

Trade and production of chemicals and related products

Statistics Explained

*Data from September 2024
Planned update: September 2025*

Highlights

" In 2023, EU imports of chemicals and related products decreased by 10.4%, while exports fell by 5.4%. "

" The United States, Switzerland, the United Kingdom and China were the four largest partners of the EU for exports and imports of chemicals and related products in 2023. "

" Sold production of chemicals and related products grew from € 537 billion in 2011 to € 785 billion in 2023. "

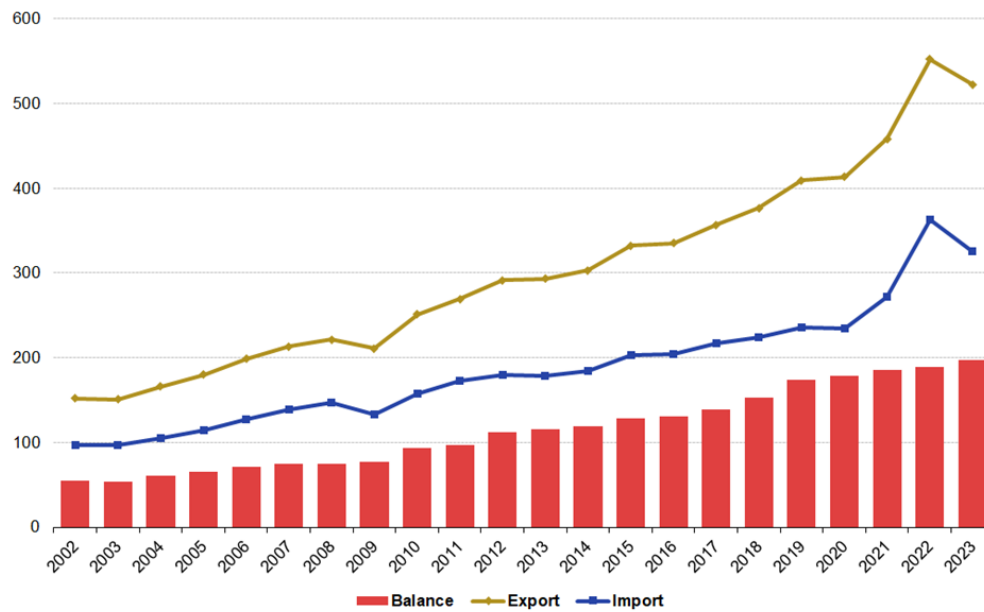
This article presents statistics on the [European Union's \(EU\)](#) sold production and trade in [chemical products](#) . It focuses on the EU [imports](#) and [exports](#) of chemicals and related products with the rest of the world, as well as on how they are related to the total EU sold production of chemicals and related products. This article is part of an [online publication](#) providing recent statistics on international trade in goods, covering information on the EU's main partners, main products traded, specific characteristics of trade as well as background information.

Decreasing trade in chemicals and related products in 2023

In 2023, EU imports of chemicals and related products decreased by 10.4%, while exports fell by 5.4%. Consequently, the trade balance grew by € 8 billion. Over a longer period, between 2002 and 2023, EU imports of chemicals and related products grew from € 97 billion to € 325 billion in 2023, equivalent to an average annual growth of 5.9%. In the same period exports grew from € 152 billion to € 523 billion equivalent to an average annual growth of 6.1%. The EU had a growing trade surplus in chemicals and related products throughout the 2002–2023 period. The surplus grew from € 55 billion in 2002 to € 198 billion in 2023.

EU trade in chemicals and related products, 2002-2023

(€ billion)



Source: Eurostat (online data code: DS-059331)

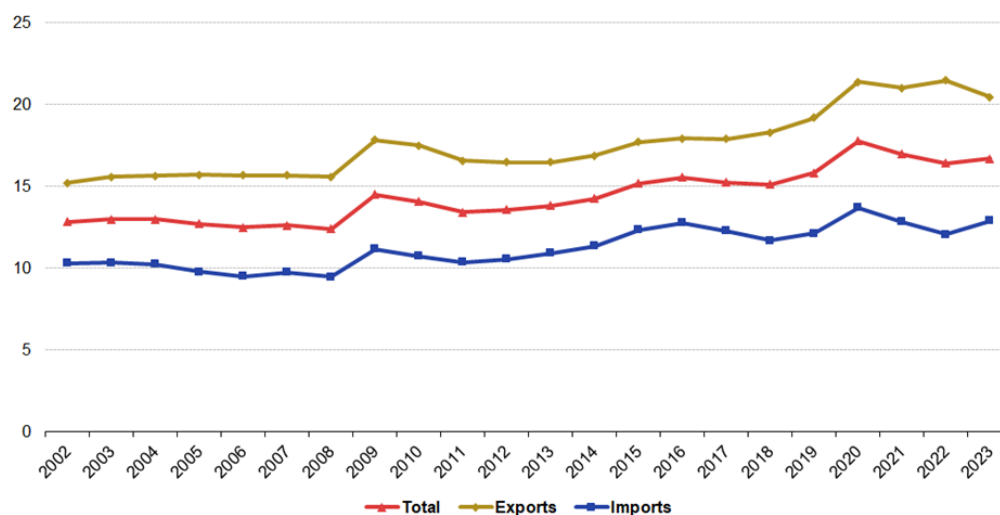
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Figure 1: EU trade in chemicals and related products, 2002-2023 (€ billion) Source: Eurostat (ds-059331)

The share of chemicals and related products in total (imports + exports) extra-EU trade increased from 12.8% in 2002 to 16.7% in 2023, an increase of 3.9 percentage points (pp). The share of imports grew by 2.6 pp while exports grew by 5.2 pp (Figure 2).

Chemicals and related products in extra-EU trade, 2002-2023

(%, share in total trade)



Source: Eurostat (online data code: DS-059331)

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Figure 2: Chemicals and related products in extra-EU trade, 2002-2023 (% share in total trade) Source: Eurostat (ds-059331)

Trade of chemicals by product

In 2023, the largest product group in extra-EU imports of chemicals and related products was 'Medical and pharmaceutical products' followed by 'Organic chemicals' (see Figure 3).

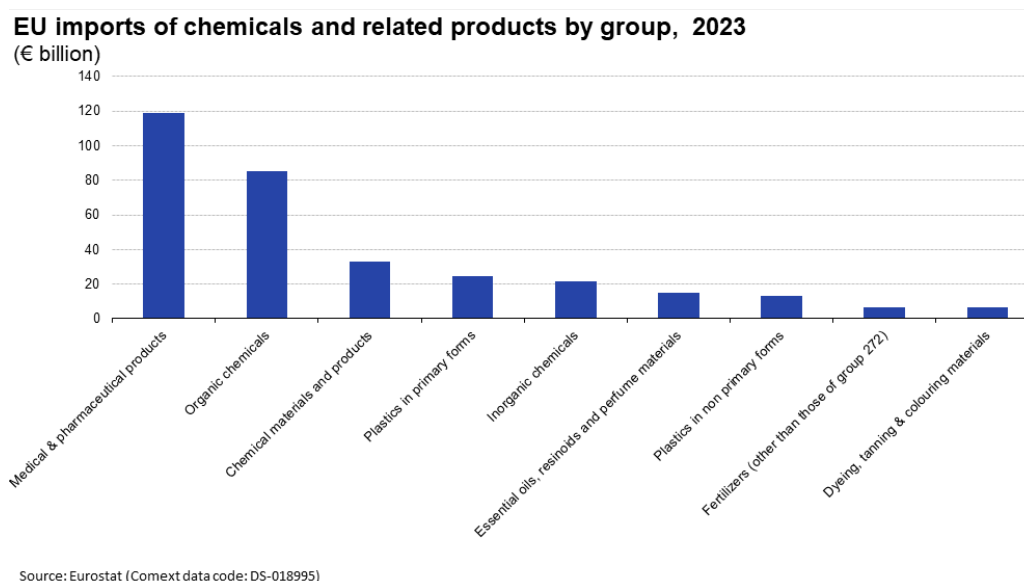


Figure 3: EU imports of chemicals and related products by group, 2023 (%) Source: Eurostat (ds-059331)

In 2023, the largest product group in extra-EU exports of chemicals and related products was 'Medical and pharmaceutical products' (see Figure 4).

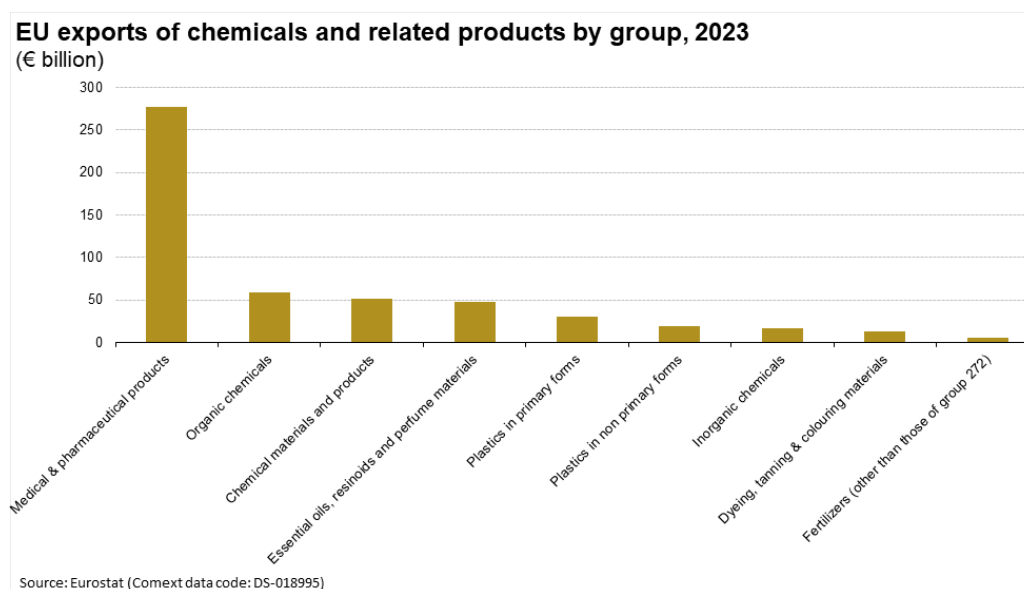


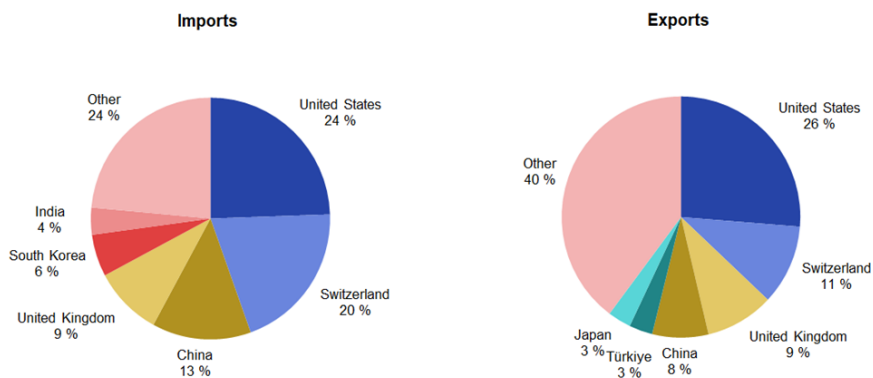
Figure 4: EU exports of chemicals and related products by group, 2023 (%) Source: Eurostat (ds-059331)

Main extra-EU partners for trade in chemicals and related products

In 2023, for imports (see Figure 5), the United States (24%) was the largest partner, followed by Switzerland (20%), China (13%) and the United Kingdom (9%). The United States (26%) was also the largest export destination,

followed by Switzerland (11%), the United Kingdom (9%) and China (8%).

Main EU partners for chemicals and related products, 2023
(%)



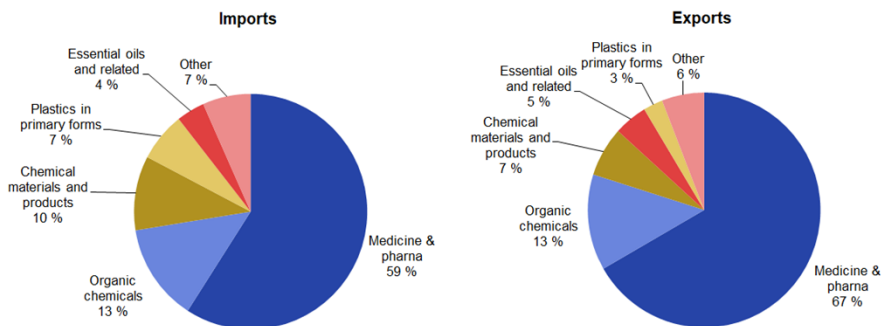
Source: Eurostat (online data code: DS-059331)



Figure 5: Main EU partners for chemicals and related products, 2023 (share by product group) Source: Eurostat (ds-059331)

Figure 6 shows EU trade with the United States by product group in 2023. The largest group in both imports (59%) and exports (67%) was medicine & pharmaceutical products. No other product group had a share above 15%.

EU trade with the United States in chemicals and related products, 2023
(share by product group)



Source: Eurostat (online data code: DS-059331)

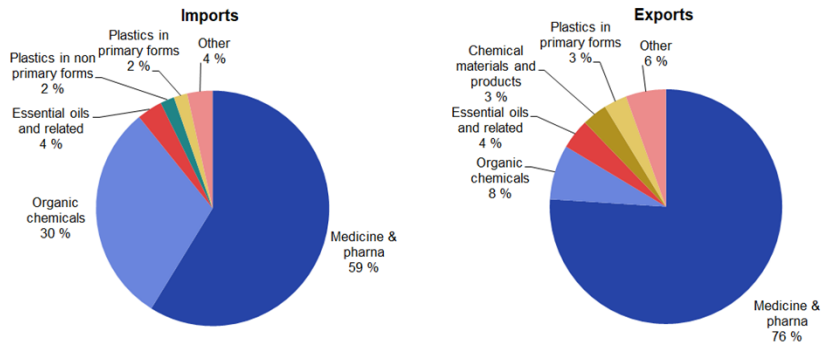


Figure 6: EU trade with the United States in chemicals and related products, 2002-2023 (share by product group) Source: Eurostat (ds-059331)

Figure 7 shows EU trade with Switzerland by product group in 2023. The largest group in both imports (59%) and exports (76%) was medicine & pharmaceutical products. Organic chemicals had a share of 30% in imports but only 8% in exports.

EU trade with Switzerland in chemicals and related products, 2023

(share by product group)



Source: Eurostat (online data code: DS-059331)

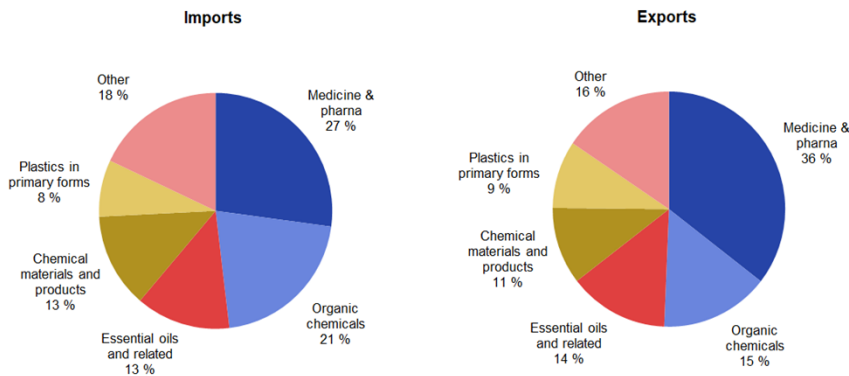


Figure 7: EU trade with Switzerland in chemicals and related products, 2023 (share by product group)
Source: Eurostat (ds-059331)

Figure 8 shows EU trade with the United Kingdom by product group in 2023. The largest group in both imports (27%) and exports (36%) was medicine & pharmaceutical products but with much smaller shares than the United States and Switzerland. Trade was more evenly spread over the different groups; organic chemicals, essential oils and related materials and chemical materials and products all had shares above 10%.

EU trade with the United Kingdom in chemicals and related products, 2023

(share by product group)



Source: Eurostat (online data code: DS-059331)

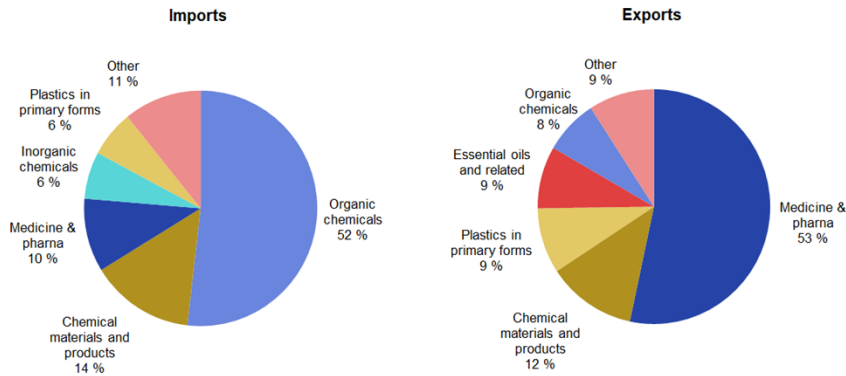


Figure 8: EU trade with the United Kingdom in chemicals and related products, 2023 (share by product group)
Source: Eurostat (ds-059331)

Figure 9 shows EU trade with China by product group in 2023. The largest group in exports was medicine & pharmaceutical products. In imports medicine & pharmaceutical products (10%) was preceded by organic chemicals (52%) and chemical materials and products (12%).

EU trade with China in chemicals and related products, 2023

(share by product group)



Source: Eurostat (online data code: DS-059331)

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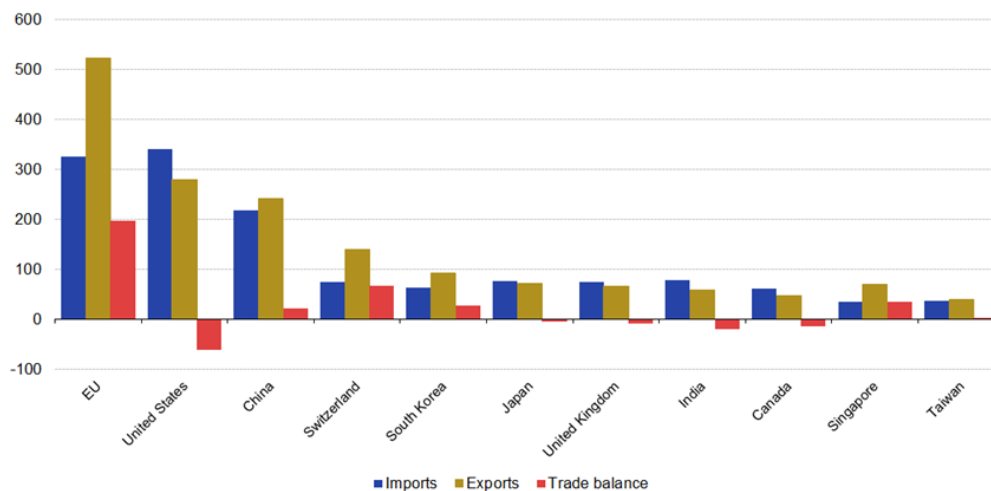
Figure 9: EU trade with China in chemicals and related products, 2023 (share by product group) Source: Eurostat (ds-059331)

EU is the largest exporter of chemical products

Looking at the major international players in trade of chemicals and related products, the EU headed the list in 2023 with a total trade of € 848 billion, which consisted of € 523 billion of exports and € 325 billion of imports, thus recording the highest trade surplus (€ 198 billion) as shown in Figure 10. The United States was the largest importer (€ 340 billion) and second largest exporter (€ 279 billion) and had the largest trade deficit (€ 61 billion). China was both the third largest importer (€ 218 billion) and exporter (€ 240 billion) for both trade flows.

EU and other major players in trade of chemicals and related products, 2023

(€ billion)



Source: UNCTAD

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Figure 10: EU and other major players in trade of chemicals and related products, 2023 (€ billion) Source: Eurostat (ds-059331) and UNCTAD

Sold production of chemicals

The total sold production of chemicals and related products in terms of value increased from € 537 billion to € 785 billion between 2011 and 2023 (see Figure 11) despite falling 10.0% in 2023. Growth was especially strong between 2020 and 2022.

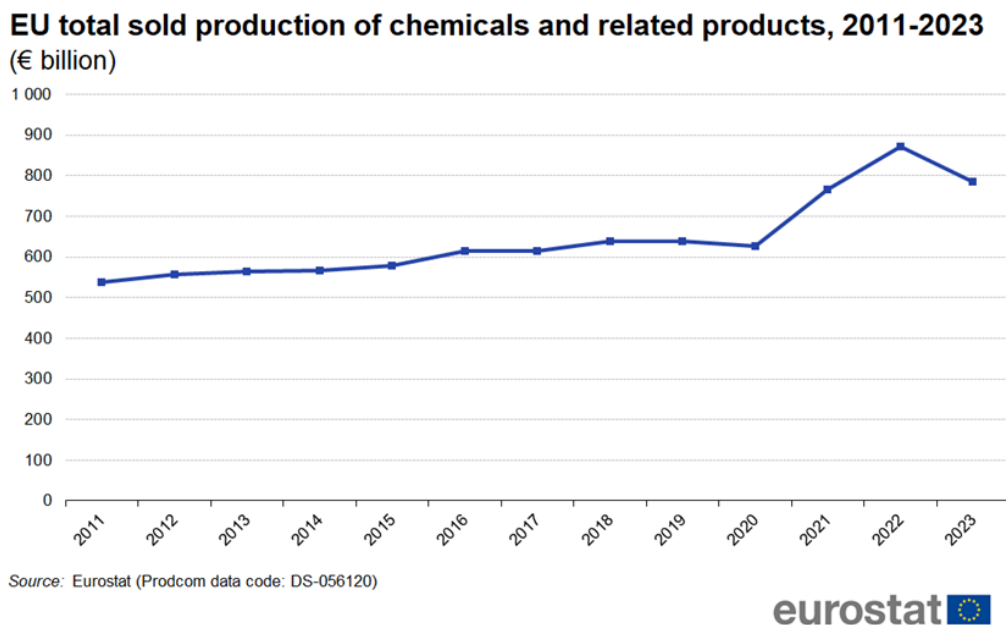
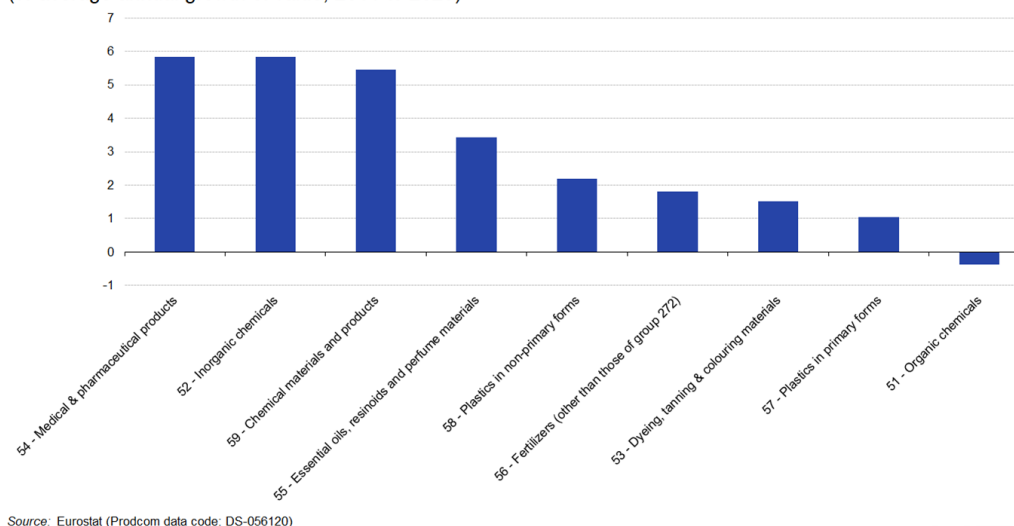


Figure 11: EU total sold production of chemicals and related products, 2011 - 2023 (€ billion) Source: Eurostat (ds-056120)

Figure 12 shows that sold production between 2011 and 2023, grew in all groups of chemicals and related products with the exception of organic chemicals with an average annual growth rate of -0.4%. The largest increases were for medical & pharmaceutical products, inorganic chemicals (both 5.8%) and chemical materials and products (5.5%).

EU sold production of chemicals and related products by group (% average annual growth of value, 2011 to 2023)



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Figure 12: EU sold production of chemicals by group, 2022 and 2023 (% average annual growth of value, 2011 to 2023) Source: Eurostat (ds-056120)

Table 1 shows the level of the sold production for the top 20 of chemicals and related products in the EU. 'Other medicaments of mixed or unmixed products' topped the list of the most sold chemical products in the EU in value terms in 2023 with € 73 billion, followed by 'Antisera, other immunological products which are directly involved in the regulation of immunological processes and other blood fractions' (€ 37 billion) and 'Ready-mixed concrete' (estimated at € 20 billion). No other products had a sold production above € 20 billion.

EU sold production of top 20 chemicals and related products, 2023 (€ million)

Prodcom code	Product description	Value
21201381	Other medicaments of mixed or unmixed products, p.r.s., n.e.c.	73 106
21202126	Antisera, other blood fractions and immunological products, whether or not modified or obtained by means of biotechnological processes	37 417
23631000	Ready-mixed concrete	20 000
21201270	Medicaments containing corticosteroid hormones, their derivatives and structural analogues, put up in measured doses or for retail sale	15 653
20595995	Other chemical products, n.e.c.	15 000
21105200	Hormones, prostaglandins, thromboxanes and leukotrienes, natural or reproduced by synthesis, derivatives and structural analogues thereof, including chain modified polypeptides, used primarily as hormones	14 000
21202149	Vaccines for human medicine (excl. vaccines against SARS-related coronaviruses)	13 649
20595800	Biodiesel and mixtures thereof, not containing or containing < 70 % by weight of petroleum oils or oils obtained from bituminous minerals	12 964
20421500	Beauty, make-up and skin care preparations including suntan (excluding medicaments, lip and eye make-up, manicure and pedicure preparations, powders for cosmetic use and talcum powder)	12 010
20531075	Mixtures of odoriferous substances of a kind used in the food or drink industries	10 000
21103159	Compounds containing a pyrimidine ring (whether or not hydrogenated) or piperazine ring in the structure (excluding malonylurea (barbituric acid) and its derivatives)	10 000
22213010	Other plates, of polymers of ethylene, not reinforced, thickness <= 0,125 mm	9 600
20165130	Polypropylene, in primary forms	8 715
20595211	Diagnostic or laboratory reagents on a backing, prepared diagnostic or laboratory reagents whether or not on a backing, whether or not put up in the form of kits; certified reference materials	8 593
20413250	Washing preparations and cleaning preparations, with or without soap, p.r.s. including auxiliary washing preparations excluding those for use as soap, surface-active preparations	7 276
21201360	Medicaments containing vitamins, provitamins, derivatives and intermixtures thereof, for therapeutic or prophylactic uses, put up in measured doses or for retail sale	7 039
23641000	Factory made mortars	6 840
20301150	Paints and varnishes, based on acrylic or vinyl polymers dispersed or dissolved in an aqueous medium (including enamels and lacquers)	6 500
21201180	Medicaments of other antibiotics, p.r.s.	6 262
20141130	Ethylene	6 122

Source: Eurostat (Prodcom data code: DS-056120)

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Table 1: EU sold production of top 20 of chemicals and related products products, 2023 (€ million) Source: Eurostat (ds-056120)

Data sources

Source data for tables and graphs

- [Graphs and tables](#)

International trade in goods EU data is taken from [Eurostat's COMEXT](#) database. COMEXT is the reference database for international trade in goods. It provides access not only to both recent and historical data from the EU Member States but also to statistics of a significant number of third countries. International trade aggregated and

detailed statistics disseminated via the Eurostat website are compiled from COMEXT data according to a monthly process.

Data are collected by the competent national authorities of the Member States and compiled according to a harmonised methodology established by EU regulations before transmission to Eurostat. For extra-EU trade, the statistical information is mainly provided by the traders on the basis of customs declarations.

EU data are compiled according to Community guidelines and may, therefore, differ from national data published by the Member States. Statistics on extra-EU trade are calculated as the sum of trade of each of the 27 EU Member States with countries outside the EU. In other words, the EU is considered as a single trading entity and trade flows are measured into and out of the area, but not within it.

The United Kingdom is considered as an extra-EU partner country for the EU for the whole period covered by this article. However, the United Kingdom was still part of the internal market until the end of the transitory period (31 December 2020), meaning that data on trade with the United Kingdom are still based on statistical concepts applicable to trade between the EU Member States. Consequently, while imports from any other extra-EU trade partner are grouped by country of origin, the United Kingdom data reflect the country of consignment. In practice this means that the goods imported by the EU from the United Kingdom were physically transported from the United Kingdom but part of these goods could have been of other origin than the United Kingdom. For this reason, data on trade with the United Kingdom are not fully comparable with data on trade with other extra-EU trade partners.

Production of chemicals Industrial production data comes from [PRODCOM](#). Prodcum provides statistics on the production of manufactured goods. Prodcum data includes:

- the physical volume of production sold during the survey period;
- the value of production sold during the survey period; and
- for some products, the volume of total production during the survey period.

Prodcum data is obtained by the National Statistical Institutes (NSIs) who conduct a survey of enterprises. Eurostat calculates EU totals at EU level from the national data.

International trade in chemicals Trade in goods data comes from [Eurostat's COMEXT](#) database. COMEXT is the Eurostat reference database for international trade in goods. It provides access not only to both recent and historical data from the [EU Member States](#), but also to statistics of a significant number of non-EU countries. Because COMEXT is updated on a daily basis, data published on the website may differ from data stored in COMEXT in case of recent revisions.

Chemical products are classified according to the [Standard International Trade Classification \(SITC\)](#) of the United Nations. Section 5 'Chemicals and related products, N.E.S.' of SITC Rev. 4 is made up of the following divisions:

- 51 Organic chemicals;
- 52 Inorganic chemicals;
- 53 Dyeing, tanning and colouring materials;
- 54 Medicinal and pharmaceutical products;
- 55 Essential oils and resinoids and perfume materials;
- 56 Fertilizers (other than those of group 272);
- 57 Plastics in primary forms;
- 58 Plastics in non-primary forms; and
- 59 Chemical materials and products, N.E.S.

Context

Through the seventh [Environment Action Programme to 2020 \(7th EAP\)](#) the EU sets policies on chemicals management, of which [REACH](#) (the Registration, Evaluation, Authorisation and Restriction of Chemicals) is the central element. The main aim of REACH is to ensure a high level of protection of human health and the environment from the risks that can be posed by chemicals. This includes promoting alternative methods to assess the hazards of substances, the free circulation of substances on the internal market, and the enhancement of competitiveness and innovation in the EU chemical industry.

By providing knowledge about hazardous properties of chemicals and appropriate safety information, REACH is expected to enhance the communication and implementation of conditions of safe use in supply chains and the substitution of dangerous substances by less dangerous ones. In addition, through different types of measures on highly dangerous substances, EU policies aim to reduce the risks to human health and to ecosystems at EU level.

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