

Industry Report on Specialty Chemicals Sector

28th July 2026

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1 Economic Outlook

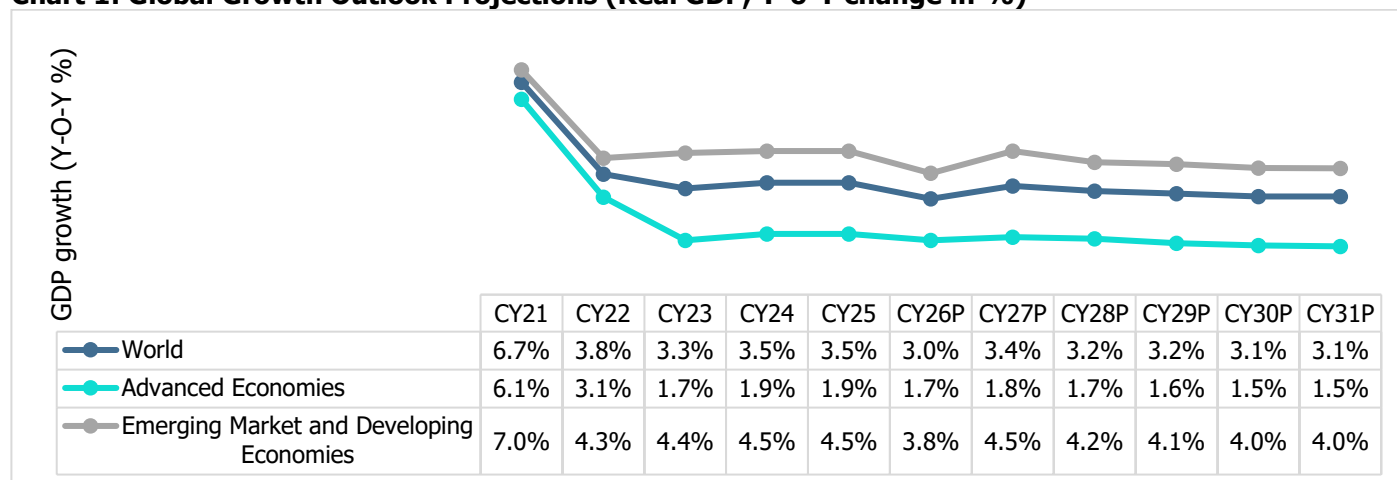
1.1 Global Economy

Global Economic Growth Expected to Sustain at ~3% in Near Term

Global economic growth is projected to moderate to around 3.0% in 2026, reflecting the impact of geopolitical tensions on energy and trade flows. The ongoing Middle East conflict poses downside risks, with prolonged disruptions potentially reducing growth further to 2.5%, or lower.

However, supportive factors such as continued investment momentum and policy support are helping offset some of these pressures.

Chart 1: Global Growth Outlook Projections (Real GDP, Y-o-Y change in %)



Source: IMF – World Economic Outlook, July 2026; Notes: P-Projection

Table 1: GDP growth trend comparison - India v/s Other Economies (Real GDP, Y-o-Y change in %)

	Real GDP (Y-o-Y change in %)										
	CY21	CY22	CY23	CY24	CY25E	CY26P	CY27P	CY28P	CY29P	CY30P	CY31P
India	9.7	7.6	7.2	7.1	7.6	6.5	6.5	6.5	6.5	6.5	6.5
China	8.6	3.1	5.4	5.0	5.0	4.4	4.0	4.0	3.7	3.3	3.3
Indonesia	3.7	5.3	5.0	5.0	5.1	5.0	5.1	5.2	5.2	5.2	5.2
Saudi Arabia	6.5	12.0	0.5	2.6	4.5	3.1	4.5	3.6	3.5	3.5	3.6
Brazil	4.8	3.0	3.2	3.4	2.3	1.9	2.0	2.4	2.5	2.5	2.5
Euro Area	6.4	3.6	0.4	0.9	1.4	1.1	1.2	1.4	1.2	1.1	1.1
United States	6.2	2.5	2.9	2.8	2.1	2.3	2.1	2.1	1.9	1.8	1.8

Source: IMF- World Economic Outlook Database (July 2026)

Note: P- Projections; India's fiscal year (FY) aligns with the IMF's calendar year (CY). For instance, FY24 corresponds to CY23.

1.2 Indian Economic Outlook

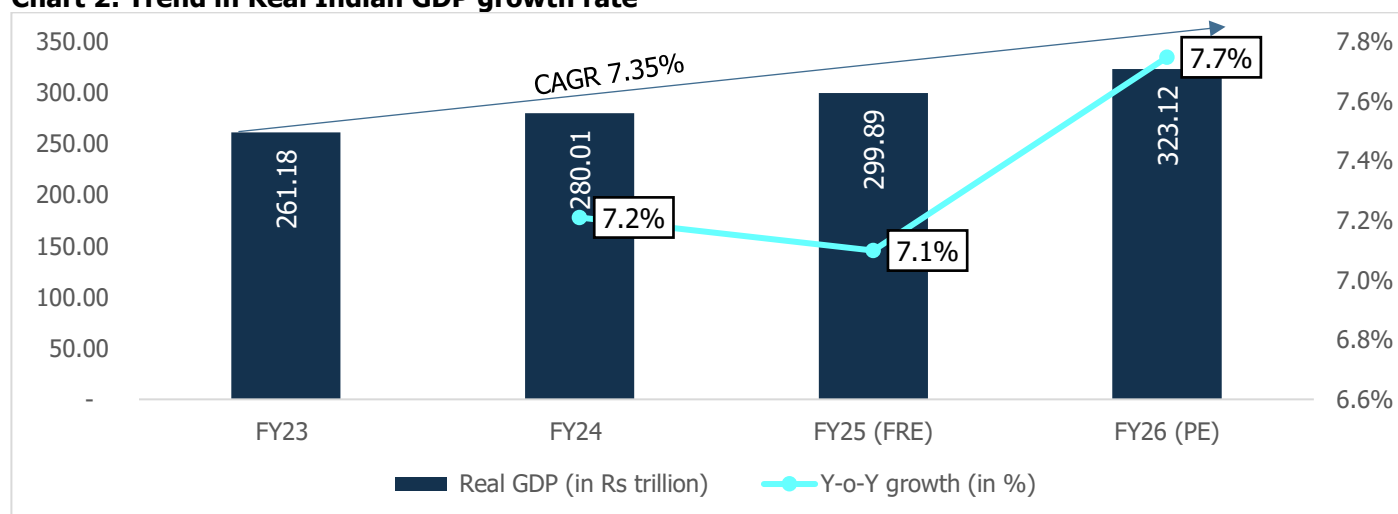
1.2.1 GDP Growth and Outlook

Resilience to External Shocks remains Critical for Near-Term Outlook

India's economy continues to show rapid growth. As per Provisional Estimates, GDP in FY26 is expected to have grown by 7.7%, supported by rising rural demand, better job opportunities and favourable business conditions.

For FY25, First Revised Estimates show a growth of 7.1% (Rs 299.89 trillion), led by robust performance in manufacturing, construction and financial services. Consumer spending rose by 7.7%, and government spending increased by 5.5%, both contributing to the overall growth. In FY23, the real GDP stood at Rs 261.18 trillion and registered Y-o-Y growth of 7.2% in FY24 (Rs 280.01 trillion).

Chart 2: Trend in Real Indian GDP growth rate



Source: MOSPI; Note: PE – Provisional Estimates, FRE- First Revised Estimates

GDP Growth Outlook (June 2026)

FY27 GDP Outlook: The Reserve Bank of India (RBI) projects real GDP growth at 6.6% for 2026–27, supported by sustained momentum in the services sector, strong reservoir levels aiding the agricultural sector, and private consumption expected to remain uplifted by discretionary spending.

However, elevated energy and other commodity prices, cost pressures, as well as the travel disruptions in the Strait of Hormuz are likely to affect the growth this year. However, the government is working towards minimising the impact of the supply chain disruptions towards critical sectors to ensure limited interruptions.

Table 2: RBI's GDP Growth Outlook (Y-o-Y %)

FY27P (Full Year)	Q1FY27P	Q2FY27P	Q3FY27P	Q4FY27P
6.6%	6.6%	6.3%	6.5%	6.8%

Source: Reserve Bank of India; Note: P-Projected

1.2.2 Gross Value Added (GVA)

GVA is the measure of the value of goods and services produced in an economy. GVA gives a picture of the supply side whereas GDP represents consumption. GVA in FY25 was powered by a broad-based rebound across sectors.

In FY26 (PE), real GVA growth of 7.9% is primarily led by manufacturing, Trade, Hotels, Transport, Communication & Services related to Broadcasting, Storage. Industry is estimated at 8.5%, supported by a pickup in manufacturing and construction (10.7% and 7.4% respectively). The gap between GDP and GVA growth stood at 0.2 percentage point in FY26, with GDP growing at 7.7% and GVA at 7.9%.

Table 3: Sectoral Growth (Y-o-Y % Growth) – at Constant Prices

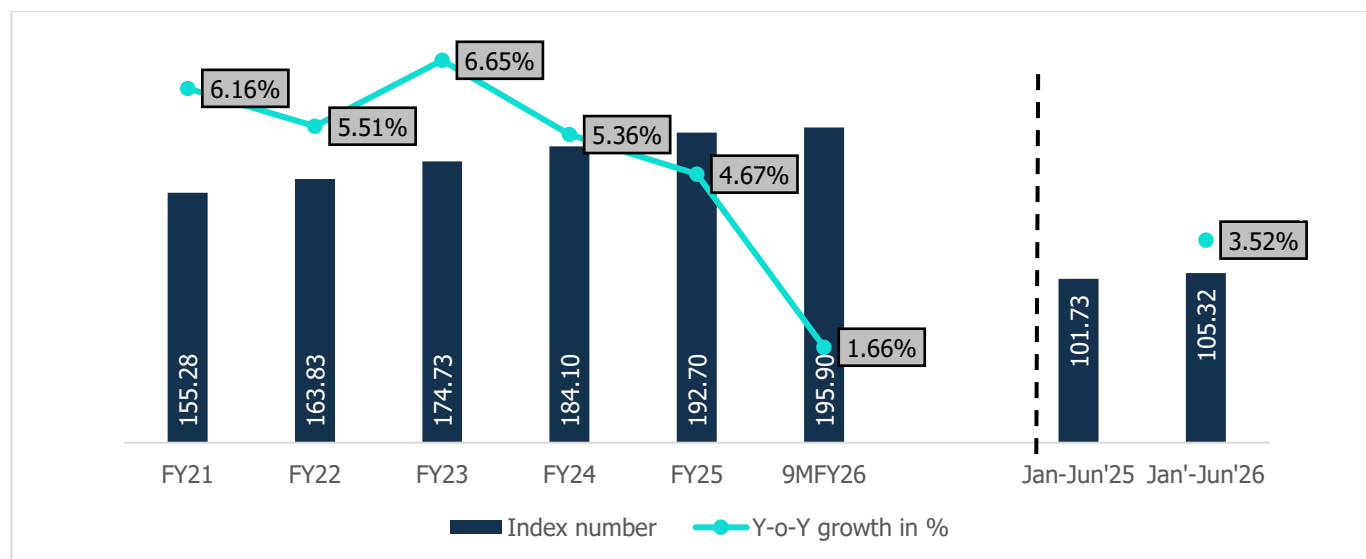
At constant Prices	FY24	FY25 (FRE)	FY26 (PE)
Agriculture, Forestry & Fishing	2.6	4.2	3.0
Industry	10.9	8.3	8.5
Mining & Quarrying	2.4	11.7	5.2
Manufacturing	12.7	9.3	10.7
Electricity, Gas, Water Supply & Other Utility Services	10.7	2.9	1.7
Construction	9.9	7.3	7.4
Services	7.0	7.9	9.3
Trade, Hotels, Transport, Communication & Broadcasting	10.1	6.6	11.0
Financial, Real Estate & Professional Services	5.5	10.0	10.4
Public Administration, Defence and Other Services	6.8	5.0	5.0
GVA at Basic Price	7.2	7.3	7.9

Source: MOSPI; Note: FRE- First Revised Estimates, PE – Provisional Estimates

1.2.3 Consumer Price Index

Between January and June 2026, the inflation averaged around 3.50% across the Consumer Price Index. By June 2026, inflation increased to 4.38% on a year-on-year basis, compared with 3.93% in June 2025. Within this, the rural inflation rate stood at 4.74%, while the urban inflation rate was comparatively lower at 3.92%. This indicates an overall modest inflationary trend, with rural areas experiencing relatively higher price pressures than urban regions.

Chart 3: Retail Price Inflation in terms of index and Y-o-Y Growth in % (Base: 2011-12=100)



Source: MOSPI

The CPI is primarily factored in by the RBI while preparing their bi-monthly monetary policy. At the bi-monthly meeting held in June 2026, RBI projected inflation at 5.1% for FY27 with inflation during Q1FY27 at 4.2%, Q2FY27 at 5.1%, Q3FY27 at 5.9% and Q4FY27 at 5.4%.

Considering the current inflation situation, RBI has maintained the repo rate at 5.25% in the June 2026 meeting of the Monetary Policy Committee (MPC).

1.2.4 Trends in Per capita State Domestic Product (SDP)

SDP is the total value of goods and services produced during any financial year, within the geographical boundaries of a state. The top best performing states on per capita SDP include Delhi, Gujarat, Karnataka and Tamil Nadu, due to their strong industrial and services base, higher urbanisation, better infrastructure and greater investment inflows leading to higher income generation.

As of FY25, major states having a per capita SDP below national average include Andhra Pradesh, Rajasthan, Madhya Pradesh and Uttar Pradesh growing Y-o-Y by 8.0%, 6.9%, 4.7% and 7.9% respectively. Bihar is the poorest performing state with a per capita SDP of Rs 36,342 in FY25. It has consistently been performing the poorest since FY18, growing merely at a CAGR of 4.5% from FY18 to FY25. Bihar's poor performance is due to factors such as a high population base, lower levels of industrialisation, infrastructure gaps, lower human capital development and higher dependence on agriculture together limiting productivity and income growth.

Table 4: Per Capita SDP for Key States (at constant prices, in Rs.)

State\UT	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Andhra Pradesh	1,03,177	1,08,853	1,10,587	1,10,971	1,18,349	1,23,853	131,083	1,41,609
Bihar	26,719	29,092	29,798	26,839	27,674	30,678	33,966	36,342
Gujarat	1,43,604	1,54,887	1,64,060	1,56,285	1,70,519	1,81,963	NA	NA

Karnataka	1,40,747	1,49,024	1,56,478	1,49,673	1,65,517	1,82,371	1,91,970	2,04,605
Madhya Pradesh	54,824	59,005	60,452	56,086	61,011	63,681	67,301	70,434
Maharashtra	1,37,808	1,40,782	1,45,626	1,27,550	1,41,651	1,54,979	1,66,013	1,76,678
Rajasthan	73,529	73,975	76,840	73,447	79,490	84,585	90,414	96,638
Tamil Nadu	1,33,029	1,41,844	1,44,845	1,43,482	1,54,269	163,205	1,78,496	1,97,747
Uttar Pradesh	41,771	42,333	43,061	39,866	45,294	48,014	51,898	55,990
Delhi	2,52,960	2,57,597	2,60,559	2,28,162	2,39,821	2,52,768	2,71,490	2,83,093

Source: MOSPI

1.2.5 Capacity utilization in the chemical sector

Table 5: Group-wise capacity utilization (in 000'MT)

Group	FY19	FY20	FY21	FY22	FY23	FY24	FY25F	FY26F	FY27F	FY28F	FY29F	FY30F
Alkali Chemical	85.4	83.8	74.2	83.0	85.5	82	82.2	83.5	85.4	84.2	84.3	85.3
Inorganic Chemicals	81.8	69.2	62.7	66.8	67.2	68.9	64	65.8	66.6	65.6	65.2	64.8
Organic Chemicals	73.2	69.1	70.2	69.7	65.8	64.3	63.6	62.6	60.8	59.5	58.8	57.7
Pesticides	66.9	57.6	68.7	78.8	66.4	63.1	67.9	68.4	65.7	64.0	65.5	65.5
Dyes & Pigments	77.6	72.8	61.6	74.7	55.8	58.4	54.4	51.6	49.4	44.6	44.3	40.9

Source: DCPC, CareEdge Research; Note: F- Forecast

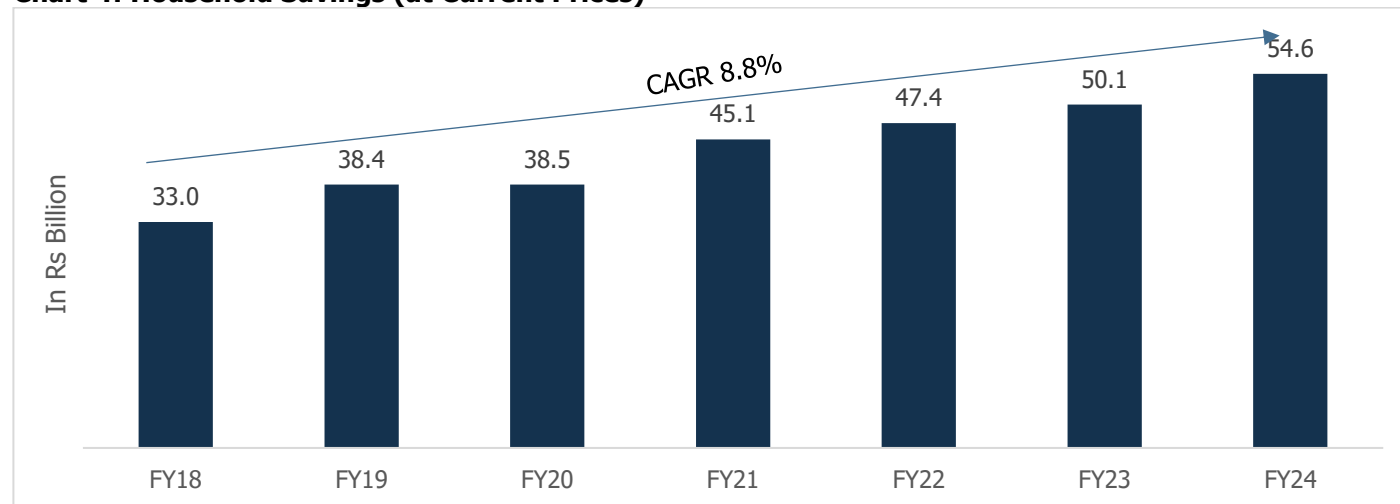
Capacity utilization across the chemical sector has seen fluctuations over the years, with some stabilization recently. Alkali and inorganic chemicals have maintained relatively steady utilization, while organic chemicals show a gradual decline. Pesticides are recovering after past volatility, and dyes & pigments are facing persistent pressure with a continuous downtrend. Overall, the sector reflects mixed trends with selective signs of recovery and resilience.

1.2.6 Trend in Household Savings

Household savings are of the household sector, measured as its excess of income over consumption and invested in financial assets and physical assets. Household savings in India have grown at an 8.8% CAGR since FY18, reaching Rs 54.6 trillion in FY24, a 9.0% Y-o-Y increase. A shift toward physical assets, particularly housing and gold/silver ornaments, reflects a preference for tangible investments amid high inflation and slow growth in monetary assets. Savings in the form of gold and silver ornaments (% of Household sector savings) was reported at 1.2% in FY24.

This increasing trend towards physical assets is occurring alongside a rise in household leverage, with borrowing, especially for housing, automobiles, and personal consumption, pushing household financial liabilities to a six-year high. As mutual funds and life insurance also grew, with an 11.5% and 13.6% Y-o-Y increase respectively, investment in equities and capital market instruments rose as they offer higher returns than bank deposits.

Chart 4: Household Savings (at Current Prices)

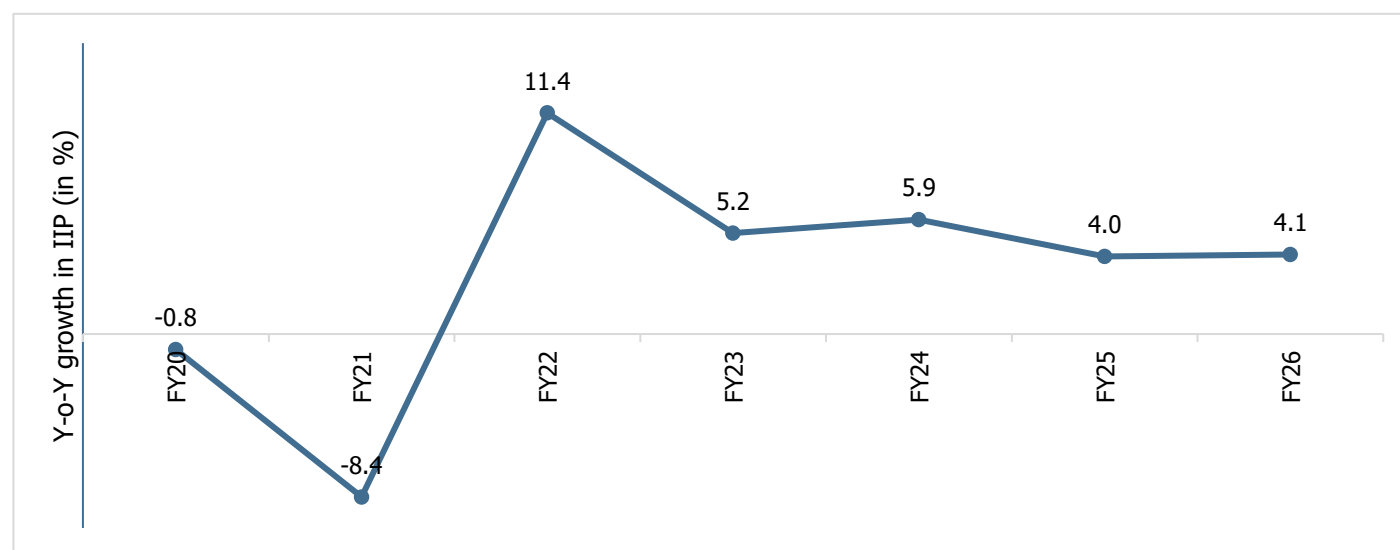


Source: MOSPI

1.2.7 Industrial Growth

The Index of Industrial Production (IIP) in India grew by 4.1% year-on-year in March 2026, showing steady but moderate industrial momentum, with mining (5.5%) and manufacturing (4.3%) driving growth, while electricity lagged at just 0.8%.

Chart 5: Y-o-Y growth in IIP (in %)



Source: MOSPI

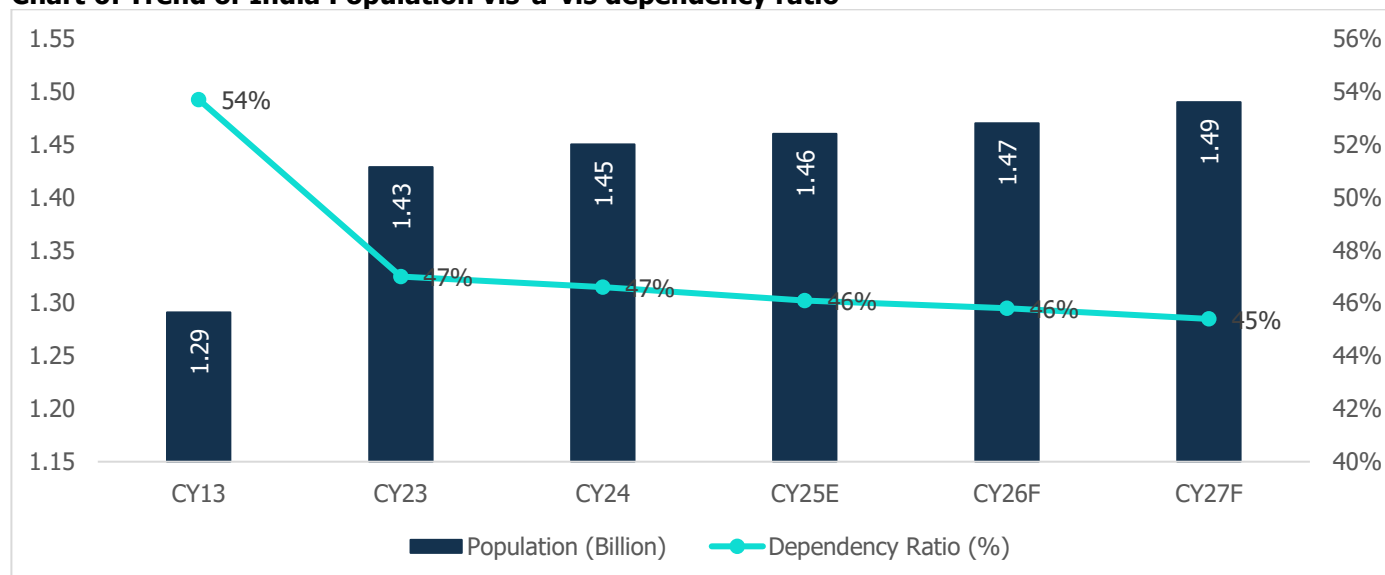
1.2.8 Overview on Key Demographic Parameters

- Population growth and Urbanization**

The trajectory of economic growth of India and private consumption is driven by socio-economic factors such as demographics and urbanization. According to the world bank, India's population in CY22 surpassed 1.42 billion, slightly higher than China's population (1.41 billion) and became the most populous country in the world.

Age Dependency Ratio is the ratio of dependents to the working age population, i.e., 15 to 64 years, wherein dependents are population younger than 15 and older than 64. This ratio has been on a declining trend. Declining dependency means the country has an improving share of working-age population generating income, which is a good sign for the economy. It was as high as 76% in 1983, which has reduced to 47% in CY23. However, this ratio is expected to rise again to 54% by CY36, driven by an increase in the elderly population as life expectancy improves.

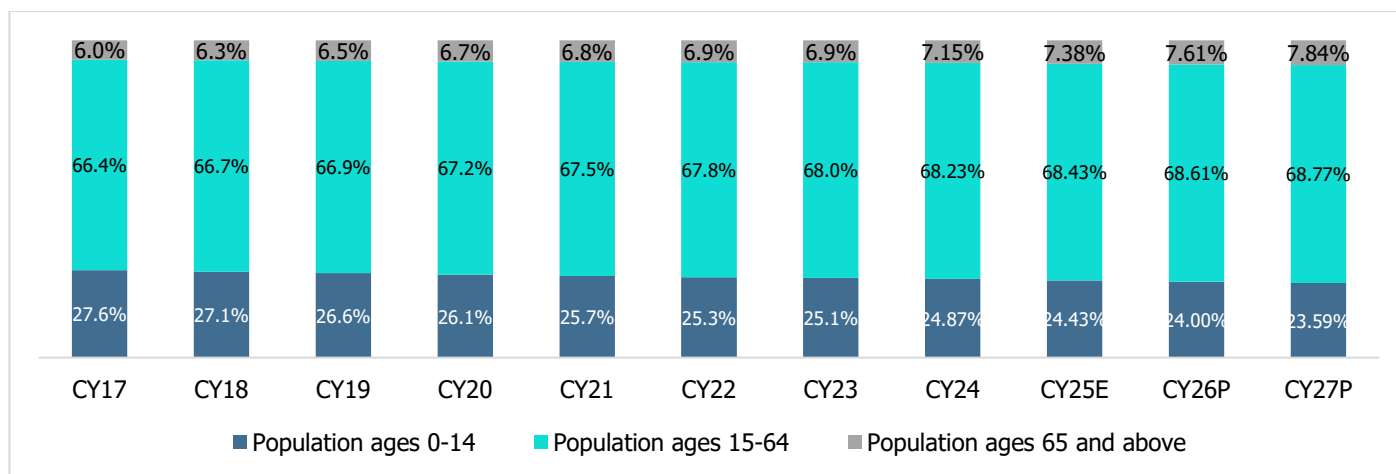
Chart 6: Trend of India Population vis-à-vis dependency ratio



Source: World Bank Database

Despite a projected rise in the dependency ratio to 54% by 2036, India's young and growing workforce, especially in newly urbanised towns, will continue to drive income growth and consumer demand. This presents strong opportunities for sectors like consumer electronics, transportation, and railways. Rising employment, urbanisation, and government investment in rural development and digital infrastructure will further boost demand, while increased tech adoption supports long-term consumption growth across both urban and rural markets.

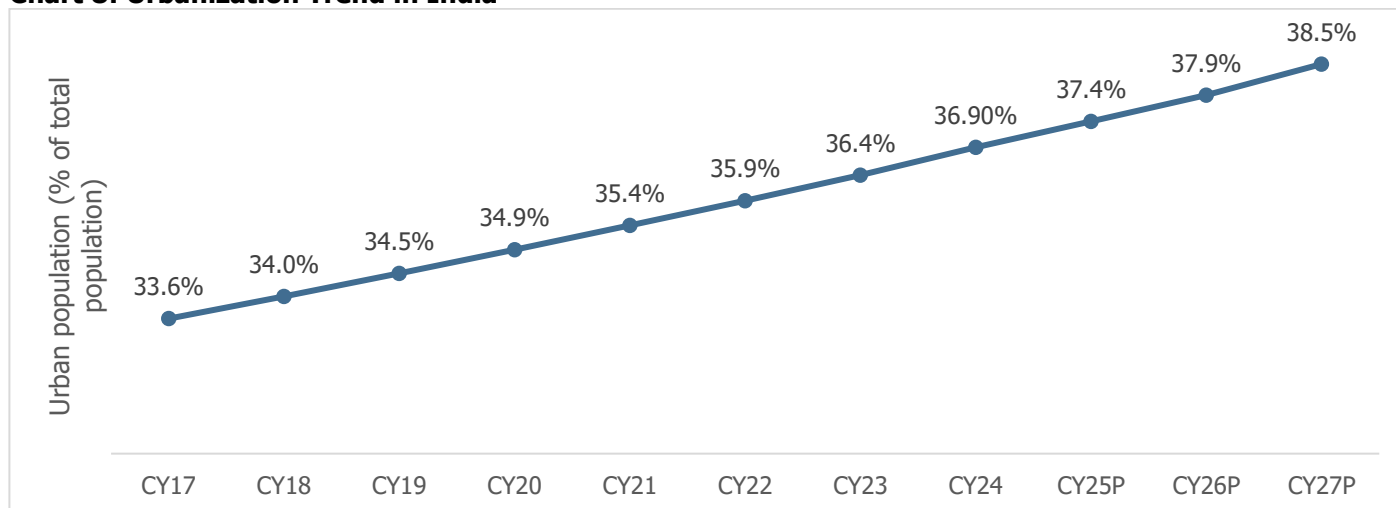
Chart 7: Age-Wise Break Up of Indian population (% of working-age population)



Source: World Bank Database; Note: E- Estimated, F- Forecasted

The urban population is significantly growing in India. The urban population in India has increased from 413 million (32% of total population) in 2013 to 519.5 million (36.4% of total population) in the year 2023. India is undergoing a significant urban transformation, with the urban population projected to rise to 40% by 2036. This shift is driven by factors such as improved living standards, increased employment opportunities in urban areas, and government initiatives aimed at urban development. This rapid urbanisation might necessitate substantial investments in infrastructure, housing, and transportation.

Chart 8: Urbanization Trend in India

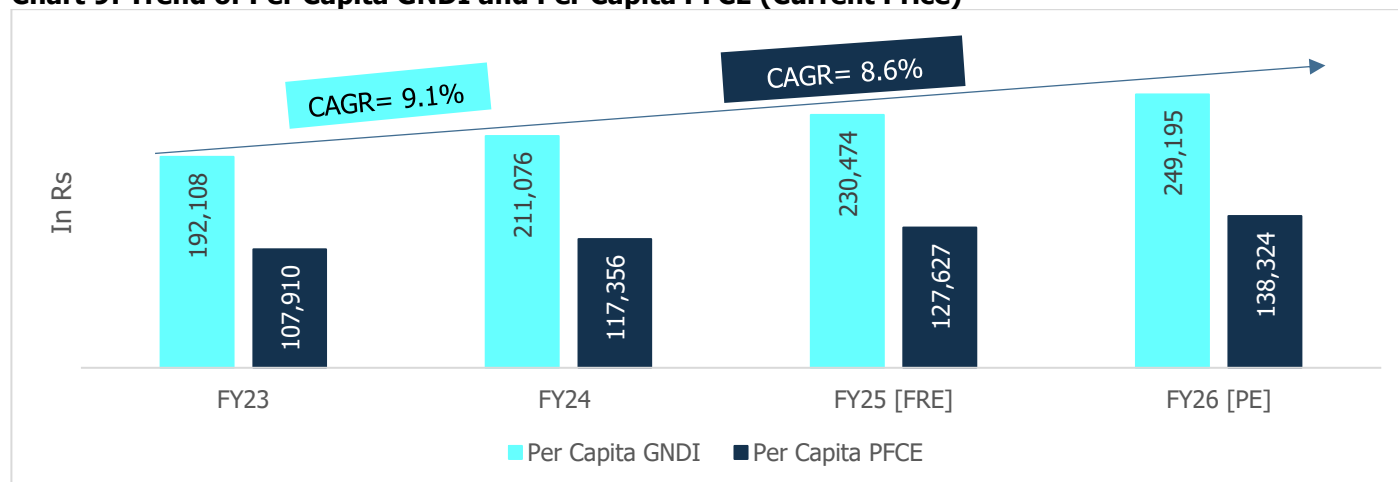


Source: World Bank Database

• Increasing Disposable Income and Consumer Spending

Gross National Disposable Income (GNDI) is a measure of the income available to the nation for final consumption and gross savings. Between the period FY23 to FY26, per capita GNDI at current prices registered a CAGR of 9.1%. More disposable income drives more consumption, thereby driving economic growth.

With increase in disposable income, there has been a gradual change in consumer spending behaviour of the country. Per capita Private Final Consumption Expenditure (PFCE), which is measure of consumer spending, has also shown significant growth from FY23 to FY26 at a CAGR of 8.6%.

Chart 9: Trend of Per Capita GNDI and Per Capita PFCE (Current Price)


Source: MOSPI; Note: FRE – First Revised Estimates, FE – Final Estimate

1.2.9 Concluding Remarks

Global economic growth faces headwinds from geopolitical tensions, volatile commodity prices, high interest rates, inflation, financial market volatility, climate change and rising public debt. The IMF forecasts GDP growth for India at 6.5% in CY26, far outpacing the estimated CY26 global average of 3.1%. Key drivers include strong domestic demand, government capital expenditure and moderating inflation.

The health sector in India has witnessed significant investments in recent years, driven largely by the need to strengthen infrastructure in response to the COVID-19 pandemic. While expenditures saw a decline post COVID-19 pandemic, the projected increase in future capital expenditure reflects a renewed focus on addressing growing healthcare demands and long-term reforms. Continued investment in healthcare infrastructure will be crucial for ensuring equitable access to quality healthcare and sustaining overall economic growth.

Further, India's position as a manufacturing hub is strengthened by government initiatives, a skilled workforce and a growing startup ecosystem, with ongoing reforms and innovation enhancing its global role. Key growth indicators like the PMI, E-way bills, bank credit, toll collections, and GST collections have shown growth in FY27. India's economic growth in FY27 is expected to be supported by strong growth in agriculture, industrial expansion and a surge in services exports. Key indicators point to sustained growth driven by improved infrastructure, private consumption and foreign investments. Normalising the employment situation after opening of the economy is supporting consumption expenditure. Public investment is set to grow with a Rs 12.20 lakh crore capital expenditure allocation for FY27. Private sector investment is also rising, supported by new project data and capital goods imports.

A below-normal monsoon and potential El Niño conditions may contribute to higher inflation and logistics costs, which could increase operating expenses for pharmaceutical companies. However, the sector's essential nature, stable demand profile, and diversified sourcing capabilities are expected to limit the overall impact on industry growth.

As of July 2026, India-US trade negotiations are ongoing, and the final Bilateral Trade Agreement (BTA) has not yet been concluded. In February 2026, both countries announced a framework for an Interim Agreement aimed at promoting reciprocal and mutually beneficial trade. Under this framework, the United States proposed an 18% reciprocal tariff rate on Indian goods, while also indicating the possible removal of tariffs on sectors such as generic pharmaceuticals, gems and diamonds, aircraft parts and certain engineering products, subject to finalisation of the agreement.

India continues to strengthen its position through diversification of trade partnerships and expansion of FTAs with the EU, UK, EFTA and other economies. This, along with India's growing manufacturing capacity and supply-chain integration, supports its competitiveness in sectors such as electronics, textiles, pharmaceuticals and auto components.

A ceasefire agreement between the US and Iran is expected to be finalized soon; however, a permanent truce between the two remains uncertain. The Iran conflict has led to an increase in input and freight costs for the chemical and pharma industry due to higher oil prices and disrupted supply chains. It is also delaying imports of key raw materials, leading to production slowdowns and higher medicine costs. Overall, this is leading to supply shortages, rising costs, and production slowdowns in India's chemical and pharma sectors, with the impact likely to worsen if the conflict continues. Prolonged geopolitical tensions or conflict in the region could lead to sustained increases in crude oil and LPG prices, which may translate into higher input costs across industries and contribute to inflationary pressures in the Indian economy.

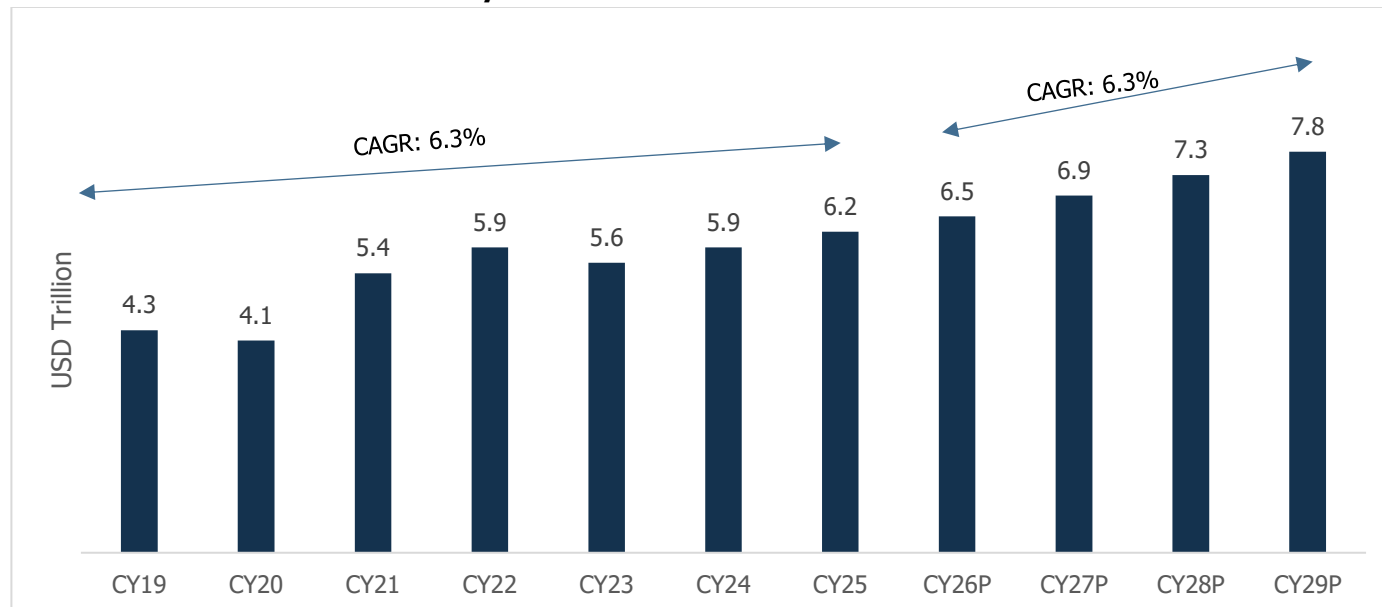
2 Overview of Global Chemicals and Specialty Chemicals Industries

2.1 Global Chemicals Industry Overview

Overview and market size

The global chemicals industry has demonstrated steady long-term growth, expanding from USD 4.3 trillion in CY19 to USD 6.2 trillion in CY25, driven by increasing industrialization, rising demand from end-use sectors such as construction, automotive, agriculture, healthcare, and consumer goods, along with growing investments in specialty and sustainable chemicals. The market is projected to further grow to USD 7.8 trillion by CY29, supported by accelerating demand for high-performance materials, green chemistry solutions, digitalization of manufacturing, and capacity expansions across emerging economies. Despite periodic fluctuations due to supply chain disruptions and macroeconomic uncertainties, the industry is expected to maintain a stable growth trajectory over the medium term.

Chart 10: Global Chemicals Industry Market Size



Source: CEFIC, CareEdge Research & Analysis, P: Projected; CY- Calendar Year

2.2 Market Segmentation of the Chemicals Industry

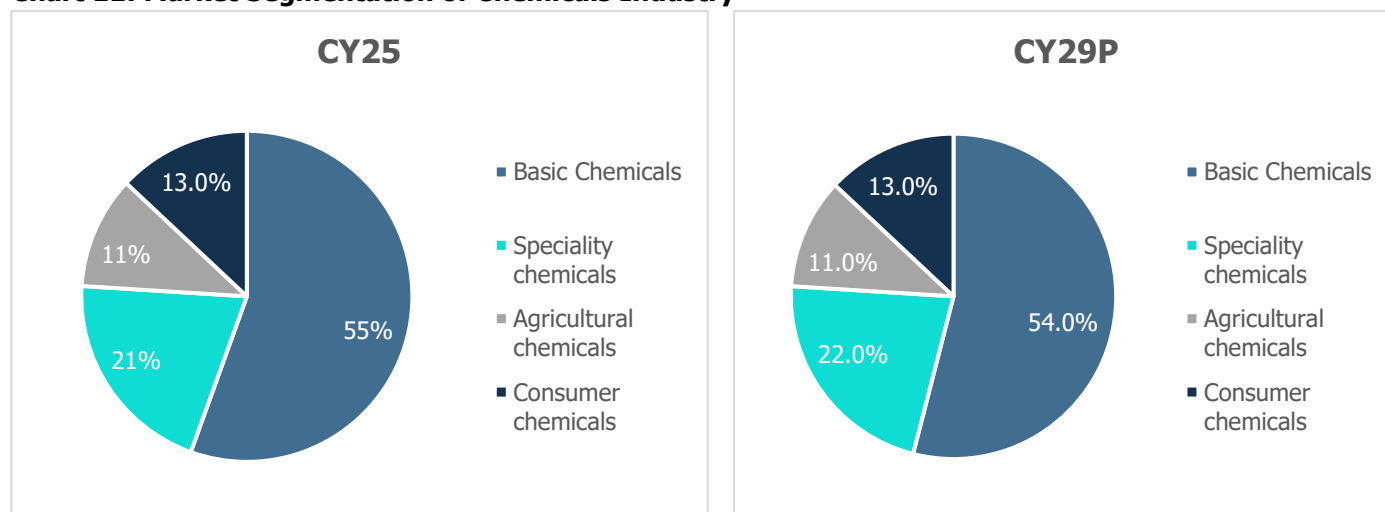
The chemical industry is broadly segmented into four key categories: Basic Chemicals, Specialty Chemicals, Agricultural Chemicals, and Consumer Chemicals.

- 1. Basic Chemicals:** Basic chemicals form the foundation of the global chemical industry, representing the largest market share. In CY25, they are estimated to account for around 55% of the market, with a projected moderation to 53–55% by CY29 as higher-value segments expand at a faster pace. This category covers bulk petrochemicals (such as ethylene and propylene), intermediates, and a broad range of inorganic chemicals including sulphuric acid, soda ash, caustic soda, chlorine, and other sulphur-based compounds. These serve as critical feedstocks for downstream applications across fertilizers, water treatment, pulp & paper, textiles, and metallurgy. While basic chemicals are volume-driven and cyclical in nature, the inorganic segment remains

particularly vital given its extensive use in industrial processes. Furthermore, energy transition policies and the expansion of cost-competitive capacities continue to reinforce the role of basic chemicals in the industrial ecosystem.

2. **Specialty Chemicals:** Known for their tailored and application-specific functionalities, specialty chemicals are estimated to represent 21% of the market in CY25, with growth expected to reach 21–23% by CY29. These chemicals include categories such as coatings, adhesives, construction chemicals, surfactants, textile auxiliaries, and active ingredients. The segment is witnessing rising demand due to the shift toward higher performance, environmentally compliant, and customized solutions, particularly from end-user industries like pharma, personal care, automotive, and electronics. Innovation, IP-driven formulations, and customer stickiness make this the most profitable and fastest-growing segment in India's chemical industry.
3. **Agricultural Chemicals:** This segment includes fertilizers, crop protection chemicals (insecticides, herbicides, fungicides), micronutrients, and plant growth regulators, and is estimated at 11% of the market in CY25, with a projected range of 10–12% by CY29. The minor decline in share reflects a gradual pivot toward integrated pest management, organic farming, and sustainable agriculture. Nevertheless, India remains a net exporter of agrochemicals, and domestic demand is underpinned by increasing cropping intensity, rising foodgrain demand, and policy support. Some sulphur-based compounds like elemental sulphur, sulphur dust, and sulphur micronutrients are key inputs in fungicides and soil enrichment formulations, especially for oilseeds and pulses.
4. **Consumer Chemicals:** These include products such as detergents, cosmetics, personal hygiene products, oral care items, and household cleaning agents, contributing an estimated 13% of the market in CY25, expected to grow modestly to 12–14% by CY29. Growth is driven by urbanization, rising disposable incomes, changing consumption patterns, and increasing awareness around hygiene and personal care. This segment is evolving with the emergence of natural, bio-based, and dermatologically safe ingredients, pushing chemical manufacturers to develop mild surfactants, fragrance compounds, and specialty preservatives tailored for health-conscious consumers.

Chart 11: Market Segmentation of Chemicals Industry



Source: CareEdge Research & Analysis; % denote market share

2.3 India's rank in the global chemicals industry

The top 10 exporters in the global chemicals industry collectively contributed USD 2,647 billion in 2025, of the world's total chemical exports. This highlights the concentrated nature of the market, with key players like the EU, USA, and China dominating the space. Over the years, India has enhanced its share in global chemical exports, reflecting its growing manufacturing capabilities and competitive edge in chemicals space.

Chart 12: Chemical Exports Scenario

Exports (USD Bn)		% share of world in exports		
Region / Countries	2025	2005	2010	2022
EU	1,475	50.0%	46.0%	45.6%
USA	314	10.9%	11.2%	10.2%
China	279	3.2%	5.2%	10.0%
Switzerland	185	4.0%	4.3%	4.7%
Korea	91	2.5%	2.9%	3.5%
Japan	75	4.8%	4.6%	2.9%
India	69	1.0%	1.4%	2.2%
United Kingdom	64	5.2%	4.3%	2.4%
Singapore	50	2.4%	2.3%	2.0%
Canada	45	2.4%	2.0%	1.9%
Above 10	2647	86.4%	84.2%	85.4%

Source: World Trade Organisation (WTO) Statistical Review, CareEdge Research

The top importers in the global chemicals industry collectively accounted for USD 2,338 billion in 2025, of the world's total chemical imports. This underscores the concentrated nature of demand, with major players like the EU, USA, and China driving global imports. Over time, India has steadily increased its share in global chemical imports, highlighting its expanding domestic market, growing industrial base, and rising demand for specialty and bulk chemicals.

Chart 13: Chemical Imports Scenario

Imports (USD Bn)		% share of world in imports		
Region / Countries	2025	2005	2010	2022
EU	1187	41.4	37.9	38.0
USA	437	11.4	10.1	12.3
China	222	6.7	8.5	8.5
Switzerland	103	2.3	2.1	2.3
India	92	1.2	2.0	3.1
United Kingdom	81	4.7	4.0	3.0
Japan	77	3.3	3.5	3.2
Brazil	73	1.3	1.9	2.7
Canada	66	2.8	2.4	2.4

Above 9	2,338	75.1	72.4	75.5
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Source: World Trade Organisation (WTO) Statistical Review, CareEdge Research

2.4 Key growth drivers for the Chemical Industry

The growth drivers for the Chemical Industry are as follows:

1. Rising Demand from End-Use Industries:

- Robust growth in sectors like agriculture, paint, coatings, pharmaceuticals, construction, electronics, and lubricants fuels demand for various chemicals.
- Increased focus on lightweight materials and energy-efficient solutions boosts the need for advanced and specialty chemicals.

2. Technological Advancements:

- Innovations in process optimization, such as catalysis and biotechnological processes, enhance efficiency and reduce costs.
- Adoption of Industry 4.0 and digitalization in manufacturing processes streamlines production and improves quality.

3. Industrialization in Emerging Economies:

- Rapid industrial growth in markets like India, China, and Southeast Asia drives demand for chemicals in manufacturing and infrastructure projects.
- Low production costs and government support for chemical manufacturing attract investments.

4. Innovation in Specialty Chemicals:

- Growth in sectors like personal care, healthcare, and electronics increases the demand for high-value specialty chemicals.
- R&D investments support the development of custom formulations and niche products.

2.5 Specialty Chemicals

2.5.1 Global Specialty Chemicals

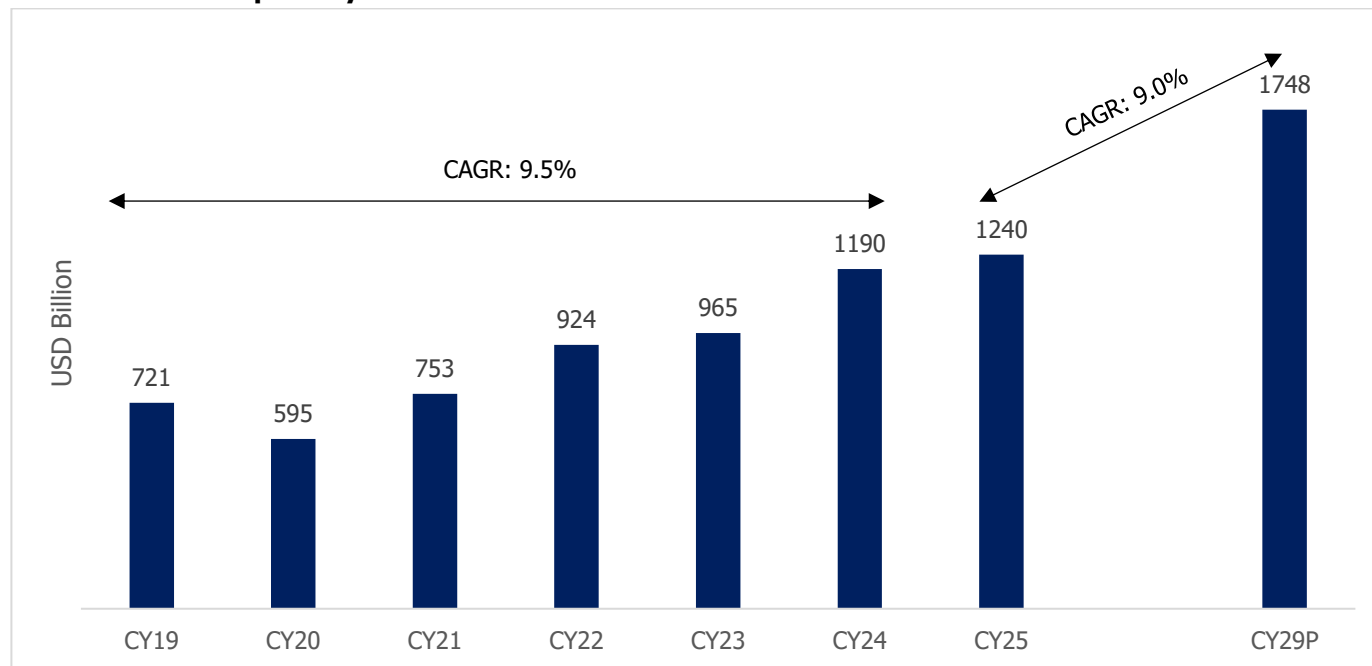
Overview and market size

Specialty chemicals are specifically produced or formulated substances designed for functions and applications. Unlike commodity chemicals, which are mass-produced, specialty chemicals are manufactured in smaller quantities, with a strong emphasis on quality, performance, and customization to meet the unique demands of various industries. The quality of these chemicals is crucial, as it directly impacts the performance and safety of the end products.

The global specialty chemicals market has exhibited strong and resilient growth, increasing from USD 721 billion in CY19 to USD 1,240 billion in CY25, reflecting a CAGR of 9.5% despite the temporary disruption caused by the COVID-19 pandemic in CY20. The market recovery has been supported by rising demand from end-use industries such as automotive, construction, electronics, healthcare, agriculture, and consumer goods, coupled with increasing adoption of high-performance and sustainable chemical solutions. Going forward, the market is projected to reach USD 1,748 billion by CY29, expanding at a CAGR of 9.0% over CY25–CY29, driven by advancements in specialty formulations,

growing investments in electric vehicles, semiconductors, renewable energy, water treatment, and supply chain diversification initiatives such as the China+1 strategy.

Chart 14: Global Specialty Chemicals Market Size

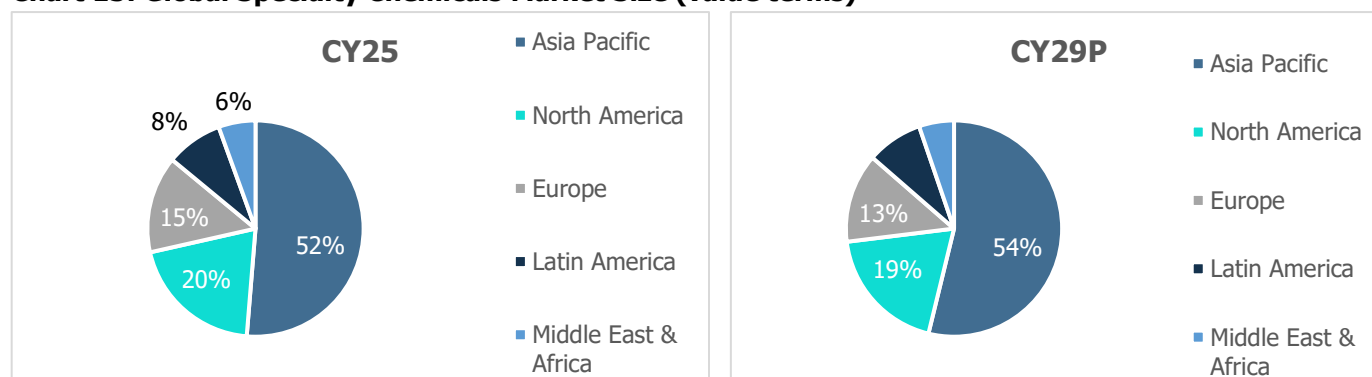


Source: CareEdge Research & Analysis; P: Projected; CY- Calendar Year

2.5.2 Global Specialty Chemicals by Geography

Asia Pacific holds the largest share, increasing from 52% in 2025 to 54% in 2029, indicating continued growth in the region. North America's share is projected to decline slightly from 20% to 19%, while Europe's contribution is expected to decrease from 15% to 13%. Latin America is forecasted to maintain its 8% share, whereas the Middle East & Africa is anticipated to see a marginal decline from 6% to 5%. This trend highlights Asia Pacific's expanding dominance and a relatively stable market distribution in other regions.

Chart 15: Global Specialty Chemicals Market Size (value terms)

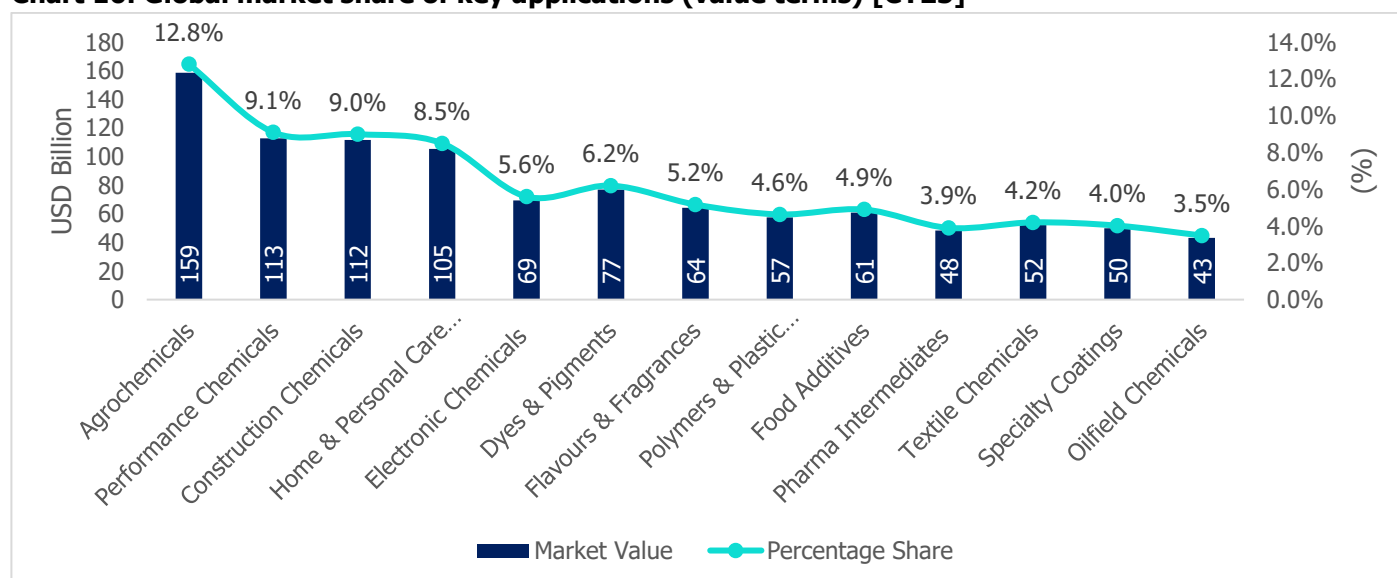


Source: CareEdge Research & Analysis; P: Projected

2.5.3 Key applications in the specialty chemicals industry

The specialty chemicals industry is characterized by diverse applications across various sectors, each contributing uniquely to market dynamics. Key applications include pharmaceuticals, agriculture, paint, coatings, constructions, and lubricant industries. The market share for these applications reflects the evolving needs for advanced materials and sustainable solutions. Factors such as increased consumer awareness, stringent regulations, and technological innovations drive growth in specific segments, highlighting the importance of adaptability and innovation in the specialty chemicals market. The below listed market share caters to more than 80% of the specialty chemicals industry and has been the major driving factors for the industry.

Chart 16: Global market share of key applications (value terms) [CY25]



Source: Arizton Advisory, Global Specialty Chemicals Market Analysis Report from EMIS Professional Database, CareEdge Research; Data as of CY25, remaining of the share includes Others

2.5.4 APAC- key contributor to global specialty market

The Asia-Pacific (APAC) region holds a significant 52% share of the global specialty chemicals market as of CY25. APAC is also a key player in the automotive industry, with China, India, and Japan being the top three vehicle producers in the region. This dominance is fuelled by the availability of cost-effective talent, affordable raw materials, and well-established infrastructure for exporting and importing both raw materials and finished products.

Table 5: Market size by segment for Asia region (USD Billion)

Application Type	CY25	CAGR (CY25-CY29)
Agrochemicals	82	5-7%
Performance chemicals	67	7-8%
Construction	59	7-9%
Home and personal care	50	8-9%
Electronic chemicals	37	10-12%
Dyes and pigments	41	6-8%
Flavors and fragrances	33	9-11%
Polymer & plastic additives	30	7-9%
Food additives	32	5-7%
Pharma intermediates	25	8-10%
Textile chemicals	28	5-7%
Specialty coatings	26	5-7%
Oilfield chemicals	22	4-6%
Others	112	6-8%
Total	645	6-8%

Source: CareEdge Research; P: Projected

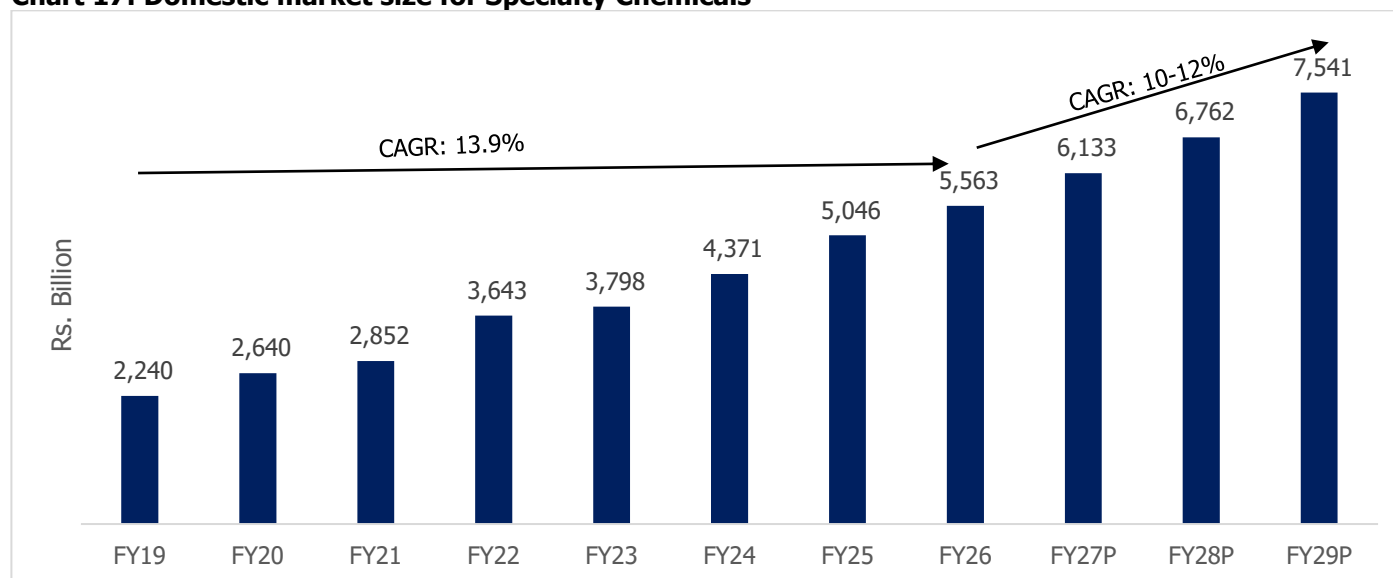
2.6 Domestic Overview

The specialty chemicals segment stands out as one of the fastest-growing areas in Indian manufacturing, driven by rising demand from various end-user sectors, supportive government policies, an expanding domestic customer base, and shifts in consumer lifestyles.

The Indian specialty chemicals market has demonstrated robust growth, expanding from Rs 2,240 billion in FY19 to Rs 5,563 billion in FY26, and is projected to reach Rs 7,541 billion by FY29, registering a CAGR of 10–12% over the next four years.

This sustained upward trajectory is driven by a strong domestic demand base, rising exports, and increasing import substitution across various segments like agrochemicals, active pharmaceutical ingredients (APIs), dyes, and polymer additives.

The sector benefits from India's cost-competitive manufacturing capabilities, a large skilled workforce, and tightening environmental regulations in China prompting global supply chain diversification. Additionally, the "China+1" strategy adopted by multinational corporations has further positioned India as a preferred destination for sourcing specialty chemicals, particularly in high-margin, value-added segments. With rising investments in R&D, backward integration, and capacity expansion by Indian players, the sector is poised to play a pivotal role in transforming India into a global specialty chemicals hub.

Chart 17: Domestic market size for Specialty Chemicals

Source: Arizton Advisory, Global Specialty Chemicals Market Analysis Report from EMIS Professional Database, CareEdge Research; P: Projected

2.6.1 China's specialty chemicals market is eroding

China's specialty chemicals market is facing a downturn due to a combination of economic, regulatory, and geopolitical factors. The country's post-pandemic recovery has been slower than expected, with weak industrial output and sluggish domestic demand impacting key end-use industries such as construction, automotive, and electronics. The ongoing real estate crisis has significantly affected demand for construction-related chemicals as property investments and new housing projects have declined.

While regulatory pressures have contributed to slower growth in China's specialty chemicals sector, especially due to stringent environmental policies like the "Dual Control" policy on energy consumption and carbon intensity, the landscape remains complex. These regulations have led to plant shutdowns and increased compliance costs, particularly for smaller and non-compliant players. However, at the same time, several large-scale, environmentally compliant players have continued to add new capacities, resulting in overcapacity in certain product segments. This divergence reflects a structural shift where inefficient production is being phased out, while competitive, scale-efficient manufacturers expand their presence, leading to market consolidation rather than uniform contraction.

Additionally, the US-China trade war has intensified challenges for China's specialty chemicals sector. Tariffs on Chinese chemical exports, along with US efforts to reduce dependence on Chinese supply chains, have weakened China's export-driven growth. Many global companies are adopting a "China Plus One" strategy, diversifying their supply chains by investing in Southeast Asia and India to mitigate risks from geopolitical tensions. As a result, China's dominance in the specialty chemicals market is eroding, with other regions, particularly India and Southeast Asia, emerging as alternative manufacturing hubs.

2.6.2 India to benefit from China's downturn

India is well-positioned to benefit from China's downturn in the specialty chemicals market, driven by a combination of rising costs, regulatory pressures, and shifting global supply chains. China's average daily wage has surged to USD 9.8-10.0 in 2025, making manufacturing increasingly expensive, whereas India maintains a significantly lower labour cost

at USD 2.27 per day. This cost differential, combined with India's expanding chemical manufacturing capabilities, makes it an attractive alternative for global firms looking to diversify their production base. Additionally, the ongoing "China Plus One" strategy has accelerated investments in India's chemical sector, as companies seek to reduce dependence on Chinese suppliers.

China's stringent environmental regulations, including its "Dual Control" policy on energy consumption and carbon intensity, have forced the shutdown of several high-pollution chemical plants. The country has also tightened safety and compliance norms, leading to increased production costs and supply disruptions. This has created a supply gap in key specialty chemical segments such as agrochemicals, pharmaceuticals, and polymer additives—areas where India has a strong presence. India's Production-Linked Incentive (PLI) scheme for specialty chemicals, along with policies promoting domestic manufacturing, has further bolstered its ability to fill this void.

India's specialty chemicals market is already witnessing robust growth, driven by rising domestic demand and increasing exports. The sector is projected to grow at a CAGR of 10-12% over the next five years, supported by a well-established chemical ecosystem in Gujarat and Maharashtra, favourable government policies, and improving infrastructure. With multinational companies seeking reliable, cost-effective production hubs, India is emerging as a key beneficiary of China's slowdown. However, to fully capitalize on this opportunity, India must continue investing in raw material security, infrastructure development, and sustainable manufacturing practices to ensure long-term competitiveness.

2.6.3 Policy Support for India's Chemical Sector

1. 100% FDI Under Automatic Route: The Indian government allows 100% Foreign Direct Investment (FDI) under the automatic route in the chemical sector (except hazardous chemicals), enabling global companies to invest freely without prior approvals. This policy has encouraged foreign investments in specialty chemicals and advanced manufacturing, strengthening India's position as a preferred destination for chemical production.

2. Merger of MHIHC Rules with CAEPPR: To improve the safe handling of hazardous chemicals, the government is merging the Manufacture, Storage, and Import of Hazardous Chemical (MHIHC) Rules with the Chemical Accidents (Emergency Planning, Preparedness, and Response) (CAEPPR) Rules. This integration will streamline regulatory compliance, enhance safety measures, and align with global standards, ensuring better risk management for chemical manufacturers.

3. Proposed Production-Linked Incentive (PLI) Scheme: The Indian government is considering a proposed Production-Linked Incentive (PLI) scheme for the chemicals and petrochemicals sector, aimed at promoting domestic manufacturing and reducing import dependency. While not yet notified, the scheme is expected to include high-value specialty chemicals with export potential. If implemented, this policy could drive fresh investments, improve competitiveness, and support long-term growth of the sector.

4. Promotion of Bulk Drug Parks: India has launched the Bulk Drug Park scheme to reduce dependency on China for key raw materials such as Active Pharmaceutical Ingredients (APIs) and intermediates. Under this initiative, the government provides financial support for setting up bulk drug manufacturing facilities with common infrastructure, such as effluent treatment plants and solvent recovery units. This initiative is crucial for strengthening India's specialty chemical industry, particularly in the pharmaceutical sector.

5. Petroleum, Chemicals, and Petrochemicals Investment Regions (PCPIRs): The government has set up PCPIRs to provide integrated industrial zones with state-of-the-art infrastructure, logistics support, and policy incentives for chemical manufacturers. These regions are designed to attract large-scale investments in petrochemicals and specialty chemicals, fostering backward and forward linkages in the industry. The development of these regions has improved India's competitiveness, allowing it to cater to both domestic and export markets more efficiently.

6. Enabling Reforms Supporting Chemical Sector Growth: In addition to existing regulatory reforms, the government has undertaken broader initiatives such as labour law simplification and streamlined land acquisition processes to promote ease of doing business. Implementation of Production-Linked Incentive (PLI) schemes for related sectors is likely to indirectly benefit the chemical industry. Improved inter-departmental coordination is enhancing export facilitation by reducing procedural bottlenecks and ensuring faster clearances.

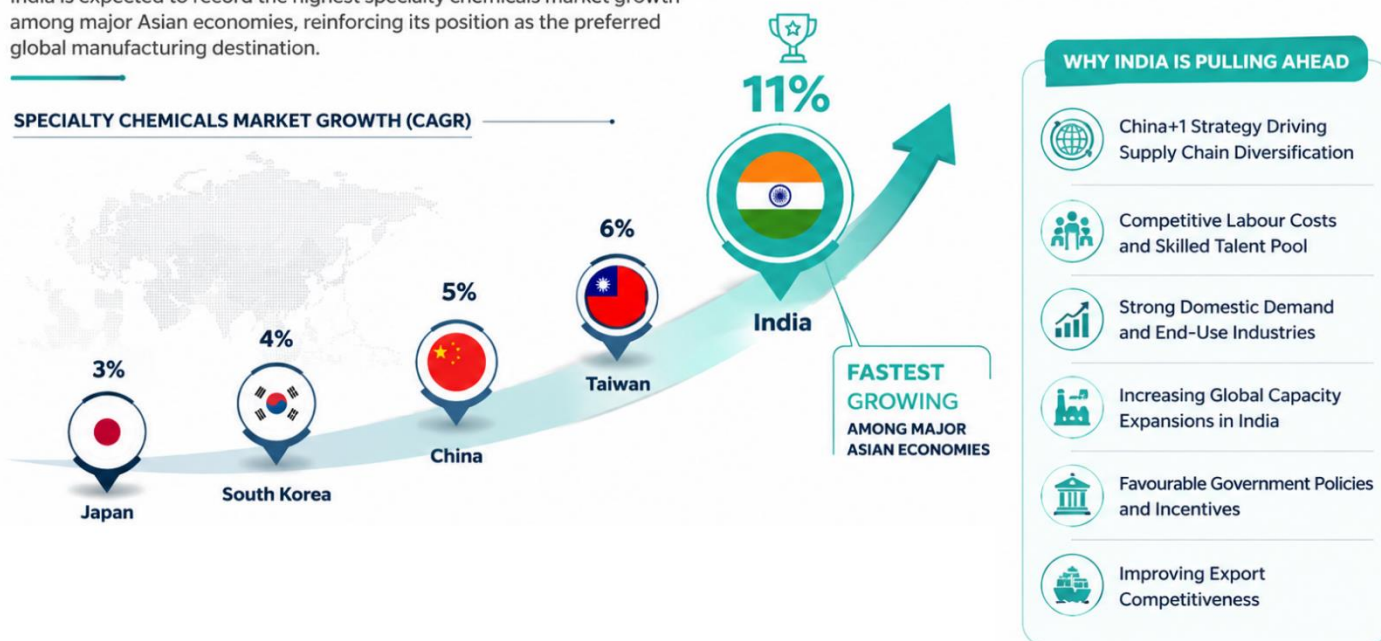
2.6.4 Indian market to grow sharply compared to other regions

From 2025 to 2029, the specialty chemicals market is projected to witness varied growth across key Asian economies. India is expected to record the highest growth rate, 10-12%, driven by strong domestic demand, government incentives, and increasing foreign investments as companies diversify supply chains away from China. China's growth is projected to slow to around 5%, impacted by rising labour costs, stringent environmental regulations, and supply chain shifts. Taiwan and South Korea are expected to maintain moderate growth rates of approximately 6% and 4.5%, respectively, supported by advancements in high-performance materials and electronics-related chemicals. Japan is anticipated to see the slowest growth, around 3%, due to a mature market and weaker domestic demand. This trend highlights India's growing role in the global specialty chemicals industry as other regional players maintain steady but comparatively lower expansion.

Chart 18: India's growth compared to other regions (2026-2029)

India is expected to record the highest specialty chemicals market growth among major Asian economies, reinforcing its position as the preferred global manufacturing destination.

SPECIALTY CHEMICALS MARKET GROWTH (CAGR)



Source: Arizton Advisory, Global Specialty Chemicals Market Analysis Report from EMIS Professional Database, CareEdge Research

2.6.5 Rising global and domestic demand to lift capex plans in specialty chemical sector

The Indian specialty chemicals sector is set to witness a capital expenditure of over Rs 16,100 crores in the next three years (FY24 to FY26), driven by rising domestic and global demand. Investments are focused on capacity expansion, backward integration, and new product development, aligning with the China Plus One strategy. Key areas of investment include expanding manufacturing capacities for high-value chemicals, fluoropolymers, and performance additives. Despite challenges like inflationary pressures and supply chain disruptions, the sector remains on a robust growth

trajectory, with planned capital outlays aimed at enhancing production efficiency and meeting increasing demand from end-user industries.

Capex Trend

Initially, investments remained moderate as the industry catered largely to domestic demand. However, a turning point came around 2017–2018 with China's clampdown on polluting chemical units, triggering a global supply rebalancing. This created a strong export opportunity for Indian players, who began investing aggressively to build scale and diversify product offerings. Capital expenditure surged by nearly 70% between FY18 and FY20, peaking just before the pandemic.

Though FY21 saw a temporary slowdown due to COVID-19-related disruptions, the sector rebounded quickly as global clients sought more reliable and diversified sources beyond China. From FY2023 onwards, the industry has entered a renewed investment cycle, with over Rs 16,000 crore in planned Capex through FY2026.

Higher capital investments by oil refiners in downstream petrochemicals are expected to boost the domestic supply of raw materials for Indian chemical manufacturers, thereby lowering reliance on imports. Additionally, the push for green chemistry and sustainable manufacturing is influencing investment in cleaner production technologies. While the sector faces challenges such as inflationary pressures and global supply chain disruptions, the investments are expected to support long-term growth, strengthen India's role in the global specialty chemicals market, and reduce reliance on Chinese imports.

Fiscal Year	Estimated Capex (Rs crore)	Key Drivers
FY18	~7,500 crores	Steady domestic demand; initial impact of China's environmental regulations
FY20	~13,000 crores	~70% increase due to strong demand and capacity expansion.
FY21	~5,000 crores	Pandemic induced slowdown, which led to cautious spending
FY22	~6,000-6,500 crores	The increase in capex was supported by rising demand and growing export opportunities
FY24-FY26	~16,000+ crores	Robust growth expansions backed by major plans announced

Source: Secondary Sources, CareEdge Research

Key Entry Barriers to the Industry:

The specialty chemicals sector is characterized by several strong entry barriers that limit the entry of new players:

- **Customer Registration & Qualification:** A critical barrier is the requirement to be registered and approved by customers before any supply can commence. The approval cycle, which typically takes 1–4 years, involves extensive testing of product purities and impurities, customization to customer-specific needs, performance validation, shelf-life studies, and end-use application testing. This creates significant stickiness for existing suppliers and makes it difficult for new entrants to displace them.
- **High Product Development Costs:** Developing new specialty chemical products demands substantial investment in R&D, pilot-scale testing, and process optimization. The complex chemistry involved, along with the need for precision in product performance, increases both the cost and time-to-market.

- **Regulatory & Compliance Requirements:** Players must comply with stringent international and domestic regulations such as REACH, EPA, FDA, BIS, and various environmental norms. Achieving and maintaining certifications requires continuous investment in safety, sustainability, and compliance infrastructure.
- **Capital Intensity & Technology:** Specialty chemical manufacturing facilities are capital-intensive, requiring specialized equipment and technologies. The long gestation period before commercial viability acts as a deterrent for new entrants.

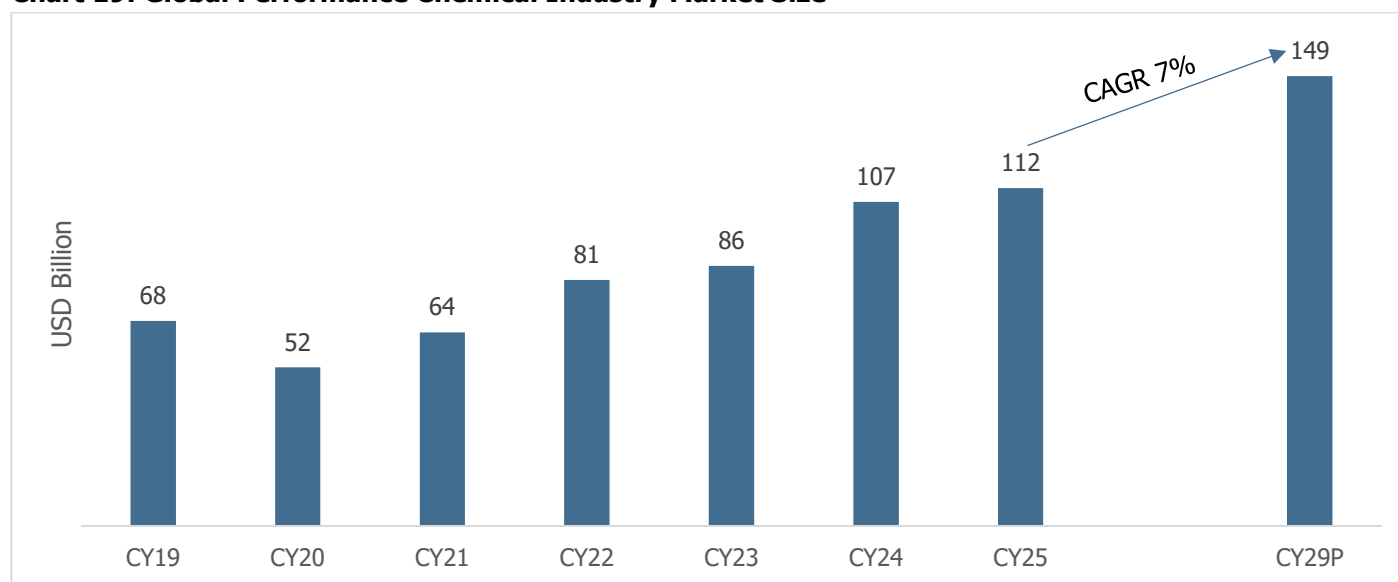
3 Global and Indian Performance Chemical Industry

3.1 Global Performance of Performance Chemical Industry

3.1.1 Overview of the Global Performance Chemical Industry

The performance chemicals industry has shown steady growth over the years, driven by increasing demand from key sectors such as pharmaceuticals, agrochemicals, and automotive. After a slight dip in CY20, the industry recovered, reflecting resilience and sustained demand. The market is projected to expand at a CAGR of 7%, reaching USD 149 billion by CY29. This growth is supported by advancements in specialty formulations, rising industrial applications, and stricter regulatory requirements that emphasise high-performance and sustainable solutions.

Chart 19: Global Performance Chemical Industry Market Size



Source: Mordor, CareEdge Research; Years refer to Calendar Year

The global performance chemical market has demonstrated resilience and growth from CY19 to CY29, with fluctuations driven primarily by the impact of the COVID-19 pandemic in CY20. After a decline in CY20 to USD 52 billion due to the COVID-19 pandemic, the market quickly recovered, reaching USD 64 billion in CY21 and USD 81 billion in CY22 as demand rebounded. This recovery was largely fuelled by the resumption of industrial activities and increased consumer demand for various chemical products as economies reopened.

Growth continued in CY24 and CY25, with a value of USD 112 billion, as the global economy further stabilized driven by the continued recovery and expansion in key sectors, including automotive, construction, and electronics.

The market is expected to maintain a strong upward trajectory, reaching a forecasted value of USD 149 billion by CY29, driven by rising demand in emerging markets, technological innovations, and a shift toward more eco-friendly and energy-efficient chemical production processes. This includes the adoption of green chemistry principles, which promote sustainable manufacturing techniques like the use of renewable feedstocks and the reduction of hazardous by-products, ultimately leading to cleaner, more efficient production methods.

3.1.2 Key growth factors for the global chemical industry include:

- Demand in Emerging Markets:** Rapid industrialization and urbanization in regions like Asia-Pacific, Africa, and Latin America are driving increased demand for chemicals. In road construction, chemicals like cement, coatings, and plastics are needed for expanding infrastructure. Agriculture requires more fertilizers and pesticides to support growing populations, while the consumer goods sector demands chemicals for products like personal care, textiles, and packaging. Additionally, the development of the automotive industry is boosting the consumption of lubricants and other performance chemicals, supporting smoother operations and efficiency. These trends are fuelled by population growth and rising living standards.
- Technological Advancements:** The growing tech demand for solar energy and electric vehicles is driving the need for chemicals like silicon for solar panels and lithium for EV batteries. These materials are essential for advancing renewable energy and sustainable transportation solutions. The chemical industry supports the tech sector by providing materials like silicon for semiconductors, conductive inks for flexible electronics, and advanced polymers for lightweight, durable devices. It contributes to renewable energy with chemicals like cadmium telluride for solar panels, lithium salts for batteries, and platinum catalysts for hydrogen fuel cells. Additionally, chemicals such as carbon nanotubes and specialised coatings enable smart manufacturing, improving sensors, robotics, and AI systems. These materials are essential for driving innovation and sustainability in the tech industry. Furthermore, the growing demand for critical minerals is expected to boost mining activities, which in turn will require increased use of chemicals for mineral processing and extraction.
- Health and Pharmaceuticals:** The aging global population and rising healthcare demand are driving growth in the chemical industry, particularly for medicines, vaccines, and personal care products. Chemicals for pharmaceuticals and personal care items are essential for developing new treatments and formulations, fuelling innovation, and creating growth opportunities in healthcare and consumer goods sectors.

3.1.3 Industry Size by Product Type

3.1.3.1 Paints, Inks, Construction, Chemicals & Adhesives

Paints & Coatings Chemicals: Growth Supported by Construction & Automotive Demand

The paints and coatings chemicals market is projected to expand from USD 96.5 billion in CY25 to USD 116.5 billion by CY29, supported by growing infrastructure investments, residential and commercial real estate development, and strong automotive production. Rising urbanisation and government initiatives such as affordable housing and smart city projects are key demand drivers.

Additionally, industrial coatings are witnessing increased demand from sectors such as shipbuilding, consumer durables, and machinery. The market is also transitioning toward low-VOC, water-based, and eco-friendly solutions, aligning with sustainability regulations, which will require R&D investment and innovation from suppliers.

Construction Chemicals: Infrastructure Boom Driving Uptake

Construction chemicals, including admixtures, waterproofing agents, and flooring compounds, are expected to grow from USD 74.7 billion in CY25 to USD 86.2 billion by CY29. This growth is directly linked to rising construction activity in both public and private sectors. Large-scale infrastructure projects such as highways, metros, and airports, along with commercial real estate and warehousing expansion, are creating sustained demand. Moreover, the shift toward energy-efficient and durable buildings is driving demand for high-performance admixtures and specialty concrete chemicals. The rising trend of green buildings is also encouraging the adoption of sustainable and environment-friendly solutions.

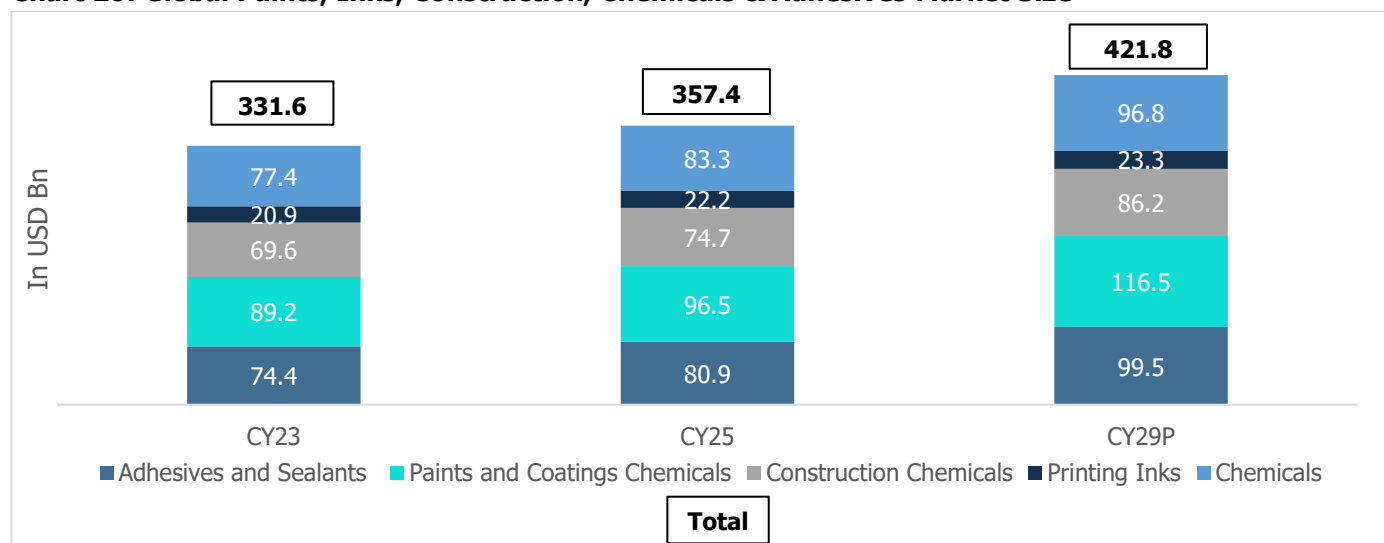
Adhesives & Sealants: Benefiting from Manufacturing & E-commerce Expansion

Adhesives and sealants are poised to grow steadily, moving from USD 80.9 billion in CY25 to USD 99.5 billion by CY29. The segment benefits from its widespread use in packaging, automotive assembly, electronics, footwear, and construction. Growth in e-commerce has particularly accelerated the demand for packaging adhesives. In automotive, lightweight vehicle production is driving adoption of structural adhesives as replacements for traditional welding and mechanical fasteners. Additionally, high-performance sealants are being used in energy-efficient buildings for improved insulation and moisture resistance, aligning with the rising focus on sustainability and energy savings.

Printing Inks: Stable Growth with Rising Packaging Demand

The printing inks segment is projected to increase from USD 22.2 billion in CY25 to USD 23.3 billion by CY29, supported by strong growth in flexible packaging, labelling, and corrugated box manufacturing. The packaging industry remains the largest end-use segment, driven by demand from food & beverages, FMCG, and pharmaceuticals. Additionally, the adoption of digital printing technology and water-based inks is growing, in response to environmental regulations and faster turnaround requirements from brand owners. The shift toward premium and customised packaging solutions is expected to sustain ink demand despite partial substitution by digital media in traditional print publishing.

Chart 20: Global Paints, Inks, Construction, Chemicals & Adhesives Market Size

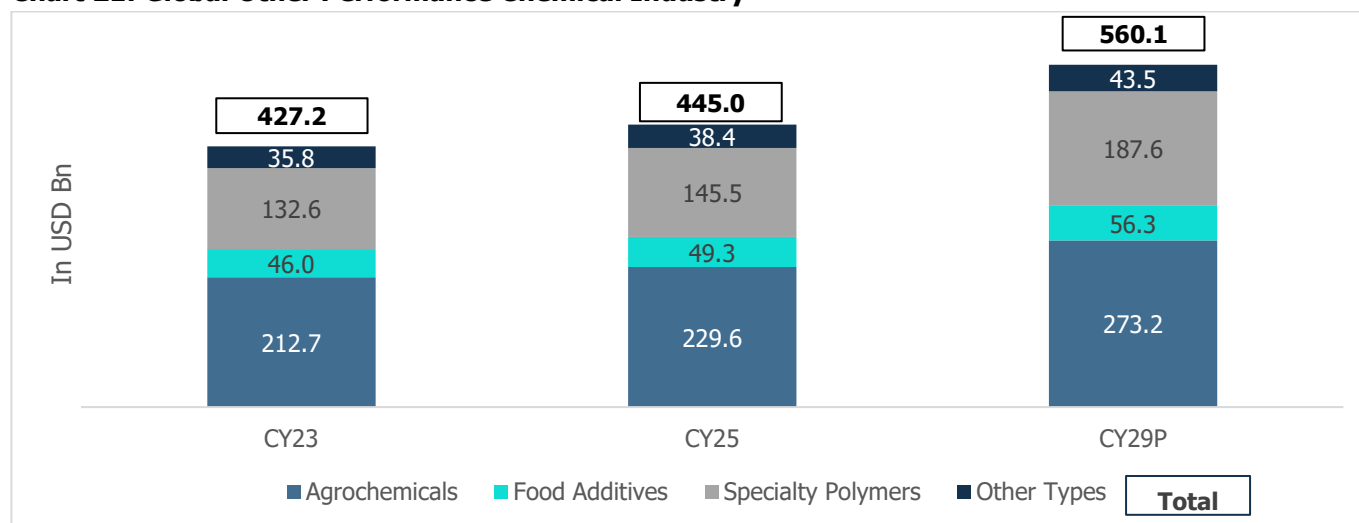


Source: Mordor, CareEdge Research; Chemicals (includes cosmetic chemicals and electronic chemicals); Years refer to Calendar Year; P: Projected

3.1.3.2 Other Performance Chemical

From CY25 to CY29, several other types of chemical products are projected to experience steady growth. Agrochemicals are expected to grow from 229.6 billion in CY25 to 273.2 billion by CY29, driven by rising agricultural productivity

demands and the need for sustainable farming solutions. Food Additives will increase from 49.3 billion to 56.3 billion, supported by growing consumer demand for processed foods and ingredients with longer shelf lives and better nutritional profiles. Specialty polymers are forecasted to expand from USD 145.5 billion to USD 187.6 billion, propelled by demand in electric vehicles, high-performance coatings for electronics, and sustainable packaging solutions, along with advancements in energy efficiency and medical applications. Furthermore, other categories are expected to grow from USD 38.4 billion to USD 43.5 billion, supported by various niche applications across different industries.

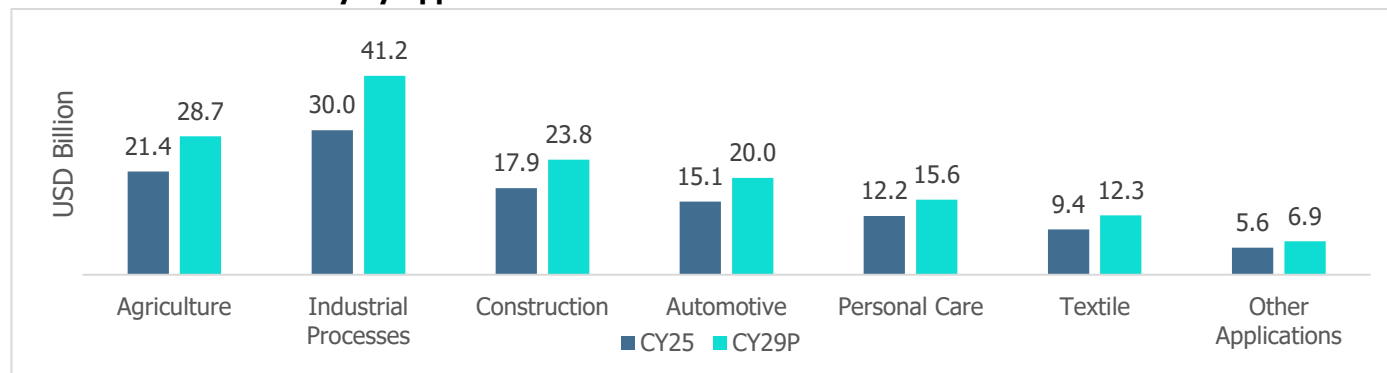
Chart 21: Global Other Performance Chemical Industry


Source: Mordor, CareEdge Research; Years refer to Calendar Year; P: Projected

Other Types Include: Corrosion inhibitors, Anti-foaming Agents, Lubricant Additives, Dispersing Agents, Mold Release Agents, Homogenizing Agents, Catalysts, and Functional Additives

3.1.4 Industry by Applications

The chemical industry supports various sectors through essential applications. In Agriculture, chemicals like fertilizers and pesticides enhance crop yields and protect plants. Industrial Processes rely on chemicals for manufacturing and production efficiency. In Construction, polymers, emulsifiers adhesives, paints, and coatings improve durability and aesthetics. Automotive uses chemicals for components like plastics, paints, and lubricants. Personal Care products such as cosmetics and skincare are made with specialised chemicals. Textiles benefit from chemicals for dyeing, finishing, and fabric treatments. Other Applications include food preservation, industrial greases and lubricants, electronics, and water purification, showcasing the industry's broad impact on daily life and innovation.

Chart 22: Global Industry by Application


Source: Mordor, CareEdge Research; Years refer to Calendar Year; P: Projected

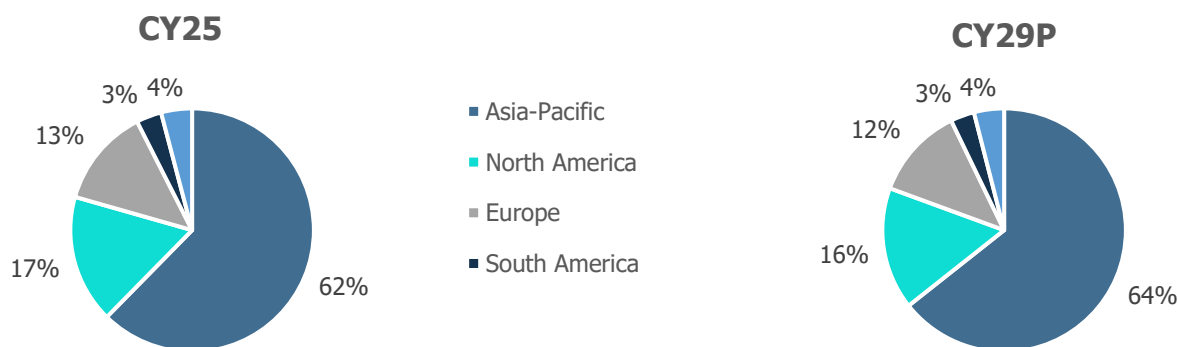
Other Application Includes: Varnishes, Pigments and Resins, Oil & Gas, Pharmaceuticals, Mining & Metal Cleaning, Electronics, and Consumer Products

By CY29, Agriculture is projected to reach 28.7 billion (19%) due to rising demand for crop protection and fertilizers. Industrial Processes lead with 41.2 billion (27%) driven by chemicals' essential role in manufacturing. Construction at 23.8 billion (16%) reflects demand for building materials and coatings. Automotive at 20 billion (14%) grows with the need for chemical components in vehicles. Personal Care at 15.6 billion (11%) benefits from increased demand for eco-friendly cosmetics. Textile at 12.3 billion (8%) reflects the use of chemicals in fabric treatments. Other Applications at 6.9 billion (5%) covers niche markets like food and electronics. This growth is fuelled by industrialization, consumer trends, and technological advancements.

3.1.5 Industry by Geography

The global performance chemical industry is projected to experience steady growth across regions, each influenced by unique factors. Some regions will lead due to rapid industrial expansion, urbanisation, and increased demand for a variety of products. Other regions will see growth driven by advancements in manufacturing, a focus on sustainability, and innovations across multiple industries. Additionally, some areas will benefit from modernization efforts and infrastructure development, while others will grow through investments in sustainable solutions. Overall, these trends highlight a shift towards technological advancements and increasing demand in emerging markets, contributing to a positive long-term outlook for the industry.

Chart 23: Global Industry by Geography



Source: Mordor, CareEdge; P: Projected

In CY25, Asia-Pacific led the global chemical market, accounting for 62% to reaching 64% by CY29, driven by rapid industrialization and high demand across various sectors. North America follows with 17%, supported by advanced technology and sustainable manufacturing. Europe holds 13% billion, driven by innovation and environmental trends.

3.1.6 India's Positioning in the global performance chemical industry

India's chemical industry holds a prominent position globally, ranking 6th in production and 14th in exports. Specialty chemicals, particularly agrochemicals, dyes, and pigments, represent more than half of India's chemical exports. In recent years, imports in the sector have grown consistently, with petrochemical intermediates making up over 30% of total imports.

The Indian chemicals industry is expected to maintain a relatively stable segmentation mix between 2024 and 2029, though with some marginal shifts. Basic chemicals, which form the foundation of the industry and include bulk products like petrochemicals, inorganic chemicals, and intermediates, will continue to dominate the market, albeit with a slight

decline from 56% in CY25 to 54% in CY29. This indicates a gradual diversification of the industry away from commoditized segments. Specialty chemicals, known for their higher value addition and end-use specificity, are projected to grow modestly from 20% in CY24 to 22% in CY25, reflecting increasing demand from industries like automotive, construction, and personal care. Meanwhile, agricultural chemicals, which include fertilizers and crop protection products, are expected to remain stable at 11%, indicating a mature and steady market. Consumer chemicals, comprising products like detergents, cleaning agents, and personal care formulations, are also projected to hold steady at 13% in 2029(P), supported by consistent urban and rural demand. Overall, the industry is moving toward a slightly more value-added profile, with specialty chemicals gaining a larger share.

The chemical industry is a key sector in India's economy, accounting for roughly 6% of the country's GDP and employing over 5 million people. While India is the second-largest global exporter of chemical dyes and agrochemicals, contributing around 3% to global chemical sales, it still faces a dependency on imports. The country relies on imported petrochemical intermediates for about 45% of its needs. Reducing this import reliance through enhanced domestic production remains a strategic goal.

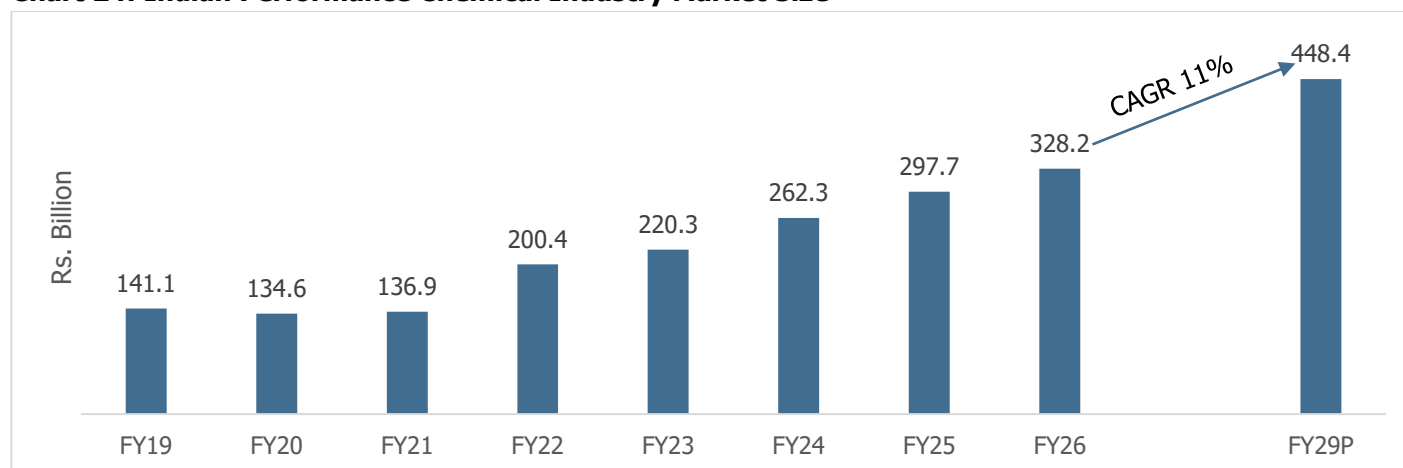
3.2 Domestic Performance Chemical Industry

Over the past two decades, Asia has driven much of the sector's growth, accounting for half of global chemical sales. India's chemical industry is highly diverse, encompassing the production of nearly 80,000 commercial products across categories such as Bulk chemicals, Specialty chemicals, Agrochemicals, Petrochemicals, Polymers, and Fertilizers.

As India aims to become the third-largest global economy by 2030, its chemical sector is set to play a pivotal role in supporting diverse industries and meeting the demands of its growing economy. The vision for India's chemical and petrochemical industries is to become a sustainable global manufacturing hub by prioritizing sustainable manufacturing practices and the circular economy.

India's chemicals market is growing due to rising domestic consumption and demand from key sectors like packaging, personal care, and automotive. The expansion of e-commerce has boosted demand for packaging materials, including plastics and biodegradable options. Government initiatives like Make in India and Atmanirbhar Bharat are further driving growth by simplifying regulations and attracting investment. Additionally, improved infrastructure, including chemical parks and transport networks, supports efficient distribution of chemicals both locally and globally.

Chart 24: Indian Performance Chemical Industry Market Size



Source: Mordor, CareEdge Research

The chemical industry has shown steady growth, with its total value rising from Rs 141.1 billion in FY19 to Rs 448.4 billion in FY29. This growth is largely driven by the increasing demand for chemicals across key sectors like manufacturing, agriculture, healthcare, and energy. As these industries continue to expand, the demand for chemicals rises, fuelling overall market growth.

From FY19 to FY26, the chemical industry has grown, fuelled by technological innovations and sustainability investments. Key advancements like automation, AI, green chemistry, IoT, data analytics, biotechnology, and smart manufacturing drove this progress. Advancements in production methods, materials, and eco-friendly technologies have enhanced efficiency and the ability to meet consumer demand for more sustainable products. Furthermore, rapid industrialization in emerging markets, especially in Asia, is driving significant demand for chemical products, further contributing to the sector's growth. Enhanced supply chain efficiency and expanded production capacities also play a critical role in supporting this growth, ensuring the chemical industry remains on a positive trajectory.

3.2.1 Key Growth Factors

Aspect	Description
Domestic and Global Demand	India's rising population and growing middle class are fuelling increased demand for chemicals in various industries, including consumer goods, textiles, and agriculture. As domestic consumption rises, the sector expands, leveraging global market access to source cheaper raw materials. India's leadership in specialty chemicals, such as agrochemicals, positions it for significant growth, with the potential to multiply its industry share.
Government Support	Initiatives such as the National Chemical Policy, Make in India, and the Chemical Sector Skill Development Council are propelling sector growth. These programmes aim to enhance sustainability, ensure safety and compliance, and foster innovation. By improving workforce skills and attracting foreign investment, these policies bolster India's standing in the global chemical market and establish world-class manufacturing zones for a competitive advantage.
Technological Advancements	The integration of advanced smart manufacturing and real-time monitoring optimises production efficiency and minimises waste. Innovations in biotechnology and molecular biology not only enhance sustainability but also advance production processes. Additionally, technology fortifies regulatory frameworks, ensuring adherence to evolving global standards.
R&D Investment	Investment in research and development drives the chemical industry's progress, creating opportunities for process optimisation and the development of eco-friendly products. R&D fosters innovation, enabling the industry to adapt to market changes and maintain leadership in various applications, ensuring the sector remains resilient and forward-looking.
Growth in Infrastructure, Automotive, and E-commerce to rise demand	Rising infrastructure investments in roads and buildings, expansion of the automotive sector, and increasing consumption driven by e-commerce are expected to accelerate the demand for printing inks, thereby supporting the growth of the domestic performance chemicals industry.

3.2.2 Industry by Product Type

The Indian Other Performance Chemical Industry is showing robust growth across multiple specialty segments. Segments like agrochemicals, specialty polymers, paints and coatings chemicals, adhesives and sealants are projected to grow significantly by FY29.

3.1.3.3 Paints, Inks, Construction, Chemicals & Adhesives

Paints & Coatings Chemicals: Growth Linked to Construction & Auto Sector (CAGR 10% by FY29)

Paints and coatings form the largest segment, growing from Rs 41 Bn in FY26 to approximately Rs 54 Bn by FY29. Demand is supported by robust real estate construction, industrial expansion, and increased automobile production. Schemes like PMAY (Pradhan Mantri Awas Yojana) and smart city projects are key contributors. Moreover, rising consumer preference for premium finishes and low-VOC paints is driving innovation and expansion by domestic manufacturers.

Construction Chemicals: Infrastructure Push Accelerating Uptake (CAGR 11% by FY29)

Construction chemicals are projected to grow from Rs 32 Bn in FY26 to Rs 44 Bn in FY29, supported by sustained public and private infrastructure investments. Government capex on roads, metro projects, airports, and warehousing is a major driver. Additionally, the growing adoption of ready-mix concrete (RMC) and high-performance admixtures to improve durability and sustainability of construction projects is fuelling market penetration.

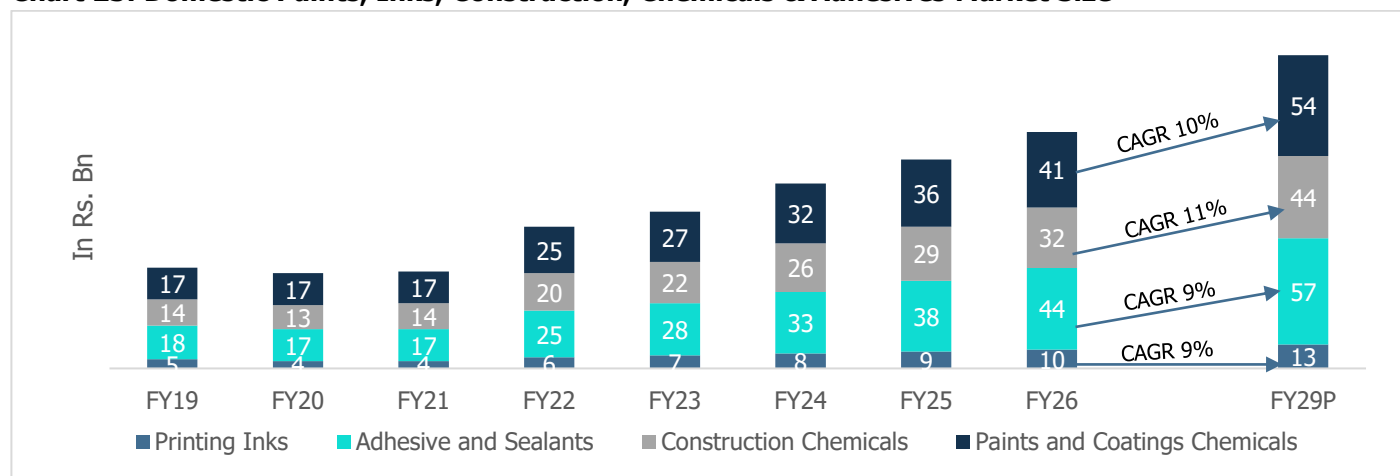
Adhesives & Sealants: Packaging and Automotive Driving Growth (CAGR 9% by FY29)

This segment is expected to expand from Rs 44 Bn in FY26 to Rs 57 Bn by FY29. Increased packaging demand, driven by e-commerce, FMCG, and pharmaceuticals, remains a key growth engine. The automotive sector is also adopting more structural adhesives for lightweight vehicle manufacturing. Specialty sealants are seeing higher demand in construction for waterproofing, insulation, and green building applications.

Printing Inks: Moderate Growth Led by Packaging (CAGR 9% by FY29)

The domestic printing inks market is set to grow from Rs 10 Bn in FY26 to about Rs 13 Bn by FY29. Packaging remains the dominant consumer of printing inks, particularly flexible and corrugated packaging. Growth in packaged food, personal care, and pharma industries is likely to sustain demand, while adoption of eco-friendly water-based inks will gain momentum in line with environmental compliance.

Chart 25: Domestic Paints, Inks, Construction, Chemicals & Adhesives Market Size

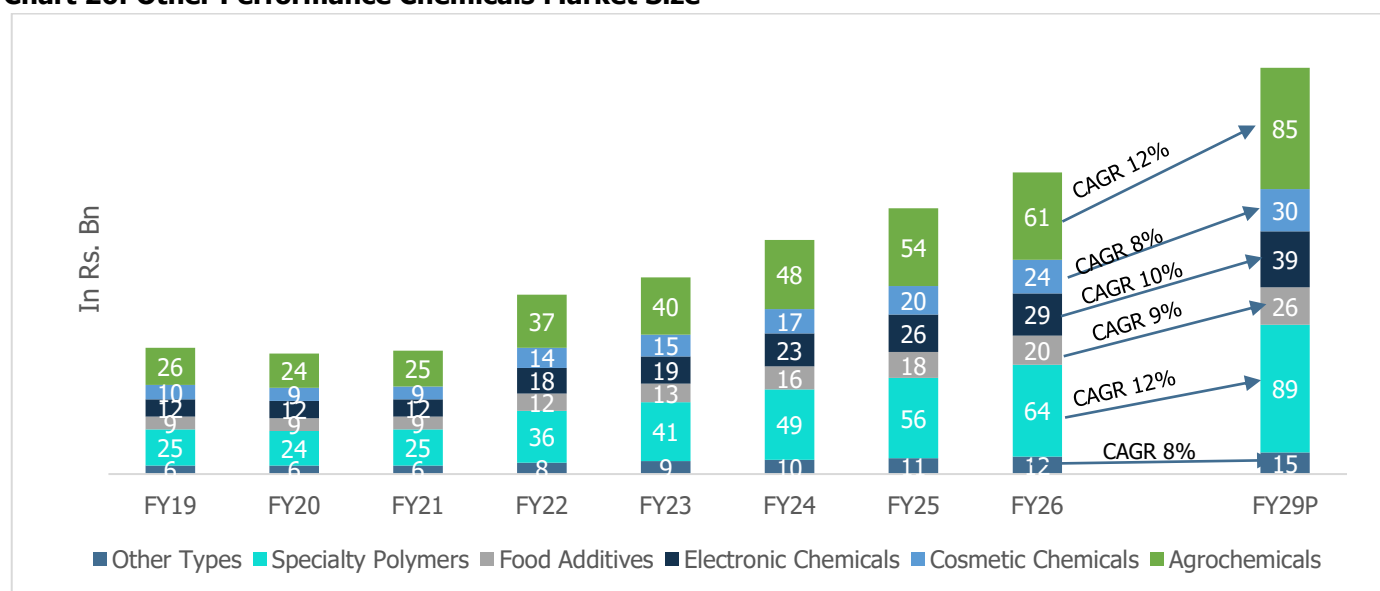


Source: Mordor, CareEdge Research; P: Projected

3.1.3.4 Other Performance Chemicals

The markets across agrochemicals, cosmetic chemicals, electronic chemicals, food additives, specialty polymers, and other niche segments are projected to grow strongly from Rs ~210 Bn in FY26 to Rs ~282 Bn by FY29, reflecting sustained demand from agriculture, manufacturing, and consumer sectors. Agrochemicals remain the largest contributor, driven by rising food demand, improved farm mechanization, and adoption of high-yield crop protection solutions. Specialty polymers are gaining traction in automotive, packaging, and electronics applications, aided by the government's push for Make in India and import substitution. Cosmetic chemicals are witnessing double-digit growth supported by premiumization, rising disposable incomes, and expansion of personal care brands in Tier 2/3 cities. Meanwhile, electronic chemicals are benefiting from India's semiconductor and electronics manufacturing initiatives, particularly under the PLI scheme, while food additives are supported by processed food consumption and packaged food penetration. Overall, strong capex in manufacturing, rising exports, and structural shifts toward value-added products are expected to drive double-digit CAGR across most of these segments through FY29.

Chart 26: Other Performance Chemicals Market Size



Source: Mordor, CareEdge Research; P: Projected

Other Performance Chemicals Include: Corrosion inhibitors, Anti-foaming Agents, Lubricant Additives, Dispersing Agents, Mold Release Agents, Homogenizing Agents, Catalysts, and Functional Additives

Mining Chemicals/Mineral Processing Reagents Market Prospects

In India, mineral processing reagents form a vital part of the "Other Performance Chemicals" sector, which encompasses specialty chemicals used in mineral extraction and beneficiation. These reagents such as flotation collectors, frothers, dispersants, and flocculants are essential for improving the efficiency and yield of mineral processing operations. The growth in India's mining industry, driven by rising demand for metals like iron ore, bauxite, copper, and critical minerals for energy storage and infrastructure, is propelling strong demand for these reagents. Additionally, declining ore grades and more complex mineral deposits are increasing the need for advanced reagent formulations that enable better separation and recovery.

The growing demand for specialty chemicals is playing a crucial role in advancing modern mining operations. These chemicals, such as flotation agents, dispersants, and pH modifiers, enhance mineral recovery from low-grade ores and improve overall processing efficiency. They also help mining companies meet environmental standards by reducing waste and pollution. As mineral extraction becomes more complex, especially with the increasing need for rare earth

elements and battery metals specialty chemicals are being tailored to meet specific process challenges. Their ability to reduce energy use, improve processing speed, and lower operational costs makes them essential in achieving both performance and sustainability goals.

Alongside this, expanding mining activities are creating a steady rise in the demand for effective reagents and processing agents. New exploration projects and deeper ore bodies require more sophisticated chemical solutions to improve yields and manage environmental impact. At the same time, the growing need to control greenhouse gas emissions is pushing the industry toward cleaner, greener chemical alternatives. Mining companies are increasingly investing in environmentally friendly reagents that support regulatory compliance and sustainability targets. This shift is encouraging ongoing innovation and R&D efforts focused on developing safer, more efficient chemical solutions for the mining industry.

The Indian mineral processing reagents market within this category is expected to expand steadily, supported by ongoing investments in mining infrastructure, modernization of processing plants, and environmental regulations that require more effective and eco-friendly chemical solutions.

Lubricant Additives Market Prospects

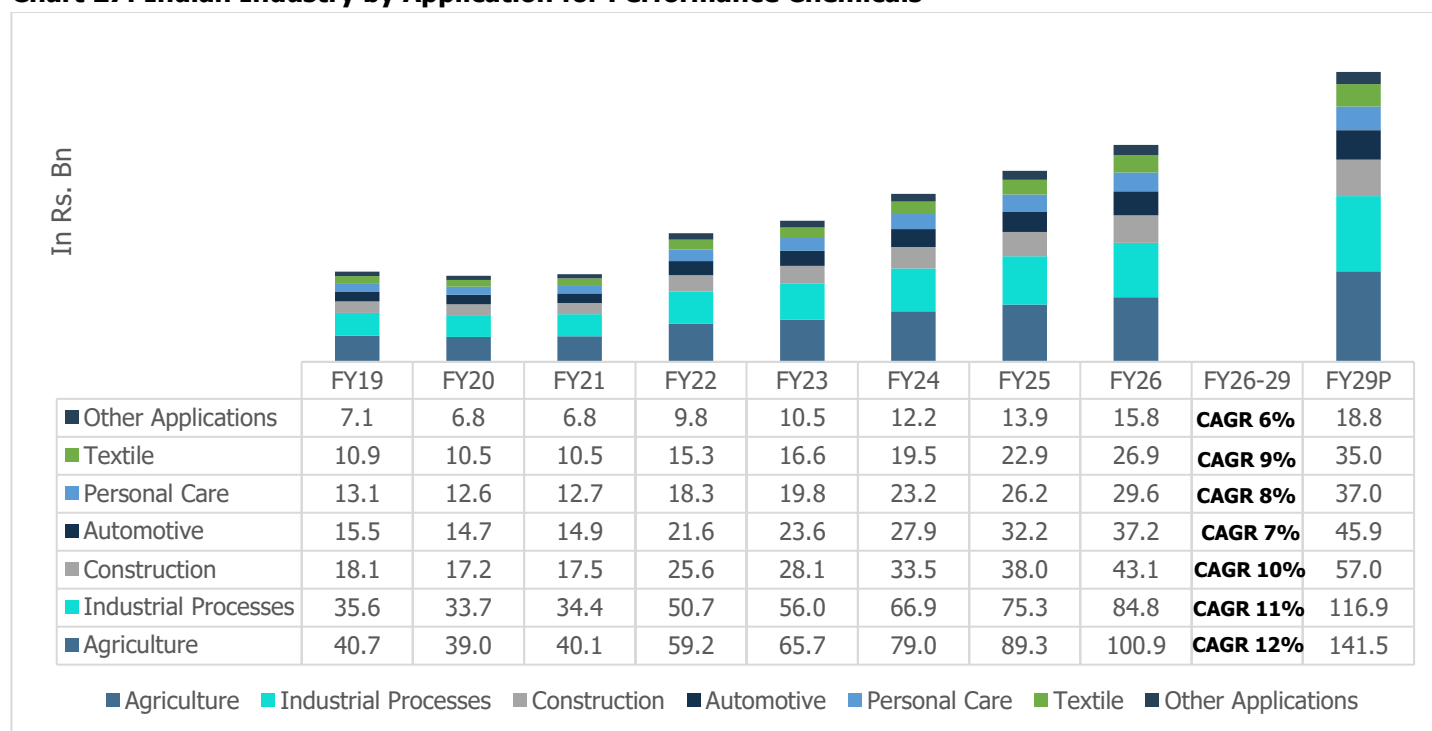
The lubricant additives market plays a crucial role in enhancing the performance and longevity of base oils used in automotive, industrial, and marine applications. Demand is largely driven by rising vehicle parc, growth in industrial output, and the increasing complexity of engines that require high-performance lubricants. In India, lubricant additives consumption is closely tied to the automotive and manufacturing sectors, which together account for over 70% of demand. The ongoing shift towards BS-VI emission norms and global trends in energy efficiency are prompting the use of advanced additives such as detergents, dispersants, antioxidants, and viscosity modifiers.

A key trend shaping the market is the growing preference for fuel-efficient, low-emission lubricants, which require higher additive treat rates. Additionally, the rise of synthetic and semi-synthetic lubricants especially in premium two-wheelers, passenger vehicles, and industrial machinery has increased the demand for performance additives. The industrial segment is also witnessing strong momentum due to growth in metalworking fluids, hydraulic oils, and gear oils driven by infrastructure and manufacturing investments.

3.2.3 Industry by Applications

The application-wise demand for performance chemicals in India is witnessing broad-based growth, with agriculture and industrial processes continuing to lead the market. The agriculture segment, supported by increasing crop intensity, rising demand for Agro-input efficiency, and adoption of specialty Agri-chemicals, is projected to grow from Rs 100.9 billion in FY26 to Rs 141.5 billion by FY29. Industrial processes, including applications in water treatment, paper, and manufacturing, are also set to expand to Rs 116.9 billion, driven by ongoing industrialization and regulatory focus on operational efficiency and environmental compliance.

Construction-related applications are expected to grow steadily from Rs 43.1 billion to Rs 57.0 billion, backed by infrastructure development and increased use of high-performance materials. Automotive applications are forecast to reach Rs 45.9 billion by FY29, supported by growing local vehicle production and demand for adhesives, coatings, and specialty fluids. Meanwhile, personal care and textile segments are poised for gradual growth to Rs 37 billion and Rs 35 billion by FY29, reflecting increased consumption of functional additives and formulations. These trends highlight the evolving role of performance chemicals across both traditional and emerging sectors in India.

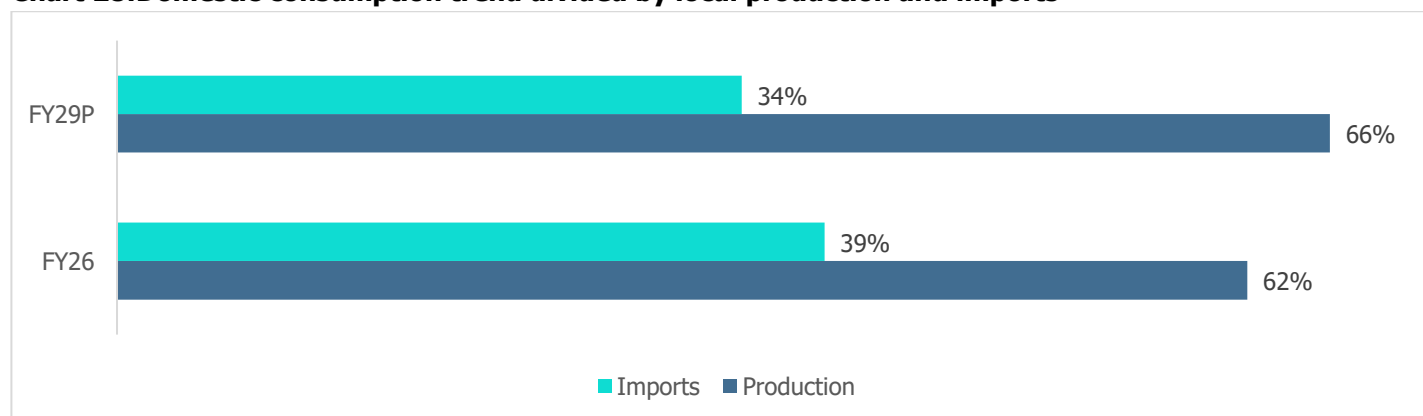
Chart 27: Indian Industry by Application for Performance Chemicals


Source: Mordor, CareEdge Research; P: Projected

Other Application Includes: Oil & Gas, Pharmaceuticals, Mining & Metal Cleaning, Electronics, and Consumer Products

3.2.4 Domestic consumption trend divided by local production and imports

India has implemented several policies to boost its chemical industry and reduce import reliance. Initiatives like Make in India and Atmanirbhar Bharat focus on increasing domestic manufacturing, while the National Policy on Petrochemicals incentivize growth in key sectors. Import substitution policies and financial incentives aim to promote local production, and Skill India enhances workforce capabilities. Investments in infrastructure, sustainability, and R&D support innovation and reduce production costs. These efforts strengthen India's chemical sector, making it more self-reliant and competitive.

Chart 28: Domestic consumption trend divided by local production and imports


Source: Mordor, CareEdge Research; P: Projected

In FY19, the production of chemicals in India contributed between 40%-50%, while the import share ranged from 50%-60%, indicating a significant reliance on imports to meet domestic demand. However, by FY26, production is projected to increase to more than 60%, reflecting a shift towards greater self-reliance in chemical manufacturing. At the same time, imports are expected to decline to 35%-40%, suggesting that India will reduce its dependency on foreign chemical products, likely due to increased domestic production capacity, technological advancements, and industry growth. This shift could be driven by factors such as the expansion of domestic chemical manufacturing capabilities, advancements in technology, policy changes promoting domestic production, or changing global trade dynamics.

3.2.4 Prasol's key competencies in the market

Product Leadership

- The company's product portfolio includes key acetone-based specialty chemicals, such as diacetone alcohol, isophorone, trimethyl cyclohexanol and hexylene glycol, which find usage as additives in coatings, printing inks, varnishes and concrete admixtures
- The company manufactures phosphorus- based specialty chemicals such as phosphorus pentoxide, Zinc Di-thiophosphates and phosphate esters which find usage in high-performance pigments and lubricant additives and flame-retardant materials

Technological Leadership

- The company not only possesses the latest hydrogenation and oxidation technologies, but also possesses aldol condensation, pyrolysis, high temperature and pressure reactions, halogenation, and dehydration technologies as well for manufacturing acetone and phosphorus- based specialty chemicals
- The manufacturing facilities are automated with Distributed Controlled Systems (DCS) for attaining excellence in quality and production efficiency

Competition for derivatives

In the global export market, the company competes with companies, such as Solvay, Altivia, Arkema, Monument Chemicals, Evonik, Tasco and Italmatch

4 Agrochemicals Industry

4.1 Industry Development

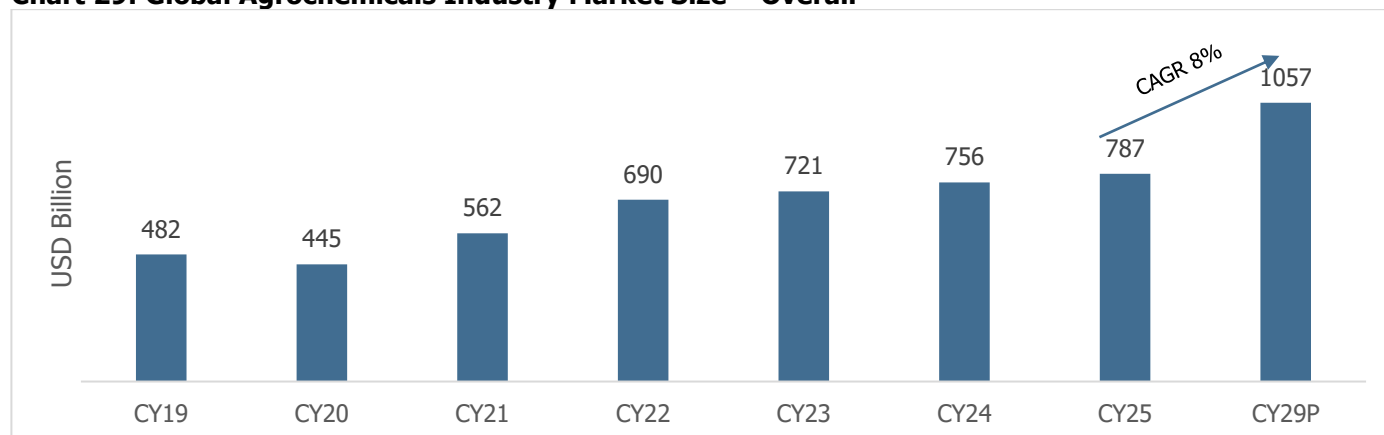
The diverse types of nutrients and crop protection chemicals covered in the agrochemical industry include:

The agrochemical sector comprises a range of inputs designed to improve soil health, protect crops, and enhance plant growth. Among these, fertilizers, pesticides, plant growth regulators, and bio stimulants play distinct yet complementary roles.

- **Fertilizers** can be broadly classified into chemical and bio-based types. Chemical fertilizers, such as urea, diammonium phosphate (DAP), and muriate of potash (MOP), are synthetically produced and provide essential macronutrients directly to the soil, significantly enhancing crop yields. In contrast, bio-fertilizers consist of beneficial microorganisms that naturally enrich the soil by promoting nutrient cycling and improving soil fertility. They support sustainable agriculture by restoring soil health over time.
- **Pesticides** are used to control pests, diseases, and weeds that threaten crop productivity. This segment includes insecticides, fungicides, and herbicides, each targeting specific challenges in the field. Pesticide usage depends on crop type, regional pest pressures, and farming practices, and remains critical for securing yields in both conventional and high-intensity agriculture.
- **Plant Growth Regulators (PGRs)** are chemical substances that influence plant physiological processes such as cell division, flowering, and root development. By modulating plant growth in a controlled manner, PGRs help improve crop quality and adaptability, especially under stress conditions.
- **Bio stimulants**, though often grouped with PGRs, differ in their mechanism. Applied to seeds, plants, or soil, they stimulate natural biological processes to improve nutrient uptake, increase tolerance to abiotic stresses (like drought or salinity), and enhance overall plant Vigor. They are gaining prominence in precision and sustainable farming systems.

4.2 Global Agrochemicals Market Size

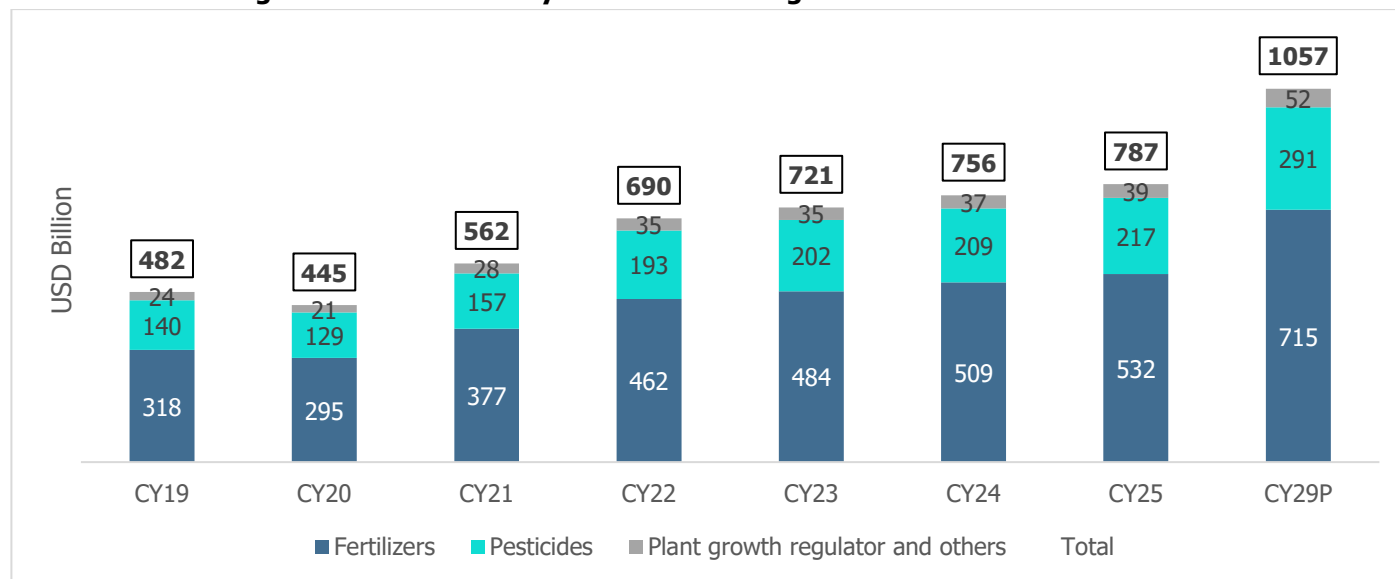
The global agrochemicals market is on a steady growth path, rising from USD 787 billion in CY25 to an estimated USD 1,057 billion by CY29 at a CAGR of 8%. This expansion reflects the growing emphasis on improving agricultural productivity to address global food security concerns. Among the key segments, fertilizers continue to lead, with market size expected to more than double from USD 318 billion in CY19 to USD 715 billion in CY29, driven by higher nutrient application to enhance crop yields. Pesticides, the second-largest segment, are also set to grow significantly from USD 140 billion to USD 291 billion during the same period, as rising pest infestations and the need for effective crop protection fuel demand. Although relatively smaller in size, the Plant Growth Regulators (PGRs) segment is witnessing steady growth from USD 24 billion to USD 52 billion supported by increasing adoption of sustainable farming techniques and the gradual shift toward precision agriculture.

Chart 29: Global Agrochemicals Industry Market Size – Overall


Source: CareEdge Research Estimates, P: Projected; CY: Calendar Year

Global Market by Segment

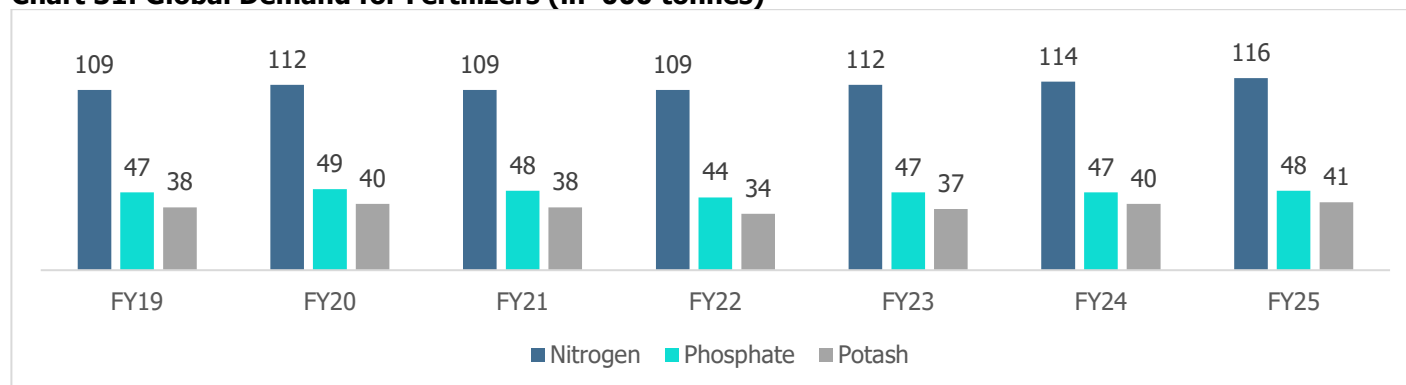
The industry segmentation represents Fertilizers consistently represent the largest market share, followed by pesticides and plant growth regulators and others. The industry has shown steady growth, with total market value rising from USD 482 billion in CY19 to a projected USD 1,057 billion by CY29. This upward trend highlights the increasing demand for crop enhancement solutions driven by population growth, changing climate conditions, and agricultural intensification. The data reflects a mature reliance on fertilizers, growing importance of pesticides, and a gradual yet notable expansion in the plant growth regulators and other niche agrochemical products.

Chart 30: Global Agrochemicals Industry Market Size – Segment wise


Source: CareEdge Research Estimates, P: Projected; CY: Calendar Year

Global demand for Chemical Fertilizers

Global chemicals fertilizer demand is expected to rise steadily, driven by the need to enhance agricultural productivity amid shrinking arable land and growing population pressures. Additionally, rising food security concerns and adoption of precision farming are likely to support long-term demand.

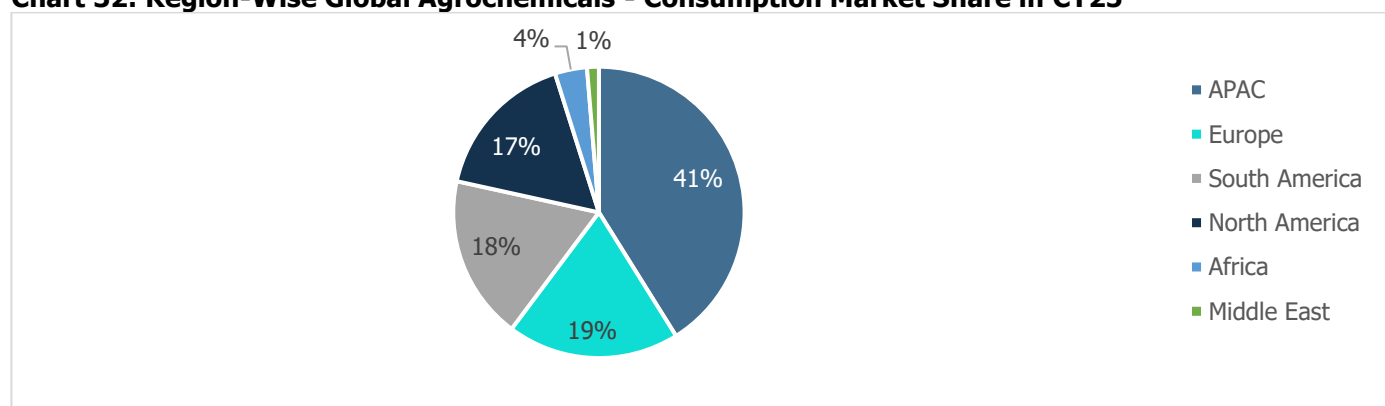
Chart 31: Global Demand for Fertilizers (in '000 tonnes)


Source: Short term fertilizer outlook 2024-25 by Food & Agriculture Organization of UN; FY refers to "Fertilizer Year starting from January to December"

4.3 Global Agrochemicals Industry - Demand Across Regions

The global agrochemicals market is expected to grow on account of a substantial increase in the production of food products worldwide. Further, Asia-Pacific (APAC), Europe and North America are the largest markets in terms of value owing to the rising demand for commercial farming and adapting to changes in crop mix.

APAC region is well-known for its production of rice, soybeans, wheat, and horticultural crops such as fruits and vegetables, but it also faces issues that affect agricultural productivity due to a variety of weeds targeting staple and commercial crops. As a result, there is tremendous demand for crop protection chemicals. The rising use of pesticides and the adoption of sustainable farming methods in countries across this region are driving the demand for nutrition & crop protection chemicals. Whereas Europe is the second-largest market for crop protection & nutrition, followed by North America. The robust growth in the USA and Canada is contributing to the increase in the North American region.

Chart 32: Region-Wise Global Agrochemicals - Consumption Market Share in CY25


Source: CareEdge Research, Maia Research

4.4 Review of India Pesticides Industry and Segments

The Indian pesticides market is currently estimated to be at USD ~6.8-7 billion as of FY26 and is expected to further continue to grow at a CAGR of 5-7% until FY30 to reach USD 9-10 billion. The Indian pesticides industry is namely driven by four broader categories. According to the Directorate of Plant Protection, the market segmentation based on

consumption for the Pesticides industry could be classified as follows:

Table 6: Consumption of Pesticides (FY26)

Category	Market share	Use
Insecticides	33-35%	Shields plants from insects and pests
Fungicides	30-31%	Prevents the spread of fungal diseases in plants
Herbicides	19-21%	Eliminates or suppresses the growth of weeds in cultivation areas
Bio Pesticides	10-12%	Protects against fluoroacetamide and other chemicals from contaminating the soil
Others	4-5%	Manages parasitic worms, rodents, and other pests

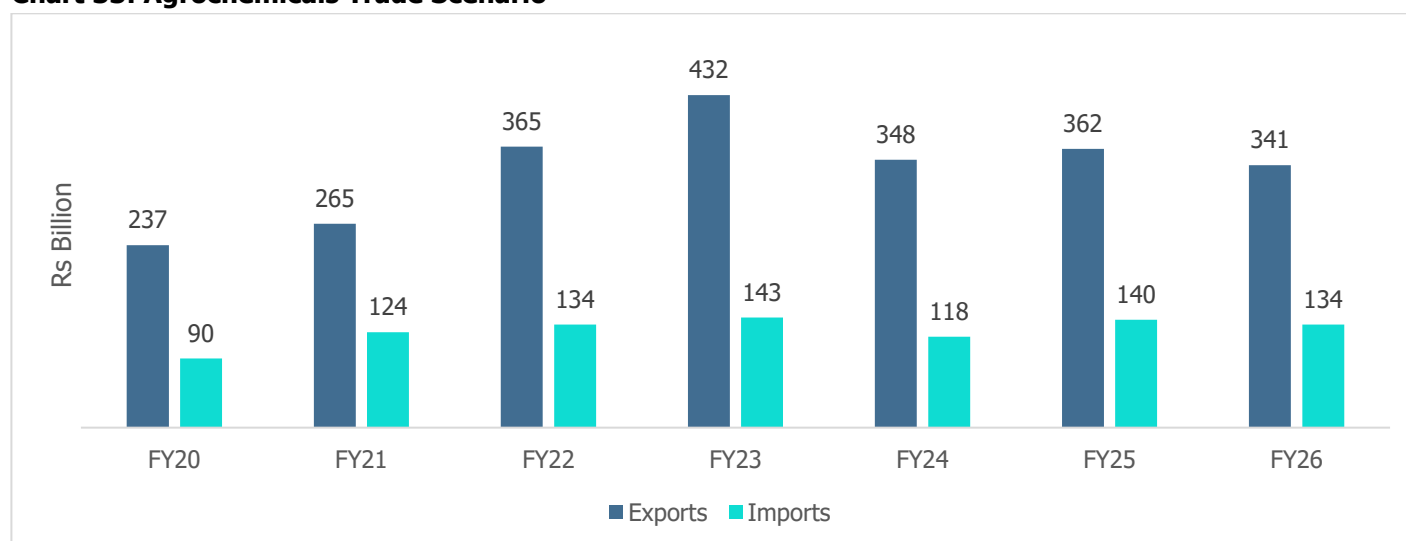
Source: Government Sources, CareEdge Research

India exports around 50% of the produce. The agrochemicals industry has a foothold in export markets primarily due to low-cost manufacturing, availability of workforce, low domestic demand resulting in a focus on exports and a presence in the generic pesticide manufacturing space. India has the ability to produce low-cost generic pesticides on a large scale. Additionally, the domestic agrochemical companies are adopting backward integration which gives them an edge over global competitors.

4.5 Overview of Agrochemicals trade in India

India has consistently remained a net exporter of agrochemicals, with exports significantly exceeding imports throughout FY20–FY26. Exports increased from Rs 237 billion in FY20 to a peak of Rs 432 billion in FY23, driven by robust global demand, expanding domestic manufacturing capacities and India's growing position as an alternative sourcing destination. Although exports moderated to Rs 341 billion in FY26 due to inventory rationalisation, pricing pressure and subdued demand across key export markets, they continued to remain substantially higher than imports. Imports remained relatively stable in the range of Rs 90–143 billion during the period, reflecting selective dependence on technical-grade products and intermediates. Overall, the sustained trade surplus highlights India's strong export competitiveness and reinforces its position as a key global supplier in the agrochemicals value chain.

Chart 33: Agrochemicals Trade Scenario

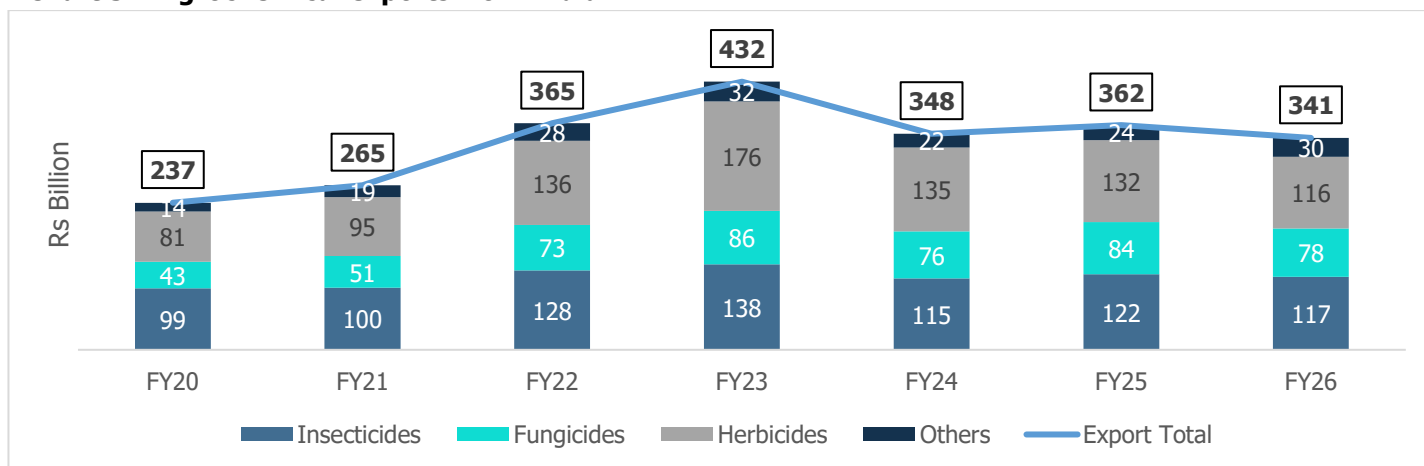


Source: Ministry of Trade & Commerce, CareEdge Research

Exports scenario

India's pesticide exports have grown significantly over the period, increasing from Rs 237 billion in FY20 to Rs 341 billion in FY26, registering a CAGR of around 6.3%, reinforcing the country's position as a major global agrochemical supplier. Export growth was particularly strong during FY22 and FY23, reaching a peak of Rs 432 billion in FY23, driven by strong global demand, supply disruptions in China, and increased outsourcing under the China Plus One strategy. Insecticides and herbicides continue to account for the largest share of exports, reflecting India's strength in generic formulations and technical manufacturing. However, exports corrected in FY24-FY26 due to inventory destocking in key global markets, weak demand in Latin America and Europe, and pricing pressures following normalization of supply chains.

Chart 34: Agrochemical exports from India

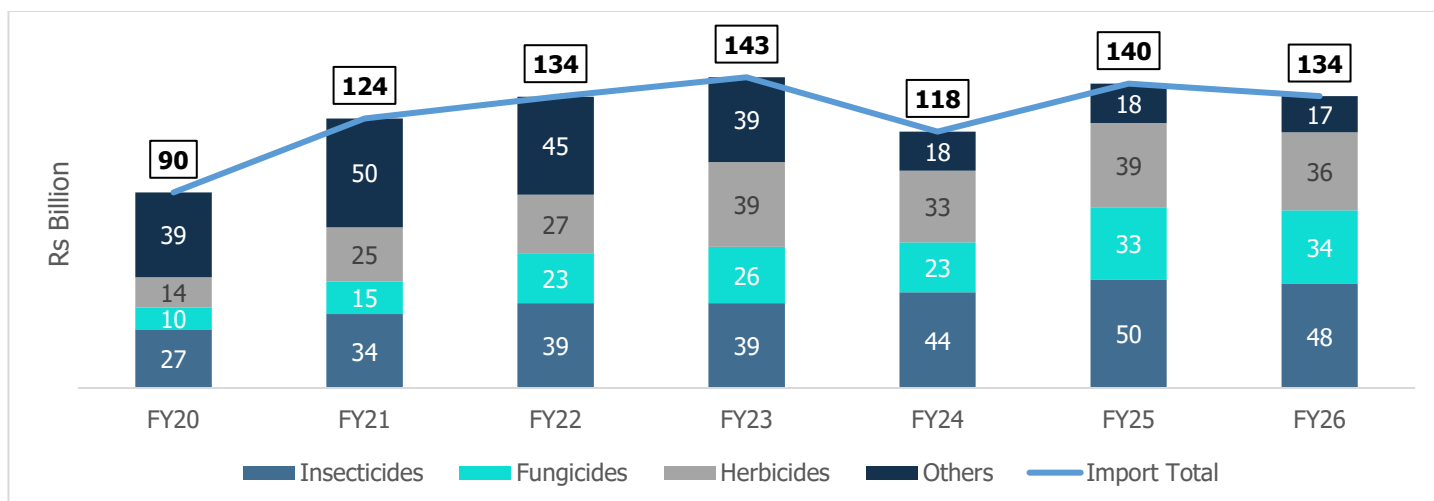


Source: Ministry of Trade & Commerce, CareEdge Research

Imports Scenario

India's pesticide imports have shown a gradual increase over FY20–FY26, rising from Rs 90 billion in FY20 to Rs 134 billion in FY26, reflecting a CAGR of around 6.9%. The increase has largely been driven by higher imports of insecticides, fungicides, and herbicides, as domestic demand expanded and manufacturers continued to rely on imports for select technical-grade molecules and intermediates, particularly from China. Herbicides and fungicides witnessed the sharpest rise over the period, indicating increasing adoption in India's crop protection mix due to labor shortages and higher horticulture intensity. However, import volumes moderated in FY24 and FY26 after peaking at Rs 143 billion in FY23 and Rs 140 billion in FY25, largely due to backward integration by domestic manufacturers, inventory corrections, and softening raw material prices.

Chart 35: Agrochemical imports from India

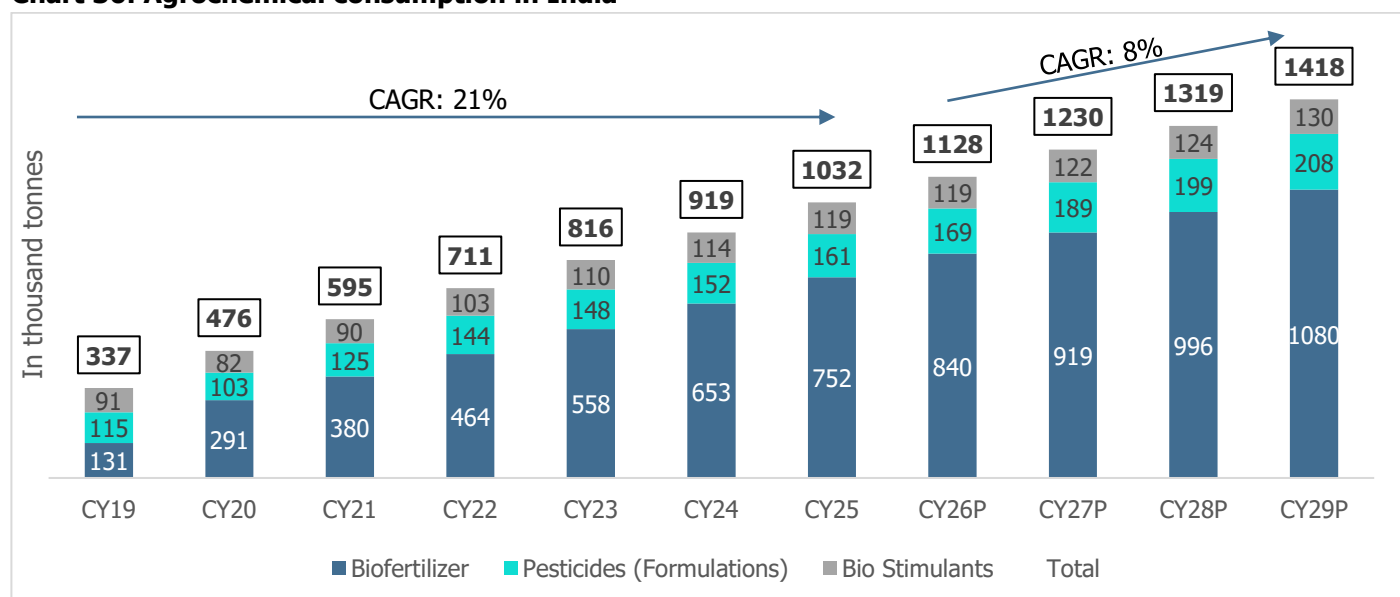


Source: Ministry of Trade & Commerce, CareEdge Research

4.6 Consumption & Penetration of Agrochemicals in India

The consumption of agrochemicals in India has witnessed steady growth, reaching 1032 thousand tonnes in CY25, up from 337 thousand tonnes in CY19. The demand is primarily driven by biofertilizers, which accounted for 752 thousand tonnes in CY25, followed by pesticide formulations (161 thousand tonnes) and bio stimulants (119 thousand tonnes). The trend is expected to continue, with total consumption projected to touch 1,418 thousand tonnes by CY29 growing at a CAGR of 8%. The growth is attributed to increasing adoption of sustainable farming practices, government incentives, and rising awareness of soil health.

Chart 36: Agrochemical consumption in India

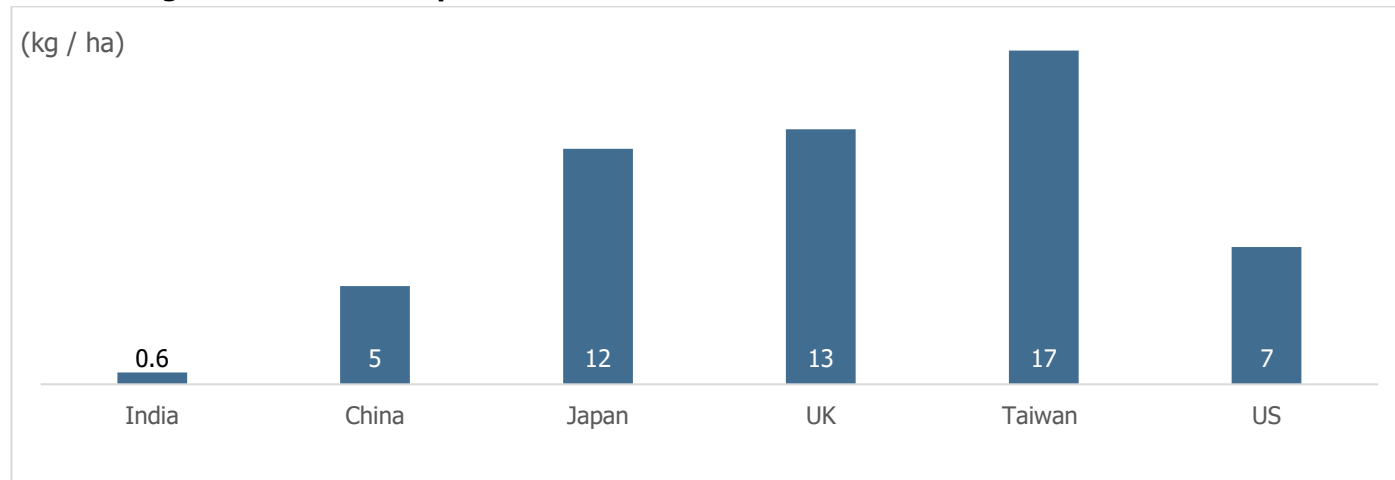


Source: CareEdge Research, Maia Research

The per hectare consumption of pesticides in India is among the lowest globally, at just 0.6 kg/ha, compared to 5–7 kg/ha in the China and 13 kg/ha in UK. In India, pesticides are applied to about 40% of the total cultivated area, with

nearly 65–70% of this treated land being irrigated. This lower pesticide usage may be attributed to a combination of factors, including diverse cropping patterns, regulatory policies, and the prevalence of rainfed agriculture. In contrast, countries like Taiwan, the UK, and Japan have higher application rates, likely due to intensive farming practices and the need for greater crop protection.

Chart 37: Agrochemical consumption in India



Source: Secondary sources, CareEdge Research

4.7 Structure of agrochemicals industry

The Indian agrochemical industry follows a structured value chain that ensures the development, production, and distribution of pesticides and other crop protection products. Here is a breakdown of each stage with relevant facts:

Chart 38: Agrochemicals Industry Value Chain in India



Source: Secondary Sources, CareEdge Research

Stage	Description
Research and Development (R&D)	- Agrochemical R&D in India is driven by both global and domestic players. - Developing a new molecule takes 10-12 years and costs around USD 200-300 million globally. Indian firms focus on reverse engineering and process innovation to reduce costs. - Government initiatives like the Department of Biotechnology (DBT) and CSIR supported labs aid R&D in sustainable and biobased agrochemicals.
Identification	- Identifying active ingredients (AIs) for effective pest and weed control. - India has over 318 registered AIs under the Central Insecticides Board & Registration Committee (CIBRC). - Companies analyse factors like target pests, resistance management, and regulatory feasibility before proceeding.

Stage	Description
Registration	- The CIBRC, under the Ministry of Agriculture & Farmers Welfare, registers agrochemicals in India. - The process takes 3-5 years, involving stringent toxicology, environmental, and efficacy assessments. - India follows the Insecticides Act, 1968, with recent policy reforms to reduce reliance on imported formulations and encourage domestic production.
Active Ingredient Manufacturing	- China dominates the supply of agrochemical intermediates, with India importing nearly 40% of its AI requirements. - India is now the 4th largest producer of agrochemicals globally, after the US, China, and Japan.
Formulation and Packaging	- Formulation involves mixing active ingredients (AIs) with inert materials such as carriers, surfactants, and solvents to create the final product (e.g., emulsifiable concentrates, wettable powders, or granules). Solvents play a critical role in dissolving AIs and ensuring the stability and effectiveness of liquid formulations. - India has over 1,200-1,500 formulation units, with major hubs in Gujarat, Maharashtra, Punjab, and Andhra Pradesh. - Increasing demand for ecofriendly and nano formulations is shaping the industry.
Sales and Distribution	- Distribution is dominated by 80,000+ retailers and 2,50,000+ distributors, with digital platforms like AgriBazaar and DeHaat gaining traction. - Exports have grown at a CAGR of ~10% over the last five years, making India a global leader in agrochemical supply, especially in Latin America and Africa.

4.8 Regulatory scenario in India

India's agrochemical industry operates under a comprehensive regulatory framework designed to ensure the safe and effective use of pesticides and related substances. The key components of this framework include:

Legislation/Organisation	Description
The Insecticides Act, 1968 and Insecticides Rules, 1971	This legislation regulates the import, manufacture, sale, transport, distribution, and use of insecticides to prevent risk to human beings or animals. It mandates that all insecticides undergo a registration process with the Central Insecticides Board & Registration Committee (CIBRC) before they can be made available for use or sale.
Central Insecticides Board & Registration Committee (CIBRC)	Established under the Department of Agriculture and Cooperation of the Ministry of Agriculture, the CIBRC advises the central and state governments on technical matters related to insecticides and registers insecticides after scrutinising their formulae and verifying claims made by the applicants regarding their efficacy and safety to human beings and animals.
Pesticides Management Bill (PMB), 2020	The PMB is proposed to replace the Insecticides Act of 1968. It aims to regulate the import, manufacture, export, storage, sale, transport, distribution, quality, and use of pesticides to ensure the availability of safe pesticides and minimise risk to humans,

Legislation/Organisation	Description
	animals, and the environment. The bill also seeks to promote the use of bio-pesticides and organic farming.
Food Safety and Standards Authority of India (FSSAI)	FSSAI sets the maximum residue limits (MRLs) for pesticides in food products to ensure that the levels are within safe limits for human consumption. These standards are periodically reviewed and updated based on new scientific evidence.
Proposed Bans and Restrictions	In May 2020, the Government of India proposed banning 27 pesticides that are already banned in other countries due to their potential risks to human health and the environment. The proposal includes banning the import, manufacture, sale, transport, and use of these pesticides in agriculture.

4.9 Initiatives by the government to boost farm revenue and infrastructure

The Government of India has launched several initiatives to enhance farm revenue and strengthen agricultural infrastructure, ensuring sustainable growth and farmer welfare. Below are some key programs:

Scheme	Description
PM KISAN (Pradhan Mantri Kisan Samman Nidhi)	This scheme provides direct income support of Rs 6,000 per year to small and marginal farmers in three equal instalments. It benefits over 110 million farmers, ensuring financial stability.
PMFBY (Pradhan Mantri Fasal Bima Yojana)	This comprehensive crop insurance scheme protects farmers from losses due to natural disasters. It covers over 57 million farmers annually, ensuring financial security.
Agriculture Infrastructure Fund (AIF)	This fund offers a Rs 1 lakh crore financing facility to develop post-harvest infrastructure such as cold storage, warehouses, and processing units. It provides credit-linked subsidies and low-interest loans to farmers, FPOs, and Agri-entrepreneurs.
e-NAM (National Agriculture Market)	This digital trading platform links over 1,260 mandis to improve price discovery and reduce agents' interference. It helps farmers obtain better prices by enabling nationwide market access.
PM Krishi Sinchayee Yojana (PMKSY)	This scheme focuses on irrigation efficiency with the slogan "Har Khet Ko Pani". It aims to increase irrigation coverage and promote micro-irrigation (drip and sprinkler systems).
FPO (Farmer Producer Organisations) Scheme	This scheme targets the formation of 10,000 FPOs by 2027 with a Rs 6,865 crore budget. It helps small farmers aggregate their produce for better bargaining power and direct market linkages.
PM Kusum (Kisan Urja Suraksha Evam Utthaan Mahabhiyan)	This initiative promotes solar-powered irrigation pumps, reducing reliance on grid electricity and diesel. It aims to install 2 million solar pumps and create additional income via solar power sales.

Scheme	Description
NABARD Rural Infrastructure Development Fund (RIDF)	This fund provides long-term low-interest funding to state governments for rural infrastructure projects. It supports roads, storage facilities, and irrigation projects to improve agricultural efficiency.
Agri-Export Policy	This policy aims to double agricultural exports to USD 60 billion by 2025. It focuses on value addition, global market access, and branding of Indian Agri-products.

4.10 Indian Agrochemical Sector Recovery: Trends, Data, and Forecasts

Over the past two years, the agrochemicals sector has undergone major disruptions due to a combination of climatic, economic, and geopolitical factors. In 2023, El Niño conditions severely impacted India's monsoon, resulting in a 6% rainfall deficit the lowest since 2018 and the driest August in over a century. This led to subdued agricultural activity and a consequent reduction in agrochemical demand.

At the same time, China's dumping of excess inventory created a global supply glut, driving down prices and compressing margins. Further, many channel partners and distributors undertook de-stocking measures amid weak demand and declining prices, adding to the short-term pressure on sales volumes for agrochemical manufacturers. The situation was compounded by a sharp rise in input costs such as phosphoric acid, ammonia, and natural gas, which made production less viable and further strained profitability across the value chain.

However, signs of recovery are emerging in 2024, supported by stabilizing input costs, normalized inventories, and favorable weather forecasts pointing to a neutral or La Nina phase that could benefit upcoming monsoons. Governments in key markets, including India, are boosting subsidies and support for fertilizers and crop protection to ensure food security. Demand is also shifting towards bio-based and sustainable agrochemical solutions, driven by consumer preferences and regulatory changes. Over the next 3–5 years, the global agrochemical market is expected to grow, led by rising food demand, expansion in emerging markets like Southeast Asia and Africa, and greater adoption of precision farming technologies.

4.11 Prasol's key competencies in the market

Product Leadership

- Diacetone Alcohol, Isophorone, Phosphorous Penta sulphide and DETC are few of the chemicals included in the product portfolio, and they are used in the synthesis of agrochemical active ingredients (Technical) and Formulations

Technological Leadership

- The company not only possesses the latest hydrogenation and oxidation technologies, but also possesses aldol condensation, pyrolysis, high temperature and pressure reactions, halogenation, and dehydration technologies as well for manufacturing acetone and phosphorus- based specialty chemicals.
- The manufacturing facilities are automated with Distributed Controlled Systems (DCS) for attaining excellence in quality and production efficiency.

Competition for derivatives

- The company competes with manufacturers such as Arkema, Evonik, TASCOS, Solvay in acetone- based specialty chemicals and Hubei Xingfa, Liaoning Ruixing, Excel industries in Phosphorous derivatives

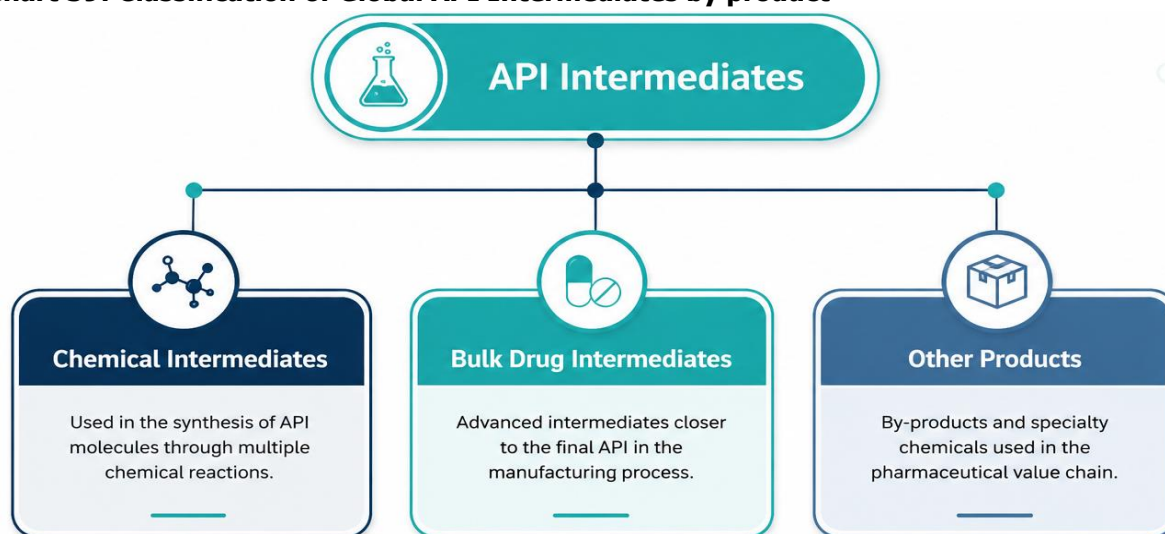
5 Global and Indian Pharmaceutical Intermediates Industry

5.1 Global market overview and market size

API intermediates are critical chemical compounds utilized in the production of active pharmaceutical ingredients (APIs) or finished drugs. These intermediates function as transitional building blocks, essential for the synthesis process, undergoing chemical transformations that result in the final API or drug formulation. Their complexity ranges from simple compounds to highly intricate structures, which significantly influence the efficiency, purity, and safety of the pharmaceutical manufacturing process. With advancements in drug development, new intermediates are being continuously developed, enhancing drug synthesis and formulation processes.

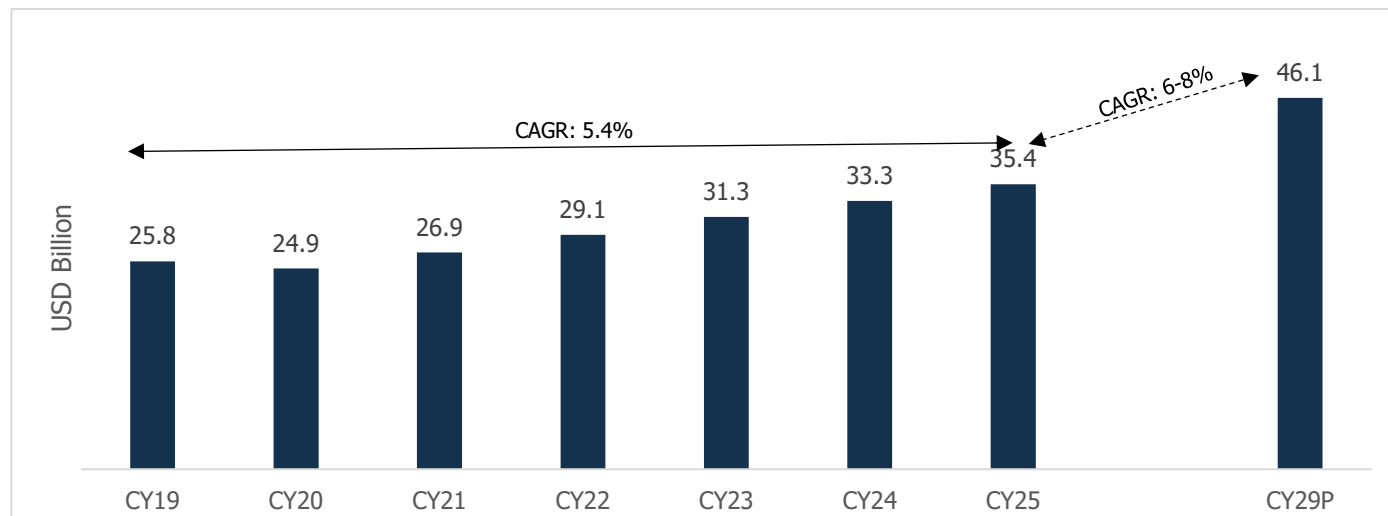
API intermediates are classified into several types, such as chemical intermediates, bulk drug intermediates, and other products with further categorization into branded and generic drug intermediates. As the industry progresses, these intermediates play a vital role in improving production chain efficiency, ensuring better quality and performance of the final pharmaceutical products.

Chart 39: Classification of Global API Intermediates by product



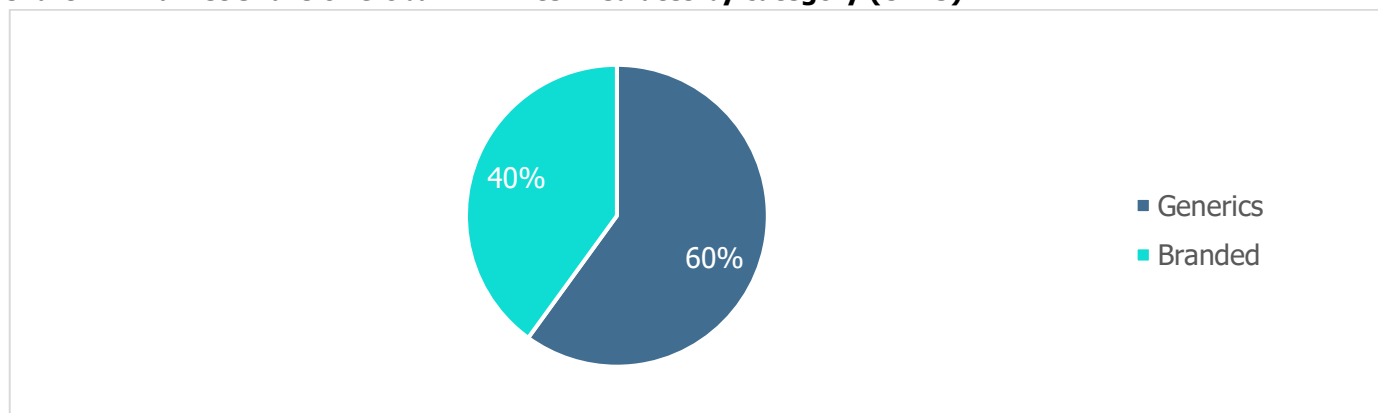
Source: The Business Research Report on API Intermediates from EMIS Professional Database, CareEdge Research

- 1. Chemical Intermediates:** These are essential compounds produced during the synthesis of more complex chemicals also known as essential building blocks used to synthesize active pharmaceutical ingredients (APIs), enabling the creation of more complex molecules that form the core of various medicines. Examples include piperazine derivatives and acetophenone intermediates, which are critical in the development of antibiotics, antihistamines, and anti-cancer drugs.
- 2. Bulk Drug Intermediates:** These compounds are produced on a larger scale and are used in the formulation of APIs, ensuring the mass production of medications. These intermediates streamline the production process, enabling pharmaceutical companies to optimize their manufacturing capabilities.
- 3. Other Products:** This category encompasses excipients, solvents, catalysts, and custom intermediates that support pharmaceutical synthesis and production.

Chart 40: Global API Intermediates Market Size

Source: The Business Research Report on API Intermediates from EMIS Professional Database, CareEdge Research; P: Projected

The global API Intermediates market stood at ~USD 26 billion in CY19 to reaching USD 35.4 billion in CY25, growing at a CAGR of 5.4% over the period. The global API intermediates market was driven by several key factors, including a rapidly aging population and the growing need for diverse drug formulations. The market is also strengthened by large pharmaceutical and biopharmaceutical industries, high production of generic drugs, increasing demand for pharmaceuticals, and significant R&D activity in drug discovery. Moreover, supportive government initiatives further promote growth, creating a favourable environment for both innovation and production in the pharmaceutical sector. Going further, from CY26 to CY29 the API intermediates market is projected to expand at a CAGR of 6-8%, driven by key factors such as the rising prevalence of chronic diseases, an increasing aging population, and the robust growth of pharmaceutical manufacturing. These trends are contributing to heightened demand for innovative drug formulations, expanding the role of intermediates in the pharmaceutical production chain. Additionally, growing investments in healthcare and R&D are further propelling the market's development, positioning it for steady growth in the coming years. The generics market is poised for rapid growth compared to the branded market due to several key factors such as branded drugs losing patent protection. Further, this gives an opportunity to generic manufacturers for introducing affordable alternatives. The increasing pressure on healthcare costs from governments and insurers further drives the demand for cost-effective treatments.

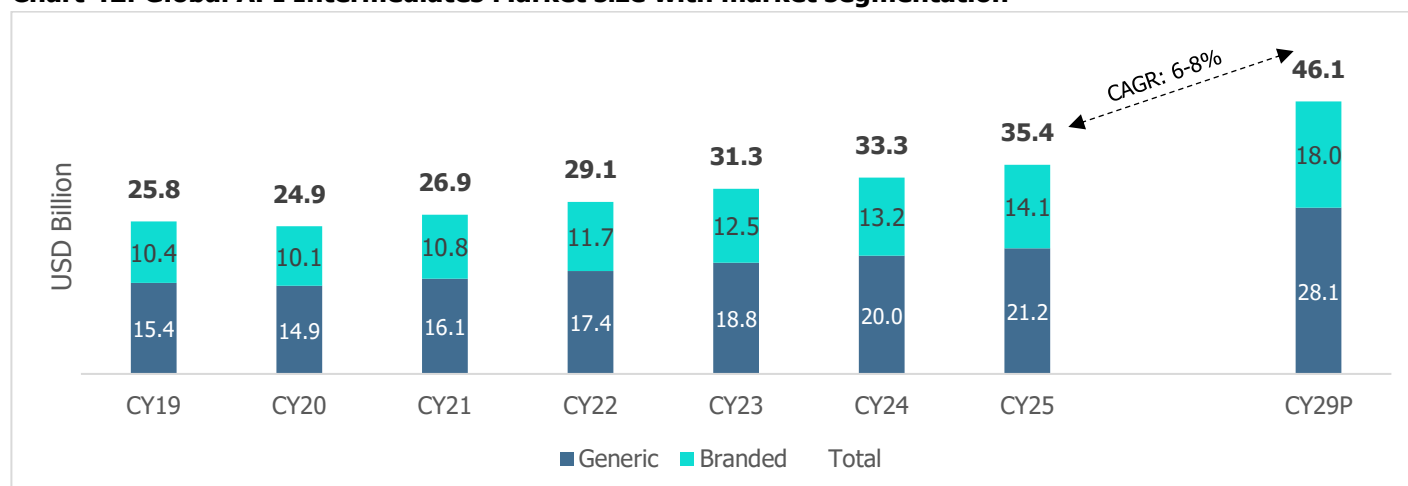
Chart 41: Market Share of Global API Intermediates by category (CY25)

Source: The Business Research Report on API Intermediates from EMIS Professional Database, CareEdge Research.

Generic Drug Intermediate: Generic drug intermediates are chemical compounds used in producing pharmaceuticals that are typically sold after the original brand's patent expires. These intermediates contain the same active pharmaceutical ingredient (API) and offer identical therapeutic benefits as branded drugs. The market for generic drug intermediates includes sales of compounds essential for creating cost-effective alternatives to proprietary medications. Regulatory standards ensure these generics meet bioequivalence requirements, making them a reliable, lower-cost substitute. This category holds nearly 60% of the market share in API Intermediates as of CY25. For instance, a drug used to treat hypertension named Telma 40 mg costs at around Rs 22-23 per tablet while the same generic brand named Telmisartan 40 mg costs at around Rs 7-8 in India. This shows how generic drugs are cheaper as compared to branded.

Branded Drug Intermediate: These intermediates are part of the proprietary process and formulation developed by pharmaceutical companies, often protected by patents. The company who produces the drugs get the exclusive right to maintain the patent with itself giving the exclusive right to produce. These intermediates contribute to the exclusive nature and therapeutic efficacy of branded medications, reflecting the innovation and research behind their development. This category has approximately 40% market share in API Intermediates as of CY25.

Chart 42: Global API Intermediates Market size with market segmentation



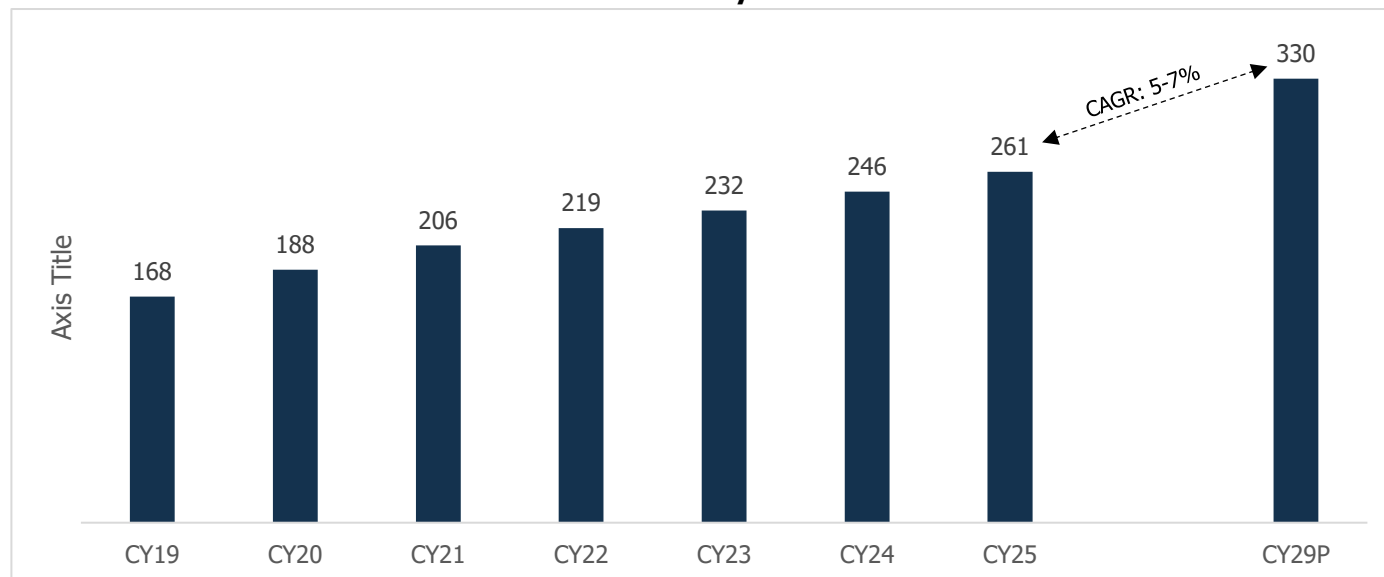
Source: The Business Research Report on API Intermediates from EMIS Professional Database, CareEdge Research; P: Projected

5.2 Key driving factors for the Global API Intermediates Industry:

1. Continued demand from API Industry

The growing demand for active pharmaceutical ingredients (APIs) is a significant driving force behind the API intermediates market. As the healthcare landscape evolves, particularly with the rise in chronic diseases and an aging population, the need for APIs continues to escalate.

API intermediates serve as essential building blocks in the synthesis of these APIs, making their production critical for meeting the increasing pharmaceutical needs. This interdependence highlights the importance of intermediates in enhancing the efficiency of pharmaceutical manufacturing processes. Notably, the global API market grew at a CAGR of 8% from CY19-CY25 to reach USD 261 billion. Further, the growth trajectory is expected to continue, and industry is likely to witness a CAGR of 5-7% to reach in the range of USD 330 billion in CY29.

Chart 43: Market size & forecast of Global API Industry

Source: Grand View Research, Active Pharmaceutical Ingredient Market Analysis Report from EMIS Professional Database; P: Projected, CareEdge Research

2. Expansion of Specialty APIs

With the rising popularity of specialty drugs (e.g., for rare diseases and niche markets), there is growing demand for specialised API intermediates. These drugs often require highly customized chemical building blocks, leading to increased production of niche intermediates.

3. Growing Outsourcing Trends

Pharmaceutical companies are increasingly outsourcing the production of intermediates to contract manufacturing organizations (CMOs) in cost-effective regions like India and China. This allows them to focus more on core competencies such as R&D, clinical trials, and commercialization. The growth of the outsourcing model is directly boosting the API intermediates industry.

4. Innovative AI Solutions for Streamlining Drug Discovery and Synthesis

API intermediates companies are increasingly leveraging artificial intelligence (AI) to enhance product development, boost productivity, and lower costs. For instance, Merck recently launched AIDDISON, an AI-driven drug discovery platform that integrates virtual molecule design with manufacturability through API integration. This innovative approach accelerates drug development by using machine learning and computer-aided design to optimize chemical synthesis. The growth of the API intermediates market is further supported by an aging population, rising drug formulation needs, and substantial R&D efforts.

5. Regulatory Push for Reducing Dependence on Single Supply Sources

Post-pandemic, the global pharmaceutical industry is reducing its dependence on single-country sourcing (particularly China). The reliance on China had led to face major disruptions. However, as India has been the evolving player, the country has been strategically positioned to become the upcoming market leader in the API Intermediates space supported by government backed investment as well as rising investment opportunities as a part of the China plus one strategy.

6. Emphasizing Green Chemistry to Mitigate the Environmental Impact of Synthetic Chemistry

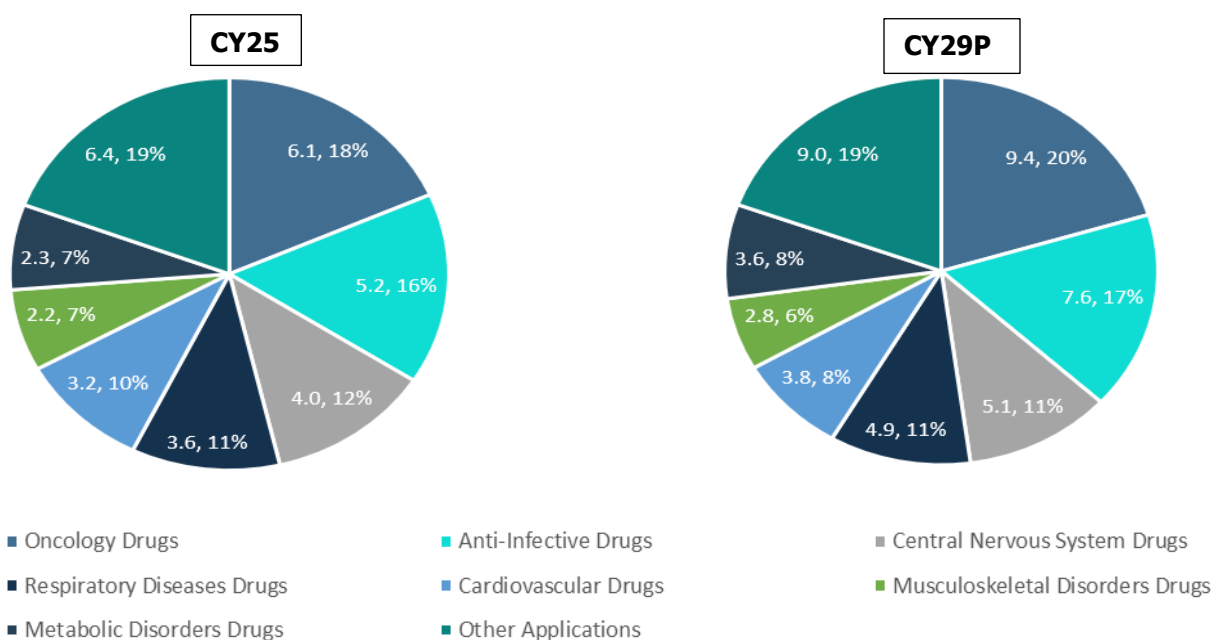
The synthetic chemistry industry and API intermediates market are increasingly prioritizing green chemistry to lessen their environmental footprint and support sustainable development. Green chemistry focuses on creating processes and products that minimize hazardous substances by adhering to principles such as waste reduction, atom economy, energy efficiency, and renewable feedstock usage. Driven by heightened environmental awareness, stringent regulations, and consumer demand for eco-friendly options, this trend encourages industries to adopt innovative practices, such as using safer solvents and energy-efficient methods, to decrease waste and carbon emissions.

5.3 Industry by Application

The pharmaceutical intermediates industry is experiencing notable shifts driven by evolving therapeutic demands. Oncology and anti-infective drugs currently dominate the application landscape, reflecting ongoing advancements in cancer therapies and the need for robust anti-infective solutions. These segments are anticipated to retain their leading positions through 2029, supported by continued innovation and high market demand.

Meanwhile, applications in central nervous system (CNS) drugs, cardiovascular drugs, and metabolic disorders drugs are expected to sustain steady growth, addressing rising incidences of lifestyle-related and chronic diseases. Respiratory diseases drugs and musculoskeletal disorders drugs, while smaller segments, show consistent contributions, underlining the need for targeted therapies. Other niche applications exhibit gradual expansion, signifying diversified usage of intermediates in addressing emerging medical needs.

Chart 44: Pharma Intermediates Industry by Application



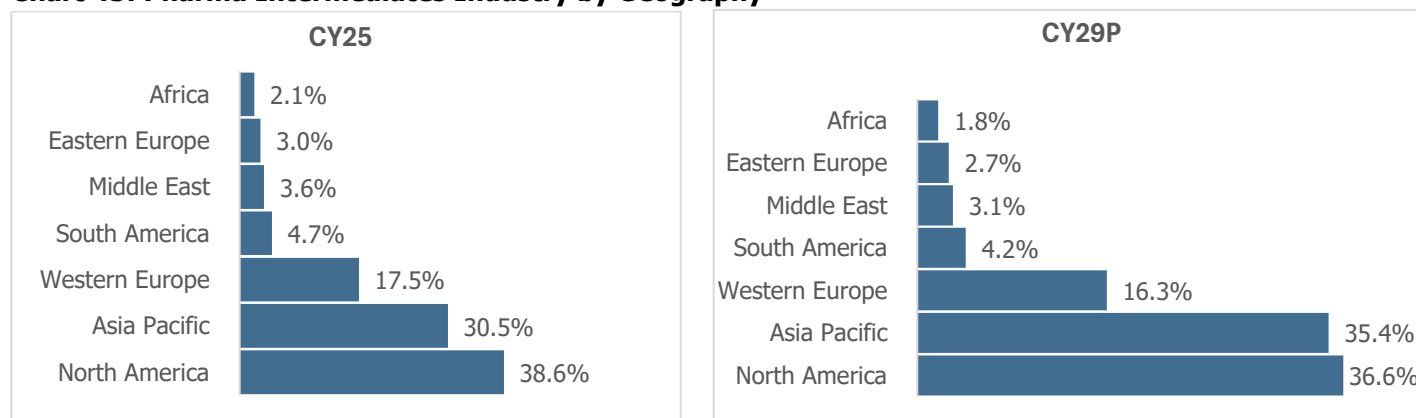
Source: The Business Research Company, Active Pharmaceutical Ingredient Market Analysis Report from EMIS Professional Database; P: Projected, CareEdge Research; Figures in USD Billion; % denote share

5.4 Industry by Geography

The pharmaceutical intermediates industry is currently led by North America in CY25, driven by advanced R&D and high healthcare spending. However, by CY29, Asia-Pacific is expected to grow the fastest, overtaking North America as the largest market. This shift is fuelled by Asia's expanding manufacturing capacity, cost advantages, and increasing

pharmaceutical investments. Europe remains steady, while emerging regions like Latin America and Middle East & Africa continue gradual growth.

Chart 45: Pharma Intermediates Industry by Geography

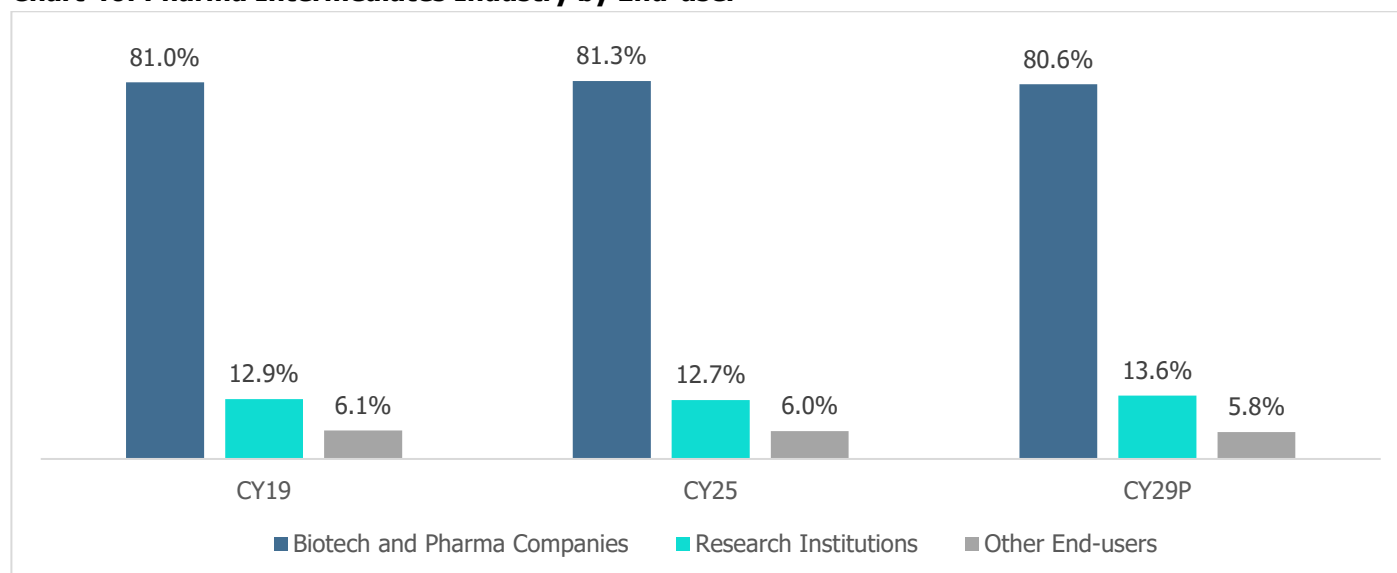


Source: The Business Research Company, Active Pharmaceutical Ingredient Market Analysis Report from EMIS Professional Database; P: Projected, CareEdge Research; % denote share

5.5 Industry by End-user

The pharmaceutical intermediates industry is predominantly driven by biotech and pharma companies, which consistently account for over 80% of the market across all years. Their dominance is attributed to their extensive use of intermediates in drug manufacturing and R&D. Research institutions represent the second-largest segment, with a gradual increase in their share from 12.9% in CY19 to 13.6% by CY29, reflecting growing academic and clinical research activities. Other end users maintain a smaller but stable presence, highlighting their niche roles in the market.

Chart 46: Pharma Intermediates Industry by End-user



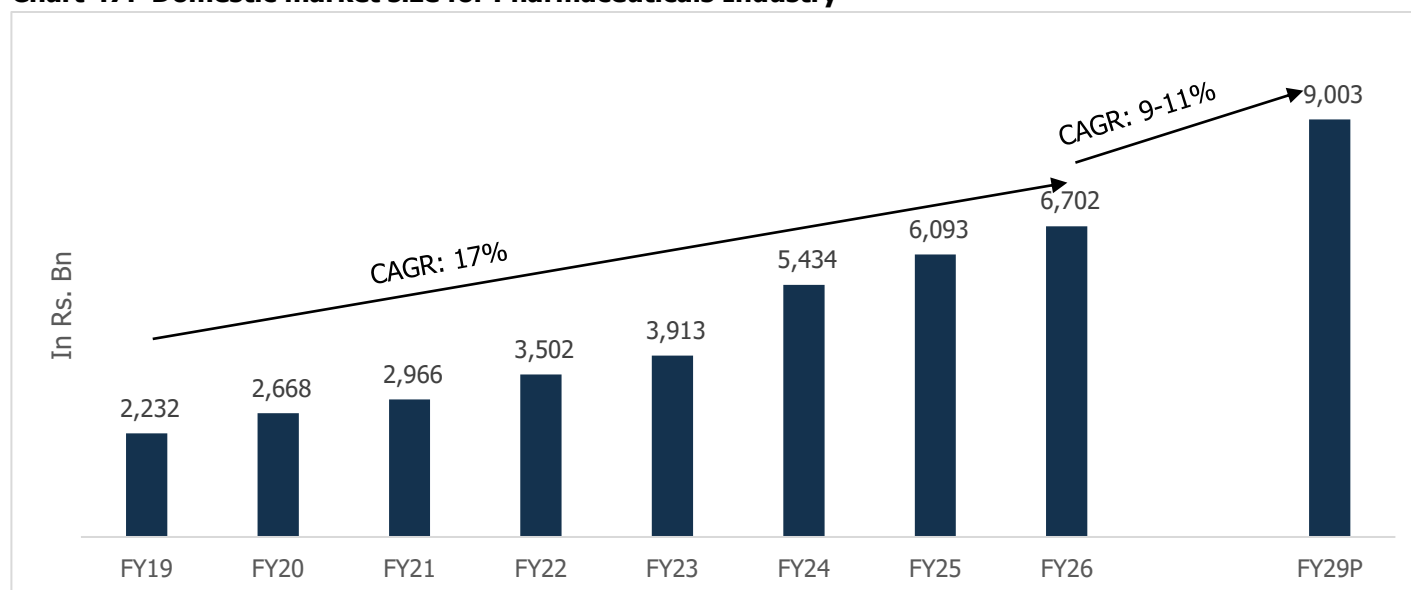
Source: The Business Research Company, Active Pharmaceutical Ingredient Market Analysis Report from EMIS Professional Database; P: Projected, CareEdge Research; % denote share; years refer to Calendar Year

5.6 Indian pharmaceutical intermediates industry

The Indian pharmaceuticals market has shown a robust growth over the past five years, since FY19. The pharmaceuticals market grew at a CAGR of 17% from FY19 to FY26 reaching about Rs 6,702 billion. Low cost of production without compromising on quality along with highest number of USFDA approved pharmaceutical plants (outside the USA) has placed India strategically to emerge out as one of the leading producers for pharma products, which has led to robust growth.

Going forward, industry is likely to continue growing at a CAGR of 9-11% reaching about Rs 9,003 billion by FY29. One of the key growth drivers for the Indian pharmaceutical industry is the increasing prevalence of non-communicable diseases such as cardiovascular disease, stroke, cancer, diabetes, and chronic lung diseases. In addition, a growing population and, in turn, growing demand for medicine, is expected to fuel the growth of the Indian pharmaceutical industry. India is expected to become one of the leading countries in the world in terms of spending on medicine over the next few years. Along with the above-mentioned factors, favourable initiatives, and schemes from the Government of India to encourage companies to manufacture ingredients domestically (PLI scheme) will also support the growth of the domestic pharmaceutical industry. However, the growth trajectory is expected to remain slightly slower as compared to the historical growth rate. The slowdown in growth rate could be attributable to rising competitive and saturation in the generics market which has driven the growth in the past. Additionally, government initiatives like price controls on essential medicines, such as the Drug Price Control Order (DPCO) is likely to put downward pressure on prices, limiting revenue growth.

Chart 47: Domestic market size for Pharmaceuticals Industry



Source: IBEF, Department of Pharmaceuticals, CareEdge Research; P: Projected

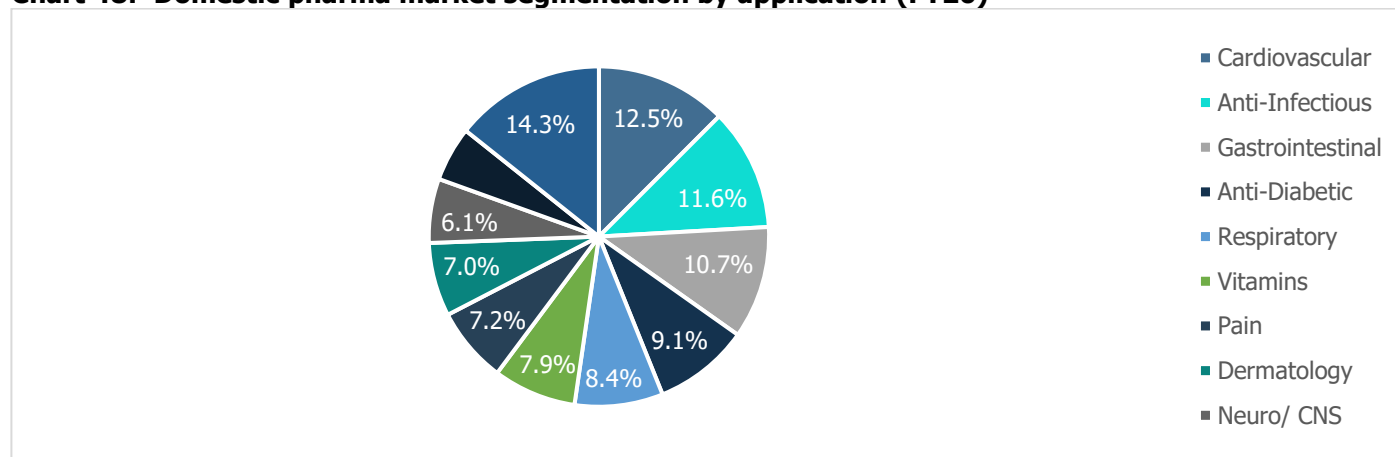
5.7 Market segmentation of the domestic pharmaceutical industry

The products manufactured by the Indian pharmaceutical industry can be broadly classified into bulk drugs (active pharmaceutical ingredients - API) and formulations. Of the total number of pharmaceutical manufacturers, about 77% produce formulations, while the remaining 23% manufacture bulk drugs. Bulk drug is an active constituent with medicinal properties, which acts as basic raw material for formulations. Formulations are specific dosage forms of a bulk drug or a combination of bulk drugs.

5.8 Industry segmentation by application

The top five therapeutic areas- Cardiovascular, Anti-Infectives, Gastrointestinal, Anti-Diabetic, and Respiratory collectively account for over 50% of the market. Increasing prevalence of chronic diseases, advancements in drug development, and rising healthcare awareness globally have been the driving forces.

Chart 48: Domestic pharma market segmentation by application (FY26)



Source: CareEdge Research

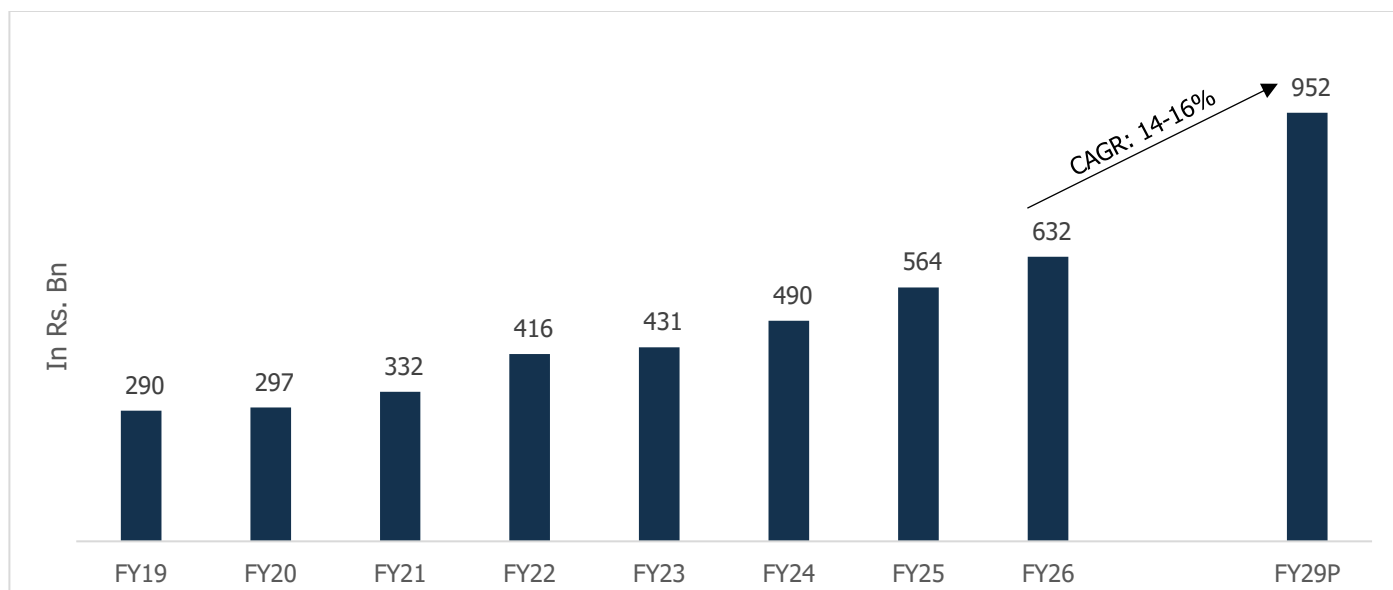
API Intermediates- Industry Overview

API Intermediates are crucial components in pharmaceutical value chain. Intermediates, as semi-finished products, play a vital role in producing finished drugs. The intermediates segment is experiencing growth driven by the need for industry-specific chemicals and innovations. Advancements in various industries demand dynamic changes in product development through various stages of intermediates.

The market size was valued at Rs 632 billion in FY26 and is projected to grow at a CAGR of 14-16% from FY26 to FY29, driven by several key factors. One significant driver is India's position as a major global supplier of API intermediates due to its strong capabilities in cost-effective manufacturing, availability of skilled labour, and established chemical infrastructure.

The country's efforts to enhance self-reliance in pharmaceutical production, particularly through the **Production Linked Incentive (PLI)** schemes and government initiatives aimed at reducing dependency on imports, also contribute to this growth. Moreover, rising global demand for generic drugs and contract manufacturing, alongside increasing investment in R&D and innovation in India's chemical and pharmaceutical industries, further propels the market.

Chart 49: Domestic Market size for API Intermediates market



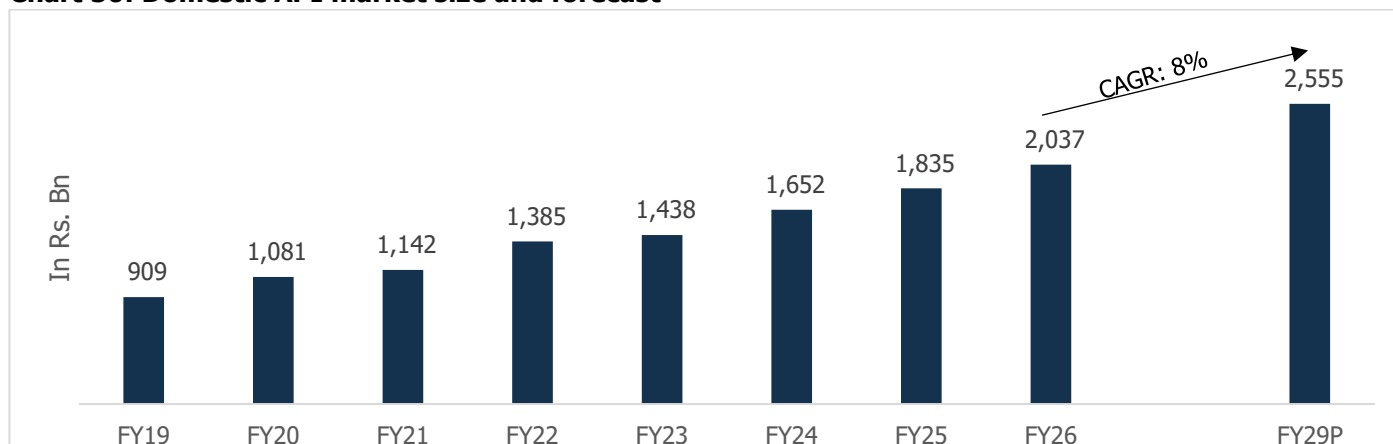
Source: CareEdge Research & Estimates; P: Projected

5.9 Key Growth Drivers for the API Intermediates industry:

Rising growth of API Industry

India's Active Pharmaceutical Ingredient (API) market is a significant driver to the API intermediates industry. India is among the top producers of APIs, with a strong presence in both domestic and international markets. APIs account for around 35% of the Indian pharmaceutical market, and the country is home to approximately 500 API manufacturers, contributing about 8% to the global API supply. The domestic API market grew at a CAGR of 12% from FY19-FY26 reaching Rs 2,037 billion as of FY26. Furthermore, with strategic investments along with increased government support like Production Linked Incentives (PLI) schemes, the API industry is expected to grow further at a CAGR of 8% until FY29 to reach Rs 2,555 billion.

Chart 50: Domestic API market size and forecast



Source: Grand View Research, Active Pharmaceutical Ingredient Market Analysis Report from EMIS Professional Database, CareEdge Research; P: Projected

Lower cost of production

The Indian pharmaceutical industry holds a strong position in terms of production volumes in the global pharma market as the country contributes around 10% of the world production volumes and in terms of value, India holds a share of

around 2.4% globally. Lower cost of production coupled by efficient scientific and technical skills of human resources are the prime reasons for India's strong position. The cost of drugs manufactured in India is one of the lowest in the world.

Table 7: Relative cost comparison in India

Cost in developed countries	100%
Production cost in India	50%
R&D cost in India	12.5%
Clinical trial cost in India	10%

Source: Pharmexcil Note: Costs in India as % of costs in developed countries

It can be understood from the relative cost comparison table that the production cost in India is almost half than that in the developed countries. The R&D cost and clinical trial cost in India are cheaper as the costs of these activities are about 87% and 90% lower in India than that of the developed countries. Hence, the API industry in India benefits from lower costs and makes it an attractive destination for outsourcing by global pharmaceutical companies.

Patent cliff

As more patents expire, a greater number of generic drugs enter the market, offering patients a wider range of affordable options. The following 3-4 years, by 2026, an estimated about USD 240 billion worth of patented products will lose protection by patency, thus leaving a huge window open for companies manufacturing generic formulations in India. Many Indian pharmaceutical companies are already trying to develop generics of these patented products to gain from this. Indian pharmaceuticals companies could then gain an opportunity of about USD 5-6 billion when these patents get expired in the next 4-5 years.

Transition in disease profile

Over the years, there has been a significant shift in the disease profile of Indians. As indicated in the table, proportion of deaths caused by communicable, maternal, neonatal, and nutritional diseases dropped to 27.5% in 2016 from 53.6% in 1990 and that of non-communicable diseases increased to 61.8% in 2016 from 37.9% in 1990. This change in the disease landscape in India presents numerous opportunities for the healthcare and pharmaceutical sectors, as non-communicable diseases are typically long-lasting. As a result, there is an increasing demand for pharmaceutical and healthcare services related to these diseases, which will further support the API industry in India. Communicable diseases comprise of malaria, dengue fever, the common cold, and cholera, whereas non-communicable diseases include cancer, diabetes, cardiovascular diseases, and stroke.

Table 8: Contribution of major disease group to total deaths in India

Diseases	1990	2016
Share of communicable, maternal, neonatal, and nutritional diseases	53.6%	27.5%
Share of non-communicable diseases	37.9%	61.8%
Share of injuries	8.5%	10.7%

Source: Health of the Nation's States 2017: India Council of Medical Research

Skilled workforce

India has a skilled workforce of scientists, researchers, and engineers driving the growth of the API and API Intermediate sector. Government initiatives like Pharma Vision 2020 aim to position India as a global leader in drug production by enhancing workforce skills through programs such as Skill India Mission, Pradhan Mantri Kaushal Vikas Yojana (PMKVY), and Biotechnology Industry Research Assistance Council (BIRAC), an initiative by the Department of Biotechnology (DBT) Government of India to foster innovation and support the biotechnology industry through funding, mentorship, and collaborative programs. The Make in India campaign also promotes domestic manufacturing and workforce development, fostering innovation and competitiveness. These efforts collectively support the pharmaceutical industry's growth and global competitiveness.

Increasing contract manufacturing and outsourcing activities

The rising demand for pharmaceuticals in global and emerging markets, combined with many economies lacking the infrastructure and skills to produce Active Pharmaceutical Ingredients (APIs), positions India as an ideal hub for contract manufacturing and outsourcing. The **China Plus One Strategy**, adopted by various countries to diversify supply chains, presents India with a unique opportunity to attract investments.

India's low production costs, skilled workforce, and robust regulatory framework make it a preferred alternative to China. By leveraging this strategy, Indian pharmaceutical companies can enhance their global presence, foster innovation through international partnerships, and benefit from increased foreign direct investment (FDI). This approach not only strengthens India's position in the global pharmaceutical landscape but also drives economic growth and job creation.

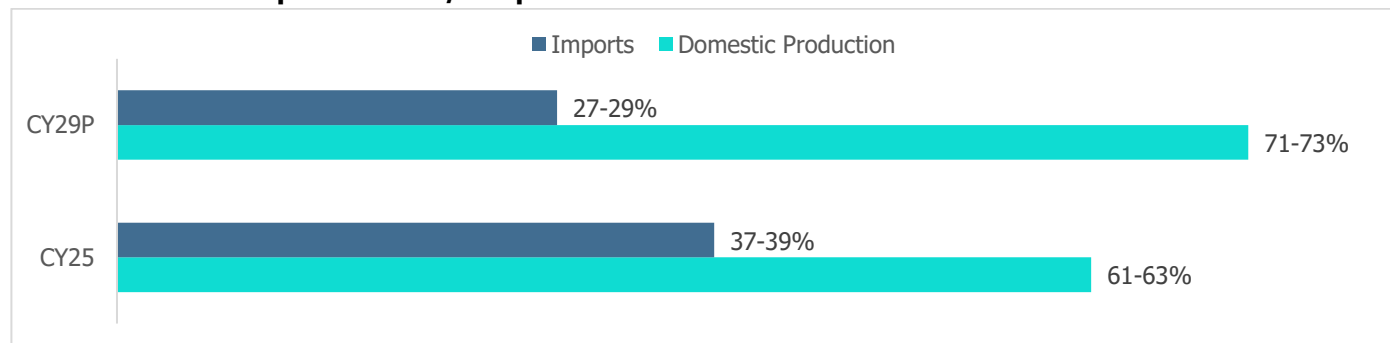
5.10 Trends in Domestic Consumptions vs. Imports

The domestic consumption trend in the Indian pharmaceutical industry is shaped by a combination of local production and imports.

- **Local Production:** India's strong manufacturing base, supported by cost-effective production, skilled labour, and robust infrastructure, drives a sizeable portion of domestic consumption. The country produces a wide range of formulations and intermediates to meet both domestic demand and export needs.
- **Imports:** Despite its self-sufficiency in many segments, India relies on imports, particularly for active pharmaceutical ingredients (APIs) and certain high-value intermediates, primarily sourced from countries like China. This dependency is gradually decreasing as government initiatives like the Production Linked Incentive (PLI) scheme aim to enhance local API manufacturing.

Overall, domestic consumption is heavily supported by local production, while imports continue to fill gaps in API and specialised chemical requirements. The trend is gradually shifting towards greater self-reliance.

Chart 51: Domestic production v/s imports



Source: CareEdge Research

5.11 Prasol's key competencies in the market

Product Leadership

- Product portfolio includes several acetone-based specialty chemicals such as mesityl oxide, tri methyl cyclohexanol, hexylene glycol, and isophorone, as well as phosphorus-based specialty chemicals including polyphosphoric acid, phosphorus Penta sulphide, and phosphorus pentoxide, all of which are used in the synthesis of pharma APIs.

Technological Leadership

- The company not only possesses the latest hydrogenation and oxidation technologies, but also possesses aldol condensation, pyrolysis, high temperature and pressure reactions, halogenation and dehydration technologies as well for manufacturing acetone and phosphorus- based specialty chemicals
- The manufacturing facilities are automated with Distributed Controlled Systems (DCS) for attaining excellence in quality and production efficiency.

Competition for derivatives

- In the global/export market, the company competes with manufacturers such as Arkema, Evonik, and Solvay.

6 Global and Indian Home and Personal Care Chemical Industry

6.1 Global Home and Personal Care Chemical Industry

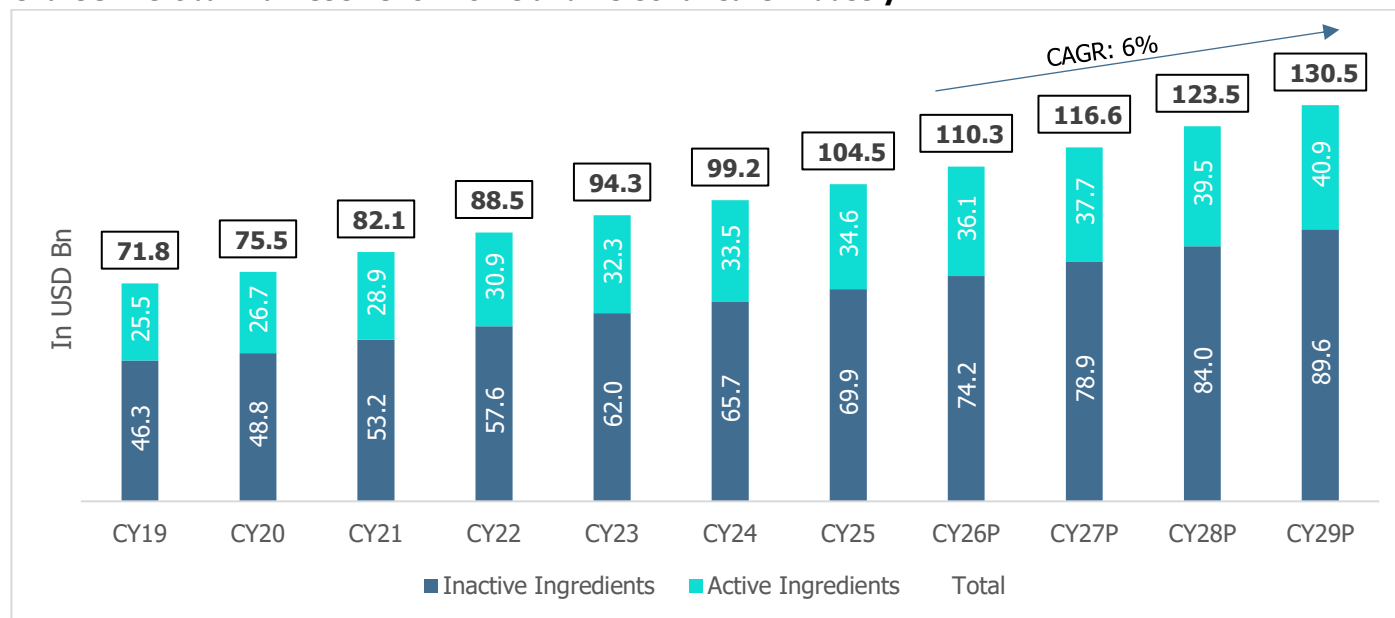
6.1.1 Industry Overview

The home and personal care chemical industry is a dynamic and rapidly growing sector, driven by increasing consumer demand for products related to hygiene, beauty, and wellness. This market includes a wide range of products such as soaps, shampoos, cleaning agents, skincare, cosmetics, fragrances, oral care, and disinfectants. The industry has seen significant growth, fuelled by factors such as rising disposable incomes, evolving consumer preferences, urbanisation, and a growing focus on personal hygiene and wellness.

The Asia-Pacific region is expected to dominate the market, followed by North America and Europe, with robust growth potential in emerging markets like South America. The increasing focus on personal care and hygiene in emerging economies, coupled with rising consumer awareness about product ingredients and sustainability, will drive the future growth of the home and personal care chemical industry.

The home and personal care (HPC) industry offers robust growth opportunities for chemical companies, with rising demand for specialty ingredients and sustainable products. As the market evolves, companies must adapt to regulatory requirements and consumer trends for eco-friendly, natural ingredients. Innovation and differentiation are key to staying competitive. Strategic partnerships with major brands can further drive success in this growing sector.

Chart 52: Global market size for Home and Personal Care Industry



Source: CareEdge Research, Mordor Research; P: Projected

The global home and personal care chemicals market is expected to grow steadily from CY19 to CY29. The market size expanded from USD 71.8 billion in 2019 to USD 104.5 billion in CY25, and then it is going to expand more to reach USD 130.5 billion by CY29. Additionally, it is also expected to grow at a CAGR of 6% from CY25 to CY29. This growth is due to factors such as increased awareness of hygiene, a higher demand for personalized and multi-functional products, and the impact of social media on consumer choices. Technological advancements in formulation, such as microencapsulation, bio-based ingredients, and AI-driven personalisation, are improving the effectiveness and sustainability of products. The expansion of e-commerce has also improved access. Moreover, regulatory support for

sustainability is encouraging companies to adopt more sustainable practices as the demand for greener products increases.

6.1.2 Growth drivers of the industry

The global home and personal care chemicals market is growing due to several key drivers:

Key Trends	Description
Increasing Demand for Aroma Chemicals	Aroma chemicals, including fragrance intensifiers and odorants, are in high demand as consumers seek long-lasting and appealing scents in products like perfumes, deodorants, and body lotions. The influence of beauty influencers on social media and millennials' grooming and hygiene preferences further boosts this demand.
Premiumisation of Products	Consumers are willing to pay more for premium personal care products, associating higher prices with better quality, safety, and effectiveness. This market is dominated by millennials, driven by product performance and social media influencers promoting these premium products.
Surfactants and Emulsifiers	The demand for surfactants and emulsifiers is growing, particularly in soaps, detergents, fabric softeners, and hand sanitisers. Increased hygiene awareness, especially post-COVID-19, has led to higher demand for sanitisers and cleaning products. Manufacturers are innovating by adding benefits like moisturising properties.
Growth in Asia-Pacific	Rapid population growth and urbanisation in Asia, particularly in China, India, and Southeast Asia, are increasing the consumer base for personal care and hygiene products. Rising disposable incomes and digital influence drive demand for both essential and premium personal care items.
Sustainability and Eco-friendly Products	Increasing environmental awareness drives demand for products with natural, biodegradable ingredients and eco-friendly packaging. Companies are responding by formulating cruelty-free, sustainably sourced products packaged in recyclable or biodegradable materials.

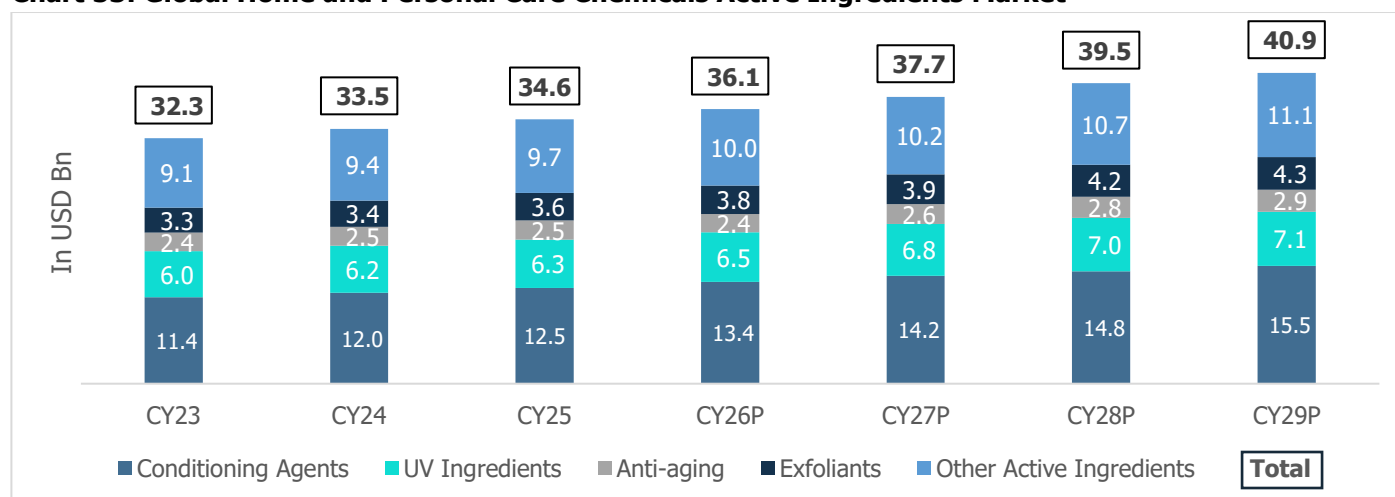
6.1.3 Industry by Product Type

The home and personal care industry includes two types of ingredients, active and inactive.

Active Ingredients

Active ingredients are the core components in a product that provide its main function and contribute directly to its effectiveness. These ingredients are scientifically chosen for their ability to target specific concerns or achieve results. In personal care and home care products, active ingredients are responsible for delivering the desired outcome, whether that's cleaning, treating a skin issue, or improving hair and skin health. Examples of active ingredients include glycerine (moisturizer), retinol (anti-aging), zinc oxide (sunscreen), salicylic acid (cleanser), tea tree oil (antibacterial) and PCMX, also known as chloroxylenol, an antimicrobial and disinfectant agent commonly used in household antiseptics, antibacterial soaps, and wound cleansers.

Some of the types include Conditioning Agents, which improve the texture and manageability of hair and skin, UV Ingredients, which protect the skin from harmful UV rays, Anti-aging ingredients that reduce the appearance of wrinkles and promote skin rejuvenation, Exfoliants that remove dead skin cells and promote smoother skin and Other Active Ingredients, which address specific concerns like acne, inflammation, and hydration.

Chart 53: Global Home and Personal Care Chemicals Active Ingredients Market

Source: Mordor Research, CareEdge Research; P: Projected

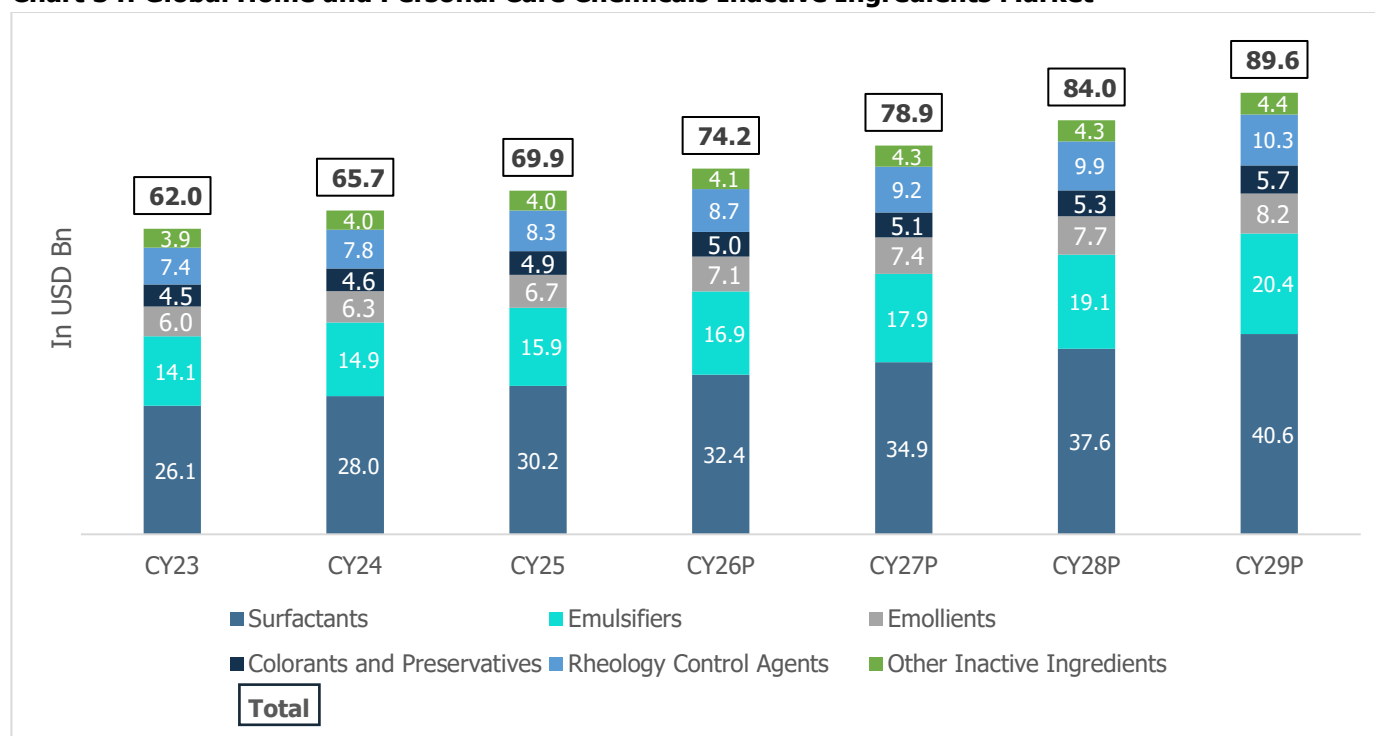
Other Active ingredients include Whitening agents, antimicrobial agents, moisturizers, soothing agents

The total market for active ingredients in CY25 is valued at USD 34.8 billion, with Conditioning Agents leading the market at 36%, valued at USD 12.6 billion, UV Ingredients account for 18%, worth USD 6.3 billion, providing protection from UV rays, Anti-aging ingredients represent 7% of the market, valued at USD 2.5 billion, targeting signs of aging, Exfoliants make up 10%, valued at USD 3.6 billion, aiding in smoother skin by removing dead skin cells. Other Active Ingredients, which address various skin concerns like hydration and acne, comprise 28%, valued at USD 9.7 billion. The global market for active ingredients is projected to reach an estimated USD 40.9 billion by 2029, driven by increasing demand across sectors such as pharmaceuticals, agriculture, and personal care, fuelled by advancements in technology and growing consumer needs.

Inactive Ingredients

These ingredients are one of the key raw materials, as they serve as supporting roles such as enhancing stability, texture, appearance, or sensory experience. They help with the product's formulation and overall effectiveness but do not provide the primary action. These supporting ingredients ensure the product is not only functional but also enjoyable, safe, and long-lasting. Examples of inactive ingredients include preservatives (e.g., parabens), emulsifiers (e.g., cetearyl alcohol), surfactants (e.g., sodium lauryl sulphate), fragrances (e.g., essential oils), colorants (e.g., titanium dioxide), and thickeners (e.g., xanthan gum), solvents (e.g., Hexylene Glycol, Propylene Glyco Water (Aqua))

Surfactants, emulsifiers, rheology control agents, emollients, preservatives, fragrances, and colorants are some of the key types of inactive ingredients that enhance the overall performance, texture, and appeal of personal care products. Surfactants improve the product's cleaning ability and foaming action, while emulsifiers ensure smooth mixing of oil and water. Rheology control agents adjust product viscosity for better application, and emollients moisturize and soften the skin. Preservatives extend shelf life, fragrances enhance the sensory experience, and colorants add visual appeal, making products not only effective but also enjoyable to use. Finally, colorants improve a product's visual attractiveness, making it more marketable and enticing to consumers. Together, these ingredients contribute to product effectiveness, safety, and consumer enjoyment.

Chart 54: Global Home and Personal Care Chemicals Inactive Ingredients Market


Source: CareEdge Research, Mordor Research

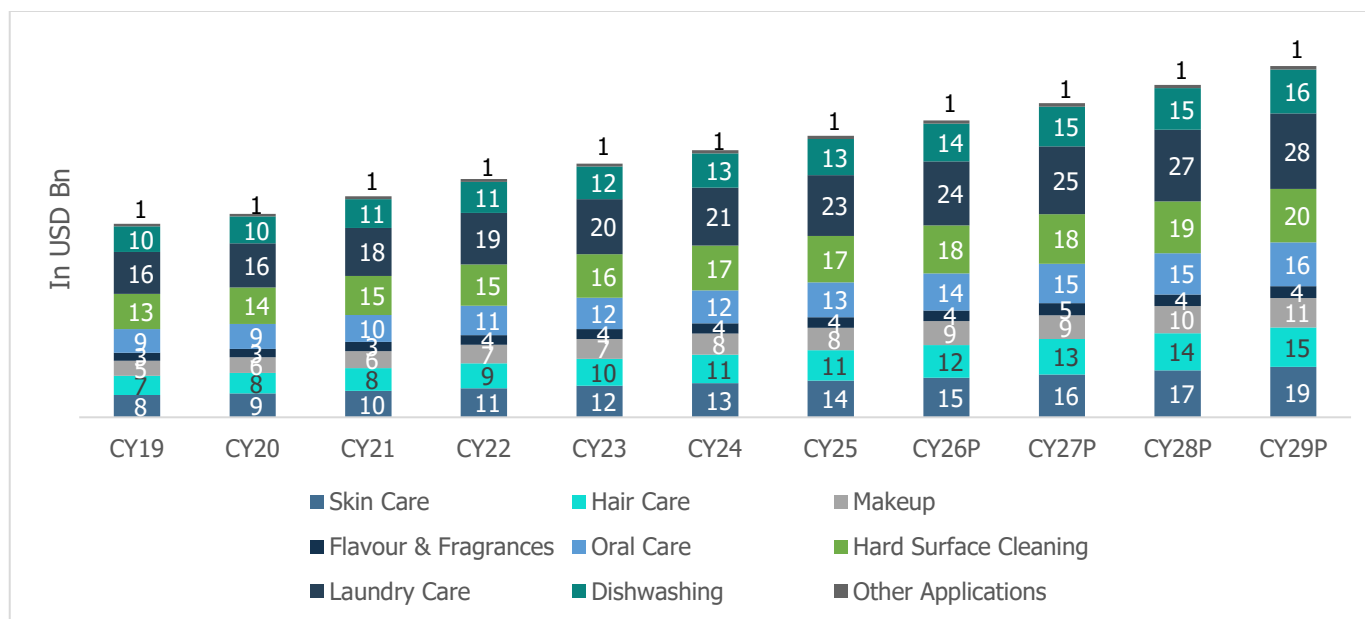
Other Inactive Ingredients include Fragrances, pH adjusters, anti-foaming agents, anti-redeposition agents

In CY25, the total market for inactive ingredients is valued at USD 69.7 billion. Surfactants lead the market with 43%, valued at USD 30.1 billion, followed by Emulsifiers at 23% (USD 15.9 billion). Emollients account for 10% (USD 6.7 billion), while Colorants and Preservatives contribute 7% (USD 4.8 billion). Rheology Control Agents make up 12% (USD 8.3 billion), and other inactive ingredients represent 6% (USD 4.0 billion). The global market for inactive ingredients is projected to reach an estimated USD 89.6 billion by CY29, growing steadily from CY24.

6.1.4 Industry by Application

The global home and personal care chemicals market is divided into several application categories, including flavours and fragrances, household cleaners and cosmetics, disinfectants (such as hand sanitizers and antiseptics), and products like shampoos, soaps, and sunscreen lotions.

Chart 55: Global Home and Personal Care Chemicals Market by Application



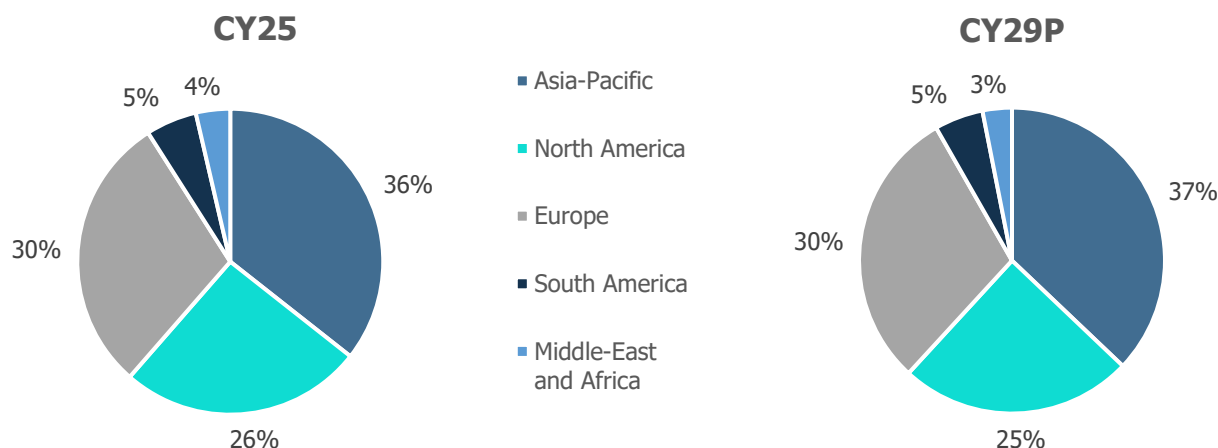
Source: CareEdge Research, Mordor Research; P: Projected

Other Application Includes: Water Treatment, Baby care, men's grooming, feminine hygiene, hand the care and sanitizers, toilet care, air care, and pest control products

The global Home and Personal Care Chemicals Market has demonstrated steady growth across various applications from CY19 to CY25, with strong momentum projected through CY29. Skin Care leads the market in terms of growth potential, with revenue expected to rise from USD 14 million in CY25 to USD 19 million by CY29, reflecting a robust CAGR of 8.3%. Hair Care and Makeup follow closely, driven by consumer demand for grooming and beauty products, posting CAGRs of 6.5% and 7.2%, respectively. While Oral Care, Laundry Care, and Dishwashing maintain moderate growth rates between 5.8% and 5.5%, indicating stable household demand, Flavour & Fragrances and Hard Surface Cleaning see slower gains, with CAGRs of 2.8% and 3.6%, suggesting mature or saturated segments. Other Applications remain stagnant with negligible growth. Overall, the market is expected to experience healthy expansion driven by rising hygiene awareness, urbanization, and innovations in sustainable and functional formulations.

6.1.5 Industry by Geography

The Asia-Pacific region offers higher growth potential for beauty brands, driven by rising incomes and strong demand for skincare and wellness products. In North America, the market is propelled by innovation and technological advancements, with a strong focus on sustainability and green technologies. Companies are prioritizing eco-friendly formulations and investing in sustainable practices, driving growth in the market. Europe, meanwhile, is embracing a circular economy, with a growing emphasis on recyclable packaging, greener ingredients, and stricter environmental regulations, pushing industry towards sustainability and waste reduction. In South America and the Middle East & Africa (MEA), emerging markets are seeing rising demand for personal care products, fuelled by improving economic conditions, consumer awareness, and a younger population. While these regions hold smaller market shares, they offer significant growth opportunities as consumer preferences shift towards high-quality, sustainable, and eco-friendly products.

Chart 56: Global Home and Personal Care Chemicals Market Geographically (% Wise)


Source: CareEdge Research, Mordor Research

In CY25, the global home and personal care chemicals market is set for growth across regions, driven by unique factors. In Asia-Pacific (APAC), holding 36% of the market share, demand is fuelled by rapid urbanisation, rising disposable incomes, and an expanding middle class, particularly in China and India. This shift has increased access to quality products, with consumers becoming more focused on health, hygiene, and self-care. The growing emphasis on wellness further boosts the market for these products. North America (26%) thrives on continuous innovation and a shift towards eco-friendly and sustainable products, with consumers increasingly prioritizing green formulations and ethical brands. Europe (30%) is growing due to a commitment to the circular economy, where stricter environmental regulations and consumer demand for sustainable packaging and natural ingredients are key drivers. South America (5%), especially in Brazil, sees growth from improving living standards, a younger population, and rising awareness about health and hygiene, while MEA (4%) benefits from urbanisation, a young demographic, and increasing demand for premium, eco-friendly products. These regional trends, combined with a shift towards sustainability and higher-quality offerings, are driving global market expansion.

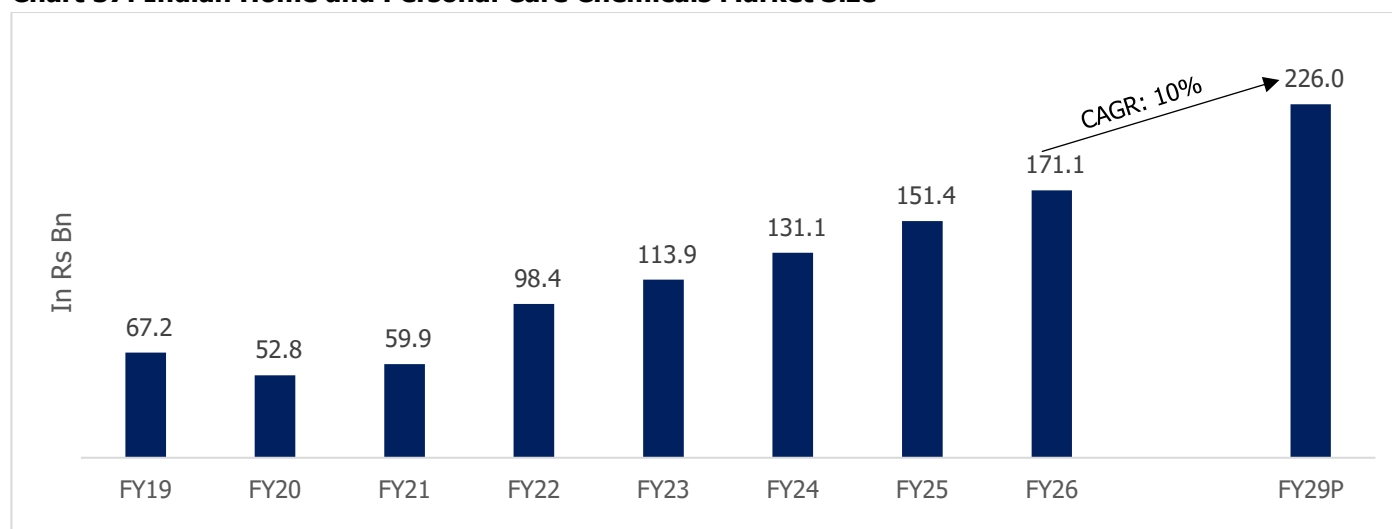
6.2 Indian Home and Personal Care Chemical Industry

6.2.1 Industry Overview

The Indian home and personal care chemicals industry is experiencing robust growth, driven by increasing consumer demand for high-quality and innovative products. The market spans a wide range of chemicals used in personal care items like shampoos, soaps, cosmetics, and lotions, as well as household cleaning agents. Factors such as rising disposable income, urbanisation, changing lifestyles, and a growing focus on personal hygiene and wellness are propelling this growth.

The Indian home and personal care chemicals industry has experienced consistent growth, with the market size increasing from Rs 67.2 billion in FY19 to Rs 171.1 billion in FY26 and projected to reach Rs 226 billion by FY29.

The domestic home and personal care market in India is poised for steady growth, driven by rising disposable incomes, increasing urbanisation, and heightened consumer awareness around hygiene and wellness. Growing demand for premium and functional products, along with expansion in rural distribution and e-commerce penetration, is expected to support continued category expansion across both mass and niche segments.

Chart 57: Indian Home and Personal Care Chemicals Market Size


Source: CareEdge Research, Mordor Research

The key multinational players in the home and personal care chemicals market in India include a mix of global chemical giants, as well as prominent regional companies. These players participate in the production and supply of a wide range of chemicals used in personal care and household products. The market is driven by companies focusing on innovation, sustainability, and the development of specialised ingredients that cater to the growing demand for premium, eco-friendly, and high-quality products in the sector.

6.2.2 Key Growth Drivers

Growth Drivers	Description
Tier 2 and Tier 3 Demand	In India, the growing demand for home and personal care products in Tier 2 and Tier 3 cities is driven by increased disposable income and a shift towards premium, high-quality products. Consumers in these regions are becoming more discerning, seeking products that offer better quality, functionality, and customisation. The ease of access to credit also enables younger generations to make these purchases, especially in the home products sector, which emphasises personalised and superior quality items.
Favourable Government Policies	Government initiatives play a key role in supporting the growth of the Indian home and personal care industry. The Pradhan Mantri Awas Yojana (PMAY) enhances the demand for home-related products by increasing affordable housing, creating a larger market for home and personal care goods. Similarly, initiatives like UJALA (promoting energy-efficient lighting) and PM Mitra (supporting textile and apparel industry growth) contribute indirectly by improving infrastructure and stimulating demand for products that support improved living standards. These policies, combined with the increasing capacity and investments in the sector, drive the continued expansion of the home and personal care chemicals market in India.
Demand for water Chemical	The growing demand for water treatment benefits the home and personal care industry by improving product performance in areas with hard water, leading to better user experiences. It also encourages innovation in water-efficient products and supports sustainability efforts,

Growth Drivers	Description
	allowing brands to enhance their eco-friendly image. Additionally, water treatment ensures consistent product quality and helps manufacturers comply with environmental regulations.
Urbanisation, Changing Lifestyles	The continued urbanisation of India creates a growing demand for personal and home care products, with consumers increasingly looking for convenient and time-saving solutions. The busy, fast-paced urban lifestyle prompts greater consumption of products that offer ease of use and enhanced performance.
Rising Hygiene Awareness	The heightened focus on health and hygiene, especially after the COVID-19 pandemic, contributes to the increased demand for products like sanitisers, disinfectants, and skincare items. This trend is expected to continue as consumers prioritise hygiene and safety in their daily routines.
E-Commerce Growth	The rapid growth of e-commerce in India expands access to a wide variety of home and personal care products, including international and premium brands. Consumers in remote or tiered regions increasingly turn to online platforms to purchase quality products that were previously unavailable.
Usage of Natural Ingredients	As Indian consumers become more environmentally conscious, there is a rising demand for products made from sustainable, natural, and eco-friendly ingredients. This shift towards greener formulations encourages manufacturers to innovate and adopt more sustainable practices in their product lines.
Product Diversification	Companies increasingly diversify their offerings to cater to a wide range of consumer needs, from specialised personal care products to home care solutions. Innovation in product formulation, packaging, and marketing strategies also propels growth, especially with the demand for premium and customised products.
Expanding Middle Class	As the Indian middle class continues to grow, their purchasing power drives the demand for better-quality home and personal care products. This expanding consumer base is also becoming more brand conscious, contributing to the growth of high-end and international brands in the market.

6.2.3 Domestic Consumption Trend Divided By Local Production and Imports

The domestic consumption of home and personal care products in India is driven by a mix of local production and imports. Local production is growing rapidly due to increasing demand, urbanisation, and the rise of India's middle class. However, imports still play a significant role, especially for premium products and specialised ingredients like aroma chemicals and UV filters.

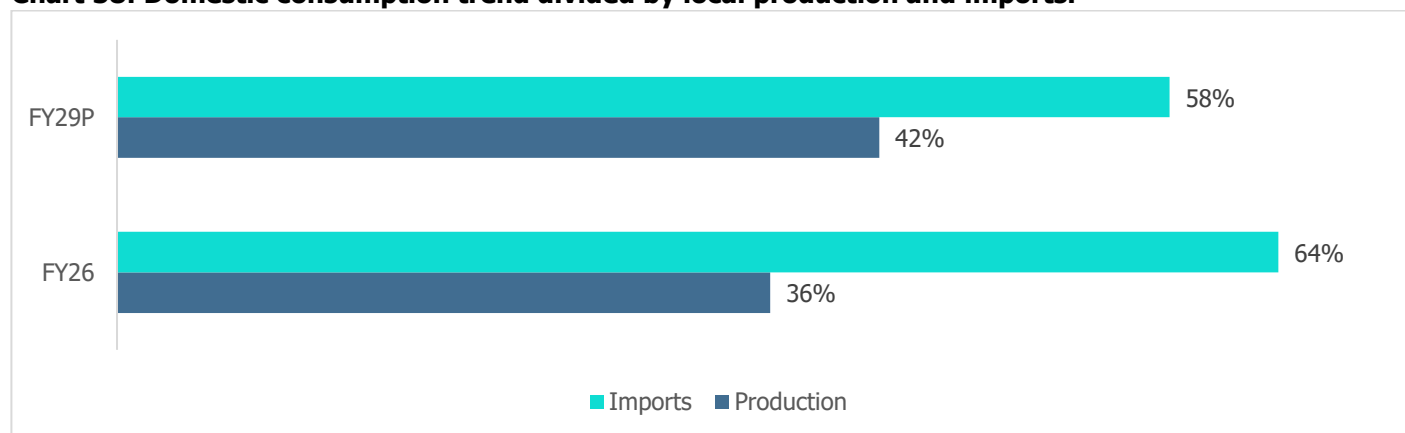
Key Policies to Support Local Production and Reduce Reliance on Imports in India

The Indian government has implemented several policies to support the growth of the home and personal care industry. The National Chemicals Policy promotes sustainability and green chemistry, aiding local R&D and reducing the reliance on imported specialised ingredients. Reforms under the Ease of Doing Business initiative, including changes in GST and

FDI policies, simplify operations for setting up manufacturing units, while incentives for MSMEs improve production scalability and quality. Additionally, customs duty adjustments on raw materials and finished goods protect domestic industries from import competition and encourage local production.

India's home and personal care chemical industry is witnessing a shift towards increased domestic production, with the share expected to rise from 36% in FY26 to 42% in FY29. At the same time, imports are forecasted to decrease from 64% in FY26 to 58% in FY29. This growth is being fuelled by government policies aimed at bolstering local home and personal care manufacturing, fostering self-reliance, and improving global competitiveness.

Chart 58: Domestic consumption trend divided by local production and imports.



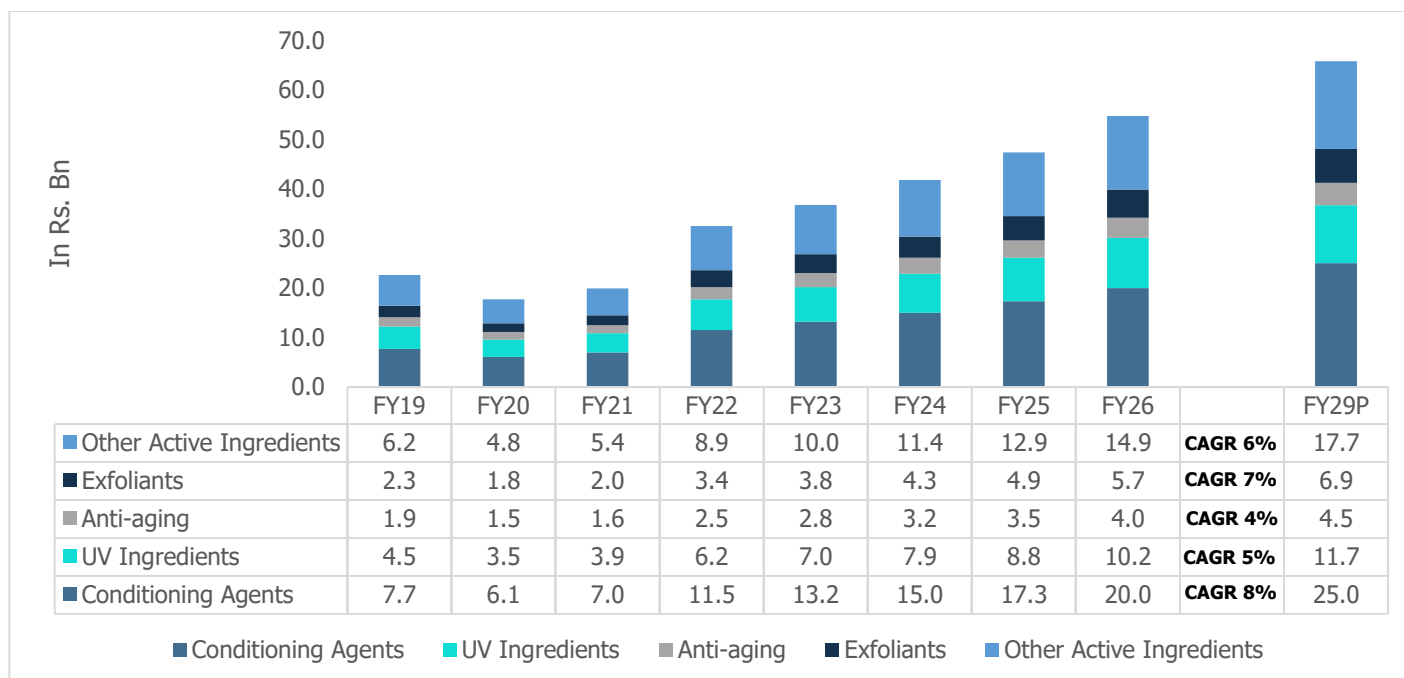
Source: CareEdge Research

6.2.4 Industry By Product Types

Indian Active Ingredients Market

The total market for active ingredients in FY26 is valued at Rs 54.7 billion. Conditioning Agents lead the market, representing 36% with a value of Rs 20 billion, enhancing the feel and manageability of hair or skin. UV Ingredients make up 19%, valued at Rs 10.2 billion, offering protection from harmful UV rays. Anti-aging ingredients account for 8%, at Rs 4 billion, targeting signs of aging like wrinkles and fine lines. Exfoliants represent 10% of the market, valued at Rs 4.3 billion, aiding in skin renewal by removing dead skin cells. Other Active Ingredients, which address various skin concerns, make up 27% at Rs 6 billion. The CAGR for the period from FY26 to FY29 is projected to be 6%, with the market value increasing from Rs 54.7 billion in FY26 to Rs 65.8 billion in FY29.

Chart 59: Indian Home and Personal Care Chemicals Active Ingredients Market



Source: CareEdge Research, Mordor Research

Other Active Ingredients include Whitening agents, antimicrobial agents, moisturizers, soothing agents

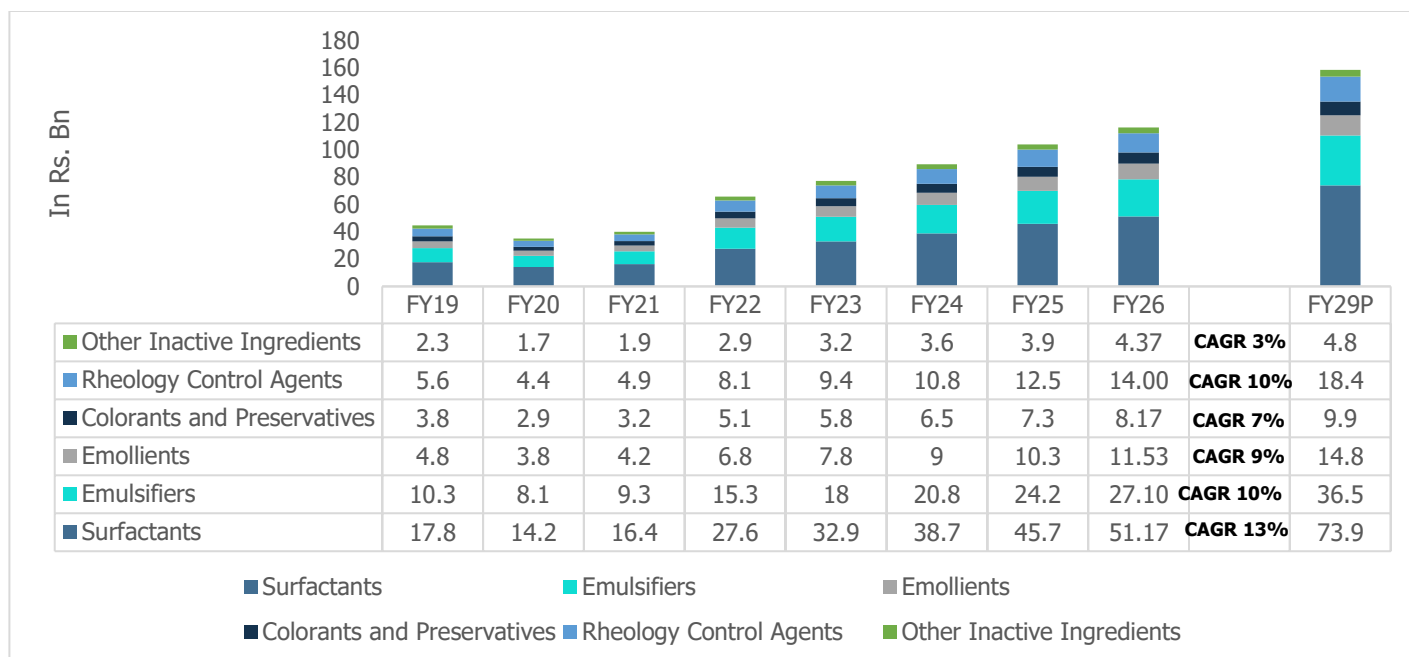
Indian Inactive Ingredients Market

The domestic market for inactive ingredients is estimated at Rs 116.34 billion in FY26. Surfactants account for the largest share at 44%, representing a market value of approximately Rs 51.1 billion, driven by their critical role in cleansing and foam generation. Emulsifiers contribute 23% of the market, valued at around Rs 27.1 billion, as they enable the effective blending of oil- and water-based ingredients.

Emollients, which provide moisturization and enhance skin smoothness, hold a 10% share, translating to a market value of nearly Rs 9 billion. Colourants and preservatives together account for 7% of the market, valued at approximately Rs 8.1 billion, owing to their role in improving product appearance and extending shelf life.

Rheology control agents, used to regulate viscosity and product consistency, represent 12% of the market and are valued at around Rs 14 billion. The remaining 3%, worth approximately Rs 4.3 billion, comprises various other inactive ingredients that support overall product formulation and performance.

Chart 60: Indian, Home and Personal Care Chemicals Inactive Ingredients Market



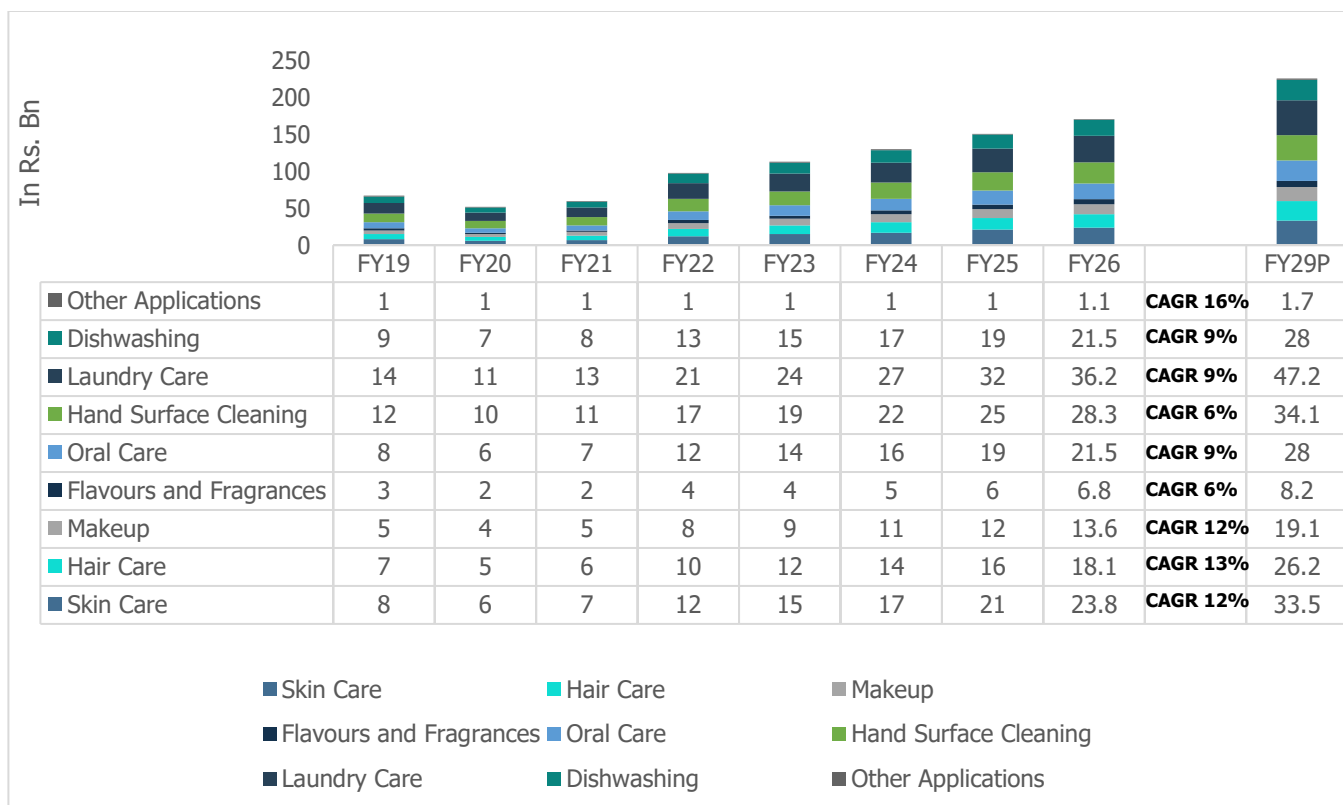
Source: CareEdge Research, Mordor Research

Other Inactive Ingredients include Fragrances, pH adjusters, anti-foaming agents, anti-redeposition agents

6.2.5 Industry Segments by Applications

The Indian Home and Personal Care Chemicals Market has witnessed strong growth across all major application segments, driven by rising consumer awareness, increasing disposable incomes, urbanization, and growing demand for premium personal care and household cleaning products. In FY26, Laundry Care emerged as the largest application segment with a market size of Rs 36.2 billion, followed by Hand Surface Cleaning at Rs 28.3 billion, reflecting heightened hygiene and sanitation needs. Among personal care categories, Skin Care accounted for Rs 23.8 billion, while Oral Care and Dishwashing each contributed Rs 21.5 billion, highlighting sustained demand for daily-use consumer products. Hair Care represented a market of Rs 18.1 billion, followed by Makeup at Rs 13.6 billion and Flavours & Fragrances at Rs 6.8 billion, supported by increasing premiumization and product innovation. Looking ahead, all categories are expected to maintain a healthy growth trajectory through FY29, with Laundry Care projected to reach Rs 47.2 billion, Hand Surface Cleaning Rs 34.1 billion, and Skin Care Rs 33.5 billion, underscoring the expanding consumption of home and personal care products and the corresponding demand for specialty chemicals used in their formulations.

Chart 61: Indian Home and Personal Care Chemicals Market by Application



Source: CareEdge Research, Mordor Research

Note: Cosmetics encompass skin care, hair care, fragrances, and makeup

Disinfectants include hard surface cleaning, laundry care, and dishwashing products

Other Application Include: Baby care, men's grooming, feminine hygiene, Hand care and sanitizers, toilet care, air care, and pest control products.

6.2.6 Prasol's Key Competencies in the Market

Product Leadership

- Product portfolio includes acetone-based specialty chemicals such as hexylene glycol, Isophorone, Trimethyl - 3,3,5, Cyclohexanol, 3,5, Xylenol (MX), PCMX, mesityl oxide which finds applications in synthesis of flavours and fragrances, cosmetic formulation household cleaners and in industrial water treatment

Technological Leadership

- The company not only possesses the latest hydrogenation and oxidation technologies, but also possesses aldol condensation, pyrolysis, high temperature and pressure reactions, halogenation and dehydration technologies as well for manufacturing acetone and phosphorus- based specialty chemicals
- The manufacturing facilities are automated with Distributed Controlled Systems (DCS) for attaining excellence in quality and production efficiency

Competition for derivatives

- In the global / export market, the company competes with manufacturers such as Arkema, Evonik, Solvay, Altivia and Monument Chemical

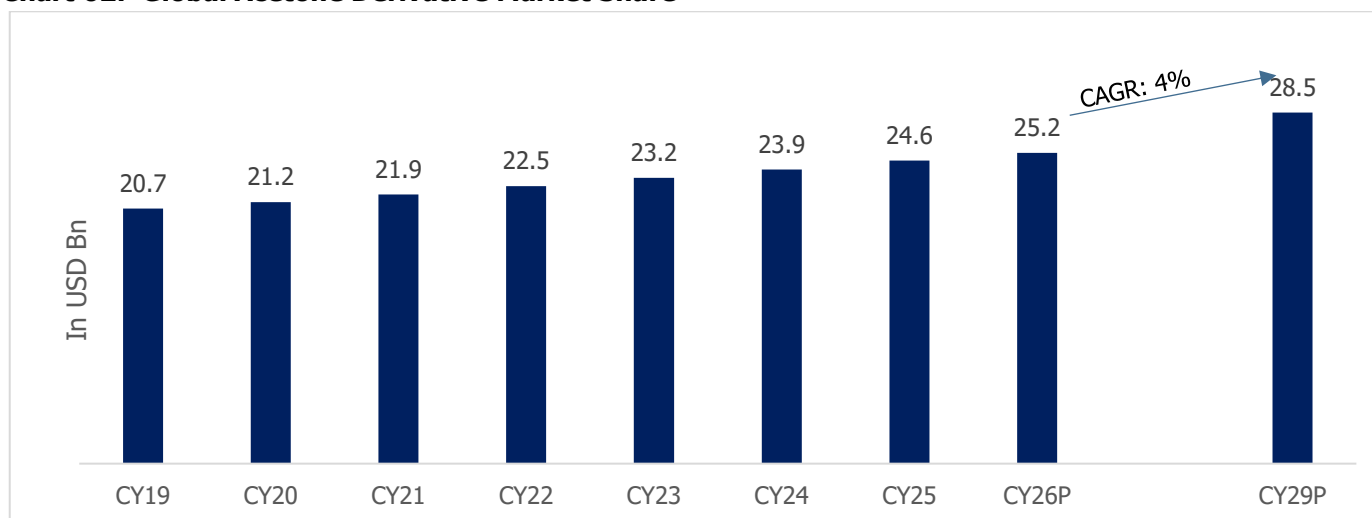
7 Global Acetone Derivative Industry

7.1 Global Acetone Derivative Market Overview

The global acetone derivative market, an important segment of the chemical industry is driven by the widespread use of acetone and its derivatives across sectors. This includes automotive, pharmaceuticals, plastics, agrochemicals and consumer goods. A colourless and volatile solvent, is an essential segment of the chemical industry, driven by the widespread use of acetone and its derivatives in various sectors, including automotive, pharmaceuticals, plastics, and consumer goods. Acetone is primarily used as a feedstock for manufacturing key bulk commodity derivatives such as bisphenol A (BPA), methyl methacrylate (MMA), acetone Cyanohydrin and isopropyl alcohol (IPA) and other specialty derivatives. These derivatives have broad applications in industries like coatings, construction, and electronics.

Geographically, the Asia-Pacific region leads the market, owing to high demand from countries like China and India, which are major producers and consumers of acetone derivatives in industries such as coating industry, paints industry, inks, agrochemical formulation and mining industry. North America and Europe also represent significant markets, driven by their established industrial base and demand for high-performance materials in automotive and electronics applications.

Chart 62: Global Acetone Derivative Market Share



Source: Mordor, CareEdge Research; P: Projected

The global acetone derivative market is expected to grow steadily from 20.72 billion in CY19 to 28.5 billion by CY29. This growth is driven by the increasing demand for various acetone derivatives used in a wide range of industries, including pharmaceutical (drug synthesis, solvents), cosmetics (nail polish remover, skincare), plastics (polycarbonate, acrylics), paints and coatings (solvents, thinners), automotive (cleaning agents, plastic parts), textiles (dyeing solvents), agriculture (pesticide formulations), and electronics (component cleaning, housing materials) industries. By CY25, the market had grown to 24.6 billion and is expected to continue expanding. The main drivers of growth are the increasing demand for Bisphenol (used in polycarbonate plastics and epoxy resins), Methyl Methacrylate (used in acrylic products and automotive components), Isopropyl Alcohol (essential for disinfectants and cleaning products), and other specialty chemicals like Diacetone Alcohol and Hexylene Glycol, Isohorone, Methyl Isobutyl Carbinol, which are widely used as solvents and in coatings. By CY29, the market is expected to see substantial growth, reaching 28.5 billion, driven by rising industrial demand, innovations in the chemical sector, and growing environmental concerns, which are pushing for more sustainable chemical products.

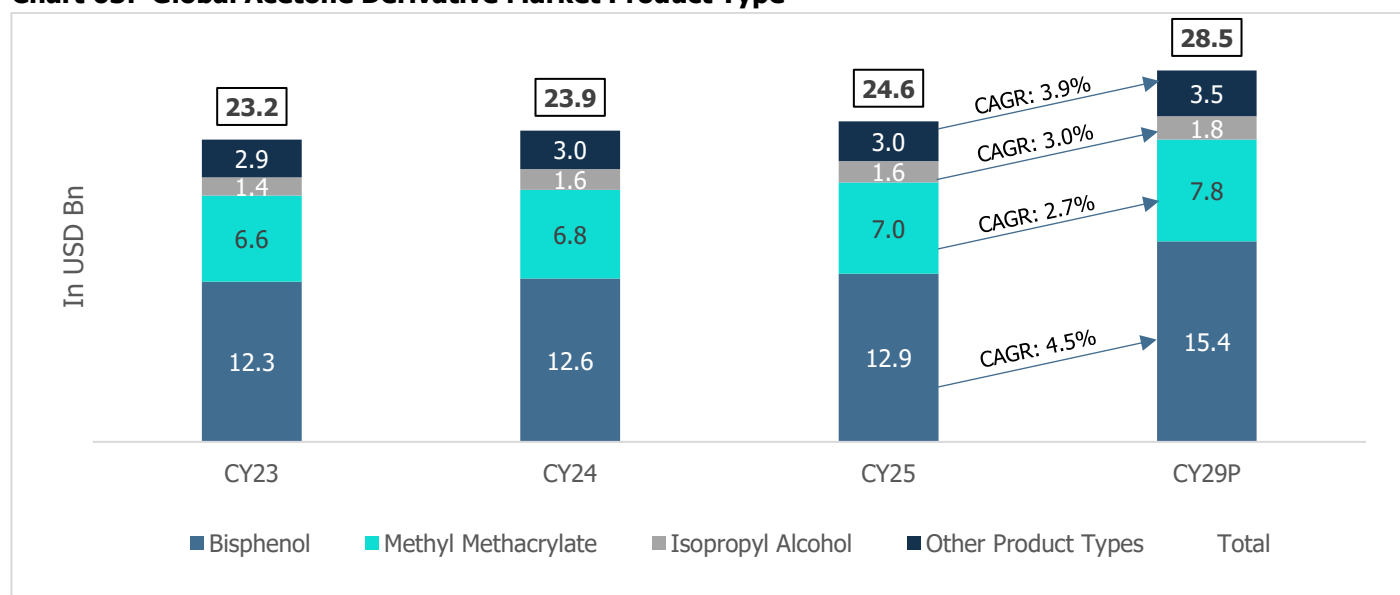
7.2 Global Acetone Derivative Market by Product Type

In CY25, the acetone derivatives market was valued at USD 24.6 billion, with key product types showing varying growth projections for CY26 and CY29. Bisphenol A (BPA), used extensively in the production of polycarbonate plastics and epoxy resins, is expected to grow from USD 12.9 billion in CY25 to USD 15.4 billion by CY29, driven by continued demand in sectors like automotive, construction, and electronics, where BPA-based materials are essential.

Methyl methacrylate (MMA), used in the production of acrylics for applications such as paints, displays, and adhesives, will see a moderate increase from USD 7.0 billion in CY25 to USD 7.8 billion by CY29, due to growing demand for acrylic materials in the automotive and construction industries. Isopropyl alcohol (IPA), used as a solvent in pharmaceuticals, cleaning products, and disinfectants, is projected to grow from USD 1.6 billion in CY25 to USD 1.8 billion by CY29, reflecting its continued relevance in healthcare and sanitation sectors.

Other product types are expected to grow from USD 3.0 billion in CY25 to USD 3.5 billion by CY29, driven by niche industrial applications and increasing use in specialised chemical formulations. Overall, the market is set to expand from USD 24.6 billion in CY25 to USD 28.5 billion by CY29, supported by rising demand in industries such as automotive, electronics, healthcare, and construction, alongside innovations in sustainable production methods.

Chart 63: Global Acetone Derivative Market Product Type



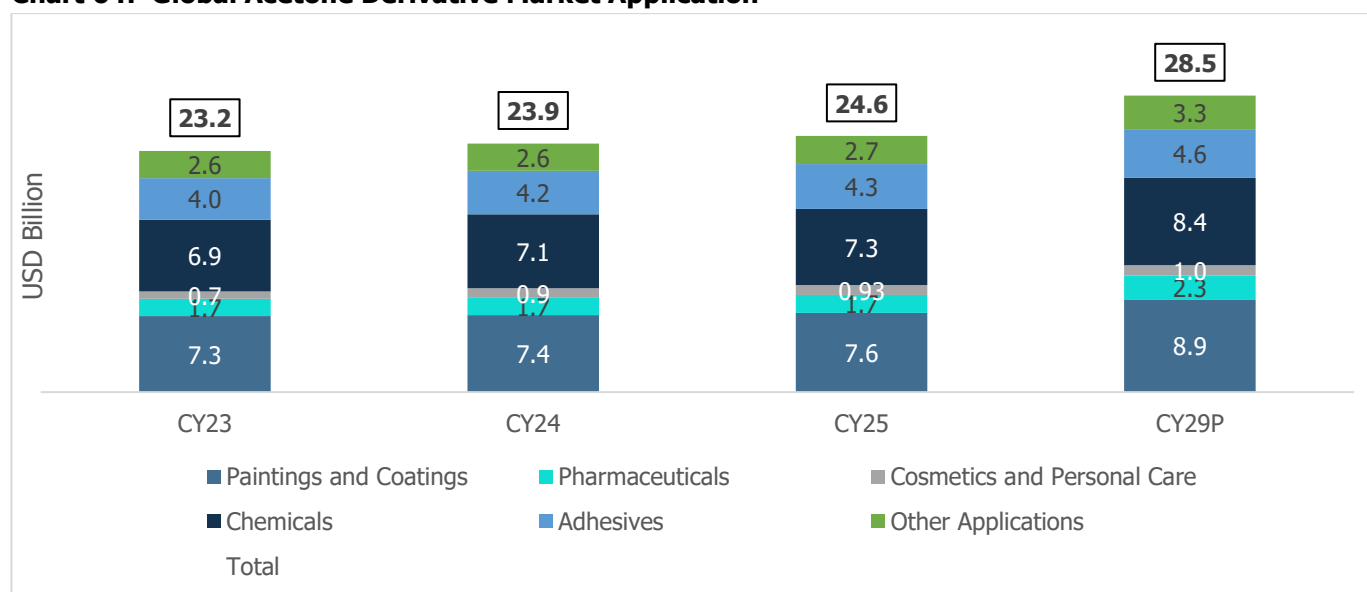
Source: Mordor, CareEdge Research; P: Projected; Years refer to Calendar Year

Other Product Types Include: Diacetone Alcohol, MIBK (Methyl Isobutyl Ketone), Mesityl Oxide, Acetone Cyanohydrin, Phorone, Isophorone, Hexylene Glycol (2-Methyl-2,4-pentanediol), Acetone Peroxide, Acetoin, 2,5-Hexanedione, Methyl Vinyl Ketone (MVK), and Acetol (Hydroxyacetone)

7.3 Global Acetone Derivative by Application

In CY25, the global acetone derivatives market is valued to be at USD 24.6 billion. The largest share comes from the paints and coatings segment, contributing USD 7.6 billion, which accounts for 31% of the total market, driven by demand in infrastructure, automotive, and industrial sectors. The chemicals segment follows closely at USD 7.3 billion or 30%, primarily due to the use of acetone derivatives in producing intermediates like BPA and MMA. Adhesives represent the third-largest segment with a value of USD 4.3 billion (18%), supported by applications in packaging, construction, and manufacturing. The pharmaceutical sector contributes USD 1.7 billion (7%), while cosmetics and personal care amount to USD 0.9 billion (4%), both driven by increasing health and beauty product demand. Lastly, other applications including electronics, agriculture, and textiles are expected to generate USD 2.7 billion, making up 11% of the total market.

Chart 64: Global Acetone Derivative Market Application

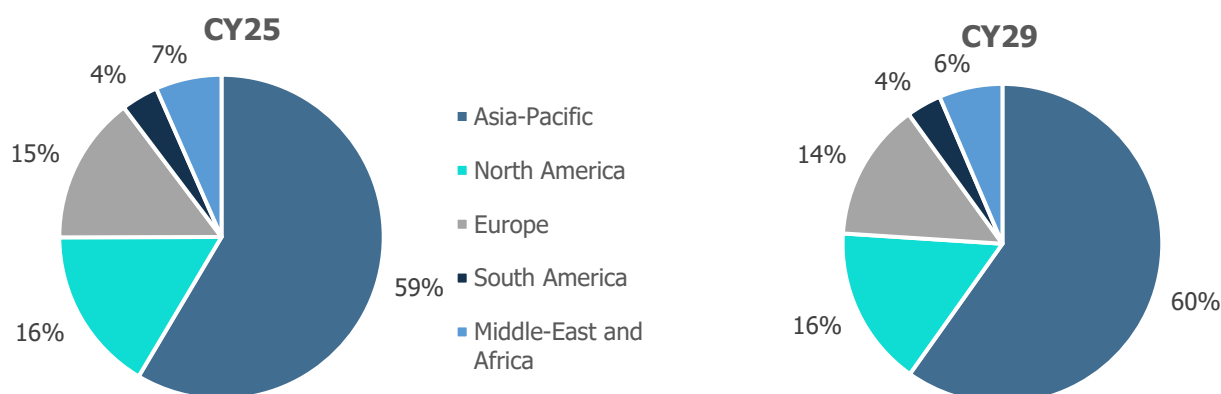


Source: Mordor, CareEdge Research; P: Projected

Other Application Includes: Agrochemicals, Textiles and Leather, Plastics and Polymers, Electronics and Semiconductors, Automotive and Aerospace, Printing Industry, and Energy Sector

7.4 Global Acetone Derivative Market by Geography

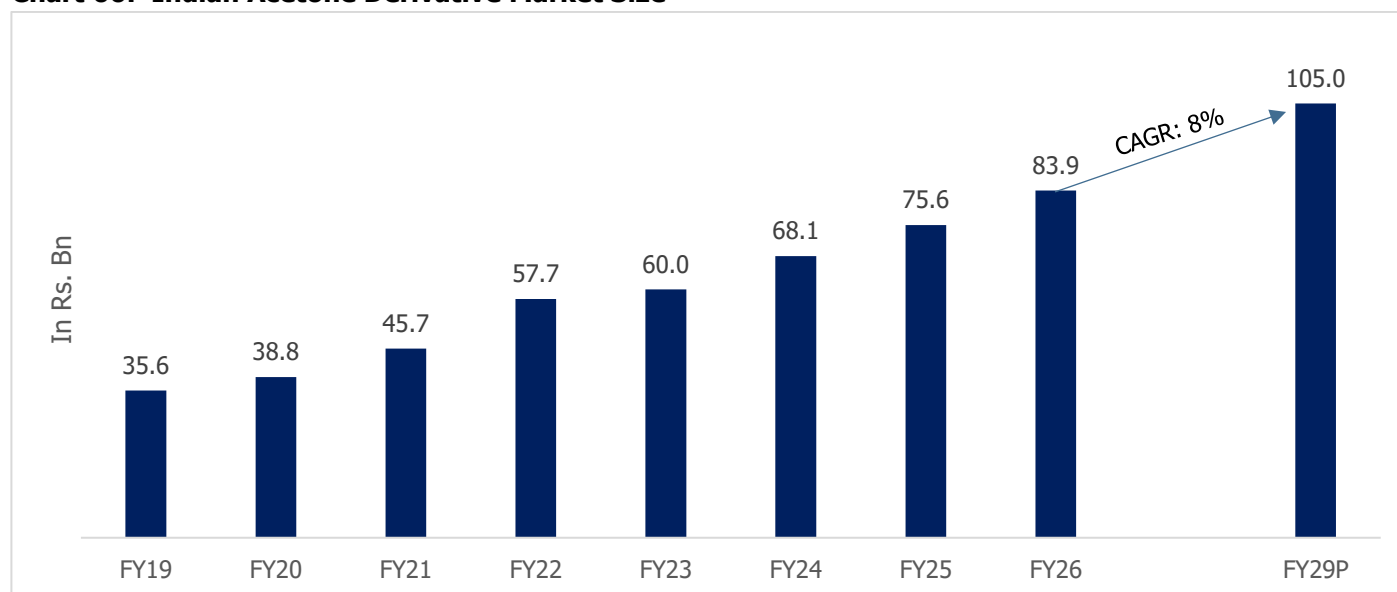
The global acetone market is characterized by a varied regional distribution, with Asia-Pacific holding the largest share at 59%, driven by significant industrial activity and high demand for acetone derivatives in countries like China and India. North America follows with a 16% share, supported by strong demand across pharmaceuticals, automotive, and electronics industries. Europe accounts for 15% of the market, with demand driven by industrial applications. South America contributes 4% to the global market, with growing industrial activities in countries like Brazil. The Middle East and Africa hold a 7% share, with demand primarily driven by industrial imports, although the region's overall market share remains limited due to smaller-scale industrial production.

Chart 65: Global Acetone Derivative Market Geography Market


Source: Mordor, CareEdge Research; P: Projected

7.5 Indian Acetone Derivative Overview

The Indian acetone derivatives market has seen steady growth from Rs 35.6 billion in FY19 to Rs 83.9 billion in FY26, driven by increasing demand across key sectors like paints, coatings, pharmaceuticals, and chemicals. Despite the impact of the COVID-19 pandemic, the market remained stable in FY21 and gradually recovered as industrial activities resumed. With an market size of Rs 83.9 billion in FY26, it is expected to further expand to Rs 105 billion by FY29, as India's industrial growth, technological advancements, and increased investments in manufacturing continue to drive the demand for acetone derivatives, particularly in eco-friendly and high-performance applications.

Chart 66: Indian Acetone Derivative Market Size


Source: Mordor, CareEdge Research; P: Projected

7.6 Indian Acetone Derivative by Product Type

In FY26, the Indian acetone derivatives market reached a total value of Rs 83.9 billion, with Bisphenol leading at Rs 36.0 billion. Bisphenol, a key derivative, is widely used in manufacturing plastics, coatings, and electronics, making it essential for India's growing industrial sectors. Methyl Methacrylate (MMA), valued at Rs 16.3 billion in FY26, has applications in paints, coatings, and adhesives, and is expected to grow slightly to Rs 19.3 billion by FY29 due to increased demand in the automotive and construction industries. Isopropyl Alcohol, which stands at Rs 15.0 billion in FY26, is used primarily in pharmaceuticals and cleaning products, with its market expanding as hygiene and health sectors grow. Other product types account for Rs 16.6 billion in FY26, with a projection of Rs 18.2 billion in the future, indicating stable demand across various niche applications. By FY29, the market is expected to grow to Rs 102.6 billion, driven by rising industrial demand, technological advancements, and expanding applications of acetone derivatives in emerging sectors like electronics and eco-friendly materials. This growth reflects the increasing industrialization in India, particularly in automotive, construction, and consumer goods.

In India, acetone and its derivatives, products such as Diacetone Alcohol, Hexylene Glycol, Isophorone, Mesityl Oxide, and 3,5-Xylenol are increasingly important specialty chemicals used extensively in sectors like paints and coatings, adhesives, pharmaceuticals, and agrochemicals. These chemicals are valued for their strong solvency, stability, and ability to enhance product performance, particularly in high-demand applications like automotive coatings and industrial adhesives. With India's growing manufacturing base and focus on advanced materials, the consumption of these acetone derivatives is rising steadily.

The expanding pharmaceutical industry in India is driving strong demand for acetone, which is widely utilized in drug synthesis and pharmaceutical formulations. Additionally, increasing disposable incomes and rapid urbanization are boosting the use of acetone in cosmetics and personal care products, including nail polish removers, skincare, and hair care formulations. The growth of the chemical sector further supports acetone demand, as it serves as a crucial raw material for producing bisphenol A (BPA), solvents, adhesives, and other industrial applications. Moreover, acetone's excellent solvent properties make it indispensable in the paints and coatings industry, with India's thriving construction and infrastructure development fueling this segment's expansion.

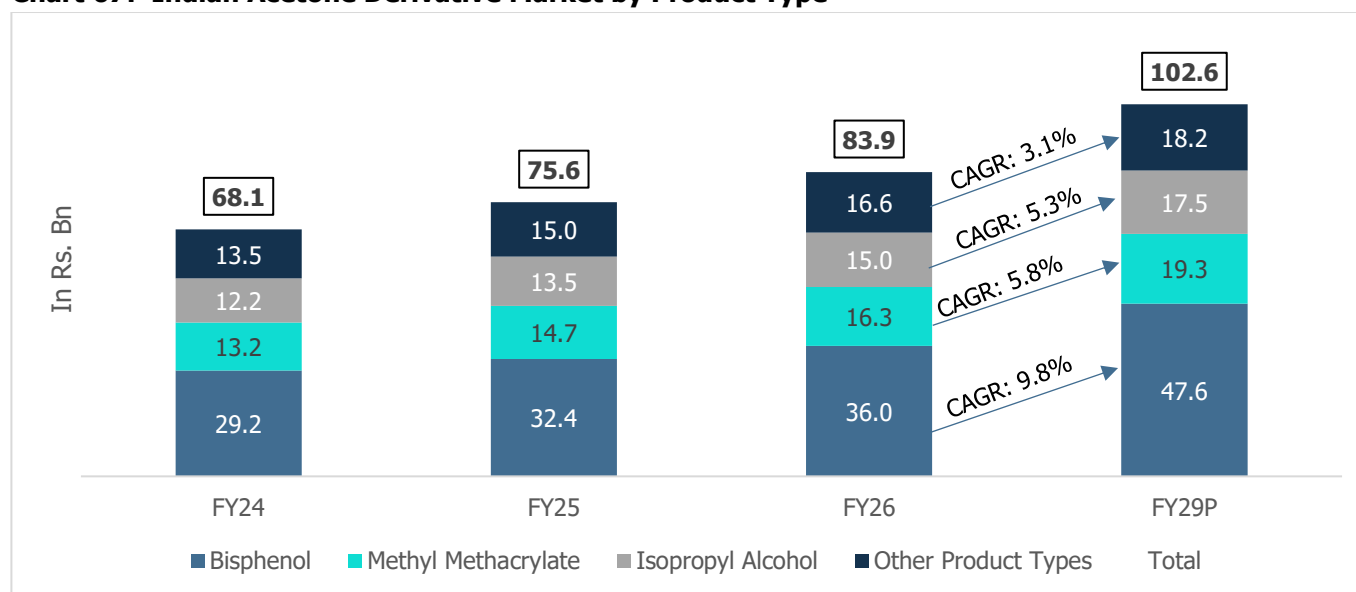
Several market opportunities are emerging to strengthen the acetone landscape in India. The push for enhanced local manufacturing aims to reduce reliance on imports, with initiatives like "Make in India" encouraging domestic chemical production. Upcoming domestic capacities in India are expected to reduce reliance on acetone imports. Deepak Phenolics is set to increase its acetone capacity from 185 KTPA to 200 KTPA, while Haldia Petrochemicals is developing a 185 KTPA acetone plant, which is projected to commence operations in Q1 FY26.

There is also a growing focus on sustainable growth through the development of bio-based and environmentally friendly acetone alternatives. Investments in petrochemical infrastructure and downstream chemical facilities are expected to improve acetone supply and availability. Furthermore, rising demand from neighboring Asia-Pacific and Middle Eastern markets opens promising export avenues for Indian acetone producers.

Prasol Chemicals is amongst the largest¹ forward-integrated manufacturers of acetone-based specialty chemicals in India and also ranks amongst the largest² acetone importing companies in India since the last four consecutive calendar years from CY22 to CY25. The company manufactures several key acetone-based specialty chemicals, such as diacetone alcohol, isophorone, hexylene glycol, meta xylenol and others. In the global market, Prasol competes with leading manufacturers, such as Solvay, Evonik, Arkema and ALTIVIA.

¹ Based on capacity assessed as of July 2026

² Based on import trade data on volume basis for acetone used in chemical processing

Chart 67: Indian Acetone Derivative Market by Product Type


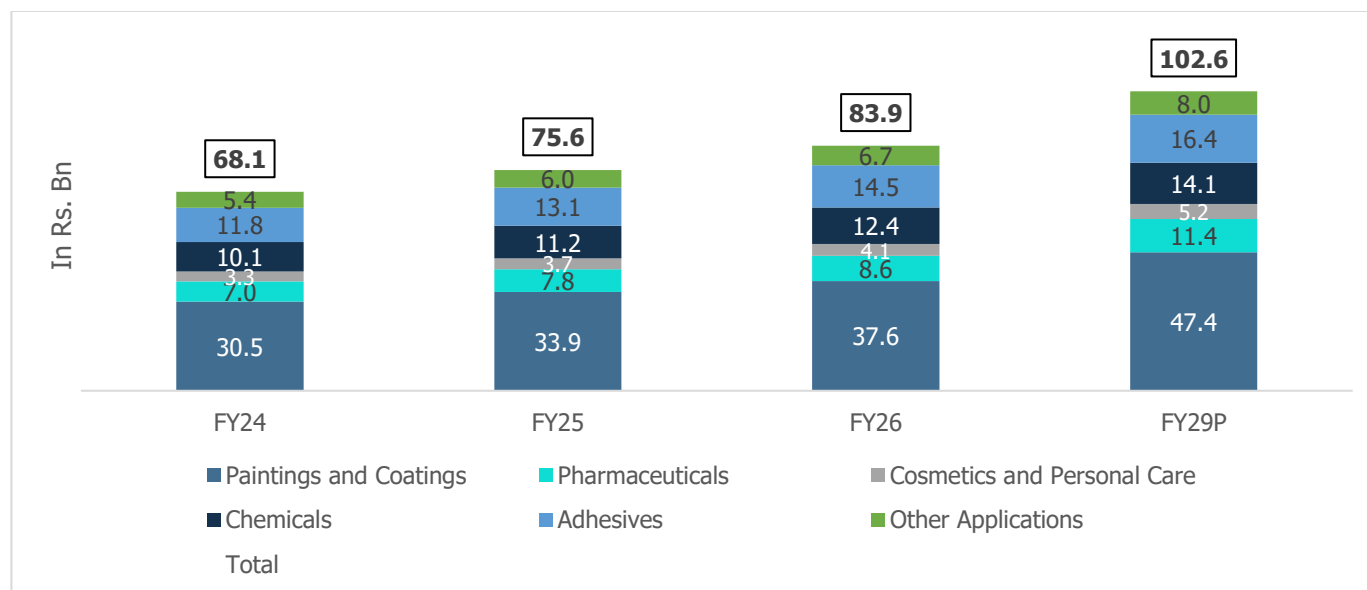
Source: Mordor, CareEdge Research; P: Projected

Other Product Types Include: Diacetone Alcohol, Mesityl Oxide, Methyl Isobutyl Ketone (MIBK), Acetone Cyanohydrin, Phorone, Isophorone, Hexylene Glycol (2-Methyl-2,4-pentanediol), Acetone Peroxide, Acetoin, 2,5-Hexanedione, Methyl Vinyl Ketone (MVK), and Acetol (Hydroxyacetone)

7.7 Indian Acetone Derivative by Application

In FY26, the application of acetone in India is projected to be dominated by the paints and coatings sector, accounting for 45% of the market at Rs 37.6 billion. This is driven by the growing demand for paints and coatings in the construction, automotive, and industrial sectors, where acetone is used as a solvent and thinning agent. The pharmaceuticals sector follows with 10%, reflecting acetone's use in the manufacturing of medicines and as a solvent in various formulations. Cosmetics and personal care applications account for 5%, with acetone used in products like nail polish removers and skin cleansers. The chemicals sector, which includes acetone's role as a feedstock in the production of various chemical derivatives, holds a 15% share. Adhesives account 17%, as acetone is used in adhesive formulations for its properties as a solvent. Finally, other applications make up 8%, indicating the use in miscellaneous industries. This distribution reflects the varied but essential role acetone plays across key sectors in India.

Chart 68: Indian Acetone Derivative Market by Application



Source: Mordor, CareEdge Research; P: Projected

Other Application Includes: Agrochemicals, Textiles and Leather, Plastics and Polymers, Electronics and Semiconductors, Automotive and Aerospace, Printing Industry, and Energy Sector

7.8 Domestic Acetone Consumption Value Chain

Acetone, a versatile solvent, finds its application across both direct (70–80%) and indirect (20–30%) usage routes. In direct use, it primarily serves as a solvent and cleaning agent, with a dominant share allocated to the pharmaceutical industry (60–65%), particularly in APIs and formulations. It is also used in paints and adhesives (10–15%) supporting industries like automobile components, industrial paints, packaging, and construction. Indirectly, acetone functions as a key intermediate in the production of chemicals such as Methyl Methacrylate (MMA) (5–8%) for automotive and electronics applications, Bisphenol A (7–10%) for polycarbonate and epoxy resins, Isopropyl Alcohol (5–8%) for use in cosmetics, personal care, and pharmaceuticals, and specialty chemicals (3–4%) contributing to paints, coatings, disinfectants, and fine chemicals. This broad utility across sectors highlights acetone’s critical role in both industrial and consumer-facing applications.

8 Global Phosphorus Derivative Industry

The global phosphorus derivatives market is a vital segment within the chemical and agricultural industries, primarily driven by the need for fertilizers, food production, and various industrial applications. The phosphorus derivatives market involves compounds derived from phosphorus, used in fertilizers, industrial chemicals, and consumer products. Key derivatives include phosphoric acid, phosphate salts, and flame retardants. The market is driven by agricultural demand and industrial applications.

The market is also influenced by industrial applications, with phosphorus derivatives being crucial for products like flame retardants, lubricants, Agro intermediates and surfactants. The Asia-Pacific region dominates the market due to its strong agricultural activities in countries like China and India, while North America and Europe focus more on industrial applications and specialty chemicals.

Environmental sustainability and resource scarcity are significant concerns for the market, as overuse of phosphorus in fertilizers can lead to water pollution, and phosphorus is a finite resource. These challenges are prompting a shift towards more efficient and eco-friendly phosphorus derivatives, encouraging innovation and technological advancements in recycling and sustainable production methods. As the demand for fertilizers and industrial chemicals continues to grow, the phosphorus derivatives market is expected to expand.

Types of Phosphorus

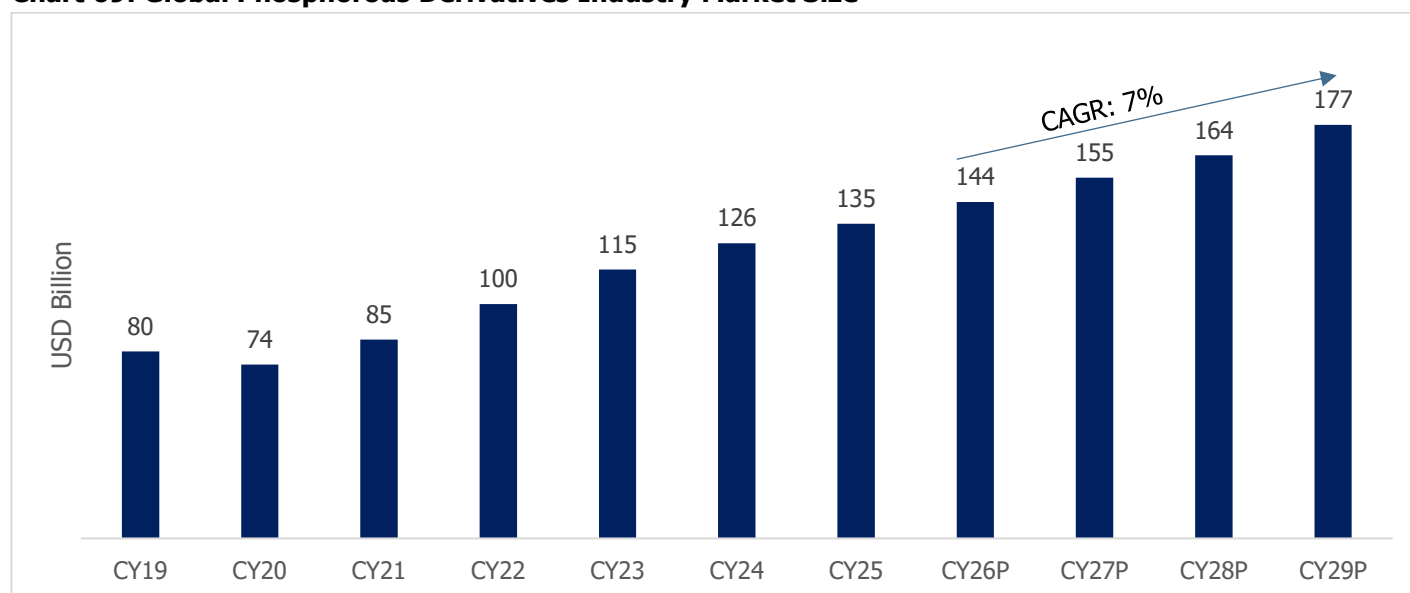
- **Ammonium Phosphate:** A key fertilizer compound, ammonium phosphate is widely used to provide essential nutrients like nitrogen and phosphorus to plants, improving crop yield and soil fertility. It exists in two main forms which are monoammonium phosphate (MAP) and diammonium phosphate (DAP).
- **Phosphoric Acid:** Phosphoric acid is a vital industrial chemical used in fertilizer production, food and beverage processing, water treatment, and detergents. It serves as a source of phosphorus in many applications, contributing to plant growth and industrial efficiency.
- **Industrial phosphate** refers to phosphate compounds that are primarily used in non-agricultural applications. These include a wide range of industrial uses such as detergents, water treatment, food additives, metal treatments, antioxidants, pharma intermediates and flame retardants. Industrial phosphates are also used in manufacturing products like ceramics, lubricants, and coatings. Unlike agricultural phosphates, which are used in fertilizers, industrial phosphates serve diverse roles in enhancing the performance and properties of various materials and processes across multiple industries.
- **Phosphorus Pentoxide:** Phosphorus pentoxide is a highly reactive chemical compound used in the production of phosphorus-based chemicals and as a dehydrating agent in various industrial processes. It is commonly used in the production of phosphoric acid and other phosphorus derivatives.
- **Phosphorus pentasulfide** is an inorganic compound with a yellow-greenish solid appearance. It has several applications, including as a raw material in the production of lubrication additives like Zinc Di thiophosphates and as a component in solid electrolytes for lithium batteries.
- **Other Product Types:** This category includes various specialised phosphorus compounds like phosphorus-based flame retardants, surfactants, and lubricants, which find applications in manufacturing, textiles, electronics, and consumer goods for enhanced performance and safety.

8.1 Global Phosphorus Derivatives Industry Market Size

The phosphorus derivatives market, valued at USD 80 billion in CY19, experienced a decline to USD 74 billion in CY20 due to the disruptions caused by the COVID-19 pandemic. However, it rebounded strongly in CY21, reaching USD 85 billion, driven by the resumption of agricultural activities and the growing demand for fertilizers. By CY22, the market had expanded to USD 100 billion, reflecting increased food production and the adoption of more sustainable agricultural practices. In CY24, the market further grew to USD 126 billion, fuelled by innovations in fertilizer efficiency and the increased adoption of eco-friendly phosphorus technologies. The market value for CY25 is USD 135 billion, with continued growth as global food demand rises and industrial applications for phosphorus derivatives increase. Projections for CY26-CY29 show steady growth, reaching USD 177 billion by CY29, driven by continued demand for fertilizers, phosphorus-based products in industries such as electronics, water treatment, and flame retardants, and the shift toward sustainable phosphorus technologies.

With a projected CAGR of 7% from CY26 to CY29, the market is set to expand due to advancements in phosphorus recovery technologies, such as chemical precipitation, biological phosphorus removal, crystallization, and novel chemical processes. These innovations are improving fertilizer efficiency, reducing environmental impacts, and ensuring a more sustainable and efficient use of phosphorus across various industries.

Chart 69: Global Phosphorous Derivatives Industry Market Size



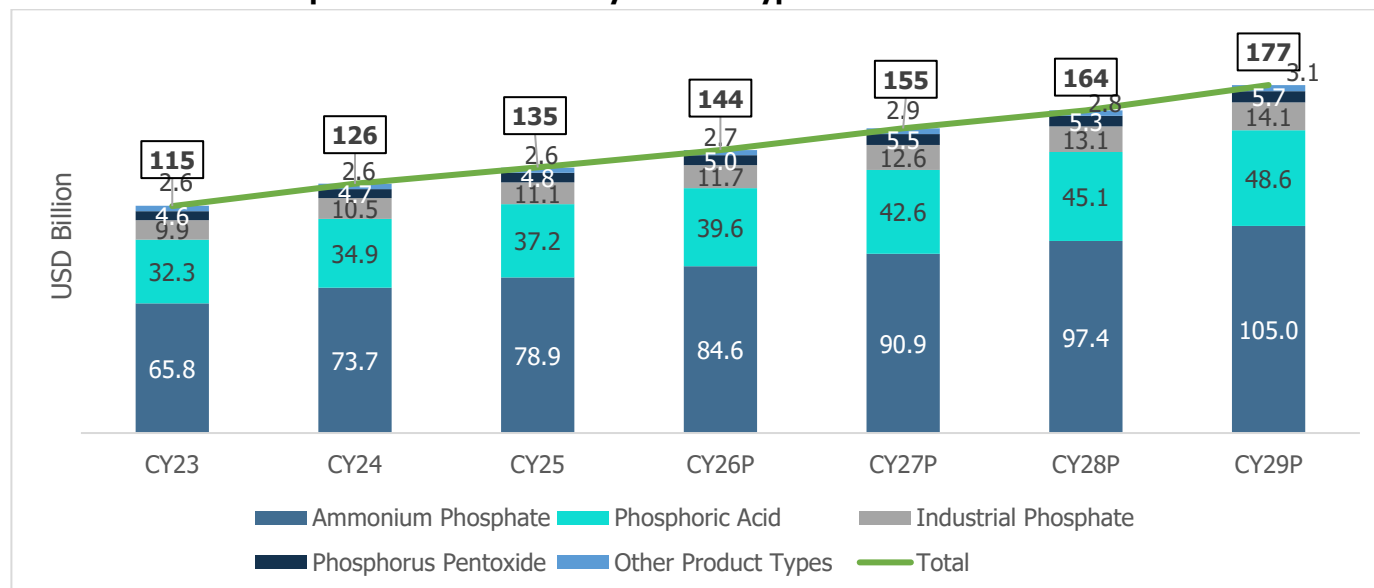
Source: Mordor, CareEdge Research; E: Estimated, P: Projected

8.2 Global Phosphorus Industry Market Size by Product Type

The global phosphate derivative market is expected to grow from USD 126 billion in CY24 to a projected USD 177 billion by CY29, reflecting a CAGR of 7% driven by rising demand across agriculture, food processing, water treatment, and industrial sectors. Ammonium Phosphate is anticipated to lead this growth, increasing from USD 84.6 billion in CY26 to USD 105 billion by CY29, due to its widespread use in fertilizers and crop nutrition. Phosphoric Acid, essential for both food-grade and industrial applications, is set to grow from USD 39.6 billion to USD 48.6 billion over the same period. Industrial Phosphate, used in detergents, ceramics, and water softening, is expected to rise from USD 11.7 billion to USD 14.1 billion. Phosphorus Pentoxide, valued for its dehydrating and chemical synthesis capabilities, will grow from

USD 5.0 billion to USD 5.7 billion. Other Product Types will see modest growth, moving from USD 2.7 billion to USD 3.1 billion, indicating market saturation or limited innovation. Overall, the market's expansion is underpinned by global population growth, rising concerns around food security, and accelerating industrialization in emerging economies.

Chart 70: Global Phosphorous Market Size by Product Type



Source: Mordor, CareEdge Research; P: Projected

Other Product Types Includes: Phosphorus Trichloride, Phosphorus Oxychloride, Elemental Phosphorus (White/Yellow and Red Phosphorus), Sodium Tripolyphosphate (STPP), Calcium Phosphate (including Tricalcium Phosphate and Dicalcium Phosphate), Phosphonates, Polyphosphates, Phosphine and its derivatives, Hypophosphorous Acid and Hypophosphites.

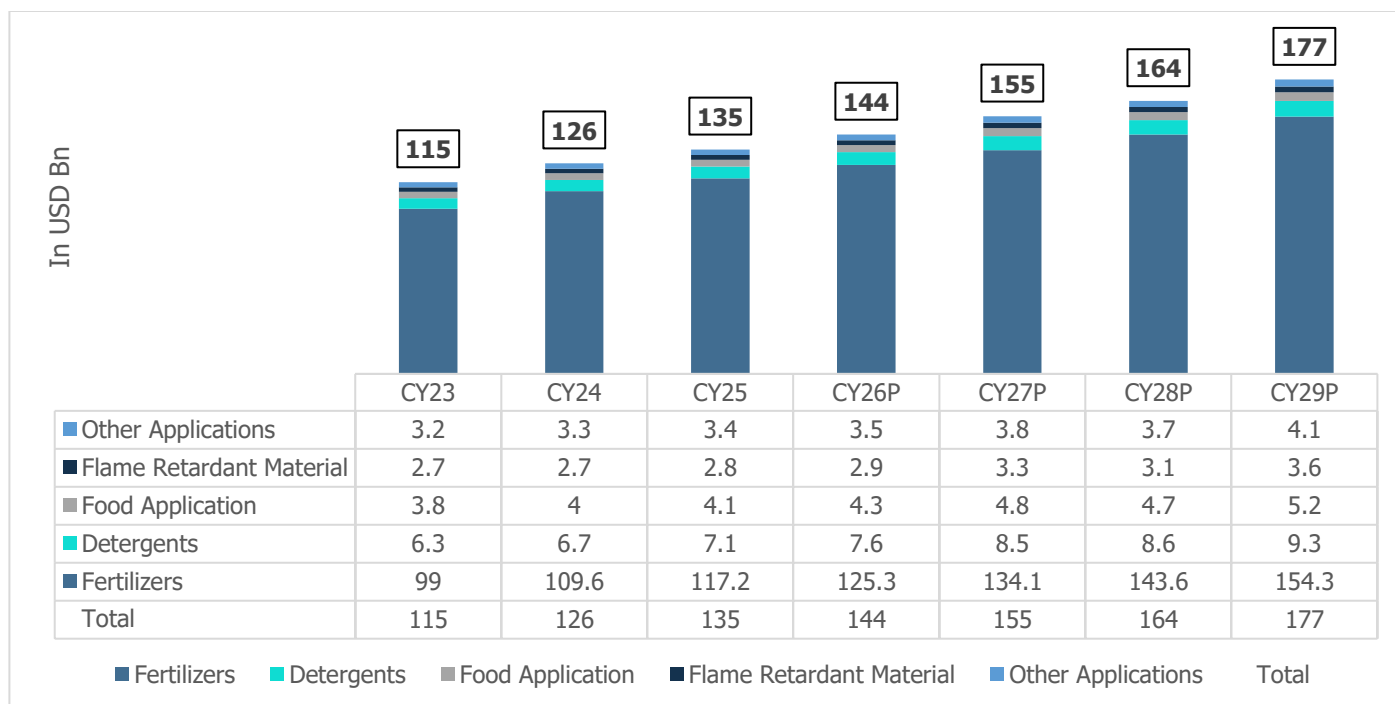
8.3 Global Phosphorus Industry Market Size by Applications

The phosphorus derivatives market has been, and continues to be, predominantly driven by the fertilizer sector, which holds the largest share and is expected to experience consistent growth at a CAGR of 7% in the coming years.

In terms of other applications, the detergent sector is projected to grow from CY25's USD 7.4 billion to USD 9.3 billion by CY29, driven by the increasing global demand for cleaning products. The food application sector is expected to rise from USD 4.1 billion in CY25 to USD 5.2 billion by CY29, reflecting the growing need for phosphorus compounds in food additives and processing.

Flame retardants will also see gradual growth, rising from USD 2.8 billion in CY25 to USD 3.6 billion by CY29, fuelled by stricter fire safety regulations and their applications across industries like construction and automotive. The overall phosphorus derivatives market is forecasted to expand from USD 135 billion in CY25 to USD 177 billion by CY29, with the fertilizer sector remaining the dominant driver, maintaining its significant share, and contributing the largest portion to the market's growth.

Chart 71: Global Phosphorous Market Size by Applications

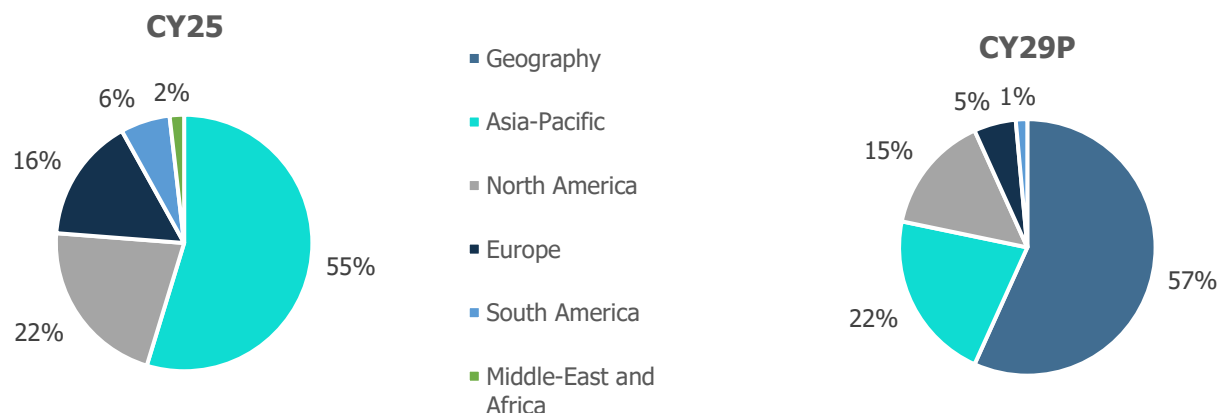


Source: Mordor, CareEdge Research; P: Projected

Other Application Include: Pharmaceuticals and healthcare, water treatment, metal treatment and surface finishing, oil and gas industry, agrochemicals, batteries and energy storage, plastics and polymers, electronics and semiconductors, construction materials, specialty chemicals, lubricants, and catalysts.

8.4 Global Phosphorus Industry Market by Region

Chart 72: Global Phosphorous Market Region



Source: Mordor, CareEdge Research; P: Projected

In CY25, the global phosphorus derivatives market is valued at USD 135 billion, with Asia-Pacific leading the market, holding 55% of the share at USD 74.3 billion. This dominance is driven by the region's large agricultural base, particularly in countries like China and India, where fertilizer demand remains high. North America follows with 22% of the market, valued at USD 29.7 billion, driven by both agricultural demand and industrial applications, such as flame retardants and water treatment. Europe accounts for 16% of the market at USD 21.6 billion, with steady demand from agricultural and industrial sectors. South America holds 6% of the market at USD 8.1 billion, with growing agricultural demand in countries like Brazil. The Middle East and Africa, with a smaller share of 2% at USD 2.7 billion, reflect limited agricultural

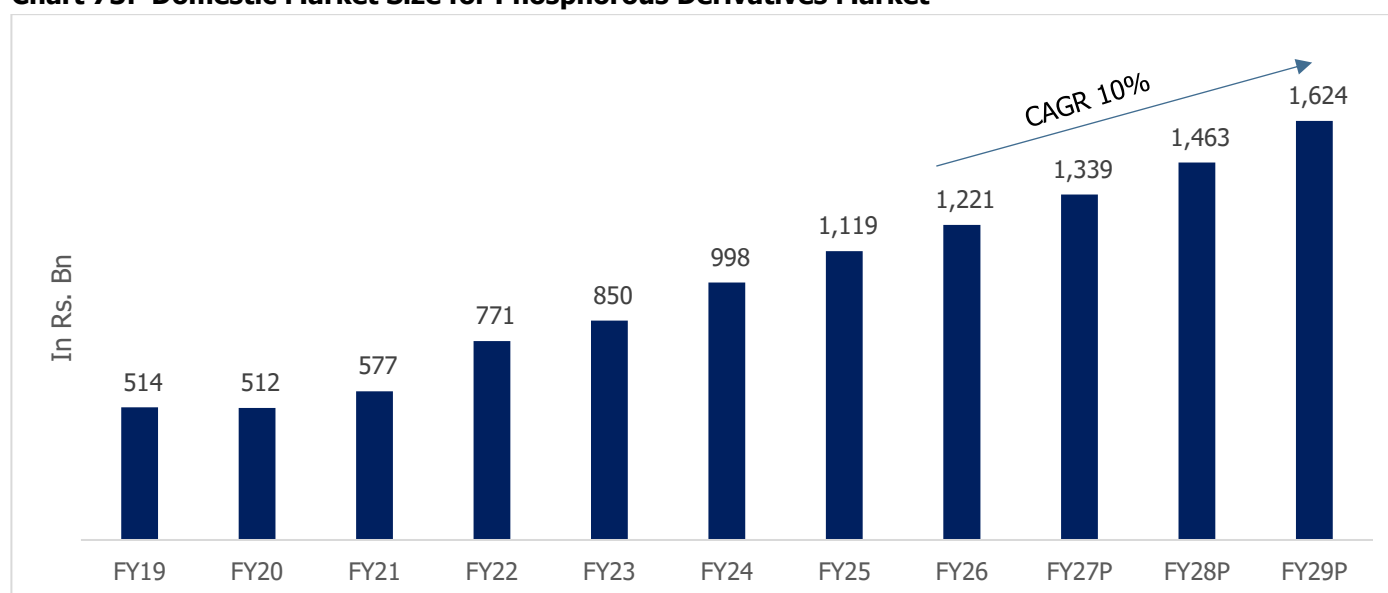
production and a reliance on fertilizer imports. This regional distribution highlights the varying demand drivers, including agriculture, industrial use, and market development across different regions.

8.5 Indian Phosphorus Derivative Market Overview

India's phosphorus derivatives market is driven by its large agricultural sector, where fertilizers like ammonium phosphate and phosphoric acid are essential for boosting crop production to meet rising food demand. Industrial applications like flame retardants, water treatment, and electronics drive market growth, with a shift towards sustainable phosphorus use, including recycling and eco-friendly products, ensures long-term growth in both agriculture and industry.

The rising focus on environmental sustainability has led to increased interest in technologies such as phosphorus recycling and the development of eco-friendly fertilizers to mitigate the adverse effects of excessive phosphorus use.

Chart 73: Domestic Market Size for Phosphorous Derivatives Market



Source: Mordor, CareEdge Research; P: Projected

From FY19 to FY29, the Indian phosphorus derivatives market is projected to experience steady growth, increasing from Rs 514.0 billion in FY19 to Rs. 1,624 billion by FY29. By FY22, the market grew to Rs 771 billion, driven by rising food production needs, and further expanded to Rs 998 billion in FY24, fuelled by increased fertilizer demand and government initiatives such as fertilizer subsidies. The market is expected to continue growing, Rs 1,339 billion in FY27, and Rs 1,463 billion in FY28, supported by expanding agricultural and industrial sectors and a shift towards more sustainable fertilizers. By FY29, the market is projected to reach Rs 1624 billion, driven by the need to address India's food security challenges and the growing demand for eco-friendly phosphorus solutions.

With a CAGR of 10%, the market's growth is supported by the increasing demand for fertilizers, government subsidies, and the widespread adoption of sustainable farming practices, along with expanding industrial applications.

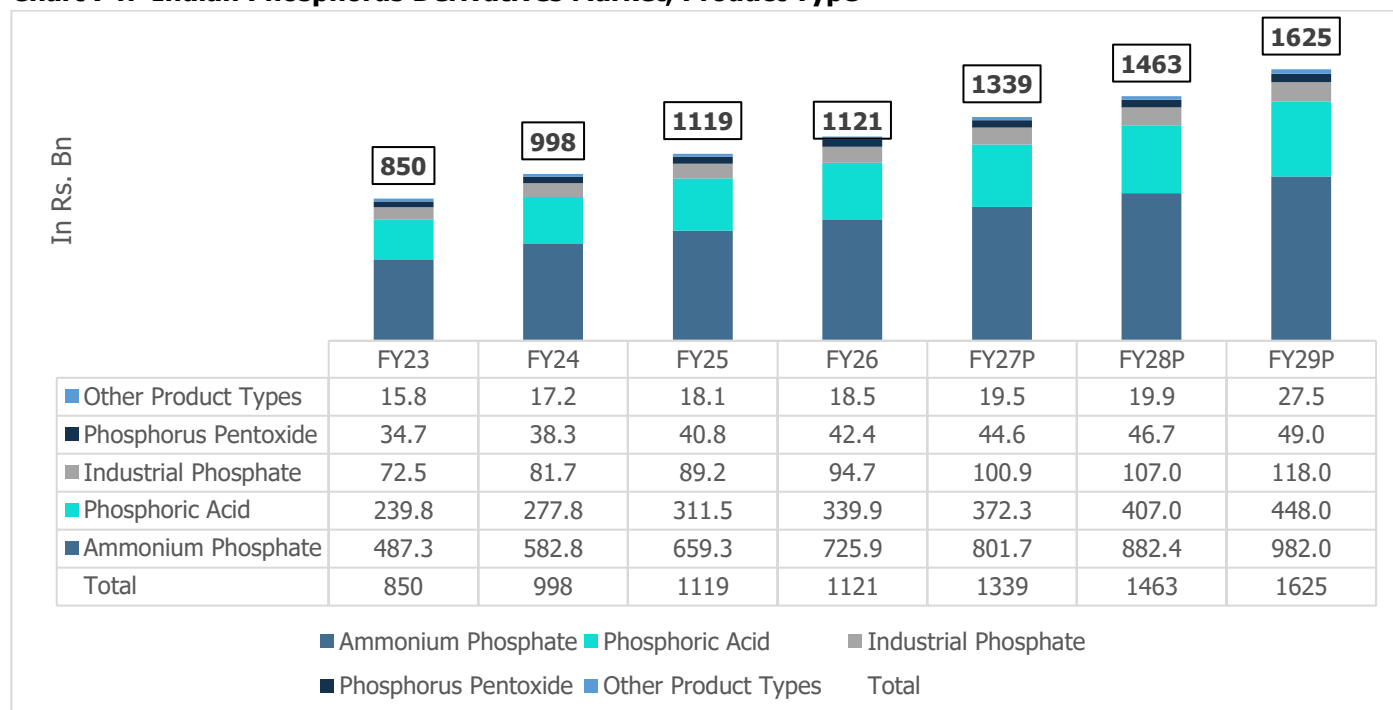
Prasol Chemicals is a forward integrated manufacturers of phosphorus-based specialty chemicals in India with a broad portfolio of derivatives ranging from phosphorous Penta sulphide, phosphorous pentoxide, Di thiophosphates for Lubricant additives and Mineral processing, Polyphosphoric acid, DETC and other phosphate esters.

The company is also amongst the top five³ importers of yellow phosphorus in India since the last three calendar years from CY22 to CY24, which serves as a key raw material for its phosphorus-based product portfolio. Leading manufacturers of Phosphorus Penta Sulphide (P2S5) globally are Italmatch chemicals, Perimeter solutions, Hubei Xingfa, Liaoning Ruixing, Excel Industries while leading manufacturer in India for phosphorus pentoxide (P2O5) is Sandhya Organic Chemicals.

8.6 Indian Phosphorus Derivative Market by Product Type

The Indian phosphorus derivatives market is projected to grow from Rs ~998 billion in FY24 to Rs 1,625 billion by FY29, driven by increased demand across key products. The ammonium phosphate, the largest segment, is expected to rise from Rs 487.3 billion to Rs 982.0 billion, fuelled by strong agricultural needs and the growing focus on improving crop yields. Phosphoric acid is forecast to grow from Rs 239.8 billion to Rs 448.0 billion, supported by its widespread use in fertilizer production and various industrial applications. Industrial phosphates will grow from Rs 72.5 billion to Rs 118.0 billion, reflecting the expanding use of phosphates in manufacturing processes. Phosphorus pentoxide will see moderate growth from Rs 34.7 billion to Rs 49.0 billion, driven by its specialised use in chemical industries. Overall, market expansion is driven by agricultural growth, government support for sustainable farming, and rising industrial demand.

Chart 74: Indian Phosphorus Derivatives Market, Product Type



Source: Mordor, CareEdge Research; P: Projected

Other Product Types Includes: Phosphorus Trichloride, Phosphorus Oxychloride, Elemental Phosphorus (White/Yellow and Red Phosphorus), Sodium Tripolyphosphate (STPP), Calcium Phosphate (including Tricalcium Phosphate and Dicalcium Phosphate), Phosphonates, Polyphosphates, Phosphine and its derivatives, Hypophosphorous Acid and Hypophosphites.

Phosphorus-based chemicals play a vital role in various industrial applications such as lubricants, agrochemical intermediates, pharmaceutical intermediates, and mineral processing reagents. In lubricants, phosphorus compounds

³ Based on import trade data on volume terms

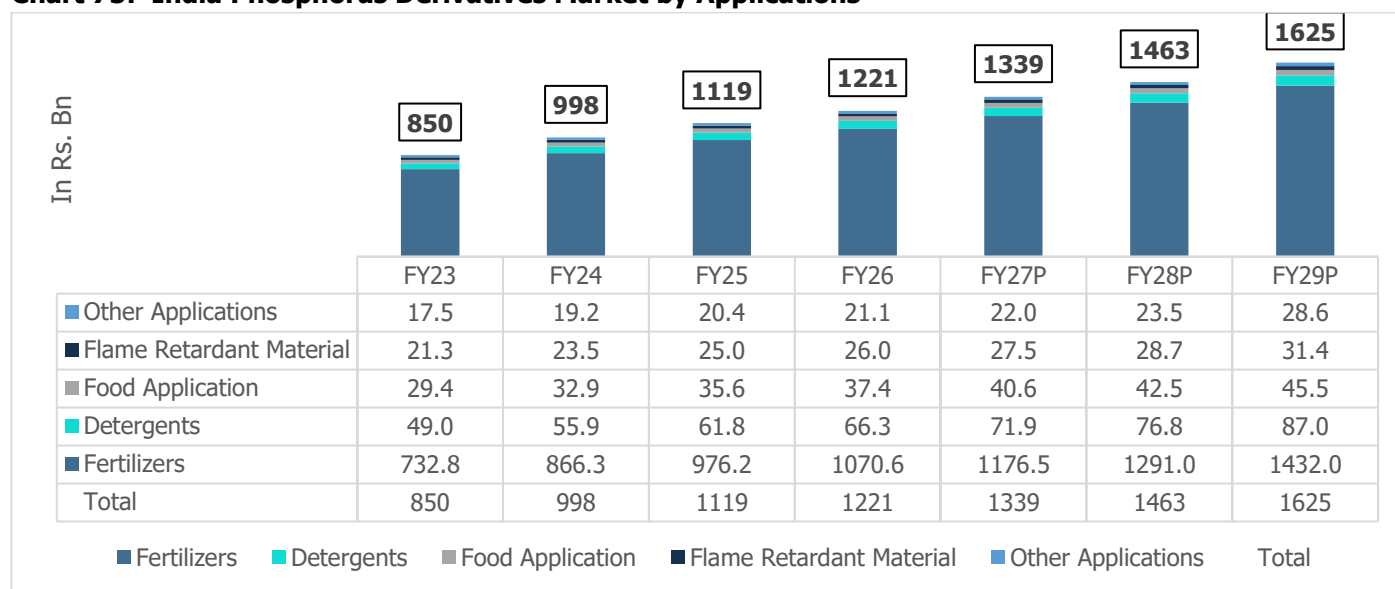
like zinc dialkyl Di thiophosphates (ZDDPs), phosphate esters, and antioxidants are crucial for providing anti-wear, anti-oxidation, and extreme pressure protection. These additives help extend engine and machinery life, improve fuel efficiency, and reduce emissions. Alongside lubricants, phosphorus derivatives are essential intermediates in agrochemicals and pharmaceuticals, contributing to the synthesis of pesticides, herbicides, and active pharmaceutical ingredients. The lubricant additives market is expanding steadily due to growing automotive production, industrial machinery usage, and rising demand for high-performance synthetic lubricants, especially in emerging economies.

In mineral processing, phosphorus-containing reagents such as flotation collectors, dispersants, and wetting agents enhance ore beneficiation by improving the separation and recovery of valuable minerals from ores. This segment, along with lubricant additives and intermediates used in agrochemical and pharmaceutical sectors, benefits from increasing industrial activities driven by infrastructure development, energy transition metals, and stricter environmental standards. The growing need to process lower-grade ores more efficiently requires advanced chemical formulations incorporating phosphorus derivatives. Overall, phosphorus-based products including lubricant additives, agrochemical, and pharma intermediates are expected to grow at a healthy CAGR, driven by industrial modernization, evolving environmental regulations, and technological advancements in chemical formulations.

8.7 Indian Phosphorus Derivative Market by Application

The phosphorus derivatives market is projected to grow from Rs ~998 billion in FY24 to Rs 1,625 billion by FY29, driven primarily by the fertilizer sector, which continues to dominate the market due to increasing global agricultural demands for higher crop yields. Fertilizers are expected to grow steadily, from Rs 866 billion in FY24 to Rs 1,432 billion by FY29, reflecting the ongoing need to boost food production. Additionally, sectors like detergents and food applications will see consistent growth, with detergents increasing from Rs ~56 billion to Rs 87 billion due to rising global demand for cleaning products, and food applications growing from Rs ~33 billion to Rs 45.5 billion due to the use of phosphorus in food preservation and processing. The flame-retardant materials sector will experience steady growth driven by stricter fire safety regulations across industries, and other applications will also contribute to the overall market expansion.

Chart 75: India Phosphorus Derivatives Market by Applications



Source: Mordor, CareEdge Research; P: Projected

Other Application Includes: Pharmaceuticals and healthcare, water treatment, metal treatment and surface finishing, oil and gas industry, agrochemicals, batteries and energy storage, plastics and polymers, electronics and semiconductors, construction materials,

9 Impact Assessment on the Iran-US Conflict

The recent geopolitical tensions involving the United States and Iran have heightened uncertainty across global energy markets, resulting in increased volatility in crude oil prices, freight rates and international trade routes. While the conflict has had a relatively limited direct impact on India's chemical manufacturing sector owing to diversified sourcing strategies and limited dependence on the region for finished chemicals, sectors with higher exposure to crude oil, natural gas and imported petrochemical feedstocks remain susceptible to fluctuations in input costs. Accordingly, the following assessment evaluates the potential implications of the ongoing geopolitical developments across select chemical segments based on their feedstock dependence, supply chain exposure, pricing sensitivity and end-market dynamics, thereby identifying sectors that may experience low, medium or high levels of impact under the prevailing market environment.

Limited direct impact on chemical sectors from Iran-US conflict, crude prices to remain key monitorable

SECTOR	POTENTIAL IMPACT OUTLOOK	KEY ANALYTICAL TAKE	PRIMARY DRIVER	IMPACT LEVEL (LOW MEDIUM HIGH)
 Specialty Chemicals Industry	Moderate impact; cost pressures may persist if crude stays elevated.	Low direct exposure to Iran; however, volatility in crude and freight rates can impact select product margins and project timelines.	 Crude & energy price volatility; freight route disruptions	 MEDIUM
 Performance Chemicals Industry	Moderate impact; energy-intensive processes face margin pressure.	Higher energy intensity makes the sector sensitive to crude and natural gas price swings; limited direct Iran exposure.	 Energy cost fluctuations and key raw material disruptions	 MEDIUM
 Agrochemicals Industry	Low to moderate impact; limited direct dependence on Iran.	Focused sourcing from China and Europe; conflict impact largely indirect via freight and energy costs.	 Raw material availability and freight cost pressure	 LOW
 Pharma Industry	Low impact; diversified sourcing reduces vulnerability.	Minimal reliance on Middle East inputs; well-diversified API imports and strong domestic manufacturing base reduce risk.	 Diverse sourcing and resilient global supply chains	 LOW
 Home & Personal Care	Low impact; stable and diversified input supply.	Low dependence on conflict-affected region; raw materials widely available across geographies.	 Low dependence on Middle East sourced inputs	 LOW
 Acetone Derivatives Industry	Moderate impact; price sensitivity linked to crude and propylene.	Acetone prices move with crude/propylene; short-term volatility possible, though supply remains diversified from multiple regions.	 Crude & propylene price movement; supply diversification	 MEDIUM
 Phosphorous Derivatives Industry	Moderate impact; energy cost remains key monitorable.	Phosphoric acid and derivatives are energy-intensive; impact flows through higher energy and freight costs.	 Energy cost volatility and feedstock availability	 MEDIUM

Source: CareEdge Research

10 Competitive Landscape

10.1 Business Profile

Company Profile

Prasol Chemicals Ltd. is a diversified Indian specialty chemicals manufacturer with an established presence for over 30 years across global markets, consistently focusing on quality, innovation, and reliability. The company is engaged in

manufacturing and supplying chemical products and serves customers in domestic and international markets. Headquartered in Navi Mumbai and with manufacturing operations in Khopoli, Maharashtra, Prasol operates across three core chemical domains: acetone-based, phosphorus-based, and other specialty chemicals.

Since last four consecutive calendar years from CY22 to CY25, Prasol has been the largest⁴ importer of acetone to produce highly diversified range of acetone-based specialty chemicals such as diacetone alcohol, isophorone, hexylene glycol, meta xylenol and others. Being the largest importer and consumer of acetone for producing acetone-based specialty chemicals, Prasol operates in a domestic market with limited competition, given the presence of only a few manufacturers in this segment. Moreover, Prasol is the only manufacturer of isophorone in India with a capacity of 9,000 MTPA⁵.

Additionally, Prasol is also amongst the top five⁶ importer and user of yellow phosphorus in India during the last four consecutive calendar years from CY22 to CY25, which is a key input for producing a wide range of phosphorus-based specialty chemicals that cater to industries such as agrochemicals, pharmaceuticals, personal care, lubricants, and performance materials. The company has a broad portfolio ranging from phosphorous pentasulphide, phosphorous pentoxide, Dithio-phosphates for Lubricant additives and Flotation reagents, Polyphosphoric acid, DETC and other phosphate esters.

Prasol has a highly diversified business with a product portfolio of 150+ products and 1,600+ customers across multiple sectors. With a global footprint, exporting to 69 countries in Asia-Pacific (APAC), North America, South America and Europe as of July 15, 2026.

Prasol's products find diversified application across 20+ different industries mainly classified under Home & Personal Care (including Flavor & Fragrance), Pharmaceutical, Agrochemical, PICA (Paints, Inks, Construction & Adhesives, also includes resin and pigment industry), and Performance chemicals (in industries like Water Treatment, Mining, Oilfield, Defense, Lubricants, Polymers, Electronics, Electroplating, Rubber, Leather, Textile and Paper auxiliaries)

Strong application-driven R&D capabilities for performance chemicals are a key differentiator for Prasol. For instance: the company has developed Mineral processing reagents for mining industry, antioxidants and hydraulic packages for lubricants, emulsifiers and polymers for bitumen emulsions road construction.

In the global market, the company competes with leading manufacturers such as Solvay, Evonik, Arkema in acetone-based specialty chemicals and with Italmatch chemicals, Perimeter solutions, Hubei Xingfa, Liaoning Ruixing in phosphorous-based specialty chemicals. Despite global economic uncertainties, Prasol continues to deliver strong growth in the Indian market, supported by deep customer relationships and increasing domestic demand.

Global companies are approaching Prasol for technology transfer and manufacturing partnerships in India. These companies are looking to establish a local supply base and are engaging with Prasol due to its process capabilities and available infrastructure. The company has spare land available at both Khopoli and Mahad for future capacity expansion, strengthening its ability to scale operations in line with market demand.

With backward integration, robust certifications (ISO 9001, ISO 14001, ISO 45001, REACH), and recognition as a "Three-Star Export House", Prasol is well-positioned to leverage emerging global opportunities in the specialty chemical landscape.

⁴ Based on import trade data on volume basis for acetone used to derive acetone-based specialty derivatives

⁵ As per the Environmental Clearance (EC) document from Maharashtra Pollution Control Board.

⁶ Based on import trade data on volume basis of yellow phosphorous used to derivate phosphorous based specialty derivatives

10.2 Operational Benchmarking

Parameters	Prasol Chemicals Limited	Atul Limited	Aarti Industries Limited	Laxmi Organic Industries Limited	Privi Speciality Chemicals Limited	Vinati Organics Limited	Excel Industries Limited	Yasho Industries
Number of Clients (FY26)	1600+	4,000+	1100+	750+	N/A	140+	700+	2000+
Number of Products	150+	1,300	100+	50+	75+	38	40+	140+
Countries served	69	88	60+	55+	40+	35+	40	50+
Export as % of total sales (FY26)	28%	42%	54%	32%	66%	56%	20%	62%
Employee strength	775	3334	6000+	1141	1500+	1400+	1000+	820+
R&D Team Strength	37	233	250+	100	114	N/A	32	50+
% of Top 5 customer revenue	15.41%	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Key complexities	Acetone and phosphorous based specialty derivatives, Specialty Chemicals, Pharma Intermediates	Aromatics, bulk chemicals & intermediates, dyes/dye intermediates, polymers	Agrochemicals, polymer, pigment, surfactant and pharma intermediates	Acetyl products, including Bulk Solvents and Aldehydes	Pinene-based aroma / fragrance chemicals	Speciality monomers & aromatics and niche molecules	Phosphorus-based agrochemical intermediates & actives	Food antioxidants, lubricant additives, speciality chemicals, rubber, and aroma chemicals

Source: Data sourced from company disclosures, annual reports, and official websites, unless specified otherwise; N/A: Not Available

10.3 Peers Financial Profiles

➤ Prasol Chemicals Limited

Financial Information (Consolidated)

Prasol Chemicals Limited	Unit	FY24	FY25	FY26
Revenue	Rs Million	8,765.65	10,124.94	12,325.93
Revenue Growth	%	-5.75%	15.51%	21.74%
Operating Profit	Rs Million	605.28	877.66	1,393.20
Operating Margins	%	6.91%	8.67%	11.30%
PAT	Rs Million	181.31	435.69	831.24
PAT Margins	%	2.07%	4.30%	6.74%
Net Debt to Equity	Times	0.22	0.23	0.19
Return on Equity	%	5.71%	12.57%	20.37%
Return on Assets	%	2.75%	6.46%	10.64%
Return on Capital Employed	%	12.61%	14.95%	22.43%
Working Capital Days	Days	41	37	50

Source: Company Disclosures, Annual Reports

➤ Atul Limited

Financial Information (Consolidated)

Atul Limited	Unit	FY24	FY25	FY26
Revenue	Rs Million	47,256.80	55,833.50	62,735.40
Revenue Growth	%	-12.93%	18.15%	12.36%
Operating Profit	Rs Million	6,445.70	9,226.90	10,369.10
Operating Margins	%	13.64%	16.53%	16.53%
PAT	Rs Million	3,241.20	4,988.30	6,893.90
PAT Margins	%	6.86%	8.93%	10.99%
Net Debt to Equity	Times	0.03	0.02	0.01
Return on Equity	%	6.56%	9.22%	11.53%
Return on Assets	%	5.29%	7.40%	9.25%
Return on Capital Employed	%	8.64%	12.34%	14.38%
Working Capital Days	Days	66	64	61

Source: Company Disclosures, Annual Reports

➤ Aarti Industries Limited

Financial Information (Consolidated)

Aarti Industries Limited	Unit	FY24	FY25	FY26
Revenue	Rs Million	63,708.00	72,690.00	82,860.00
Revenue Growth	%	-3.74%	14.14%	13.96%
Operating Profit	Rs Million	9,697.40	9,937.80	11,740.00
Operating Margins	%	15.22%	13.67%	14.17%

Aarti Industries Limited	Unit	FY24	FY25	FY26
PAT	Rs Million	4,164.70	3,310.00	4,190.00
PAT Margins	%	6.54%	4.55%	5.06%
Net Debt to Equity	Times	0.58	0.62	0.72
Return on Equity	%	8.16%	6.08%	7.25%
Return on Assets	%	4.46%	3.12%	3.43%
Return on Capital Employed	%	7.23%	6.35%	6.87%
Working Capital Days	Days	102	66	61

Source: Company Disclosures, Annual Reports

➤ Laxmi Organic Industries Limited

Financial Information (Consolidated)

Laxmi Organic Industries Limited	Unit	FY24	FY25	FY26
Revenue	Rs Million	28,650.07	29,854.42	28,466.67
Revenue Growth	%	2.65%	4.20%	-4.65%
Operating Profit	Rs Million	2,551.88	2,792.37	1,711.57
Operating Margins	%	8.91%	9.35%	6.01%
PAT	Rs Million	1,205.35	1,135.04	793.62
PAT Margins	%	4.21%	3.80%	2.79%
Net Debt to Equity	Times	-0.10	0.07	0.24
Return on Equity	%	7.51%	6.13%	4.08%
Return on Assets	%	4.60%	3.87%	2.45%
Return on Capital Employed	%	10.94%	8.84%	4.45%
Working Capital Days	Days	5	-12	-6

Source: Company Disclosures, Annual Reports

➤ Privi Speciality Chemicals Limited

Financial Information (Consolidated)

Privi Speciality Chemicals Limited	Unit	FY24	FY25	FY26
Revenue	Rs Million	17,522.35	21,011.91	25,636.86
Revenue Growth	%	8.98%	19.91%	22.01%
Operating Profit	Rs Million	3,238.14	4,519.95	6,448.40
Operating Margins	%	18.48%	21.51%	25.15%
PAT	Rs Million	954.30	1,847.50	3,167.21
PAT Margins	%	5.45%	8.79%	12.35%
Net Debt to Equity	Times	1.01	0.96	0.65
Return on Equity	%	10.74%	17.95%	24.76%
Return on Assets	%	4.03%	7.20%	10.63%
Return on Capital Employed	%	11.97%	15.56%	21.85%
Working Capital Days	Days	221	191	164

Source: Company Disclosures, Annual Reports

➤ Vinati Organics Limited

Financial Information (Consolidated)

Vinati Organics Limited	Unit	FY24	FY25	FY26
Revenue	Rs Million	18,999.60	22,481.70	22,268.90
Revenue Growth	%	-8.34%	18.33%	-0.95%
Operating Profit	Rs Million	4,697.20	5,809.20	6,538.70
Operating Margins	%	24.72%	25.84%	29.36%
PAT	Rs Million	3,229.68	4,052.50	4,437.40
PAT Margins	%	17.00%	18.03%	19.93%
Net Debt to Equity	Times	0.00	0.02	0.00
Return on Equity	%	13.82%	15.42%	14.90%
Return on Assets	%	11.91%	13.25%	12.92%
Return on Capital Employed	%	17.75%	18.82%	18.86%
Working Capital Days	Days	127	117	139

Source: Company Disclosures, Annual Reports

➤ Excel Industries Limited

Financial Information (Consolidated)

Excel Industries Limited	Unit	FY24	FY25	FY26
Revenue	Rs Million	8,261.40	9,780.68	10,945.22
Revenue Growth	%	-24.19%	18.39%	11.91%
Operating Profit	Rs Million	228.15	1,183.19	1,320.49
Operating Margins	%	2.76%	12.10%	12.06%
PAT	Rs Million	170.10	853.13	756.65
PAT Margins	%	2.06%	8.72%	6.91%
Net Debt to Equity	Times	-0.01	-0.01	-0.01
Return on Equity	%	1.27%	5.66%	4.60%
Return on Assets	%	1.03%	4.59%	3.76%
Return on Capital Employed	%	1.72%	7.28%	7.27%
Working Capital Days	Days	53	35	61

Source: Company Disclosures, Annual Reports

➤ Yasho Industries Limited

Financial Information (Consolidated)

Yasho Industries Limited	Unit	FY24	FY25	FY26
Revenue ⁷	Rs Million	5,935.64	6,756.41	8,300.28
Revenue Growth	%	-11.61%	12.62%	22.85%

⁷ Revenue considered as Revenue from Operations

Yasho Industries Limited	Unit	FY24	FY25	FY26
Operating Profit ⁸	Rs Million	989.23	982.97	1,414.11
Operating Margins ⁹	%	16.67%	14.55%	17.04%
PAT ¹⁰	Rs Million	579.37	61.05	252.58
PAT Margins ¹¹	%	9.76%	0.90%	3.04%
Net Debt to Equity ¹²	Times	1.82	1.26	1.18
Return on Equity ¹³	%	21.75%	1.71%	5.85%
Return on Assets ¹⁴	%	7.05%	0.59%	2.25%
Return on Capital Employed ¹⁵	%	10.91%	7.05%	9.09%
Working Capital Days ¹⁶	Days	161	211	205

Source: Company Disclosures, Annual Reports

⁸ Operating Profit = Profit before exceptional items and tax (after profit/loss of associate) + Finance cost (excl. interest on lease liabilities) + Depreciation – Other income

⁹ Operating Margin = Operating Profit / Revenue from Operations

¹⁰ PAT= Reported Profit/Loss After Tax

¹¹ PAT Margin = Profit After Tax / Revenue from Operations

¹² Net Debt to Equity = Net Debt* / Total Equity

*Net debt = Non-current Borrowings + Current Borrowings - Cash & Cash Equivalents - Bank Balances other than cash.

¹³ Return on Equity = Profit After Tax / Average Shareholders' Equity * 100

¹⁴ Return on Assets = Profit After Tax / Average Total Assets * 100

¹⁵ Return on Capital Employed = Profit before exceptional items and tax (after profit/loss of associate) + Finance costs (excl. interest on lease liabilities) / Capital Employed (Net Debt* + Net Worth) * 100

*Net debt = Non-current Borrowings + Current Borrowings - Cash & Cash Equivalents - Bank Balances other than cash.

¹⁶ Working Capital Days = Receivable Days (Average Account Receivable Days / Revenue*365) + Inventory Days (Average Inventories / Direct Expenses*365) – Payable Days (Average Accounts Payable / Purchases of Raw Material, Finished Goods*365)

11 Keys Threats and challenges

Challenge	Pharmaceuticals	Home and Personal Care (HPC)	Performance Chemicals
Stringent Regulatory Compliance	Pharmaceutical companies must comply with rigorous safety, efficacy, and quality standards set by bodies such as the FDA, EMA, and WHO. Compliance is costly due to clinical trials, documentation, and audits.	The HPC industry faces increasing scrutiny over ingredients, particularly those linked to allergies. There are growing bans on certain chemicals, such as parabens and phthalates.	Performance chemical manufacturers must adhere to environmental and safety regulations, such as REACH in Europe, which affect product development, storage, transportation, and disposal.
Supply Chain Disruptions	Pharmaceutical companies depend on active pharmaceutical ingredients (APIs), often sourced from countries like China and India. Any disruption in supply can halt the production of essential medicines.	HPC companies require a consistent supply of surfactants, emulsifiers, and packaging materials. Delays in supply can lead to stock shortages and affect product availability.	The performance chemicals industry relies on raw materials such as petrochemicals or specialty additives. Disruptions in the supply chain can lead to production delays or increased costs, impacting downstream industries such as automotive or electronics.
Sustainability Pressure	Pharmaceutical companies face pressure to reduce emissions, eliminate hazardous waste, and develop greener manufacturing processes while maintaining product integrity.	Consumers demand natural, biodegradable, and cruelty-free products, compelling HPC brands to reformulate using green chemistry, while still ensuring product performance.	Performance chemicals manufacturers are required to reduce dependence on fossil-based feedstocks and minimise the ecological impact of production processes, all while ensuring high-performance outcomes in demanding applications.
Innovation and R&D Costs	Pharmaceutical companies invest billions in drug discovery and clinical trials, which are characterised by high failure rates and lengthy development cycles.	HPC brands must innovate swiftly to keep pace with rapidly changing trends in beauty, skincare, and hygiene. This often involves developing new formulations, textures, and delivery systems.	The performance chemicals sector requires the development of highly specialised solutions for industries such as electronics, coatings, and batteries, which demands significant technical expertise and innovative research.
Consumer Expectations & Market Dynamics	Pharmaceutical consumers increasingly seek personalised medicine, wellness solutions, and digital health integration, shifting focus beyond just pharmaceutical products.	HPC consumers expect transparency, ethical sourcing, and multifunctional products, while being highly influenced by viral trends and influencer marketing.	Performance chemicals manufacturers face pressure from downstream industries to deliver faster, more cost-effective, and sustainable innovations, necessitating agility and close collaboration across the value chain.

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About:

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