

Global Bio-Lubricants Market Outlook to 2027

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Abstracts

Bio-based lubricants are lubricants that are both rapidly biodegradable and non-toxic to humans and the aquatic environment. According to BlueQuark Research & Consulting, the global bio-lubricants market is expected to witness a considerable growth rate during the forecasted period. The demand for environment-friendly lubricants is likely to increase as mineral oil-based lubricants are not biodegradable and contain toxic constituents that affect the environment. In addition to this, the developed nations have made it mandatory to use only environment-friendly lubricants for applications near water, soil, food, and pharmaceutical processing units, among others, that are likely to drive the bio based lubricants market further. Generally, bio based lubricants are 30-40% costlier than base oil-based lubricants. However, the high cost of production of bio-based lubricants is expected to restrain the growth of the market during the forecast period.

Mineral oil-based lubricants are inexpensive and hence extensively used in Industry & transport sector. However, they are not biodegradable and contain toxic constituents that have hazardous effects on the environment & life. For instance, oil spills lead to contamination of seawater and coasts that causes serious damages to marine life as well as human beings. It is estimated that about 50% of all the oil used ends up in the environment. Petroleum based lubricants are the leading type of base oil used in this industry. The effluent treatment has been made mandatory for spent petro/synthetic lubricant. For instance, the US Environmental Protection Agency introduced its second Vessel General Permit according to which every ship operator navigating in or entering US waters must use environmentally acceptable lubricants in all applications with an oil-to-sea interface. In Australia, bio-lubricants have been used extensively in the development of Victoria's commercial port including in dredging and piling equipment used for the channel deepening operations. While at Ravenna in Italy, container stackers in the port have successfully been tested and are now using bio-lubricants for environmental benefits, better performance, and economic feasibility. Bio lubricants



have exclusive properties like very high lubricity, polar nature, and high viscosity index that prove them to be the best lubricants to save energy wasted in friction to an extent of 15%. Moreover, bio-lubricants lead to a reduction in the rising of working temperature to the extent of 40% that increases the life of the equipment substantially. High flash point & low evaporation rate makes bio-lubricants the most suitable product for high-temperature applications for safety and lower consumption. Oil spills often lead to soil pollution whose loss and degradation are not recoverable within a human life span. Without healthy soils, it is highly difficult to grow food. Food and Agriculture Organization estimates that almost 95% of the total food consumed is directly or indirectly produced on soils.

To tackle the high cost of bio-lubricants, recent studies have found that lignocellulose has the potential to address the high-cost issues and narrow down the gap between vegetable and petroleum lubricants. In this context, a California-based US company, Novvi LLC, developed the first sugar cane-derived 100% renewable base oil which is certified by NSF (National Sanitation Foundation) as an H1 grade high-performance food-based lubricant.

The global Bio-Lubricants Market is segmented on the basis of Group, Product Type, and End-user Industry. The product type segment is further segmented as Engine Oil, Hydraulic Oil, Metal Working Fluids, Greases, among others. Increasing Demand for Hydraulic lubricants from forestry and agricultural industries is expected to drive the biolubricants market as they optimize the operation of equipment such as harvesters, cranes, tractors, and load carriers in forests. For hydraulics, bio-lubricants offer even better performance compared to petrochemical-based lubricants. Moreover, the increase in the use of environmentally sound hydraulic fluid can be attributed to a growing awareness of the potential environmental impact and the need to observe legal and regulatory requirements, further driving the biolubricants market. Bio lubricant produces a cleaner, less toxic work environment and fewer skin problems for those working with engines and hydraulic systems and are highly biodegradable, and are less cost over the product's life-cycle due to less maintenance, storage, and disposal requirements. Moreover, the use of bio-lubricants in the forestry and agriculture industries helps in avoiding the toxic effect with the spill of toxic lubricant components into the forest and cultivation lands. Further, hydraulic oil applications include quarries/sand pits, forestry, river navigation, civil works, road building equipment, and heavy equipment among others. With the ongoing research to increase the drain intervals for a longer lubricant lifetime, the global market for bio-based hydraulic oils is expected to grow in the coming years. Biodegradable hydraulic oil in the offshore and marine industries has been in use since 1985, as an alternative to mineral oil-based



products, which only degrade slowly and inadequately. The University of Northern Iowa Ag-Based Industrial Lubricants Research Center (UNI-NABL) has licensed 30 formulated hydraulic oil, greases, and base oils made from high oleic (genetically modified) soybeans.

Based on geography, the global bio-lubricants market is segmented into Asia Pacific, North America, South America, Europe, and Middle East & Africa. North America and European regions were found to be dominating the market for bio-based lubricants and the trend is likely to continue during the forecast period.

In the European region, Germany is the largest consumer of bio-lubricants followed by Nordic countries. In terms of product type, hydraulic oils were found to be the major type in the country. Hydraulic oils are used in various end-user industries including construction, forestry, agriculture, and other small industrial applications. Moreover, the market for bio-lubricants in the country is relatively well established with high awareness and consumption. The market for bio-lubricants in Germany was kick-started by the FNR (Fachagentur Nachwachsende Rohstoffe) subsidy scheme, providing subsidies to certain bio-lubricants products. Further, Blue Angel Label has contributed to the growth of bio-lubricants consumption in the country. The aim of the Blue Angel eco-label for biodegradable lubricants and hydraulic fluids is to enable the end-users to choose products that are made primarily using renewable raw material (vegetable oil & animal oil and stand out due to their good biodegradability. Due to the ongoing Covid-19 pandemic, between January and May 2020, the incoming orders of construction equipment manufacturers at production sites in the country declined by 26% compared to 2019. Machinery sales in Germany from January to May 2020 declined by 8% which is relatively stable, especially compared to the rest of Europe. In spite of a stagnated market in Germany and Europe and also limited growth on a global level, the outlook for the German bio-lubricants industry is optimistic.

In the year 2019, the global bio lubricant market was found to be partially consolidated. Some of the key players in the market are BP Plc, Chevron Corporation, Fuchs, Total, and Exxon Mobil Corporation, among others.

In November 2019, Italy-based chemical producer So.G.I.S. commissioned NextChem to construct a plant that will be used to transform residual fats into oleic acid, an intermediate product for the production of non-fossil biodegradable, biocompatible, and safe lubricants.

Our Global Bio Lubricants Market report provides deep insight into the current and



future state of the Bio Lubricant Market across various regions. The study comprehensively analyzes the Bio-Lubricants Market by segments based on a group (Monoesters, Diesters, Poly Esters, Complex Esters, and Others), by product (Engine Oil, Hydraulic Oil, Metalworking Fluids, Greases, and Others), by end-user industry (Transportation, Heavy Equipment, Food & Beverage, Metallurgy and Metalworking, and Others), and by Geography (Asia Pacific, North America, Europe, South America, and Middle-East and Africa). The report examines the market drivers and restraints, along with the impact of Covid-19 are influencing the market growth in detail. The study covers & includes emerging market trends, market developments, market opportunities, market size, market analysis, market dynamics, and challenges in the industry. This report also covers extensively researched competitive landscape sections with profiles of major companies including their market share and projects.



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