehigh Valley, Pa.

Air Products' (NYSE:[APD](#)) Hydrogen Reactions Lab, located at its corporate headquarters in Allentown, Pa., is now operational and receiving material for laboratory trials. The new lab consists of three continuous, trickle bed reactors and has the design capability to handle [hydrotreatment and hydrogenation](#) reactions at pressures up to 2000 psig. The new lab enables customers to optimize existing hydrogenation and hydrotreatment reactions or switch from batch to continuous operation.

Air Products' Hydrogen Reactions Lab has been designed to test the [hydrogenation](#) of various feedstocks with up to three fixed-bed catalytic reactors. The company is able to evaluate for its customers the impact of feed quality, catalysts, and additional operating parameters on product quality, throughput, and process economics.

"Hydrotreatment is a growing trend in the used oil re-refining and transmix processing markets," says Tim Lebrecht, applications engineer at Air Products. "With Group II base oil becoming the norm for re-refiners and ULSD limits on sulfur for transmix-derived diesel fuel, both areas are seeing an immediate need for polishing

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### Improve Hydrogenation Process (3:10)

Development and Optimization Services

and sulfur reduction techniques.”

“Similarly, in the chemicals processing industry, hydrogenation units have begun focusing on the cost reduction that continuous processes offer,” Lebrecht continued. “Our new lab will help customers pursue the higher yields, better product quality and, ultimately, the reduction in scale that is common when switching to continuous processes. We look forward to working with them to test and optimize hydrotreatment, as well as assist those who are looking to switch to continuous hydrogenation.”

Hydrotreatment and hydrogenation are commonly used to produce a wide variety of different products, including low-sulfur, low-impurity fuel; high-quality lubricating base oils; hydrogenated vegetable oil; and specialty chemicals used in industrial, personal care, and pharmaceutical applications. The reaction is often carried out with high-pressure hydrogen gas in the presence of a custom catalyst to drive the reaction. A key trend across many specialty chemical and pharmaceutical manufacturing processes is the transition from batch to continuous processing to enable a multitude of benefits, including higher yield, better selectivity, and a smaller footprint.

For more information about Air Products' hydrogenation development and optimization services, or other hydrogen solutions offered by the company, visit [www.airproducts.com/h2solutions](http://www.airproducts.com/h2solutions).

### **About Air Products**

Air Products (NYSE:APD) is a world-leading Industrial Gases company celebrating 75 years of operation. The company's core Industrial Gases business provides atmospheric and process gases and related equipment to manufacturing markets, including refining and petrochemical, metals, electronics, and food and beverage. Air Products is also the world's leading supplier of liquefied natural gas process technology and equipment. The company's Materials Technologies business, which Air Products intends to spin-off by September 2016, serves the semiconductor, polyurethanes, cleaning and coatings, and adhesives industries.

The company had fiscal 2015 sales of \$9.9 billion and was ranked number 284 on the Fortune 500 annual list of public companies. Approximately 20,000 employees in 50 countries strive to make Air Products the world's safest and best performing Industrial Gases company, providing sustainable offerings and excellent service to all customers. For more information, visit [www.airproducts.com](http://www.airproducts.com).

*NOTE: This release may contain forward-looking statements within the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These forward-looking statements are based on management's reasonable expectations and assumptions as of the date of this release regarding important risk factors. Actual performance and financial results may differ materially from projections and estimates expressed in the forward-looking statements because of many factors not anticipated by management, including risk factors described in the Company's Form 10K for its fiscal year ended September 30, 2014.*

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