

Synthetic Lubricants & Functional Fluids Market in the US

Industry Study with Forecasts for 2020 & 2025

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The overall market for lubricants and functional fluids, synthetic and otherwise, is expected to be flat in volume terms through 2020, largely due to improved equipment and fluid technology that permits lengthening drain intervals. Growth in the market for synthetic lubricants and functional fluids will be spurred by rising penetration of synthetics into markets that have historically been dominated by conventionally formulated products. Consequently, high-value synthetics will increasingly be the focus of marketing, research, and development in the lubricant and functional fluid industry.

Engine oils to see fastest changes

Engine oils will continue to comprise the largest product category and will undergo the fastest changes. Regulatory requirements such as Corporate Average Fuel Economy (CAFE) and evolving emissions standards issued by the EPA will drive a progression toward higher quality engine oils with lower viscosity. The most significant gains in synthetic engine oils will occur in the light vehicle market, which is quickly shifting toward very low viscosities in new vehicles due to automaker recommendations. Through 2020, heavy-duty truck operators will begin moving toward 10W-30 and even 5W-30 engine oils, creating greater opportunities for synthetics.

Group III oils post fastest demand growth in synthetic basestocks

The market for synthetic engine coolants, on the other hand, will continue to contract due to lengthening drain

intervals, albeit at a slower pace than that between 2005 and 2015. As a result, demand growth for glycols will significantly lag that for other materials, since glycols are primarily used in formulating engine coolants. Demand for polyalkylene glycols, however, will surge based on their usage as advanced lubricating basestocks.

Group III oils will outpace other synthetic basestocks in demand growth. These materials are less expensive than similar basestocks such as polyalphaolefins, although they do not provide the same level of performance. Group III oils will remain significantly lower in price compared to other synthetic basestocks during the forecast period, following many global refining capacity expansions that have occurred over the past several years.

Study coverage

This Freedonia industry study analyzes the \$4.3 billion US market for synthetic lubricants and functional fluids. It presents historical demand data (2005, 2010, 2015) plus forecasts (2020, 2025) by product (engine oil, engine coolant, transmission and hydraulic fluids, heat transfer fluid, metalworking fluid, electrical oil, other), material (glycol, polyalphaolefin, ester, Group III base oil, aromatic, silicone fluid, other), and market (automotive, metal processing, aerospace, energy and power generation, industrial equipment, process industries, other). The study also analyzes company market share and competitors such as AMSOIL, BP, Chevron, Dow Chemical, Eastman Chemical, ExxonMobil, Old World Industries, Prestone Products, Shell, and Valvoline.

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Table 4-1 | Synthetic Lubricant & Functional Fluid Demand by Material (million dollars)

Item	2005	2010	2015	2020	2025
Synthetic Lube/Functional Fluid (mil gal) \$/gallon					
Synthetic Materials in Lubes/Fluids					
Glycols					
Polyalphaolefins					
Esters					
Group III Base Oils					
Aromatics					
Silicone Fluids					
Other					

Source: The Freedonia Group

Industry Structure

- 1 US Synthetic Lubricant & Functional Fluid Sales by Company, 2015
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PRODUCTS

Electrical Oils
Demand for synthetic electrical oils is expected to grow at a rate of 2.5% per annum to 2025. Growth is expected to be higher in the power generation and industrial sectors. As a result, the synthetic electrical oil market is limited by factors that restrict the use of dry-type transformers.

Electrical oils are used to insulate, cool, and protect high-voltage electrical equipment including power and distribution transformers, circuit breakers, capacitors, switchgear, X-ray machines, and insulating cables. Electrical oils must maintain good dielectric properties under severe operating conditions while resisting the formation of acids and sludge, which can shorten equipment life. Although mineral oil is expected to remain dominant in the electrical oil market through 2020, synthetic and ester-based fluids will continue to gain ground. These alternative materials offer fire resistance or biodegradability for sensitive applications.

Synthetic transformer oils can improve electrical efficiency, reducing operating expenses. Additionally, the Department of Energy periodically updates its requirements of the efficiency of newly manufactured transformers. The most recent rule, DOE 2016 Efficiency, increased the minimum efficiency level of distribution transformers manufactured on or after January 1, 2016. The new rule is expected to support gains in demand for synthetic electrical oils.

In general, technological changes in electric power equipment are gradual. Most equipment is based on highly mature technology, and to

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Table 5-6 | Metal Fabrication Market for Synthetic Lubricants & Functional Fluids (million dollars)

Item	2005	2010	2015	2020	2025
Syn Metal Fabrication Fluids (mil gal) \$/gallon					
Synthetic Metal Fabrication Fluids					
Metalworking Fluids					
Heat Transfer Fluids					
Other Fluids					
% metal					
Synthetic Lube/Functional Fluid Demand					

Source: The Freedonia Group

Related Studies

Solvents

US demand for solvents is forecast to rise just over one percent yearly through 2020 to 9.6 billion pounds. Environmental regulations will continue to drive a shift toward less hazardous solvents. Public perception and consumer preference will also favor green products derived from renewable sources such as soy methyl ester and terpenes. This study offers historical demand data as well as forecasts for 2020 and 2025 by product and market. The study also considers key market environment factors, evaluates company market share and profiles US industry competitors.

#3429..... July 2016 \$5300

Corrosion Inhibitors

US demand for corrosion inhibitors will increase 3.1 percent per year to \$2.8 billion in 2020. Growth will be fueled by overall economic expansion, with industries such as chemicals and metals manufacturing particularly benefiting. Recovery in the oil and gas market will take hold by 2020, aiding demand in drilling and hydraulic fracturing applications. This study analyzes the \$2.5 billion US market for corrosion inhibitors, with forecasts for 2020 and 2025 by application, market and product. The study also evaluates company market share and profiles industry competitors.

#3409..... April 2016 \$5300

Lubricants

US demand for lubricants will rise slightly to 2.4 billion gallons in 2020, with a value of \$23.5 billion. As most products move toward higher-quality lubricants, transmission fluids, gear oils, and engine oils will be affected by the lengthening drain intervals associated with improvement in fluid technology. This study provides historical demand data (2005, 2010 and 2015) plus forecasts (2020 and 2025) by basestock, formulation, product and market. The study also considers key market environment factors, evaluates company market share and profiles US industry competitors.

#3394..... April 2016 \$5400

World Lubricants

World demand for lubricants will rise 2.0 percent annually to 45.4 million metric tons in 2019. Growth will be supported by increasing demand for engine oils in new motor vehicles, but will be tempered by longer drain intervals that slow the engine oil aftermarket. The Asia/Pacific market will grow the fastest. This study analyzes the 41.1 million metric ton world lubricant industry, with forecasts for 2019 and 2024 by formulation, product and market for six world regions and 23 major countries. The study also evaluates company market share and profiles industry players.

#3364..... December 2015 \$6500

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Freedonia's methods

- Establishing consistent economic & market forecasts
- Using input/output ratios, flow charts & other economic methods to quantify data
- Employing in-house analysts who meet stringent quality standards
- Interviewing key industry participants, experts & end users
- Researching a proprietary database that includes trade publications, government reports & corporate literature

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