



June 12, 2014

## **HONEYWELL UOP LICENSING TPC GROUP'S ADVANCED PROCESS TECHNOLOGY TO PRODUCE KEY INGREDIENT FOR SYNTHETIC RUBBER**

### **Technology to Convert Butene to High-Value Butadiene to Address Growing Global Supply Shortage**

DES PLAINES, Ill., June 12, 2014 - TPC Group Inc. and UOP LLC, a Honeywell (NYSE: HON) company announced today that the two companies have entered into an agreement for UOP to be the exclusive licensor of the proprietary TPC Group OXO-D™ technology used to produce on-purpose butadiene, a key ingredient for making synthetic rubber.

The two companies will immediately begin working together to license TPC Group's proprietary OXO-D technology, which has been successfully operated for more than 40 years, commercially converting butene to butadiene for the production of synthetic rubber. The current OXO-D technology is the basis for TPC's current on-purpose butadiene project in commercial development now. The two companies will jointly develop further enhancements to OXO-D, the most efficient and low-cost method to make on-purpose butadiene, leveraging UOP's expertise in licensing and technology.

"We believe our OXO-D technology is the most efficient, competitive and commercially proven technology in the world for the on-purpose production of butadiene," said Mike White, senior vice president of operations and technology. "We look forward to working jointly with UOP to continue to advance our leading on-purpose butadiene technology through UOP's depth of knowledge and experience as a licensor within our industry."

The technology effort is focused on the direct conversion of butene, a byproduct of refining processes, into butadiene, a key ingredient in the production of synthetic rubber used in tire and other applications.

"Changes in refining and petrochemical production in recent years have caused butadiene production to not keep pace with rising demand. This 'butadiene gap' can be closed with new technologies to produce on-purpose butadiene," said Pete Piotrowski, senior vice president and general manager of UOP's Process Technology and Equipment business unit. "TPC helped found the modern on-purpose butadiene industry with its patented technology, and we look forward to commercializing new technology with them."

TPC Group Inc. is North America's leading producer of butene and finished butadiene. Honeywell's UOP is a global leader in developing and licensing process technology for the refining and petrochemical industries.

Butadiene has been traditionally produced as a byproduct of the naphtha cracking processes. In recent years, refiners have moved to using lighter feedstocks to make ethylene and propylene, key building blocks for plastics, causing less byproduct butadiene to be produced. At the same time, supply of butene, also a byproduct of refining processes, remains comparatively plentiful.

TPC Group Inc. is a leading producer of value-added products derived from niche petrochemical raw materials such as C4 hydrocarbons. TPC Group sells its products into a wide range of performance, specialty and intermediate markets, including synthetic rubber, fuels, lubricant additives, plastics and surfactants. Headquartered in Houston, and with an operating history of more than 70 years, the company has manufacturing facilities in the industrial corridor adjacent to the Houston Ship Channel, Port Neches and Baytown, Texas and operates a butadiene product terminal in Lake Charles, Louisiana. For more information, visit the TPC Group's website at [www.tpcgrp.com](http://www.tpcgrp.com).

UOP LLC ([www.uop.com](http://www.uop.com)) is a leading international supplier and licensor of process technology, catalysts, adsorbents, equipment, and consulting services to the petroleum refining, petrochemical, and gas processing industries. UOP is a wholly-owned subsidiary of Honeywell International, Inc. and is part of Honeywell's Performance Materials and Technologies strategic business group, which also includes Honeywell Process Solutions, a pioneer in automation control, instrumentation and services for the oil and gas, refining, petrochemical, chemical and other industries.

Honeywell ([www.honeywell.com](http://www.honeywell.com)) is a Fortune 100 diversified technology and manufacturing leader, serving customers worldwide with aerospace products and services; control technologies for buildings, homes and industry; turbochargers; and performance materials. Based in Morris Township, N.J., Honeywell's shares are traded on the New York, London, and Chicago Stock Exchanges. For more news and information on Honeywell, please visit [www.honeywellnow.com](http://www.honeywellnow.com).

Contacts:

John Simley  
847.391.2278  
[john.simley@honeywell.com](mailto:john.simley@honeywell.com)

Sara Cronin  
713.475.5243  
[sara.cronin@tpcgrp.com](mailto:sara.cronin@tpcgrp.com)