Market evolution: Modified starches and glues (CN 35) — 2015–2025

Introduction

The product group “Albuminoidal substances; modified starches; glues; enzymes” (CN 35) spans a diverse set of high-value inputs for the food, pharmaceutical, and industrial sectors. Over the decade from 2015 to 2025, the European Union’s extra-EU trade in this group recorded a strongly expanding surplus. Total exports rose by **61.7 %** to €8.49 billion, while imports grew by **51.3 %** to €2.91 billion, pushing the trade balance up **67.7 %** from €3.32 billion to €5.57 billion. The headline value growth, however, masks a pronounced divergence between volumes and prices, a pronounced reorientation of partner countries, and a highly specialised internal production structure. This report analyses the main dynamics behind these trends using data from the EU Trade Dashboard.

1. Surging unit values, not volumes, drove trade expansion

Export growth was overwhelmingly price-led, while quantities barely increased

EU exports of CN 35 goods grew from €5.25 billion in 2015 to €8.49 billion in 2025, yet the exported **volume** rose only **5.4 %** (from 1.54 million t to 1.62 million t). The average export price consequently jumped **53.4 %** (€3 405/t to €5 223/t). This pattern confirms that higher unit values, rather than expanding physical trade, are the main driver of export growth.

Indicator	2015	2025	Change
Export value (€)	5 248 814 800	8 485 760 793	+61.7 %
Export quantity (t)	1 541 529	1 624 762	+5.4 %
Export price (€/t)	3 405	5 223	+53.4 %
Import value (€)	1 924 325 350	2 912 219 286	+51.3 %
Import quantity (t)	428 065	523 199	+22.2 %
Import price (€/t)	4 495	5 565	+23.8 %
Trade balance (€)	3 324 489 450	5 573 541 508	+67.7 %

Source: General Overview

Import values rose more in volume terms, but unit prices still climbed

On the import side, volume growth was more substantial (+22.2 %), yet prices still increased by **23.8 %**. The import unit value rose from €4 495/t to €5 565/t, showing that EU buyers also faced higher global prices, albeit less steeply than in exports.

A broad 2022 price spike left a permanent mark on trade levels

The most intense price adjustments were concentrated in 2022. Shocks were detected in export prices to Algeria (+55.7 %), Australia (+28.2 %), and Indonesia (+69.6 %), all centred on 2022. These events, captured in the shock detection tool, indicate a global inflationary impulse that lifted the price envelope for the entire product group and did not fully reverse thereafter.

2. Partner realignment amid geopolitical turbulence and supply volatility

Russia's export collapse is the starkest geopolitical signal

Exports to the Russian Federation fell **49.2 %** between 2015 and 2025, from €364.8 million to €185.4 million, with the decline accelerating after 2022 (2021 peak €526 million). This is the most conspicuous geopolitical re-routing in the dataset.

China solidifies its role as a major trade partner on both sides

EU exports to China surged **145.7 %** to €941 million, and imports from China climbed **131.4 %** to €429 million, making China a top-tier partner on both flows. The steep rise in imports reflects growing sourcing of intermediates such as prepared glues and modified starches.

Türkiye emerges as a rapidly growing import source

Imports from Türkiye rocketed **616.8 %** from €17.3 million to €124.0 million, while exports to Türkiye grew a solid **51.8 %** to €393 million. Türkiye's volatility coefficient (0.589) is the highest among major import partners, underlining the unstable trajectory of this new supply link (*see volatility dashboard*).

US and UK provide stable demand anchors

The United States and the United Kingdom remained the EU's largest export destinations. Exports to the US rose **45.2 %** to €1 264 million and to the UK **46.4 %** to €901 million. Both exhibit low volatility in export quantities (coefficients of variation 0.126 and 0.045, respectively), providing a reliable baseline for EU sales.

Volatility highlights: Turkey, Russia, and Thailand underscore risks

Imports from Thailand (CV 0.290), New Zealand (CV 0.244), and Ukraine (CV 0.437) show considerable year-to-year swings. On the export side, Russia (CV 0.431), Mexico (CV 0.211), and India (CV 0.194) display the highest variability, pointing to markets where operational or political factors create unstable trade flows.

Partner	Export change (2015→2025)	Import change (2015→2025)	Export vol. CV	Import vol. CV
United Kingdom	+46.4 %	+35.6 %	0.045	0.212
United States	+45.2 %	+42.0 %	0.126	0.091
China	+145.7 %	+131.4 %	0.123	0.238
Russia	−49.2 %	—	0.431	—
Türkiye	+51.8 %	+616.8 %	0.126	0.589
Switzerland	—	+11.4 %	0.087	0.077
Thailand	—	−14.7 %	—	0.290

Source: Partners overview and volatility data

3. High-value enzymes and adhesives anchor the EU’s comparative advantage

Enzymes (3507) represent the EU’s highest-value export segment

Enzymes and prepared enzymes dominate extra-EU exports by value. In 2025, exports reached €2 238 million at an average price of €14 607/t, up from €11 150/t in 2015. The volume remained relatively stable (136 k t to 153 k t), so essentially all the value gain came from rising unit prices. This segment alone accounted for over a quarter of total CN 35 exports.

Prepared adhesives (3506) dominate imports but are also a large export strength

Prepared glues and adhesives (3506) are the largest import category, rising from €626 million to €859 million. At the same time, EU exports of the same products jumped from €1 305 million to €2 062 million, indicating a strong intra-industry trade and a competitive edge despite high import volumes.

Casein and albumin prices spiked in 2022, reshaping trade values

Casein (3501) and albumins (3502) exhibited extreme price spikes in 2022. The average export price of casein hit €11 461/t (up from €6 356/t in 2015) before settling at €7 102/t in 2025. Albumins jumped to €10 471/t in 2022 and remained elevated at €10 111/t in 2025. These price movements heavily influenced the overall value growth, while underlying quantities moved much less (casein exports: 87 k t → 92 k t; albumin exports: 52 k t → 85 k t). The product-level detail is available in the segment comparison.

Intra-EU specialisation concentrates in Denmark, Ireland, and Finland

At the member-state level, export specialisation in CN 35 is heavily skewed. Denmark exhibits the highest revealed symmetric comparative advantage (RSCA 0.69, RCA 5.37), followed by Lithuania (RSCA 0.44), Finland (0.42), Ireland (0.23), and the Netherlands (0.21). These countries host major enzyme and protein-ingredient industries. Conversely, several Central and Eastern European countries show deeply negative specialisation scores (Slovakia −0.88, Romania −0.82, Croatia −0.75), reflecting their focus on other sectors.

Member State	RCA	RSCA
Denmark	5.37	0.69
Lithuania	2.55	0.44
Finland	2.46	0.42
Ireland	1.59	0.23
Netherlands	1.52	0.21
Germany	1.08	0.04
...	...	...
Slovakia	0.07	−0.88
Romania	0.10	−0.82
Croatia	0.14	−0.75

Source: Specialisation map

The concentration of extra-EU imports among EU members is moderate and slightly decreasing (HHI from 1 566 to 1 431 for value, −8.6 %), while export concentration also edged down (HHI from 701 to 664, −5.3 %), indicating a gradual diversification of sourcing and selling across the Union.

Conclusion

The EU's trade in albuminoidal substances, modified starches, glues, and enzymes has expanded solidly between 2015 and 2025, with the surplus widening to €5.6 billion. The expansion, however, is overwhelmingly a story of rising prices rather than real volume growth. A worldwide price shock in 2022 boosted the value of high-tech segments such as enzymes, albumins, and casein, and although prices have partially moderated, they remain well above pre-2022 levels. The partner landscape has undergone significant restructuring: Russia has collapsed as an export market, China and Türkiye have risen quickly in importance, while the US and UK provide stable demand. Production is highly concentrated in a handful of member states with strong biotech and food-ingredient clusters, giving the EU a durable competitive advantage that nevertheless remains sensitive to price volatility and geopolitical shifts.

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