

# **Global chemicals industry: opportunities and challenges**

November 2021

**An overview of growth predictions and market developments within key chemicals sectors worldwide.**





# An overview of opportunities and challenges facing the global chemicals industry

The overall picture for the global chemicals industry since the 2009 financial crisis has largely been one of growth. According to data published by Cefic, (the European Chemical Industry Council), global chemicals sales increased from EUR 1,172 billion in 2009 to EUR 3,669 billion in 2019.<sup>1</sup> Although the headwinds caused by the pandemic recession in 2020 inevitably affected the industry causing a small contraction in chemical production, growth in demand and production of chemicals is expected to pick up.

However, drilling deeper into the data, the industry's experience and outlook is much more varied than this topline snapshot suggests. Marked variations can be seen between geographies and sectors. An uneven picture of production around the world is evident, even between countries within the same region. The industry is currently facing a changing landscape of challenges and opportunities. Developing end-markets shifting towards new value streams, a growing desire for sustainability alongside the need to meet environmental legislation, and technological developments are all underpinning potential opportunities for growth.

Here we explore an overview of the global chemicals market as it stands today, including trends, possible opportunities for growth and potential challenges faced by the industry.

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*Developing end-markets, sustainability and technology are all underpinning potential opportunities for growth.*

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## Global outlook is largely positive

The global outlook for chemical production is positive, with growth projected by most analysts, especially for China and emerging economies. According to BASF, global chemical production (excluding pharmaceuticals) is expected to grow by 4.4% in 2021.<sup>2</sup> This is above average for the years prior to the coronavirus pandemic and represents a strong rebound following the pandemic recession where overall global chemical production contracted by 0.4% in 2020, (compared to an increase of 1.9% in 2019).

Production trends indicate that growth will be largely dominated by emerging markets and by China, which is already by far the world leader in chemical sales. Cefic Chemdata International reported chemical sales in 2019 amounted to EUR 1,488 billion in China, followed by Europe and the US with EUR 543 billion and EUR 504 billion respectively.<sup>3</sup>

However, year-on-year, chemicals production declined in the EU in 2020 by 2%, a figure that somewhat masks significant differences between the major production locations. Production in the Netherlands largely held steady, whereas Belgium, Germany and Spain saw production contract between about 1% to 3%. However, in Italy it fell by even more, by around 8%, and by a substantial 9% in France.

Contractions were also evident in the Americas. Chemical production decreased by 4.6% in North America and by a fairly modest 1.1% in South America. Japan and Malaysia also saw contractions with 9.8% and 6.2% reductions respectively. By contrast, the world's largest chemicals market, China, increased production volumes by 3.4%.

Chemicals industries can be impacted by political and economic events within their value streams and supply chains. This has been seen most recently in the surging prices of wholesale gas causing sharp increases in the cost of energy. Energy-intensive manufacturers have been hit hard and some have temporarily closed operations. Examples include fertiliser producers that paused production as the cost of producing hydrogen (used in the process for making ammonia) had become prohibitively high.

Most forecasts note that the expected recovery in the automotive industry, along with growth in the agriculture, construction, consumables, consumer durables and health and nutrition sectors, should underpin global chemical demand. However, a fairly uneven global picture is expected to persist with growth trends tending to be east-leaning, favouring China and emerging economies.

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<sup>2</sup> <https://report.basf.com/2020/en/managements-report/forecast/economic-environment/chemical-industry.html>

<sup>3</sup> [https://cefic.org/app/uploads/2021/02/FactsFigures2021\\_Leaflet\\_V05.pdf](https://cefic.org/app/uploads/2021/02/FactsFigures2021_Leaflet_V05.pdf)



## Growth predictions in the agrochemicals sector

According to Market Research Reports, the global agrochemical market is expected to reach USD 308.4 billion by the end of 2025, growing at a compound annual growth rate of 4.69% between 2019 and 2025.<sup>4</sup> However, this growth prediction is fairly muted compared to pre-coronavirus growth rates. Prior to the pandemic, the world's top 20 global agrochemical companies were growing at a rate of 5.6%. The top 20 global agrochemicals companies, as listed by AgroPages, achieved 2019 year-end total sales of USD 59.53 billion, growing by USD 3.13 billion compared with USD 56.396 billion in the 2018 year-end.<sup>5</sup>

The Covid-19 pandemic is one of the reasons why sector growth has slowed. Following the outbreak of pandemic supply chains were negatively impacted, with quarantines and lockdowns making it harder for farmers to export, and for agrochemicals companies to distribute stock. In addition, many farms struggled to recruit or retain enough labourers as illness and curbs on the movement of people impacted rural workforces. Faced with a lack of staff, many farms chose to cultivate fewer fields, and therefore needed smaller volumes of fertilisers, pesticides and other agrochemicals.

Smaller agriculture producers and farmers have been harder hit by delayed payments and debt than bigger producers. Indeed Bayer Crop Science indicated that the effects of COVID-19 could plunge smaller producers into a downward spiral of underinvestment, poor harvests, and a cycle of food and financial insecurity impacting millions of people around the world.<sup>6</sup> This poses a risk for the agrochemicals industry as small companies account for nearly 30% of the agrochemical industry in emerging markets across South Asia.

A key trend seen in the agrochemicals segment in recent years is an uptick in M&A activity. The global agrochemical market is witnessing consolidation that is contributing to volume declines in some measures but overall creating powerhouses such as Dow Chemicals and Sinochem. Some big M&A activity has recently taken place particularly within Asia and South America, including Sumitomo Chemicals' acquisition of Nufarm's Latin American activities, Partners Group's acquisition of Rovensa and Anglo American's acquisition of the Woodsmith potash mine.

Looking ahead the demand for agrochemicals is expected to be the highest in Asia Pacific, where there is a strong agriculture tradition. India, Sri Lanka, China and Vietnam, in particular, are heavily dependent on agriculture and related industries for economic growth.



<sup>4</sup> <https://www.marketresearchreports.com/blog/2019/09/25/worlds-top-10-agrochemical-companies-industry-forecast-and-trends>

<sup>5</sup> <http://group.agropages.com/Detail-59.html>

<sup>6</sup> <https://www.cropscience.bayer.com/people-planet/global-impact/smallholder-farmers/covid-19-food-security>



## Growth predictions in the speciality chemicals sector

According to Grand View Research, the global speciality chemicals market was valued at USD 630 billion in 2019 and is expected to grow at a CAGR of 3.7% from 2020 to 2027, when it is expected to reach USD 842.5 billion.<sup>7</sup>

This growth is being driven by increasing demand for high-performance and function-specific chemicals. The industrial and institutional cleaners segment accounted for the largest market revenue share of 8.6% in 2019 and is projected to witness a growth rate of 4.0% over the forecast period. The CASE segment that includes coatings, adhesives, sealants and elastomers is also emerging as a potentially lucrative area and accounted for a value share of 3.4% in 2019.

Construction chemicals are expected to emerge as one of the prominent product segments with significant growth projections between 2020 and 2027. The demand for products such as specialised water-proofing compounds, repair and renovation compounds, joint fillers, and tile fixing adhesives is considerable in the construction and building industry.



As with the trends seen in agrochemicals, Asia-Pacific is the dominant market for speciality chemicals, accounting for a revenue share of 46.8% in 2019. Looking ahead, 44% of the global demand is attributed to the Asia-Pacific region, most particularly in China, India, and Japan.



The global aroma chemicals market size was valued at USD 5.5 billion in 2019 and is expected to grow at a compound annual growth rate of 5.8% between 2020 and 2027.

## Growth predictions in the consumer chemicals sector



Healthy growth is also predicted for the consumer chemicals sector, particularly within the cosmetics and aroma segments. According to Grand View Research, the global cosmetic chemicals market was worth USD 19.9 billion in 2019 and will continue to grow between 2020 and 2027, with a compound annual growth rate of 4.8%. North America accounted for a revenue share of over 35.6% in the market for cosmetic chemicals in 2019.<sup>8</sup>

Asia Pacific is the largest regional market for aroma chemicals. It captured a revenue share of 29.6% in 2019 and most forecasts predict continued market dominance driven largely by the fragrance, food and beverage industries in China, India and Japan.

<sup>7</sup> <https://www.grandviewresearch.com/industry-analysis/specialty-chemicals-market>

<sup>8</sup> <https://www.grandviewresearch.com/industry-analysis/global-cosmetic-chemicals-market>



# End-market diversity and development

A key feature of the global chemicals market is the shifting nature of its value streams, driven by demand for new products in a range of industries.

This includes for example materials for microelectronics, advanced materials for construction applications, recycling technologies, and new solvent cleaning technologies. Indeed, the industrial and institutional cleaners segment accounted for the largest market revenue share of 8.6% in 2019 and is projected to witness a growth rate of 4.0% over the coming years. Such end market diversity and development should be beneficial as it allows for diversification of production and customer portfolios and means any impact of economic recession on chemicals will likely be moderate in 2021 compared with other industries.



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*End-market diversity should be beneficial and may help moderate the impact of recession.*”

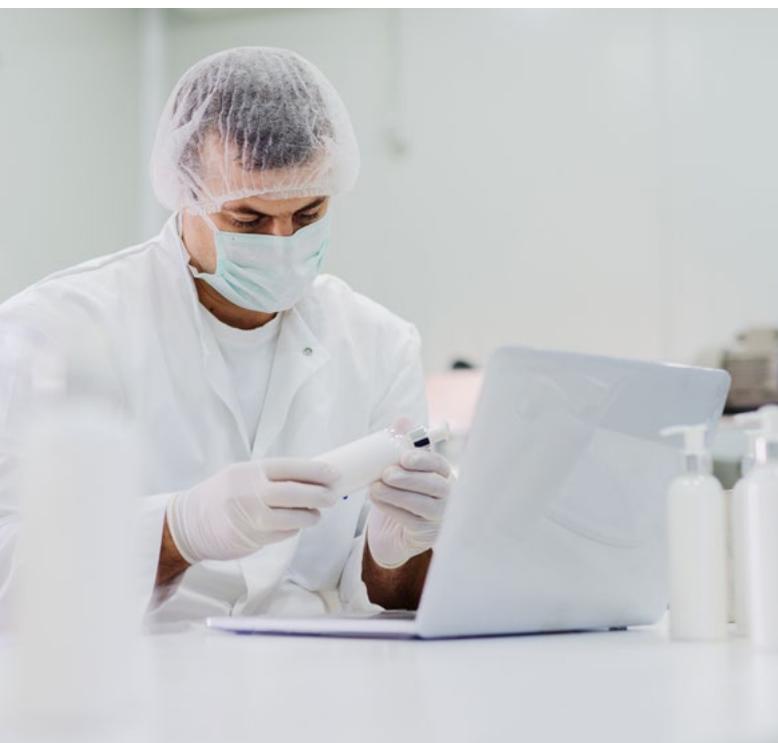


## Shifting demand in the agrochemicals sector

Although demand for agrochemicals remains fairly robust, especially within the agriculturally-focused regions of emerging economies, changes within the markets are impacting agrochemicals producers. Primary risks include increasing stringency of regulatory requirements, farm subsidy reductions and genetic science creating crop resistance to pests.

Herbicides have the greatest share of the agrochemicals market, with non-selective herbicides in particular experiencing growth. Insecticides represent the second-largest product segment, valued at USD 28.22 billion in 2019.<sup>9</sup>

Agrochemicals market growth is likely to be driven by demand for herbicides and insecticides used in the cultivation of cotton, cereals and grains. In 2018-19, cotton production in India, China and US was recorded at 13,269 thousand metric tons.



<sup>9</sup> <https://cefic.org/a-pillar-of-the-european-economy/facts-and-figures-of-the-european-chemical-industry/profile/>

<sup>11</sup> <https://www.who.int/publications/i/item/cleaning-and-disinfection-of-environmental-surfaces-in-the-context-of-covid-19>

<sup>12</sup> <https://www.grandviewresearch.com/industry-analysis/global-cosmetic-chemicals-market>



## Shifting demand in the speciality chemicals sector



Although speciality chemicals producers are increasingly focusing on emerging markets, Europe is regarded as a stable market for speciality chemicals products. The European Chemical Industry Council (Cefic) reports that in 2018, more than 27.0% of the total chemical sales in the EU was represented by speciality chemicals. It is one of the largest exporting sectors of the region, holding around one-third of the total chemical exports in 2018.<sup>10</sup>

Looking forward, 44% of global demand is attributed to the Asia-Pacific region, with a particular focus on China, India and Japan. Companies supplying the automotive, paints and polymer markets are likely to witness a prolonged slowdown as demand is expected to remain weak, a situation that is likely to be compounded by any further waves of Covid-19.

## Shifting demand in the consumer chemicals sector



Following the outbreak of the global pandemic, in May 2020 the World Health Organization published directives concerning surface cleaning and sanitisation.<sup>11</sup> Manufacturers of consumer chemicals for homecare and cleaning experienced enhanced opportunities for growth. However, this period also experienced worldwide decline in overall consumer consumption, a scenario that also impacted the sector with lower cosmetics sales.

This slump is not forecast to continue, however. According to Grand View Research, the global cosmetic chemicals market size was valued at USD 19.9 billion in 2019 and is expected to grow at a compound annual growth rate of 4.8% from 2020 to 2027.<sup>12</sup> Rapid urbanisation, coupled with increased consumer spending, is leading to growing demand for innovative and attractive cosmetics, as well as flavours from the food and beverage industry. In addition, rising demand for cosmetic products formulated with natural ingredients coupled with consumer willingness to spend on premium products is driving demand for organic grade cosmetic chemicals.

# Environment, social governance and sustainability

**Environmental and social governance (ESG) issues are at a tipping point for the chemicals industry and are impacting businesses across the sectors. This can be seen in both push and pull influences as companies respond to regulatory directives, customer preferences and boardroom guidance.**

In addition to chemicals regulations in most major markets including the US, Europe and China, there is growing demand among consumers for 'green' and ethical products. This includes consumers asking where ingredients come from and assessing environmental impacts. B2C companies are increasingly seeking to answer these concerns with 'green' products, a trend that is also evident among B2B producers.

These drivers however are also creating the need for additional investments in newer technology which leverage bio ingredients and are 'eco-ethical'. Research from PWC indicated that companies' investments in decarbonisation and optimisation of their carbon footprint along with the growing demand for eco-ethical products across cosmetics and home care are leading to demand pipeline pressures across segments.<sup>13</sup> It is also leading to growing demand for new products and recycling technologies across the industry segments.

For consumer chemical companies and their investors, these issues have started impacting their growth, market share and profitability. In addition, companies that may possess higher carbon footprints or that work with more hazardous chemicals may be at increased risk of more stringent regulation.

As the chemical industry is a significant direct emitter of CO<sub>2</sub>, leading management teams have started to incorporate carbon and broader environmental targets into their agendas. Pressure from various other stakeholder groups is also increasing, and ESG performance is expected to be benchmarked as highly as cost and other productivity metrics.



*Leading management teams have started to incorporate carbon and broader environmental targets into their agendas*

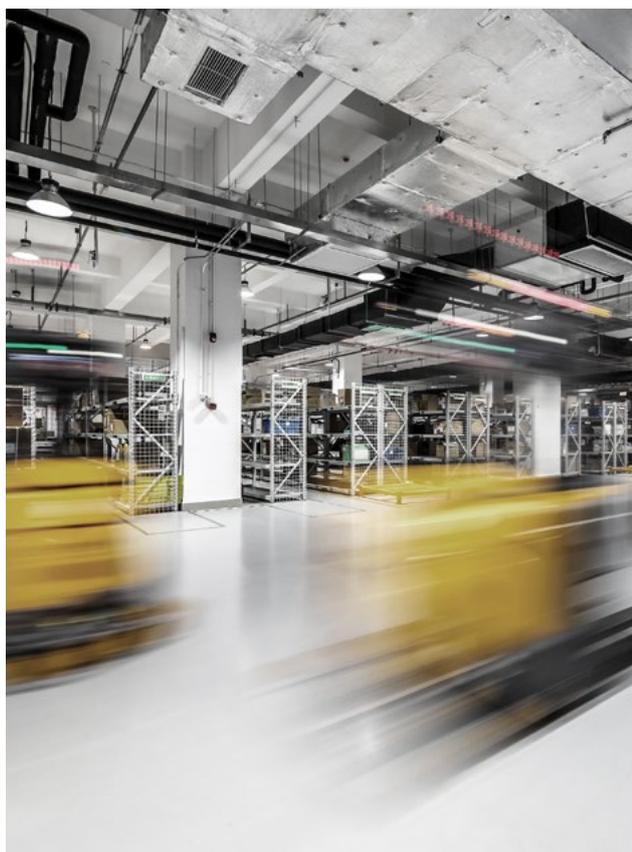
# Technological developments

The ongoing adoption of technological developments is a feature of the chemicals industry that can be seen in every segment and creates both opportunities and risks.

The growing need for process efficiency is driving the adoption of technologies such as IoT (Internet of Things) sensors for both production processes and end product performance. There is also an increasing adoption of blockchain technology to enable supply chain transparency and product traceability around the time-specific delivery of chemicals in end-markets. Such use of technology is evident in the work of organisations such as Kemiex, which leveraged developments in digitalisation and big data to introduce the first online trading platform for Active Pharmaceutical Ingredients (APIs) in 2017.

The expansion of consumer markets has a close symbiotic relationship with product development. This is especially evident in the growth of men's grooming products, growing awareness and demand for personal care products among the aging baby boomers and increased demand for cosmetics and beauty products that cater for every skin tone and hair type across all ethnic groups.

Alongside such market-specific developments is increasing consumer demand for 'green' products that may include organic, biodegradable, recycled and recyclable, non-toxic chemicals that can be created by processes that command a low carbon footprint.



## Conclusions

As the chemicals industry emerges from the uncertainties of pandemic-interrupted supply chains and the associated global recession, it faces a range of challenges and opportunities. Shifts in demand, caused in large part by changes in consumer preferences and increased environmental legislation, is driving technological advances across the industry. Looking ahead the industry remains buoyant, with the greatest potential for growth dominated by China and the Asian-Pacific markets.

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