World Fuel Additives

Industry Study with Forecasts for 2016 & 2021

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Global demand in value terms for fuel additives will grow 8% per annum to over $59 billion in 2016 as volume demand for gasoline oxygenates such as MTBE rises in developing regions.

World demand to rise 4.7% per annum through 2016

The world market for fuel additives by volume is forecast to grow 4.7 percent per year to 26.5 million metric tons in 2016, with demand in value terms rising 8.0 percent yearly to $59.4 billion. Total fuel additive demand in volume terms is heavily dominated by gasoline oxygenates, such as methyl tertiary butyl ether (MTBE). In 2011, ether oxygenates accounted for 94 percent of total demand.

Excluding oxygenates, global demand for specialty fuel additives is projected to rise 3.6 percent per year to 1.5 million metric tons in 2016. The rapidly growing fuel market in China will drive advances, particularly as China’s fuel standards become stricter and additive treat rates rise. Globally, deposit control additives will exhibit the greatest gains, promoted by higher standards needed to accommodate the increased use of newer engine technology. Cold flow improvers will be the fastest growing product type, though from a much smaller base.

Oxygenates to remain dominant fuel additive

While most industrialized nations have already met their target sulfur levels, many industrializing nations have not yet fully transitioned to low sulfur diesels, which need higher levels of lubricity improvers, cold flow improvers, and other additives. As the motor vehicle market globalizes, vehicle manufacturers around the world are producing more efficient and better performing engines, which require high quality fuel types.

Ethanol, biodiesel use to hike fuel additive demand

Many countries have also adopted biofuel mandates as a way to reduce overall consumption of petroleum products. In order to meet targeted biofuel levels, many countries are expected to increase the levels of ethanol and biodiesel blended into their gasoline and diesel supplies. Ethanol and biodiesel use will have a substantial impact on fuel additive demand by necessitating increased use of antioxidants, corrosion inhibitors, cold flow improvers, and other products. Biofuel mandates are expected to contribute to expanded demand for ethyl tertiary butyl ether (ETBE), which is used in many European markets as an alternative to direct blending of ethanol. In addition, ETBE treat rates will expand as ETBE is used as a replacement for MTBE, which is coming under increased scrutiny in developed nations over its possible health effects. However, use of MTBE in developing regions is expected to continue to grow, leading to continued gains in MTBE demand.

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Iran: Demand by Type -- Iranian demand for specialty additives is forecast to increase 5.1% per year to 37.0 million kilograms in 2016. Gaining additization levels in the country suggest that the country is seeking to improve the quality of its fuels in order to meet emissions and efficiency standards.

Deposition control additive demand is expected to increase 6.7% per year to 18.0 million kilograms in 2016. Gains will be promoted by improving engine technology that favors more efficient engines, which are often more sensitive to the effects of harmful deposits. Another important factor will be the adoption of additional regulation covering hydrocarbon and NOx emissions, both of which are impacted by the presence of engine deposits.

Demand for cetane improvers is expected to grow slowly to 4.9 million kilograms in 2016. Growth will be hindered by the continuous process of lowering sulfur content in Iranian fuels, which will have a positive impact on cetane number. Additionally, cetane improver treat rates were already higher than in most other countries in the region.

Lubricity improver and cold flow improver demand will both benefit from declining sulfur levels in fuels, with demand increasing to 4.5 and 1.1 million kilograms, respectively, through 2016. However, growth in lubricity improver demand will be restrained by historically high treat rates relative to the rest of the region, while cold flow improvers will benefit from both declining sulfur levels and modest gains in other refined petroleum products.

Corrosion inhibitor demand is expected to increase to 600,000 kilograms in 2016, as treat rates rise to improve fuels’ storability as an 295...
Stepan Company
22 West Frontage Road
Northfield, IL  60093
847-446-7500
http://www.stepan.com

Sales:  $1.8 billion (2011)
Employment:  1,850 (2011)

Key Products:  biodiesel and emulsifier additives

Stepan is a manufacturer of specialty and intermediate chemicals used in a broad range of industries. The Company operates in three segments: Surfactants, Polymers, and Specialty Products.

The Company is active in the world fuel additives industry through the Surfactants segment, which had 2011 sales of $1.4 billion. Of the segment’s total 2011 sales, North America accounted for 62 percent, Europe accounted for 23 percent, Central and South America accounted for 11 percent, and Asia accounted for four percent. The Surfactants segment makes a range of products, including STEPAN BIODIESEL SB-D and STEPAN BIODIESEL SB-W biodiesel, and IGEPAL CA-520 emulsifier additives.

Stepan’s STEPAN BIODIESEL SB-D and STEPAN BIODIESEL SB-W biodiesel additives contain soybean oil and methyl ester for use in blends with petroleum-based diesel fuel. Specifically, trucks and locomotives can utilize biodiesel blends interchangeably with petroleum-based diesel without making any modifications to existing fuel systems or engines. IGEPAL CA-520 emulsifiers can be used as anti-icing additives in automotive gasoline.

“Demand for specialty gasoline additives is forecast to increase 7.3 percent annually to 17.1 million kilograms in 2016. Gains will be promoted by accelerated growth in gasoline demand, in addition to modernizing standards for vehicle economy and emissions standards. Iran uses European Union standards for its vehicles, with Euro 3/Euro III adopted in 2008 for new cars, and Euro 4/Euro IV in 2012 for new cars; old vehicles were required to switch to Euro 3/Euro III in 2010. However, full adoption of some of these standards has been difficult because of poor fuel quality, resulting in higher levels of specialty fuel additives being blended into the gasoline supply ...”

--Section VIII, pg. 293
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