



Methanol and Derivatives

Technology for methanol and derivatives

Our advanced technological offer for producing methanol and its derivatives incorporates proven technology for reliable production at a competitive price, and capitalizes on more than 40 years of experience at the forefront of methanol production technology.



For plant operators processing methanol and its derivatives, finding the right technology is the key to reliably producing methanol at a competitive price.

At Air Liquide Global E&C Solutions, our MeOH and MegaMethanol® technology responds to these needs.

Our gas route processes produce synthesis gas, methanol, dimethyl ether (DME), propylene and Fischer-Tropsch based synthetic fuels selectively, at a high yield and of excellent quality.

Technology leaps in these processes have drastically cut production costs, while ensuring that your projects remain economically robust and environmentally clean.

Methanol-to-Propylene (MTP®)

Our MTP® technology supplements conventional propylene production to meet market requirements. The process has a high carbon and energy efficiency, and uses a simple and stable zeolite catalyst, offering a distinctly higher yield compared to steam crackers (65 % versus 30 %).

The technology has been commercially proven, with two large units constructed in China capable of producing 470,000 t/a of propylene.

Lurgi MegaMethanol®

Within the past 10 years, we have reduced production costs by more than half with the introduction of our Lurgi MegaMethanol® technology, specifically designed for large-scale operators leveraging economies of scale.

The Lurgi MegaMethanol® process is an advanced technology for converting natural gas to methanol at low cost in large quantities. The technology has been developed for world-scale methanol plants with capacities greater than one million metric tons per year.

Its main processing features include oxygen-blown natural gas reforming (either in combination with steam reforming or as pure autothermal reforming); two-step methanol synthesis in water- and gas-cooled reactors operating along the optimum reaction route; and the capability to recycle hydrogen to adjust synthesis gas composition.

The high efficiency of the process and the low capital investment costs of MegaMethanol plants permit a significant reduction in methanol costs. Furthermore, the technology paves the way for new downstream industries such as our MTP® process, which can use methanol as a feedstock competitive to oil.

With a series of Lurgi MegaMethanol® plants, either based on natural gas or coal already in operation, the road to reliable and cost-effective large-scale methanol-production is opened.