



# ALKEMAX™ Sulfuric Acid Alkylation Technology

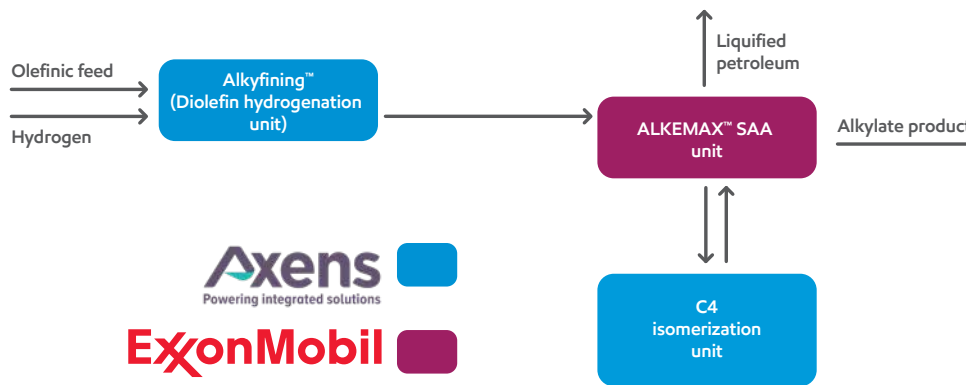
Provides superior blendstock for high-octane motor fuels.

Energy lives here™

Alkylate is a superior component that increases the octane of premium motor fuels. ExxonMobil's proven Sulfuric Acid Alkylation (SAA) technology reacts light olefins with isobutane to form high value alkylate for gasoline blending. ALKEMAX™ SAA technology is based on ExxonMobil's 60+ years of design and operational experience, and is used in some of the world's largest refineries. The units are designed with the operator in mind, offering high reliability, flexibility and energy efficiency.

ExxonMobil and Axens have signed an alliance agreement for the sublicense of ExxonMobil's Sulfuric Acid Alkylation technology. This alliance leverages collective expertise by providing a streamlined solution and proven technologies to optimize high-octane fuels production.

ALKEMAX™ SAA block diagram



## Key benefits

- Lower operating cost**
  - Auto-refrigeration design reduces cost of compression and cooling
  - Efficient mixing technology lowers power consumption
  - Reduced corrosion provides lower maintenance costs
- Low capital investment**
  - Large single reactor capacity of up to 12 KBD produces economies of scale
  - Possible to modify or expand for higher throughput
  - Option to add Alkyfining to reduce acid regeneration unit capital costs
- High reliability and flexibility**
  - High on-stream factor
  - Flexibility to meet alkylate quality needs

## A proven, reliable system

- Direct vaporization of isobutane results in energy savings.
- Multiple mixing zones in the reactor increases reliability.
- Over 60 years of ExxonMobil and licensee operating experience from 2 to 12 KBD reactor capacity.
- Technology used in the world's largest alkylation unit.
- Flexibility in partnering with multiple sulfuric acid regeneration technologies.
- 500 years of cumulative operating run time.
- ~250,000 BPSD of cumulative operating capacity (5 units operated by ExxonMobil).

## Services offered:

- Support for licensees from initial consultation through technology transfer and availability of improvements
- Initial, non-confidential based meeting to discuss key features and advantages of technologies available for license, followed by technology-specific confidentiality agreement, based on identified needs
- Detailed technical proposal on identified needs and feedstocks
- Technology transfer, process design package and consultation during project execution
- Training, commissioning, start-up and operation support
- Technology improvement exchange, available with access to improvements to the licensed technology

## About us

ExxonMobil helps refiners and petrochemical manufacturers increase capacity, lower costs, improve margins, reduce emissions and operate safe, reliable and efficient facilities. Along with a commitment to helping to implement best practices and to achieve better results, we provide cutting-edge proprietary catalysts and license advantaged process technologies for refining, gas and chemical needs.



Axens is a worldwide group that provides a complete range of solutions for the conversion of oil and biomass to cleaner fuels, the production and purification of major petrochemical intermediates as well as for gas treatment and conversion options. The offer includes technologies, equipment, furnaces, modular units, catalysts, adsorbents and related services. Axens is ideally positioned to cover the entire value chain, from feasibility study to unit start-up and follow-up throughout the entire unit life cycle. This unique position ensures the highest level of performance with a reduced environmental footprint. Axens global offer is based on: highly trained human resources, modern production facilities and an extended global network for industrial, technical supports & commercial services.

**ALKEMAX™ SAA technology provides proven solutions for high-octane alkylate production.**

Collaborate with us today.  
[catalysts-licensing.com](http://catalysts-licensing.com)

Alkyfining is a registered trademark  
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