SYNPRIME™ LUBRICANT ESTERS
INNOVATING IN A CHALLENGING ENVIRONMENT

Today’s environment demands that lubricants meet unique durability, compatibility and performance requirements. Whether it’s improving performance through reduced energy consumption, prolonging equipment service life, reducing parts replacement and downtime, or complying with strict environmental regulations and worker safety requirements, there are challenges to deliver high-performing and application-compatible solutions.

Where can you find the lubricant esters and technical expertise to help you create the right combination of chemistry and performance to meet your needs?

YOUR SUCCESS WITH OUR SOLUTIONS

We recognize that ester chemistry for lubricant formulation is not a one-size-fits-all approach. Standard products can sometimes fall short in meeting all of your specific performance requirements. At PolyOne, we close the gap by working closely with our customers to understand their needs and develop cost-effective, customized solutions.

The combination of PolyOne’s broad chemistry portfolio and custom product approach offers the versatility needed to fill the void left by backward integrated suppliers who may not be concerned with what you really need. We have the desire and capability to help you meet application-specific durability, biodegradability, viscosity and temperature performance requirements.

When you collaborate with PolyOne, you can leverage our ester expertise along with our manufacturing agility and flexibility to help you to develop custom specialty solutions—especially for modest annual volume requirements.
SynPrime™ Lubricant Esters offer the following benefits versus mineral-based and other synthetic alternatives:

- Polar chemistry that enables formation of strong and stable lubrication film-forming surfaces
- Natural detergency that reduces insoluble residues and often removes pre-existing deposits
- Lower pour point, reduced volatility, better viscosity index, higher flash points, and improved thermal/oxidative stability
- Improved biodegradability

When you formulate with SynPrime™ Lubricant Esters you can help your customers:

- Reduce capital expenditures and maintenance costs through longer equipment service life
- Lower operating costs by reducing energy consumption and equipment downtime by lengthening oil change intervals and reducing maintenance due to metal wear or coke deposit removal
- Participate in applications that require compliance with environmental regulations
- Support a sustainable future by reducing environmental impact with improved biodegradability, cleaner equipment operation and reduced waste from less frequent oil changes
- Meet lubricant performance requirements for specialty applications through PolyOne’s flexible manufacturing capabilities, agility and modest annual volume requirements
# SynPrime™ Lubricant Ester Chemistry Families

**ADIPATES**
- Relatively high viscosity index
- Excellent low-temperature flow properties
- Good solvency
- Excellent oxidative stability

![Adipate molecule](image)

Automotive, aviation and industrial lubricant applications
- Transmission and gear fluids
- Aviation fluids
- Hydraulic fluids
- Compressor oils

**PHTHALATES**
- Lower volatility than mineral oils
- Good low-temperature and seal-swell properties
- Natural detergency that reduces insoluble residues

![Phthlate molecule](image)

Automotive and industrial lubricant applications
- Engine oils
- Compressor oils and greases

**SEBACATES**
- Relatively high viscosity index
- Excellent low-temperature flow properties
- Good solvency
- Improved high temperature performance versus adipates

![Sebacate molecule](image)

Automotive, aviation and industrial lubricant applications
- Transmission and gear fluids
- Aviation fluids
- Compressor oils

**STEARATES**
- Excellent lubrication
- Easily emulsified
- Excellent metal adhesion and corrosion protection

![Stearate molecule](image)

Metalworking applications
- Non-ferrous machining fluids

**TRIMELLITATES**
- Relatively high viscosity
- Excellent oxidative stability
- Good solvency and lubricating properties
- Excellent for high temperature applications

![Trimellitate molecule](image)

Automotive and industrial lubricant applications
- Engine oils
- Compressor oils
- High-temperature chain oils
- Greases
MARKETS AND APPLICATIONS

Lubricants formulated with SynPrime® Esters are ideal for a wide range of high-performance applications including:

TRANSPORTATION
- Motor oils
- Gear oils
- Transmission fluids
- Greases
- Hydraulic fluids

INDUSTRIAL
- Compressor oils
- Hydraulic fluids
- Metalworking fluids
- Gear oils
- Chain oils
- Greases

And other applications that require high temperature or low temperature utility and long-life lubrication.

NO SURPRISES PLEDGE

At PolyOne, we are committed to helping you grow your business with safe and environmentally sound solutions. This commitment is exemplified by our No Surprises Pledge™ which we make to all customers and markets, across the globe.

- You can be confident that, in manufacturing our materials, we use sustainable practices to provide long-term product viability and sound environmental stewardship
- You can expect that the materials we produce contain only ingredients that conform to accepted legal and regulatory compliance guidelines
- You can trust that PolyOne materials meet the rigorous quality and safety management standards required across the globe
- You can be certain that PolyOne meets or exceeds the material safety data reporting requirements of your country or region
- When you choose PolyOne, you can be confident our products will help you meet or exceed today's stringent compliance standards

For more information, please visit www.polyone.com/synprime
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