Market evolution: Chemical preparations (CN 3824) — 2015–2025

Introduction

Heading 3824 encompasses a wide array of chemical products, from foundry binders to advanced industrial preparations and natural-product mixtures. Its trade is a bellwether for European industrial activity, construction, and specialty chemicals. This report analyses EU external trade in CN 3824 between 2015 and 2025, drawing on official dashboard data to identify the main dynamics. Over the period the EU remained a strong net exporter, but imports surged, partner flows were reshaped by geopolitical events, and sharp price movements emerged both in foreign trade and domestic production. The analysis is structured around three core findings: the divergence between export and import growth, the deep footprint of shocks and volatility, and the paradox of soaring production value amid declining physical output.

1. Diverging trajectories: Export value growth versus import volume explosion

EU export revenues expanded thanks to steep price increases, while physical volumes barely changed

Extra-EU exports of CN 3824 rose from **€5.89 billion** in 2015 to **€8.12 billion** in 2025, a gain of **37.8 %** (see Trade overview). However, the exported quantity actually shrank by **3.7 %** (from 3.31 million tonnes to 3.18 million tonnes). Consequently, the average export unit price jumped from **€1 782/t** to **€2 550/t** (**+43.1 %**). This decoupling indicates that nominal export growth was driven almost entirely by higher prices—likely a combination of input-cost inflation, a shift towards higher-value speciality products, and market power of EU producers.

Imports accelerated sharply, more than doubling in volume and value

On the import side, the picture is one of explosive growth. The EU's external purchases went from **€1.84 billion** to **€4.31 billion** (**+134.3 %**), while the imported quantity soared from **738 000 t** to **1.62 million t** (**+120.0 %**). Imports thus grew far faster than exports in both value and volume, and unlike exports, the import unit price rose only modestly

(**+6.5 %**, from €2 494/t to €2 657/t). This suggests that the EU sourced large additional volumes from suppliers that offered competitive, not soaring, prices.

A solid surplus persists, but net-import reliance deepened and trade intensity quintupled

Despite the import surge, the trade balance remained heavily positive, though it softened from **€4.05 billion** to **€3.81 billion** (**-6.0 %**). The net-import reliance indicator (the ratio of the trade balance to apparent consumption) moved from **-2.79 %** to **-7.02 %** by 2024 (see Net import reliance), signalling that the EU became even more of a net exporter relative to its own production. At the same time, trade intensity (the sum of exports and imports over production) rocketed from **4.35 %** to **25.34 %** (see Trade intensity), and export propensity climbed from **3.55 %** to **17.31 %**. This shows that the sector became far more integrated into global value chains, relying on both foreign inputs and foreign customers.

2. Political ruptures and price shocks: The new geography of risk

Sanctions erased Russia as an export market almost overnight

The most dramatic partner-level event was the collapse of EU exports to Russia. In 2015, Russia absorbed **€389 million** (see Top partners). Following the imposition of sanctions, the exported quantity tumbled from an average of **197 000 t (2015-2022)** to just **4 316 t (2023-2025)**, while the unit price soared from roughly **€2 000/t** to nearly **€7 000/t** (see Supply shocks). By 2025 exports were worth only **€6.1 million** (**-98.4 %**), essentially wiping out a market that once accounted for over 5 % of EU CN 3824 exports.

South Korea’s 2022 price spike highlighted concentration risks

EU exports to South Korea experienced an extreme price shock in 2022. The price jumped **99.2 %** relative to the 2020-2021 baseline, while the quantity barely changed, yielding an abnormality score of **23.3**—the highest in the dataset (see Shock events). This event, likely tied to specific high-value product flows, signals that the EU’s export basket contains highly price-sensitive niche goods where sudden spikes can occur.

Imports from Türkiye and other partners also saw sharp price movements

Import flows were not immune to turbulence. A **65.6 %** price shock hit Türkiye in 2018, with the unit price leaping from a baseline of **€621/t** to **€1 028/t** in that year. Volume also expanded rapidly, and the high coefficient of variation (CV = **0.880** for quantity, see Volatility bars) confirms that Türkiye is an inherently volatile supplier. Similarly, imports from Viet Nam (CV = **0.721**) and India (CV = **0.341**) displayed high variability. On the export side, shocks hit Algeria (price shift **+299 %** in 2022) and Morocco (**+17.3 %** in 2022), illustrating that even smaller destination markets can experience sharp price adjustments, likely linked to construction- or infrastructure-related demand swings.

3. Concentration, specialisation, and the production value paradox

Ireland and Germany dominate EU export specialisation

In 2025, Ireland exhibited an extraordinarily high revealed symmetric comparative advantage (RSCA = **0.7467**, RCA = **6.89**), far ahead of Germany (RSCA = **0.1478**) and Belgium (RSCA = **0.1277**) (see Specialisation). This reflects Ireland's role as a hub for high-value specialty chemical and pharmaceutical preparations, which fall under CN 3824. Together with Germany, these three countries account for a large share of extra-EU exports, while many Central and Eastern European member states are net importers of the product.

Import concentration spiked temporarily and then receded

The Herfindahl-Hirschman index (HHI) for imports rose from **1 712** in 2015 to a peak of **2 878** in 2023 before falling back to **1 470** in 2025 (see Concentration HHI). The 2023 spike reflects the huge increase in imports from South Korea (up **2 214.8 %** over the period) and the parallel decline of other suppliers like Norway (-32.4 %). By 2025, moderate diversification had resumed, but the Korean share remains substantial. Export concentration, by contrast, stayed low and stable (HHI around **600-660**), confirming a well-diversified customer base.

Production value soared despite falling volumes, revealing steep price inflation

EU domestic production of CN 3824 tells a striking story. Physical output (measured in tonnes) fell from a peak of around **951 million t** in 2006 to **613 million t** in 2024, a drop of **15.4 %** (see Production quantity). Yet the value of that production jumped from **€25.6 billion** to **€47.0 billion** (**+83.8 %**). The implied unit value more than doubled, from **€0.035/t** to **€0.077/t**. This "volume down, value up" dynamic mirrors the trade pattern: higher prices for more sophisticated products and general cost inflation. The dominant sub-heading **382499** ("other chemical products and preparations") represents the bulk of both exports (€7.32 billion, **90 %** of total) and imports (€4.06 billion, **94 %**), underscoring that the category is dominated by high-value, specialised mixtures whose prices have been on a strong upward trend (see Product comparison).

Conclusion

EU trade in CN 3824 between 2015 and 2025 illustrates a sector in transformation. Exports grew robustly in value, but solely through higher prices, while import volumes more than doubled as the EU tapped into Asian and Turkish production. The trade surplus remained solid, yet the sharp rise in trade intensity reveals a more intertwined global position. Geopolitical events reshaped the partner landscape: sanctions collapsed the Russian market, while Korea surged as a critical—though volatile—supplier. Abrupt price shocks, from Türkiye to Algeria, underline ongoing supply-chain risks. Domestically, EU production value soared even as volume declined, confirming that the industry has shifted toward higher-value, high-priced chemical preparations. Looking ahead, monitoring import concentration, input price developments, and the resilience of key export destinations will be essential to navigate a market in which price dynamics and political forces have come to the fore.

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