

## Olefins

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### By 2020 20% of world-wide propylene production is expected to come from on-purpose propylene technologies.

[Learn more about UOP solutions for Olefins production.](#)

Whether you have alternative feedstock, such as coal or natural gas, or traditional feedstocks such as propane, UOP has the solution to help you make propylene and ethylene at low cash cost of production.

Olefin Production Routes

Ethylene

Propylene

Refinery Propylene

Butylenes

On-Purpose Butadiene

### Proven on-purpose and by-product solutions

UOP offers multiple propylene production solutions that can help you better manage feedstock costs.

#### On-Purpose Propylene from Propane

The **UOP Oleflex™ Process** for the catalytic dehydrogenation of propane allows you to participate in the growing propylene market, independent of a steam cracker or FCC unit. The Oleflex process provides a dedicated, reliable, independent source of high-quality propylene to give you more control over propylene feedstock costs.



As the leading on-purpose polymer grade propylene production technology in the world, Oleflex provides the lowest cash cost of production and highest return on investment when compared to competing PDH processes via:

- Lowest operating cost enabled by low feedstock consumption and low energy usage
- Lowest capital cost enabled by the industry's only continuous process and operation with a highly active and stable catalyst at positive pressure utilizing only 4 reactors.
- Highest reliability enabled by recent design enhancements and the ability to change catalyst on-the-fly without stopping propylene production.

The Oleflex process leverages industry leading UOP heat and mass transfer

equipment, process equipment and control systems.

Today there are nine C3 Oleflex units in operation, which is more than twice the number of operating units of the nearest competitor. The same proprietary design is used in the catalytic **dehydrogenation of isobutane to isobutylene**.

### **On-Purpose Propylene from Cost Advantaged Feedstocks**

The UOP Advanced MTO Process, which combines the UOP/Hydro MTO Methanol to Olefins Process with the UOP/Total Petrochemicals Olefin Cracking Process (OCP), converts cost advantaged alternative feedstocks such as coal, natural gas and petcoke to light olefins. The process offers a number of benefits:

- Lower light olefin cost of production than conventional routes
- The highest propylene and ethylene yields when compared to competing MTO technologies
- Minimal by-product formation
- A wide range of ethylene and propylene production

The Advanced MTO process has been fully demonstrated at the semi-commercial scale by Total Petrochemicals in Feluy, Belgium. To date, the site has successfully produced both polypropylene and polyethylene.

In addition to its role upgrading C4+ by-product streams into propylene and ethylene in the Advanced MTO process, OCP can be used for by-product upgrading in steam crackers, FCC units and Delayed Cokers.

### **By-Product Propylene**

The UOP Propylene Recovery Unit is the most economic method to separate propylene from propane. It brings together three proven technologies — UOP's MD distillation trays, High Flux tubing and heat pump compressor system to produce chemical or polymer-grade propylene from refinery by-product streams. Multiple UOP-designed propylene recovery units are in operation around the world, and more than 170 propane-propylene splitters with MD trays are in operation or under construction today.

UOP Oleflex™ process services may include:

- Engineering services
- Technical and marketing services
- Design services
- Construction services
- Start-up services
- Staff training
- Maintenance, monitoring and troubleshooting services

**Contact us** for more information.

### **Related Products**

- **[UOP Olefin Catalysts](#)**
- **[UOP Petrochemical Adsorbents](#)**
- **[Propylene Recovery Equipment](#)**
- **[Oleflex Equipment](#)**

## Downloads

### Technical Data Sheets

- [Contact Us to Request](#)

### Brochures

- [UOP Olefin Production Solutions](#)

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## Training

### Instructor Led Training

- [Oleflex Unit Lock Hopper Control System Course](#)

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[Ethylene](#)

[Refinery Propylene](#)

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