Market evolution: Synthetic organic dyes (CN 3204) — 2015–2025

Introduction

Synthetic organic colouring matter (CN 3204) is a core input for textiles, plastics, coatings and specialty chemicals. This report examines the European Union's external trade performance for this broad product group between 2015 and 2025. It uses annual data from the EU's trade with non-EU countries, covering value, volume, unit prices, partner-country dynamics, intra-EU specialisation, production trends and observed shocks. The analysis reveals a market where falling physical volumes are masked by a sharp appreciation of unit values, a reconfiguration of sourcing and export destinations, and a marked contraction of domestic production that increases Europe's reliance on international trade.

1. The great compression: export values hold while quantities collapse

Export values show only a mild decline, whereas shipped tonnage drops by more than a third

Over the whole period, the value of EU exports of CN 3204 fell from **1,322.8 million EUR** to **1,201.9 million EUR** (– 9.1 %), yet the exported quantity contracted from **169.2 thousand tonnes** to **104.6 thousand tonnes** (– 38.2 %). This divergence pushed the average export unit price from **7,816 EUR/t** to **11,482 EUR/t** (+ 46.9 %). The same pattern, though less extreme, is visible on the import side: import value decreased from **1,458.7 million EUR** to **1,300.1 million EUR** (– 10.9 %), while volume contracted from **199.0 thousand tonnes** to **167.9 thousand tonnes** (– 15.6 %), lifting the average import price only moderately (+ 5.6 %). The result is a progressively smaller physical trade footprint but a richer product mix, especially in EU outbound shipments.

Indicator	2015	2025	Change
Exports (million EUR)	1,322.8	1,201.9	– 9.1 %
Export volume (thousand t)	169.2	104.6	– 38.2 %
Export price (EUR/t)	7,816	11,482	+ 46.9 %
Imports (million EUR)	1,458.7	1,300.1	– 10.9 %
Import volume (thousand t)	199.0	167.9	– 15.6 %
Import price (EUR/t)	7,331	7,744	+ 5.6 %
Trade balance (million EUR)	– 135.9	– 98.2	+ 27.7 %

Source: EU trade overview

The trade deficit narrows as import volumes retreat more slowly than exports

Because the volume decline was more pronounced for exports than for imports, the EU's trade deficit improved from **– 135.9 million EUR** to **– 98.2 million EUR** (– 27.7 %). The deficit peaked at – 247.2 million EUR in 2022, a year of severe price disturbances, but by 2025 it had returned to a relatively modest level. Nonetheless, net import reliance remained low, hovering between 5 % and 6 % of apparent consumption over the period, indicating that EU producers still meet the vast majority of domestic demand.

2. Geopolitical fractures and the rise of a China-India duopoly

India surpasses China as the EU's leading foreign supplier

The import partner landscape underwent a profound transformation. In 2015, China was the dominant supplier (**457.6 million EUR**), well ahead of India (**354.8 million EUR**). By 2025, India had risen to **405.9 million EUR** (+ 14.4 %), while Chinese imports fell to **310.2 million EUR** (– 32.2 %). This reversal creates a duopoly where India and China together account for more than half of extra-EU imports. Meanwhile, the United Kingdom's role collapsed from **127.0 million EUR** to **70.0 million EUR** (– 44.9 %), partly due to the post-Brexit reclassification of intra-EU trade. The United States, by contrast, increased its presence to **187.9 million EUR** (+ 8.1 %), while Switzerland remained broadly stable (**139.0 million EUR**).

Import partner	2015 (million EUR)	2025 (million EUR)	Change
India	354.8	405.9	+ 14.4 %
China	457.6	310.2	– 32.2 %
United Kingdom	127.0	70.0	– 44.9 %
United States	173.8	187.9	+ 8.1 %
Switzerland	138.6	139.0	+ 0.3 %

Source: Top partners by value

EU exports pivot towards China while traditional textile markets retreat sharply

On the export side, the fastest-growing destination was **China**, where sales jumped from **76.9 million EUR** to **111.7 million EUR** (+ 45.2 %), reflecting strong Chinese demand for high-value intermediates. The United Kingdom, historically the largest customer, saw a decline of – 29.2 % (from 143.5 million EUR to 101.6 million EUR), and the United States lost – 11.6 %. Two traditional textile-producing markets suffered dramatic drops: **Pakistan** (– 76.2 %, from 25.6 million EUR to 6.1 million EUR) and **Egypt** (– 40.3 %). Exports to **Russia** plummeted by – 57.7 % (from 61.2 million EUR to 25.9 million EUR) following the sanctions imposed after 2022. Together, these shifts show a reorientation of EU dye exports away from nearby and developing textile hubs and towards China, which has become the world's most important manufacturing platform for down-stream colourant applications.

The volatility bars underline the fragility of several of these relationships: the quantity coefficient of variation for exports to Pakistan reached **0.57**, to Russia **0.39**, and to the United Kingdom **0.26**, while imports from the United Kingdom displayed an even higher variability (**0.37**).

Source: Top partners by value and Volatility bars

3. Industrial hollowing-out: collapsing EU output and the surge in trade dependence

EU production of synthetic organic dyes contracts by two-fifths

Between 2015 and 2024 (the last year with full production data), EU-manufactured volume of CN 3204 fell from **457.3 million kg** to **390.5 million kg** (– 14.6 % in this window; the broader 2006-2024 trend shows a drop from a peak of 652.5 million kg to 390.5 million kg, a cumulative – 40.1 %). The value of production shrank from **2.31 billion EUR** to **2.26 billion EUR** (– 23.7 % from the 2006 peak), indicating that even with higher unit prices the sector has lost substantial ground.

Year	Production volume (kg)	Production value (EUR)
2015	457,344,087	2,310,623,124
2024	390,526,823	2,258,924,418

Source: Production volumes and values

Trade intensity and export propensity surge as the domestic base erodes

The contraction of domestic manufacturing has been accompanied by a deep integration into global value chains. **Trade intensity** (the sum of extra-EU imports and exports divided by production value) climbed from **58.4 %** in 2015 to **72.2 %** in 2024. **Export propensity** (extra-EU exports as a share of production) rose from **39.4 %** to **55.2 %** over the same period. These metrics show that EU producers increasingly serve foreign clients while also relying on imported intermediates, making the sector structurally more exposed to external disruptions.

Source: Trade intensity and Export propensity

Vat dyes and other low-volume segments undergo an explosive price repricing

The product-level breakdown reveals a striking repricing phenomenon. EU **exports of synthetic organic vat dyes (320415)** collapsed in volume from **17.3 thousand tonnes** in 2015 to barely **0.4 thousand tonnes** in 2025, while the unit price soared from **3,680 EUR/t** to **24,021 EUR/t**. This suggests the EU has virtually abandoned high-volume vat-dye exports, retaining only ultra-specialty, high-value niche products. A similar, albeit milder, trend is observed for pigments (320417), where export volumes fell from 50.9 thousand tonnes to 36.5 thousand tonnes and prices rose from 11,622 EUR/t to 14,658 EUR/t, and for fluorescent brightening agents (320420), where volumes halved while prices escalated. Together, these micro-level changes confirm the broader story of a deliberate move up the value chain, possibly driven by stricter environmental regulation in Europe and competitive pressure from Asian producers in standard grades.

Product segment (export)	Volume 2015 (t)	Volume 2025 (t)	Price 2015 (EUR/t)	Price 2025 (EUR/t)
Pigments (320417)	50,862	36,526	11,622	14,658
Vat dyes (320415)	17,316	393	3,680	24,021
Fluorescent brighteners (320420)	17,485	7,304	2,655	4,313

Source: Product segment breakdown

Price shocks further punctuated this evolution. In 2022, the import price of Chinese dyes spiked by **20.3 %** (abnormality score 12.8) and the export price to Morocco jumped **23.7 %** (abnormality 14.7), while export prices to Egypt rose **32.5 %**. These episodes, detected by the volatility-screening algorithm, reflect the combination of post-pandemic supply disruptions and the rapid pass-through of higher energy and raw-material costs that hit the chemical sector especially hard.

Conclusion

The EU market for synthetic organic dyes has undergone a profound structural change over the past decade. While headline trade values have proved resilient, the underlying physical flows have shrunk considerably, driven by a strategic shift towards high-value, specialty products and by the offshoring of standard dye manufacturing. The reshaping of sourcing patterns—India overtaking China, the collapse of British and Russian trade, and the EU's growing export reliance on China—reflects both geopolitical forces and the reorganisation of global textile supply chains. Meanwhile, EU domestic production capacity has contracted sharply, pushing trade intensity and export propensity to new highs and leaving the sector more exposed to international price shocks and supply disruptions. Going forward, the competitiveness of the European dye industry will hinge on its ability to maintain technological leadership in high-end segments while managing the vulnerabilities that arise from its deep integration into global markets.
