

## Air Liquide Global E&C Solutions announces successful start-up of butadiene extraction unit

**Air Liquide Global E&C Solutions, the Engineering and Construction activity of the Air Liquide Group, announces successful start-up of a world scale butadiene extraction unit at Evonik's facility in Antwerp, Belgium, and further strengthens its leading market position in Europe.**

Butadiene is an important industrial chemical used as a monomer in many day-to-day products, mainly as synthetic rubber for the automotive market. Butadiene can also be used as a raw material for the production of products such as polymers, plastics and paper chemicals.

The butadiene extraction technology is licensed and engineered by Air Liquide Global E&C Solutions and is based on BASF's n-methyl-pyrrolidone (NMP) process (a.k.a. BASF NMP butadiene extraction technology).

In recent decades, BASF's NMP technology and Air Liquide Global E&C Solutions' capabilities in custom-made design and engineering of Butadiene Units have been recognized as a benchmark in the industry, providing production reliability, low energy consumption and product quality.

**Cristiano Tortelli, Vice President and Chairman, Air Liquide Global E&C Solutions, stated: “We are proud to have contributed to the successful delivery of this new butadiene extraction facility by providing the technology, engineering and technical assistance. This milestone further enhances Air Liquide Global E&C Solutions' leadership in petrochemical technologies, in line with Air Liquide Group's mission to create value over the long term by delivering cutting-edge solutions to customers.”**

### **Air Liquide Global E&C Solutions**

Air Liquide Global E&C Solutions is the Engineering and Construction activity of the Air Liquide Group. It provides design, engineering, procurement, construction management expertise and gas processing technologies. Its teams build facilities for the Air Liquide Group – mainly air separation units (ASUs) and hydrogen/carbon monoxide production units. Air Liquide Global E&C Solutions also serves industries worldwide on account of its comprehensive portfolio of proprietary technology.

### **About BASF NMP butadiene extraction technology**

The separation of butadiene from the remaining C4 hydrocarbons by conventional distillation is difficult because of the close boiling points of the components. In the applied BASF NMP butadiene extraction technology, the relative volatilities of the compounds are enhanced by a selective solvent, NMP. Butadiene can be more effectively separated from the remaining C4 paraffins and olefins using extractive distillation with the NMP solvent.

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World leader in gases, technologies and services for Industry and Health, Air Liquide is present in 80 countries with more than 50,000 employees and serves more than 2 million customers and patients. Oxygen, nitrogen and hydrogen have been at the core of the company's activities since its creation in 1902. Air Liquide's ambition is to be the leader in its industry, delivering long-term performance and acting responsibly.

Air Liquide ideas create value over the long term. At the core of the company's development are the commitment and constant inventiveness of its people.

Air Liquide anticipates the challenges of its markets, invests locally and globally, and delivers high-quality solutions to its customers and patients, and the scientific community.

The company relies on competitiveness in its operations, targeted investments in growing markets and innovation to deliver profitable growth over the long-term.

Air Liquide's revenues amounted to € 15.4 billion in 2014, and its solutions that protect life and the environment represented more than 40% of sales. Air Liquide is listed on the Paris Euronext stock exchange (compartment A) and is a member of the CAC 40 and Dow Jones Euro Stoxx 50 indexes.