# United States Biosurfactants Market By Type (Glycolipids, Alkyl Polyglucosides, Methyl Ethyl Sulfonates, Sucrose Esters, Sorbitan Esters, Others), By Application (Household Detergents, Personal Care, Food Processing, Oilfield Chemicals, Textiles, Others), By Region, Competition, Forecast and Opportunities, 2019-2029F

Market Report | 2024-12-06 | 85 pages | TechSci Research

**AVAILABLE LICENSES:**

- Single User License $3500.00
- Multi-User License $4500.00
- Custom Research License $7000.00

**Report description:**

United States Biosurfactants Market was valued at USD 132.68 million in 2023 and is anticipated to project steady growth in the forecast period with a CAGR of 4.02% through 2029. Biosurfactants, also referred to as biological surface-active agents, have garnered notable attention across diverse industries owing to their exceptional emulsification capabilities and environmental compatibility. Derived from renewable sources, these versatile compounds present a sustainable and eco-conscious alternative to synthetic surfactants.

A significant driver propelling the biosurfactants market is the increasing preference for bio-based products across multiple sectors. For instance, the personal care and cosmetics industry are witnessing a surge in demand for natural and organic ingredients, including biosurfactants. This shift towards environmentally friendly formulations significantly impacts the biosurfactants market, prompting manufacturers to intensify their research and development efforts to innovate bio-based surfactants.

Stringent environmental regulations imposed by the U.S. government contribute to the growth of the biosurfactants market. These regulations aim to minimize the environmental footprint of synthetic surfactants, thereby promoting the adoption of eco-friendly alternatives like biosurfactants.

Despite facing challenges such as high production costs and competition from synthetic surfactants, the outlook for the U.S. biosurfactants market remains positive. The increasing demand for sustainable and eco-friendly products fuels the market's growth trajectory.

Key Market Drivers

Growing Demand of Biosurfactants in Food Processing

The growing demand for biosurfactants in food processing is a key driver in the United States biosurfactants market. As consumer preference shifts toward natural and sustainable ingredients, food manufacturers are increasingly turning to biosurfactants for their eco-friendly properties and effectiveness. Biosurfactants, derived from renewable sources such as plants, microorganisms, and algae, offer several advantages over synthetic surfactants, including biodegradability, lower toxicity, and non-carcinogenic properties. These characteristics align with the rising demand for clean-label and green-certified products in the food industry.
Biosurfactants are used in various applications within food processing, such as emulsification, foaming, and stabilization of food products, including dairy, sauces, dressings, and beverages. Their ability to improve the texture and shelf life of these products is a significant factor driving their adoption. As consumer awareness of health and environmental concerns increases, companies are exploring biosurfactants as a means to meet regulatory standards and cater to the demand for healthier and safer food options.
The shift towards plant-based and organic food products is also contributing to the rise in biosurfactant use, as these ingredients are more aligned with the principles of sustainability and natural production processes. Additionally, biosurfactants offer cost-effective alternatives to traditional surfactants, making them attractive to food manufacturers seeking to reduce production costs without compromising on quality. As the food processing sector continues to evolve, the demand for sustainable and efficient ingredients like biosurfactants is expected to expand, further accelerating their adoption in the U.S. market.
Growing Demand of Biosurfactants in Textile Industry
In the textile sector, biosurfactants are gaining popularity for their versatile uses. These adaptable compounds function as sizing agents, aids in dyeing and printing, and are integral to washing off and desizing processes. By reducing surface and interfacial tension, biosurfactants optimize the efficiency of textile processing, leading to overall performance enhancements.
There's a notable shift towards sustainability in the textile industry, with an increasing focus on reducing environmental impacts associated with production processes. This transformative trend is fueling the growing demand for biosurfactants. Manufacturers are progressively substituting traditional, environmentally harmful surfactants with eco-friendly, bio-based alternatives to meet the rising demand for sustainable practices within the sector.
Advancements in biotechnologies have opened avenues for the production of microbial biosurfactants. These innovative variants hold significant promise for various applications in the textile industry, such as enhanced oil recovery and biopesticides. With their unique attributes and eco-friendly characteristics, biosurfactants are poised to play a pivotal role in shaping the future of textile processing, ushering in a more sustainable and efficient era for the industry.
Key Market Challenges
High Cost of Production
Biosurfactants are valuable compounds sourced from renewable materials. The production of biosurfactants tends to incur higher costs compared to synthetic surfactants, primarily due to various factors. The raw materials utilized in biosurfactant manufacturing, such as plant oils and sugars, often come at a premium. While essential for biosurfactant synthesis, these renewable resources can be expensive to obtain and process. The fermentation process involved in biosurfactant production is intricate and requires specialized equipment and techniques, further adding to the production expenses.
The purification and extraction of biosurfactants from the fermentation broth present significant challenges. This involves several complex steps, including centrifugation and drying, which substantially contribute to the overall production costs.
The higher production costs make biosurfactants pricier than their synthetic counterparts, impacting their competitiveness in the market. Despite their notable advantages, such as biodegradability and lower toxicity, the elevated price may deter potential buyers, especially in markets sensitive to pricing.
The increased production costs also affect the profitability of biosurfactant manufacturers. To maintain competitiveness, these manufacturers must invest significantly in research and development to explore innovative approaches for cost reduction while upholding the quality and effectiveness of biosurfactants.
Understanding the intricacies of biosurfactant production costs is crucial for industry stakeholders to optimize production processes, streamline raw material procurement, and implement efficient recovery methods. These efforts are essential for improving the affordability and accessibility of biosurfactants, ultimately fostering their widespread adoption across various industries.
Competition from Synthetic Alternatives
The United States biosurfactants market faces significant competition from synthetic alternatives, which presents a key challenge

to market growth. Synthetic surfactants, such as petrochemical-based products, are often more cost-effective and readily available compared to their biosurfactant counterparts. These synthetic options are widely used across various industries, including detergents, personal care, and oil recovery, owing to their established supply chains and economies of scale. The lower production costs of synthetic surfactants allow manufacturers to offer more competitively priced products, creating pressure on biosurfactant producers to lower prices or enhance the value proposition of their offerings.

While biosurfactants are favored for their environmental benefits, including biodegradability and lower toxicity, they still face challenges in matching the performance and cost efficiency of synthetic surfactants. In addition, the production of biosurfactants is more complex and can involve higher initial capital investment, which adds to the overall cost structure.

Consumer demand for sustainable and eco-friendly products is driving interest in biosurfactants, but synthetic alternatives continue to dominate due to their affordability and long-standing market presence. As a result, biosurfactant producers must overcome this price-performance barrier by innovating in production processes, scaling operations, and expanding their applications to increase their market share. Addressing these challenges is essential for positioning biosurfactants as a viable, sustainable alternative in the highly competitive surfactant market in the United States.

Key Market Trends

Surge in Technological Advancements

The ongoing advancements in technology are revolutionizing the landscape of biosurfactant production, enabling researchers to delve deeper into the manipulation of microbial strains. By harnessing genetic engineering and synthetic biology techniques, scientists can precisely tailor microorganisms to generate biosurfactants with enhanced features. This meticulous approach allows for the optimization of biosurfactant synthesis, resulting in compounds that exhibit superior emulsifying, foaming, and antimicrobial properties.

With these technological breakthroughs, biosurfactants are becoming increasingly versatile, finding applications across a wide array of industries. From agriculture to pharmaceuticals, these engineered biosurfactants are proving invaluable in enhancing product performance and sustainability. By expanding their potential applications, technological progress is paving the way for biosurfactants to become indispensable components in various sectors, driving innovation and efficiency.

Beyond advancements in production techniques, technological innovations are spurring progress in biosurfactant utilization. The emergence of nanotechnology and biotechnology-driven approaches is creating fresh possibilities for integrating biosurfactants into advanced materials and products. Biosurfactants are being incorporated into nanomaterials, nanoparticles, and nanocomposites to address needs in fields like drug delivery, environmental cleanup, and enhanced oil recovery.

Rising Consumer Demand for Natural Products

The rising consumer demand for natural products is a significant trend in the United States biosurfactants market, reflecting growing concerns about environmental sustainability and health. Consumers are increasingly seeking products that are biodegradable, non-toxic, and derived from renewable resources, pushing manufacturers to shift towards more sustainable and eco-friendly alternatives. Biosurfactants, produced through microbial fermentation using natural raw materials such as sugars or oils, align with these preferences, offering a green alternative to synthetic surfactants that are often petroleum-based and harmful to the environment. The growing awareness of the environmental impact of traditional surfactants is motivating industries across sectors such as personal care, household cleaning, and food processing to adopt biosurfactants in their formulations.

In personal care, consumers are favoring natural ingredients in skin care, hair care, and cosmetics, driving demand for biosurfactants known for their mildness and gentle cleaning properties. In the household cleaning sector, products made with biosurfactants are gaining popularity due to their non-toxic, sustainable composition. The food industry is also embracing biosurfactants for their ability to improve food quality without compromising safety. As consumers continue to prioritize sustainability and natural ingredients, the biosurfactants market in the U.S. is poised for significant growth. Manufacturers are investing in research and development to improve the performance and scalability of biosurfactants, meeting both consumer demand and regulatory requirements for more environmentally friendly products.

Segmental Insights

Type Insights

Based on the category of type, the glycolipids emerged as the dominant segment in the United States market for biosurfactants in 2023. Glycolipids, categorized as a subtype of biosurfactants, have garnered attention for their outstanding emulsification

capabilities. These unique compounds possess the remarkable capacity to lower surface and interfacial tensions, making them highly desirable in a broad spectrum of industrial settings.

A key driver behind the prevalence of glycolipids in the biosurfactants sector is their superior environmental friendliness. With industries increasingly embracing sustainable approaches, glycolipids stand out due to their eco-conscious attributes. Not only are these compounds biodegradable, but they are also non-toxic, resulting in minimal environmental impact.

Glycolipids demonstrate exceptional performance across diverse applications. For instance, within the cosmetics sector, glycolipids are prized for their remarkable moisturizing properties and their ability to create stable emulsions. This versatility and effectiveness across various industries further underscore their significance in the biosurfactants arena.

Regional Insights

Mid-West emerged as the dominant player in the United States Biosurfactants Market in 2023, holding the largest market share in terms of value. The Midwest region, recognized for its robust manufacturing infrastructure, hosts a thriving industry that surpasses others in terms of manufacturing concentration. With manufacturing as its primary sector, the Midwest offers an ideal platform for the production and dissemination of biosurfactants, crucial components across various applications.

The Midwest is distinguished for its intensive agricultural practices, rendering it a significant consumer of biosurfactants. The demand for environmentally friendly pesticides and fertilizers in agriculture further bolsters the Midwest's leadership in the biosurfactants market. This mutually beneficial association between the region's agricultural sector and biosurfactant utilization underscores the Midwest's pivotal role in this domain.

Key Market Players

- Jeneil Biotech Inc.
- AGAE Technologies, LLC
- Logos Technologies LLC
- BASF Corporation
- Stepan Company
- Evonik Corporation
- Allied Carbon Solutions Co., Ltd.
- Solvay S.A.
- TensioGreen Technology Corp.
- GlycoSurf, Inc.

Report Scope:

In this report, the United States Biosurfactants Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

- United States Biosurfactants Market, By Type:
  - o Glycolipids
  - o Alkyl Polyglucosides
  - o Methyl Ethyl Sulfonates
  - o Sucrose Esters
  - o Sorbitan Esters
  - o Others
- United States Biosurfactants Market, By Application:
  - o Household Detergents
  - o Personal Care
  - o Food Processing
  - o Oilfield Chemicals
  - o Textiles
  - o Others
- United States Biosurfactants Market, By Region:
  - o North-East

o Mid-West
o South
o West
Competitive Landscape
Company Profiles: Detailed analysis of the major companies present in the United States Biosurfactants Market.
Available Customizations:
United States Biosurfactants Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:
Company Information
□□Detailed analysis and profiling of additional market players (up to five).

**Table of Contents:**


1. Product Overview
1.1. Market Definition
1.2. Scope of the Market
1.2.1. Markets Covered
1.2.2. Years Considered for Study
1.2.3. Key Market Segmentations
2. Research Methodology
2.1. Objective of the Study
2.2. Baseline Methodology
2.3. Key Industry Partners
2.4. Major Association and Secondary Sources
2.5. Forecasting Methodology
2.6. Data Triangulation & Validation
2.7. Assumptions and Limitations
3. Executive Summary
3.1. Overview of the Market
3.2. Overview of Key Market Segmentations
3.3. Overview of Key Market Players
3.4. Overview of Key Regions/Countries
3.5. Overview of Market Drivers, Challenges, Trends
4. United States Biosurfactants Market Outlook
4.1. Market Size & Forecast
4.1.1. By Value
4.2. Market Share & Forecast
4.2.1. By Type (Glycolipids, Alkyl Polyglucosides, Methyl Ethyl Sulfonates, Sucrose Esters, Sorbitan Esters, Others)
4.2.2. By Application (Household Detergents, Personal Care, Food Processing, Oilfield Chemicals, Textiles, Others)
4.2.3. By Region
4.2.4. By Company
4.3. Market Map
4.3.1. By Type
4.3.2. By Application
4.3.3. By Region
5. North-East Biosurfactants Market Outlook
5.1. Market Size & Forecast
5.1.1.By Value

5.2. Market Share & Forecast
5.2.1. By Type
5.2.2. By Application
6. Mid-West Biosurfactants Market Outlook
6.1. Market Size & Forecast
6.1.1.By Value
6.2. Market Share & Forecast
6.2.1. By Type
6.2.2. By Application
7. South Biosurfactants Market Outlook
7.1. Market Size & Forecast
7.1.1.By Value
7.2. Market Share & Forecast
7.2.1. By Type
7.2.2. By Application
8. West Biosurfactants Market Outlook
8.1. Market Size & Forecast
8.1.1.By Value
8.2. Market Share & Forecast
8.2.1. By Type
8.2.2. By Application
9. Market Dynamics
9.1. Drivers
9.2. Challenges
10. Market Trends & Developments
10.1. Recent Developments
10.2. Product Launches
10.3. Mergers & Acquisitions
11. Policy & Regulatory Landscape
12. United States Economic Profile
13. Competitive Landscape
13.1. Jeneil Biotech Inc.
13.1.1. Business Overview
13.1.2. Company Snapshot
13.1.3. Products & Services
13.1.4. Financials (In case of listed)
13.1.5. Recent Developments
13.1.6. SWOT Analysis
13.2. AGAE Technologies, LLC
13.3. Logos Technologies LLC
13.4. BASF Corporation
13.5. Stepan Company
13.6. Evonik Corporation
13.7. Allied Carbon Solutions Co., Ltd.
13.8. Solvay S.A.
13.9. TensioGreen Technology Corp.
13.10. GlycoSurf, Inc.

14. Strategic Recommendations
15. About us & Disclaimer

# United States Biosurfactants Market By Type (Glycolipids, Alkyl Polyglucosides, Methyl Ethyl Sulfonates, Sucrose Esters, Sorbitan Esters, Others), By Application (Household Detergents, Personal Care, Food Processing, Oilfield Chemicals, Textiles, Others), By Region, Competition, Forecast and Opportunities,  2019-2029F

Market Report | 2024-12-06 | 85 pages | TechSci Research

To place an Order with Scotts International:

- Print this form
- Complete the relevant blank fields and sign
- Send as a scanned email to support@scotts-international.com

**ORDER FORM:**

| Select license | License | Price |
|---|---|---|
| | Single User License | $3500.00 |
| | Multi-User License | $4500.00 |
| | Custom Research License | $7000.00 |
| | VAT | |
| | Total | |

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

| | | | |
|---|---|---|---|
| Email* | | Phone* | |
| First Name* | | Last Name* | |
| Job title* | | | |
| Company Name* | | EU Vat / Tax ID / NIP number* | |
| Address* | | City* | |
| Zip Code* | | Country* | |

| | |
|---|---|
| Date | 2026-03-04 |
| Signature | |