

India Sulphuric Acid Market By Raw Material (Elemental Sulfur, Base Metal Smelters, Pyrite Ore, Others), By Application (Fertilizers, Chemical Manufacturing, Metal Processing, Petroleum Refining, Textile Industry, Automotive, Pulp & Paper, Others), By Region, Competition, Forecast and Opportunities, 2019-2029

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## **Abstracts**

India Sulphuric Acid Market has reached reach USD 842.92 million by 2023 and is anticipated to project robust growth in the forecast period with a CAGR of 6.66% through 2029. Sulphuric acid, a highly corrosive and versatile chemical compound, serves as a key raw material in numerous industries, playing a vital role in the production of fertilizers, detergents, pharmaceuticals, and dyes. Its wide range of applications and significant contributions to various sectors have cemented its importance in the industrial landscape.

The robust growth observed in these sectors, particularly the fertilizer industry, has been a major driver for the increasing demand for sulphuric acid in India. As the agricultural sector strives to meet the growing food demands of the country's population, the need for fertilizers has surged, consequently boosting the demand for sulphuric acid. In fact, it is estimated that India will import around 1.8-1.9 million tonnes of sulphuric acid in 2020, highlighting the nation's strong dependence on imports to fulfill its rising domestic demand.

Apart from market demand, government initiatives have also played a significant role in shaping the sulphuric acid market landscape in India. The government's focus on improving agricultural productivity has led to increased fertilizer usage, further



augmenting the demand for sulphuric acid. Moreover, both public and private investments in research and development (R&D) activities have paved the way for technological advancements in sulphuric acid production, making it more efficient and environmentally friendly.

However, it is important to acknowledge that the sulphuric acid market also faces certain challenges. Given its hazardous nature, stringent regulations are in place for the handling and disposal of sulphuric acid, which adds to operational costs for industries. Additionally, the volatility in raw material prices can significantly impact the market's growth trajectory, posing a challenge for industry players.

Nevertheless, despite these challenges, the future of India's sulphuric acid market appears promising. As the country continues to undergo industrialization and modernize its agricultural sector, the demand for sulphuric acid is expected to remain strong. By strategically investing in R&D efforts and implementing efficient supply chain management practices, India can capitalize on the opportunities presented by this growing market and enhance its position in the global sulphuric acid landscape.

**Key Market Drivers** 

Growing Demand of Sulphuric Acid in Automotive Industry

Sulphuric acid, a highly versatile and indispensable compound, plays a pivotal role in the automotive industry, particularly in the manufacturing of lead-acid batteries used in vehicles. These batteries serve as a fundamental component of automobiles, providing the necessary power to start the engine and run the electrical systems smoothly. As the Indian automotive sector experiences a remarkable surge, the demand for lead-acid batteries, and consequently sulphuric acid, continues to soar.

India, currently holding the prestigious position as the fifth-largest automotive industry globally, boasts an impressive annual production of nearly 25.3 million vehicles in FY20. The government's ambitious plans to amplify the production of electric vehicles (EVs) as part of its unwavering commitment to sustainable development further acts as a catalyst, augmenting the demand for batteries. This significant shift towards EVs is expected to fuel the growth of the sulphuric acid market significantly in the coming years.

Furthermore, ongoing extensive research and development (R&D) activities are relentlessly focused on enhancing battery technology, thereby potentially intensifying



the utilization of sulphuric acid. Revolutionary advancements such as Advanced Lead-Acid Batteries (ALAB), which offer superior performance and an extended lifespan, have been gaining notable traction in the industry. This commendable progress further propels the demand for sulphuric acid, as ALABs continue to make their mark.

It is important, however, to acknowledge that the augmented use of sulphuric acid brings forth various environmental challenges due to its hazardous nature. Therefore, the implementation of proper handling and disposal mechanisms becomes paramount to ensure minimal harm to the environment.

In conclusion, the ever-growing demand for sulphuric acid in the automotive industry stands as a key driving force behind the flourishing Indian sulphuric acid market. As the automotive sector continues to expand, particularly with the accelerating push towards electric vehicles, this upward trend is expected to persist, propelling the growth of the sulphuric acid market in India to new heights.

Growing Demand of Sulphuric Acid in Agriculture Industry

Sulphuric acid, a highly important compound in the agricultural sector, plays a crucial role in enhancing crop yield and soil fertility. It serves as a vital ingredient in the production of phosphate fertilizers, which are essential for providing plants with the necessary nutrients to thrive.

In recent years, there has been a significant surge in the use of fertilizers in India, driven by efforts to increase agricultural productivity. As a result, the demand for sulphuric acid, being a primary component in fertilizer production, has experienced a substantial rise.

Furthermore, in line with the Indian government's initiatives to promote sustainable farming practices, there is an anticipated growth in the usage of sulphuric acid-based fertilizers. This trend is expected to continue as India strives to meet its food security goals and cater to the needs of its growing population.

To emphasize, the growing demand for sulphuric acid in the agriculture industry acts as a significant driver for the Indian sulphuric acid market. As the country continues to focus on enhancing agricultural productivity, the reliance on sulphuric acid is predicted to increase, thereby further propelling market growth. However, it is crucial to balance this growth with sustainable practices to minimize any potential environmental impact that may arise.



## Growing Demand of Sulphuric Acid in Textile Industry

Sulphuric acid, also known as H2SO4, is a vital chemical compound widely used in the textile industry. Its versatile properties and applications make it indispensable in various aspects of textile manufacturing.

One of the primary uses of sulphuric acid in the textile industry is in the production of synthetic fibers, such as rayon. It plays a crucial role in the manufacturing process, aiding in the creation of high-quality and durable synthetic fibers. Sulphuric acid is also an essential component in the dyeing process, where it helps to achieve vibrant and long-lasting colors on fabrics. The ability of sulphuric acid to enhance the color retention properties of textiles makes it highly sought after by textile manufacturers.

Furthermore, sulphuric acid finds application in the desizing process, which involves the removal of sizing materials from fabrics. Sizing materials are added to fabrics to enhance their strength and stability during weaving and processing. However, these sizing materials need to be removed before further processing. Sulphuric acid effectively aids in the desizing process, ensuring a smooth surface for subsequent treatments.

India, being the world's second-largest producer of textiles and garments, heavily relies on sulphuric acid to meet the demands of its thriving textile industry. The domestic consumption of Indian textiles has been steadily increasing, coupled with a rising demand for Indian textiles in international markets. This growth in the textile industry directly impacts the demand for sulphuric acid, making it a crucial driver of the Indian sulphuric acid market.

Moreover, the Indian government's proactive initiatives to bolster the textile sector, such as the 'Make in India' campaign, are expected to further fuel the demand for sulphuric acid. These initiatives aim to promote domestic manufacturing and attract foreign investments, contributing to the overall growth and development of the textile industry in India.

In conclusion, the growing demand for sulphuric acid in the textile industry is a vital factor driving the Indian sulphuric acid market. As the textile industry continues to grow and evolve, the demand for sulphuric acid is expected to rise. However, it is crucial to ensure sustainable and safe practices in the use of sulphuric acid, given its hazardous nature. With proper management, regulation, and adherence to safety protocols, the



sulphuric acid market in India can continue to grow, contributing to the country's economic development and the advancement of the textile industry.

Key Market Challenges

Lack in Availability of Feedstock

Sulphuric acid, a highly corrosive and essential chemical compound, is produced from sulphur, a by-product of oil refining and gas processing. As the demand for sulphuric acid continues to rise, so does the significance of its raw material, sulphur. Consequently, the availability of sulphur plays a crucial role in determining the production capacity of sulphuric acid.

India, despite being one of the largest consumers of sulphuric acid globally, faces limitations in domestic sulphur production. The country heavily relies on imports, primarily from countries like Saudi Arabia, UAE, and Iran, to fulfill its sulphur requirements. This heavy dependence on imports exposes the sulphuric acid industry in India to potential risks arising from fluctuations in international sulphur prices and geopolitical events. Any disruption in the supply chain or imposition of trade restrictions can lead to a significant shortage of sulphur, thereby adversely affecting sulphuric acid production.

Furthermore, the global shift towards cleaner fuels has resulted in a decline in sulphur production from conventional sources such as oil refineries. This decline in sulphur production could further exacerbate the feedstock availability issue in the future, posing a significant challenge to the Indian sulphuric acid market.

The scarcity of feedstock availability not only presents challenges in terms of production capacity but also increases production costs. These increased costs may eventually be passed on to the end consumers, leading to higher prices for products that rely on sulphuric acid. This scenario has the potential to slow down the market's growth and impact various industries that heavily depend on sulphuric acid as a critical component.

**Key Market Trends** 

Growing Use of Sulphuric Acid in Metallurgical Applications

In metallurgy, sulphuric acid plays a significant role as a highly versatile and widely used chemical. It is extensively employed in the leaching process to extract valuable



metals from their ores, such as copper, zinc, nickel, and uranium. The acidic nature of sulphuric acid facilitates the dissolution of metals, allowing for efficient separation and recovery.

Not only is sulphuric acid vital in the leaching process, but it also finds application in electrolytic refining. This refining technique utilizes the properties of sulphuric acid to purify metals and produce high-quality end products. By aiding in the removal of impurities and contaminants, sulphuric acid ensures the production of metals with superior quality and desirable properties.

Furthermore, sulphuric acid is integral to the manufacture of metal salts, which find diverse applications across various industrial sectors. These metal salts serve as catalysts, additives, and raw materials in processes such as chemical synthesis, wastewater treatment, and pharmaceutical production. The versatility of sulphuric acid in generating metal salts contributes to its widespread usage and importance in industrial applications.

The Indian metallurgical industry has been experiencing robust growth, driven by increased domestic consumption and export demand for metals. This growth, coupled with the expanding infrastructure and construction sectors, translates into a rising demand for sulphuric acid. As the backbone of several metallurgical processes, sulphuric acid plays a crucial role in meeting the production needs of the flourishing Indian metallurgical sector.

Moreover, the growing focus on sustainable mining practices and efficient resource utilization is expected to further boost the use of sulphuric acid in metallurgy. With advancements in technologies and methodologies, the industry aims to minimize waste generation and optimize resource usage. Sulphuric acid, with its ability to facilitate metal extraction and refining, aligns well with these objectives and supports the sustainable development of the metallurgical industry.

In conclusion, the growing use of sulphuric acid in metallurgical applications is an emerging trend in the Indian sulphuric acid market. As the metallurgical industry continues to evolve and expand, the demand for sulphuric acid is likely to rise. However, it is crucial to manage the use of sulphuric acid in metallurgy responsibly, considering the potential environmental impacts. With sustainable practices, stringent regulations, and continuous technological advancements, the sulphuric acid market can continue to thrive in India while minimizing its ecological footprint.



### Segmental Insights

#### Raw Material Insights

Based on the category of raw material, the elemental sulfur segment emerged as the dominant player in the Indian market for sulphuric acid in 2023. The remarkable growth of the industry can be attributed to several key factors. Firstly, the easy accessibility and abundant availability of this resource have played a significant role. Not only is it readily accessible, but it also boasts a relatively low cost compared to other alternatives. Moreover, the use of this resource results in significantly fewer emissions than pyrite ore and base metal smelters, making it an environmentally friendly choice.

Another advantage lies in the use of solid sulfur, which allows for more precise control in the reaction process. This precise control enhances overall efficiency and reduces waste, making it a preferred option for many manufacturers. Additionally, the pyrite ore raw material segment is expected to witness substantial growth in the forecast period. This valuable mineral resource serves as a crucial ingredient in the production of H2SO4, particularly when elemental sulfur is not easily accessible.

To manufacture H2SO4, pyrite undergoes a process known as the 'contact process.' During this process, sulfur dioxide gas is oxidized to sulfur trioxide, which then dissolves in water to produce sulfuric acid. This step-by-step process ensures the high quality and purity of the final product.

The combination of easy accessibility, abundant availability, low cost, reduced emissions, precise control, and the role it plays in H2SO4 production makes this resource a vital component of the industry's growth and success.

#### **Application Insights**

The fertilizers segment is projected to experience rapid growth during the forecast period. The growth of H2SO4 is attributed to its widespread use in the production of fertilizers. Its strong acidic properties and ability to break down raw materials contribute to the creation of essential nutrients for plant growth. The process involves combining H2SO4 with substances like ammonia, resulting in the formation of ammonium sulfate and other nitrogen and phosphate-based fertilizers. Moreover, the chemical manufacturing sector is expected to experience significant growth in the forecast period, with H2SO4 being one of the most extensively utilized acids in the industry. Its versatility and wide range of applications make it a crucial component in various



chemical processes and industries.

## Regional Insights

West India emerged as the dominant player in the India Sulphuric Acid Market in 2023, holding the largest market share in terms of value. The western region of India, also known as West India, is home to some of the country's most industrially developed states, including Gujarat and Maharashtra. These states boast a diverse range of industries, such as textiles, fertilizers, and chemicals, which are significant consumers of sulphuric acid. The demand for sulphuric acid in these regions is remarkably high, contributing to the overall growth of the market.

One of the key advantages of the western region's location is its strategic proximity to major ports. This geographical advantage enables easy import of sulphur, which serves as the primary raw material for sulphuric acid production. Additionally, the region's close proximity to ports facilitates the export of sulphuric acid, further bolstering the market growth in the area.

Recognizing the immense potential for industrial growth in the western states, the government of India has introduced several initiatives to fuel this progress. Notably, the 'Make in India' campaign has played a vital role in promoting domestic manufacturing, attracting investments, and fostering industrial development in the region. Furthermore, the establishment of Special Economic Zones (SEZs) has created dedicated areas for industrial activities, encouraging production and consumption of sulphuric acid in the region.

By leveraging these initiatives and taking advantage of its industrial prowess, the western region of India continues to drive the production, consumption, and market growth of sulphuric acid.

**Key Market Players** 

Aarti Industries Ltd.

Atul Ltd.

Hindalco Industries Ltd.

Khaitan Chemicals and Fertilizers Ltd.



Oriental Carbon & Chemicals Ltd.	
Sai Sulphonate Pvt. Ltd.	
Report Scope:	
In this report, the India Sulphuric Acid Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:	
India Sulphuric Acid Market, By Raw Material:	
Elemental Sulfur	
Base Metal Smelters	
Pyrite Ore	
Others	
India Sulphuric Acid Market, By Application:	
Fertilizers	
Chemical Manufacturing	
Metal Processing	
Petroleum Refining	
Textile Industry	
Automotive	
Pulp & Paper	
Others	

India Sulphuric Acid Market By Raw Material (Elemental Sulfur, Base Metal Smelters, Pyrite Ore, Others), By Ap...

India Sulphuric Acid Market, By Region:



	North India
	East India
	West India
	South India
ı	andscape

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the India Sulphuric Acid Market.

Available Customizations:

India Sulphuric Acid Market report with the given market data, Tech Sci 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).



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