

Market evolution: Nitrogen heterocycles (CN 2933) — 2015–2025

Introduction

Nitrogen heterocycles (CN 2933) are a cornerstone of the pharmaceutical, agrochemical and specialty-chemical industries. This report examines the evolution of extra-EU trade in these compounds between 2015 and 2025. Over the period, the European Union moved from a strong surplus to a large deficit, saw its supplier base dramatically reshaped by China and India, and experienced a sustained price explosion that fundamentally altered the structure of trade and domestic production.

Shifting from a Trade Surplus to Deep Deficit

Extra-EU export revenues shrank by 28.6 % while import values more than tripled, flipping the trade balance from a surplus of €4.1 billion to a deficit of €25.7 billion.

The value of exports fell from €15.3 billion to €11.0 billion, whereas imports soared from €11.2 billion to €36.7 billion (EU trade in nitrogen heterocycles (CN 2933)). The trade balance deteriorated by 721.6 %, marking the EU's transformation into a major net importer.

Indicator	2015	2025	Change (%)
Extra-EU exports (€ mn)	15,338.3	10,954.0	–28.6
Extra-EU imports (€ mn)	11,197.7	36,690.9	+227.7
Trade balance (€ mn)	+4,140.7	–25,736.9	–721.6

Physical export tonnage collapsed by 68 %, far outpacing the 44 % increase in import volumes.

Export quantities dropped from 566 thousand tonnes to 180 thousand tonnes, while import volumes rose from 330 thousand tonnes to 476 thousand tonnes (EU trade in nitrogen heterocycles (CN 2933)). The EU thus became a net importer in tonnage terms as well as in value.

The EU’s net import reliance swung from –38.5 % in 2015 to +63.7 % in 2024, transforming a structural surplus into a heavy deficit.

The indicator, which reflects the share of domestic demand satisfied by net imports, moved from deeply negative (net exporter) to strongly positive (Net import reliance). This means that by 2024 nearly two-thirds of the EU’s apparent consumption of nitrogen heterocycles depended on extra-EU supplies.

A Supplier Landscape Dominated by China and India

Chinese imports expanded twelve-fold, peaking at €25.5 billion in 2022 and remaining at €15.7 billion in 2025.

China’s extra-EU shipments grew from €1.2 billion to €15.7 billion (+1 201.9 %), making it the dominant supplier (Top extra-EU partners). The peak of €25.5 billion in 2022 coincided with an extraordinary price shock (see below).

India surged into second place, while the United States, Japan and the United Kingdom saw their market shares contract sharply.

India’s imports rose from €0.8 billion to €7.1 billion (+823.7 %). Conversely, the US fell by 50.5 % (to €0.9 billion), Japan by 56.9 % (to €0.2 billion) and the UK by 62.2 % (to €0.2 billion). The picture of EU imports thus became heavily Asia-centric.

Partner	2015 (€ mn)	2025 (€ mn)	Change (%)
China	1,207.2	15,717.4	+1 201.9
India	773.9	7,148.0	+823.7
United States	1,819.7	900.0	–50.5
Japan	562.7	242.3	–56.9
United Kingdom	540.8	204.5	–62.2

The supplier base became more concentrated, with the import Herfindahl-Hirschman Index rising from 2 431 to 3 115.

The HHI, a measure of market concentration, increased by 28.1 % over the period (Concentration – HHI). This reflects the growing dominance of China and, to a lesser extent, India, replacing a more diversified set of traditional suppliers.

The Price Surge and Its Consequences for Trade and Production

Average import unit values more than doubled, driven by a 480 % price shock on Chinese shipments in 2022.

Import prices rose from €33.9 per kg to €77.1 per kg (+127.1 %). The sharpest movement occurred in 2022, when the Chinese import price leapt from €23.6 per kg to €88.3 per kg (Price shock events). Prices remained elevated afterwards, though below the 2022 spike.

Export unit prices also rose strongly, but the 68 % volume collapse caused total export value to decline.

Export prices climbed from €27.1 per kg to €60.7 per kg (+124.2 %), yet export volumes shrank so much that overall export revenue fell. On the import side, the price rise was so powerful that import value soared even as volumes grew only moderately.

EU production volumes almost halved, yet the value of domestic output increased by 58 %, reflecting a shift towards higher-value compounds.

Between 2012 and 2024, EU production quantity fell from 1 424 million kg to 736 million kg (–48.3 %), while production value rose from €8.0 billion to €12.5 billion (+57.6 %) (EU production volumes). This suggests a restructuring of EU manufacture away from basic chemicals towards high-priced, patent-protected molecules, aligning with the higher unit values observed in trade.

Conclusion

Between 2015 and 2025, the EU's position in nitrogen heterocycles switched from a comfortable net exporter to a deeply import-dependent market. China and India have captured the lion's share of extra-EU supplies, while traditional partners lost ground and concentration increased markedly. A one-off price shock in 2022 lifted the value of trade even as physical volumes shifted. The data reveal a strategic vulnerability: the EU now imports nearly two-thirds of its consumption, largely from two countries, and its own production is moving towards higher-value, lower-volume segments. This combination of import reliance, supplier concentration and price volatility defines the new reality for this critical chemical grouping.

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