

# Hydrogen Reactions Lab

Flexible and robust testing facility for the chemicals, pharmaceutical and re-refining industries



The Air Products Hydrogen Reactions Lab is designed to create an opportunity for innovation and productivity in our customers' hydrogenation reactions. Let our engineers help you improve product quality and reduce production costs by identifying the optimum pressure, temperature and hydrogen-to-feed ratio for your specific feedstock and catalyst.

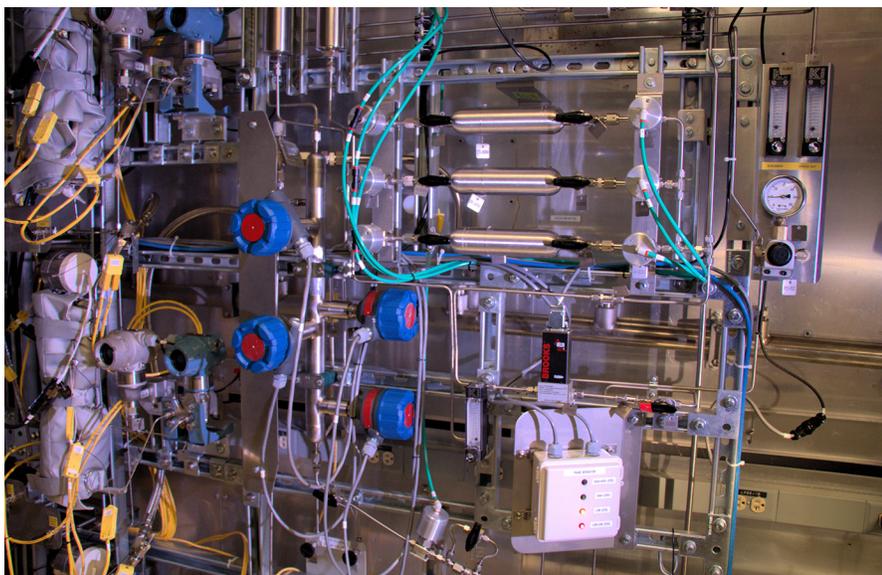
## Continuous hydrogenation to serve all industries

Air Products' Hydrogen Reactions Lab in Allentown, Pennsylvania is designed for testing and evaluating continuous hydrogenation and hydrotreatment processes in multiple industries, including fine and specialty chemicals, transmix processing, used-oil re-refining and pharmaceutical processing.

The lab consists of three continuous, trickle bed reactors. The liquid feed is injected continuously into the reactors. Once hydrogenated, the reaction products are cooled and the liquid phase is separated and collected for analysis with the additional ability to analyze the vent gas composition.

The reactor lineup is variable and operates as one or more reactors in a sequential configuration. Each reactor can also be customized to use your specific catalysts for trials. This way, your trial can run multiple, sequential reaction steps with differing catalysts at high pressure, including:

- Temperatures up to 700°F
- Design pressures up to 2000 psig
- Liquid feedstocks
- Raw material quality
- Residence time
- Product quality
- Product yield
- Footprint



Basing a plant design on faulty or incomplete information could set back your project. An early trial could save countless headaches down the road, not to mention scrapped equipment, lost production time and wasted raw material. Contact us today to schedule a trial for your hydrogenation or hydrotreatment process.

## Benefit from Air Products' experience

Air Products is the largest merchant hydrogen producer and supplier in the world, and has decades of experience with hydrogen generation, production, application and supply. We offer multiple differentiated and proprietary technologies which can reduce bottlenecks in your process in addition to reducing hydrogen and energy usage. In addition, Air Products' Cryogenic Hydrogen Compressor is the only system that has no vent losses for high-pressure liquid hydrogen systems, reducing hydrogen cost. Adding to our production expertise is our continual focus on safety. Air Products does so by offering safety audits to help ensure you are using the most up-to-date industry standards and practices.

**For more information or to schedule a trial in our lab, please contact us at:**

### Corporate Headquarters

Air Products and Chemicals, Inc.  
7201 Hamilton Boulevard  
Allentown, PA 18195-1501  
T 800-654-4567  
F 610-706-4730  
gigmktg@airproducts.com



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[airproducts.com/h2support](https://airproducts.com/h2support)