PRODUCT REPORT- Butyl Acrylate (BA)

Ibrahim alkhalifah

Product Report

SIDF |  Saudi Industrial Development Fund

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# **1.Product Information**

## Definition

## **Butyl Acrylate (BA)** is a prominent member of alkyl acrylates and is a clear colorless liquid with a characteristic fruity odor. It is readily miscible with most organic salts. The commercial discovery of acrylic esters took place while Otto Rohm was conducting his doctoral research in 1901. Rohm obtained a U.S. patent in 1912, cover­ing the vulcanization of acrylates with sulfur. Commercial production of alkyl acrylates by the Rohm and Haas Co. of Darmstadt, Germany, commenced in 1927. Butyl acrylate is obtained by the formal condensation of the hydroxy group of n-butanol with the carboxy group of acrylic acid. The overall reaction of AA and n-BA results in the formation of the corresponding ester and water molecules:

## Acrylic acid + n-Butanol ↔ Butyl acrylate + Water

## 1.2 Application

The market for Butyl acrylate can be segmented into the following applications: Coatings, adhesives and Textiles & Fibers.

## 1.2.a Coatings

The major application of Butyl acrylates is surface coatings. Coatings can be classified as (1) architectural coatings, (2) industrial coatings, and (3) special purpose coatings. Architectural coatings are the largest segment of the paints and coatings in­dustry, as the market also includes consumer coatings. These are used to maintain the surfaces of homes, public buildings, offices, factories, and others. Special purpose coatings are the smallest volume in the coatings industry; however, they experience the fastest growth. These coatings include automotive refinish coatings, industrial mainte­nance coatings, aerosol coatings, marine paints, and traffic marking paint. The most common commodity acrylate used in coatings is butyl acrylate and is mostly used as a base component in coating formula­tions. Butyl acrylate also is often employed in the formulation to allow the final paint formulation to be poured easily.

## 1.2.b. Adhesives

Acrylic polymers and copolymers find use as pressure-sensitive adhesives in tapes, decals, and labels. Along with their superior chemical resistance properties, acrylics possess an excellent balance of tack, peel, and shear properties, which are crucial in the adhesives market. Acrylates also provide thermal stability and reduced set time in adhesives applications. Butyl acrylate are the most common types of acrylates in pres­sure-sensitive adhesives.

## 1.2.c Textiles & Fibers

In textile applications, Butyl Acrylates are used in the form of emulsion polymers as bind­ers for fiberfill and nonwoven fabrics, textile bonding or laminating, flocking, back coat­ing, and pigment printing applications.

## BUTYL ACRYLATE MONOMER – StenfyButyl Acrylate 99.5% Price Competitive (ba) Cas No. 141-32-2 - Buy Butyl Acrylate,Butyl Acrylate Monomer,Butyl Acrylate Price 99.5% Product on Alibaba.com1.3 Pictures

1.4 Product substitutes

There is no substitute for BA however other acrylates like 2- Ethylhexyl Acrylate (2-EHA) can substitute BA in some applications.

# **2. Market Dynamic**

2.1 Historical Supply/Demand

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Butyl Acrylate (TPA)** | **Installed Capacity** | 2021 | 2022 | 2023 |
| Saudi Acrylic Monomer Company | 200,000 | 183,329 | 206,555 | 200,323 |
| Total Production | - | 183,329 | 206,555 | 200,323 |
| Imports | 0 | 0 | 0 |
| Local Demand | **17,015** | **17,342** | **22,511** |
| Growth in local Demand (%) | - | 2% | 30% |
| Exports | 166,314 | 189,213 | 177,812 |
| * Saudi Acrylic Monomer Company (SAMCO) is a JV between Saudi Acrylic Acid Company (75%) & Dow Chemicals (25%). * Dow Chemicals is handling the export market and Saudi Acrylic Monomer Company is for the local market. However, in the future, the Saudi Acrylic Monomer Company will handle both markets. * According to recent information provided in SAU1240, Saudi Acrylic Acid Company is planning to acquire the entire market share held by Dow Chemical in 2024 to be the sole producer and marketer of its products. * Coatings are the largest mar­ket for BA in the Kingdom of Saudi Arabia. The main customers include Sigma Paints, Al-Jazeera, and Jotun. * Butyl Acrylate has been the fastest-growing ester and is expected to remain a dominant ester in the future years due to its versatile use across various applications. * An increase in local demand during 2022 && 2023 is on the recovery from COVID-19. | | | | |

2.2 Future Demand/Balance

The following table shows the supply & demand balance for the subject product in the Saudi market during the next five years: -

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Butyl Acrylate (TPA)** | | | | | |
| Year | 2023 | 2024 | 2025 | 2026 | 2027 |
| Supply | 200,000 | 200,000 | 200,000 | 200,000 | 200,000 |
| Demand | 22,511 | 23,637 | 24,818 | 26,059 | 27,362 |
| Surplus | 177,489 | 176,363 | 175,182 | 173,941 | 172,638 |
| Demand Growth | - | 5% | 5% | 5% | 5% |
| **Comments:**   * The demand in the local market has reached pre-COVID levels in 2023 with an expected annual growth rate of 5% onwards. | | | | | |
|  |

# **3. Porter Five Forces**

Threat of New Entry

Competitive Rivalry

Power of Supplier

Power of Buyer

**-LOW**

High CAPEX & feedstock availability makes this business difficult for a new company to enter.

**-LOW**

SAMCO is the only supplier in the local market.

**-High**

SAMCO is the only local supplier of BA.

**-LOW**

Sellers’ market as single supply of BA in local market.

**-LOW**

2EHA can replace BA in specific applications.

Threat of Substitutes

# **4. Prices**

The selling prices for Butyl Acrylate are dependent on the prices of raw materials and the demand/supply situation in the market. Acrylic acid is propylene derivate and Butyl acrylate is an acrylic acid and Butanol derivative. Butanol is also derived from Propylene. Hence Butyl Acrylate prices are directly dependent on propylene prices which are dependent on crude oil prices. The historical average selling prices during the last five years are as follows: -

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Selling Price (SAR/Ton ) | 2019 | 2020 | 2021 | 2022 | 2023 |
| BA | 4,905 | 4,253 | 8,225 | 6,478 | 4,784 |
| * the selling price has been taken from the Saudi Acrylic Monomer Company * the main reason for the fluctuation in the prices is the crude oil prices | | | | | |

# **5. Product / Market Card**

* Ethylhexyl Acrylate can substitute BA in certain applications

Substitute Product

* Main demand driver is the construction industry in the Kingdom.
* Paint & coating companies are the major customers.

* It is a seller’s market due only single source of supply.

Customer Segmentation

Power of Customer

Demand Drive

Product Market Card

# **6. Success Factors**

* Any potential project in the subject product sector should have a strong raw material source for Acrylic Acid & Normal Butanol.
* Selection of the right technology preferably the technology supplier can be a Joint venture partner.
* Offtake Agreement with take or pay clause in the International market.

# **7. Trade Activity:**

**Top Net Importers**

The following table shows the global net Importing activity (value) for Butyl Acrylate during the years 2020-2022. It highlights the top 10 net importing countries for each year. Analyzing this data provides insights on the targeted market and in evaluating the product's international trade.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **2020** | | **2021** | | **2022** | |
| **Country** | **(US $) million** | **Country** | **(US $) million** | **Country** | **(US $) million** |
| USA | 220 | USA | 298 | USA | 298 |
| Brazil | 34 | Canada | 35 | Rep. of Korea | 54 |
| Mexico | 27 | Brazil | 34 | Brazil | 46 |
| Austria | 23 | Netherlands | 31 | Netherlands | 42 |
| Canada | 21 | Mexico | 29 | Mexico | 41 |
| Russian Federation | 21 | Austria | 22 | Canada | 29 |
| Spain | 16 | Russian Federation | 21 | Spain | 21 |
| Rep. of Korea | 13 | Rep. of Korea | 20 | Türkiye | 17 |
| New Zealand | 12 | Ireland | 18 | Argentina | 17 |
| Türkiye | 12 | Spain | 18 | New Zealand | 14 |
| **Total of top 10 net importers** | 399 |  | 526 |  | 579 |
| **Total of World** | 572 | 745 | 785 |
| **% Top 10 to World** | 70% | 71% | 74% |

Data Source: UNcomtrade (https://comtradeplus.un.org/)

# **Visualizations:**

Trade Activity for the Top Importing Countries of Butyl Acrylate

Share of Top 10 Net Importers Compared to Other Countries during (2020-2022)

1. Top 10 Exporters of during Butyl Acrylate (2020-2022)

# **Insights:**

* During 2020-2022, the **Top 10 net importers** represent 41% of the positive global net imports of total import trade **for** Butyl Acrylate.
* **7 countries** out of the **top 10** global exporters are among the highest importers.
* The top 10 contributors to global exports represent about 90% of the global exports for Butyl Acrylate**, led by** China **at 44%** of exports.