

India

**Underweight** (no change)

**Highlighted Companies**

**Jubilant Ingrevia Ltd**

**REDUCE, TP Rs364, Rs733 close**

Jubilant Ingrevia faces several headwinds such as the overall demand for its products falling, product spreads at mean levels, a likely rise in raw material prices, and a risky new product portfolio. We retain our REDUCE rating on the stock.

**Summary Valuation Metrics**

P/E (x)	Mar25-F	Mar26-F
Jubilant Ingrevia Ltd	50.35	40.52
P/BV (x)	Mar25-F	Mar26-F
Jubilant Ingrevia Ltd	3.18	2.75
Dividend Yield	Mar25-F	Mar26-F
Jubilant Ingrevia Ltd	0.21%	0.21%

# Chemicals - Overall

## Pyridines - Again a case of overexpectations

- The demand-supply gap in pyridine due to the closure of Vertellus is over as the US appears to be well-supplied - indicated by rising imports (up 35% YoY).
- Global agrochemical sales are improving, but pyridine prices and margins are under pressure due to oversupply and intense competition.
- Incremental pyridine capex appears futile & at this point in the cycle, it's better to buy pure-play generic agrochemical makers instead of intermediate makers.

### Pyridine capex is coming in too late for Indian companies

Pyridines are used in agrochemicals (herbicides, insecticides), pharmaceuticals (e.g., antihistamines, anticancer drugs), solvents, rubber processing, and laboratory applications. India's leading pyridine manufacturer, Jubilant Ingrevia (Jubilant), uses bioethanol derived from agricultural sources like corn and sugarcane to produce acetaldehyde, a precursor for pyridine synthesis. The Indian market was initially excited by the opportunity presented to Indian pyridine makers like Jubilant due to the closure of Vertellus Holdings LLC's (Vertellus) Indianapolis plant. Jubilant is even commissioning significant capacity to address the perceived demand-supply gap. However, it now appears that the US market is already sufficiently supplied, limiting the expected upside. US imports are likely to have risen by 35% over CY23, filling the production gap created by the closure of Vertellus. Also, multiple global agrochemical companies are indicating that raw material prices are slated to fall further. Please note that spreads of pyridines over their raw material have already fallen and if the commentary turns out to be true, then they can get squeezed further.


### Global agrochemicals cycle appears to be turning...

Global agrochemicals sales appear to be stabilizing, and while the volumes in pyridine are rising, prices & spreads are falling. Major players like Syngenta, FMC, and Adama indicate a gradual market recovery by CY25F, but pyridine prices & margins remain under pressure due to oversupply & rising competition. Please note that global agrochemical sales are likely to be US\$66bn in CY24F, which is around the CY21 level. Post Covid-19 pandemic, the price rise has completely reversed & it appears that channel destocking is also more or less over. Please note that annual natural demand growth rate of agrochemicals volume is ~2-3%. Accounting for this as well the post-Covid excesses seems to be over, in our view.

### ...but buying pyridine makers at 60x P/E doesn't make sense

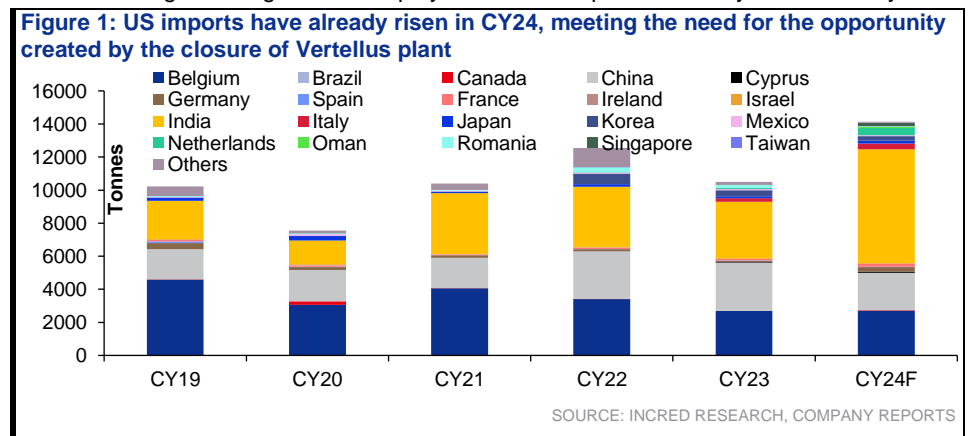
Jubilant Ingrevia's stock price has rallied and remains the favourite of investors due to high capex in agrochemical intermediates like pyridine. What is unfathomable, though, is that raw material makers have no pricing power in a primarily generic market, but still these companies command a 60x P/E on current year earnings. In the overall agri-input value chain, only seed makers have pricing power because, after techniques like gene editing being restricted to a few players, the intellectual property (IP) is protected and goes beyond the patent period criterion. Jubilant Ingrevia's consensus EPS is inflated. FY25F EPS needs a downward revision of at least 20%, and FY26F EPS needs to decline by at least 20-25%. Pure generic agrochemical players are better placed for a cyclical recovery.

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## Pyridines - Much ado about nothing

### Pyridine is a low grade commodity chemical

#### What are pyridines? ➤

Pyridines are a class of organic compounds characterized by a six-membered aromatic ring containing five carbon atoms and one nitrogen atom. The nitrogen atom in the pyridine ring imparts unique chemical properties, making it a versatile building block in various chemical applications.

1. **Aromatic:** Pyridine is aromatic, like benzene, due to delocalized electrons in the ring.
2. **Basicity:** The nitrogen atom contributes to pyridine's basic nature, with a pKa of around 5.2.
3. **Solubility:** It is highly soluble in water and many organic solvents.
4. **Physical state:** Pyridine is a colourless-to-pale yellow liquid with a strong, unpleasant odour.

#### Pyridines have multiple usage ➤

1. **Agrochemicals:** Used in herbicides, insecticides, and fungicides (e.g., paraquat, diquat).
2. **Pharmaceuticals:** Key intermediate in the synthesis of drugs like antihistamines, vitamin B3 (niacin), and anticancer agents.
3. **Solvent and reagent:** Pyridine is commonly used as a solvent in organic reactions and as a reagent for dehydrochlorination and oxidation reactions.
4. **Rubber and dyes:** Utilized in rubber processing chemicals and as a dyeing agent in textiles.
5. **Laboratory use:** Acts as a mild base and a catalyst in organic synthesis.

#### How are pyridines manufactured? ➤

Pyridines are typically manufactured using the following industrial processes:

##### 1. Hantzsch Pyridine Synthesis

- A. Reactants: Aldehyde (like formaldehyde),  $\beta$ -ketoester (like ethyl acetoacetate), and ammonia.
- B. Conditions: Heated in a solvent, often ethanol.
- C. Mechanism: Forms a dihydropyridine intermediate, which oxidizes to pyridine.
- D. **Use:** Common for substituted pyridines.

##### 2. Bönemann Cyclization (Chichibabin Pyridine Synthesis)

- A. Reactants: Acetylene and hydrogen cyanide (or formaldehyde and ammonia).
- B. Conditions: High temperature and pressure.
- C. Mechanism: Cyclization of simple molecules to form pyridine rings.
- D. Use: Industrial production of pyridine and simple derivatives.

##### 3. Cianchetta Process (Ammonia Oxidation of Alkylpyridines)

- A. Reactants: Alkylpyridines, ammonia, and air.
- B. Conditions: High-temperature catalytic oxidation.
- C. Use: Large-scale production of pyridine bases.

##### 4. Skraup Synthesis

- A. Reactants: Glycerol, an oxidizing agent (like nitrobenzene or sulfuric acid), and ammonia.
- B. Conditions: Heated under acidic conditions.

- C. Mechanism: Produces quinolines and pyridines depending on the oxidizer and conditions.
- D. Use: Synthesis of quinolines and pyridines.

**5. Dealkylation of Alkylpyridines**

- A. Reactants: Alkylpyridines (e.g., picolines).
- B. Process: Oxidative dealkylation using air or oxygen.
- C. Use: Production of pyridine from alkylpyridine byproducts.

**Feedstocks and Catalysts**

- **Feedstocks:** Ammonia, formaldehyde, acetylene, β-ketoesters.
- **Catalysts:** Zeolites, vanadium pentoxide (V<sub>2</sub>O<sub>5</sub>), and metal oxides.

**Jubilant Ingrevia uses acetaldehyde to produce pyridine ►**

**Bio-based raw materials:** The company uses ethanol derived from renewable agricultural sources, such as corn or sugarcane, as a primary feedstock. This bioethanol serves as a precursor for producing acetaldehyde, a key intermediate in pyridine synthesis.

**Chemical synthesis:** Through a series of chemical reactions, including aldol condensation and cyclization, acetaldehyde is converted into pyridine and its derivatives.

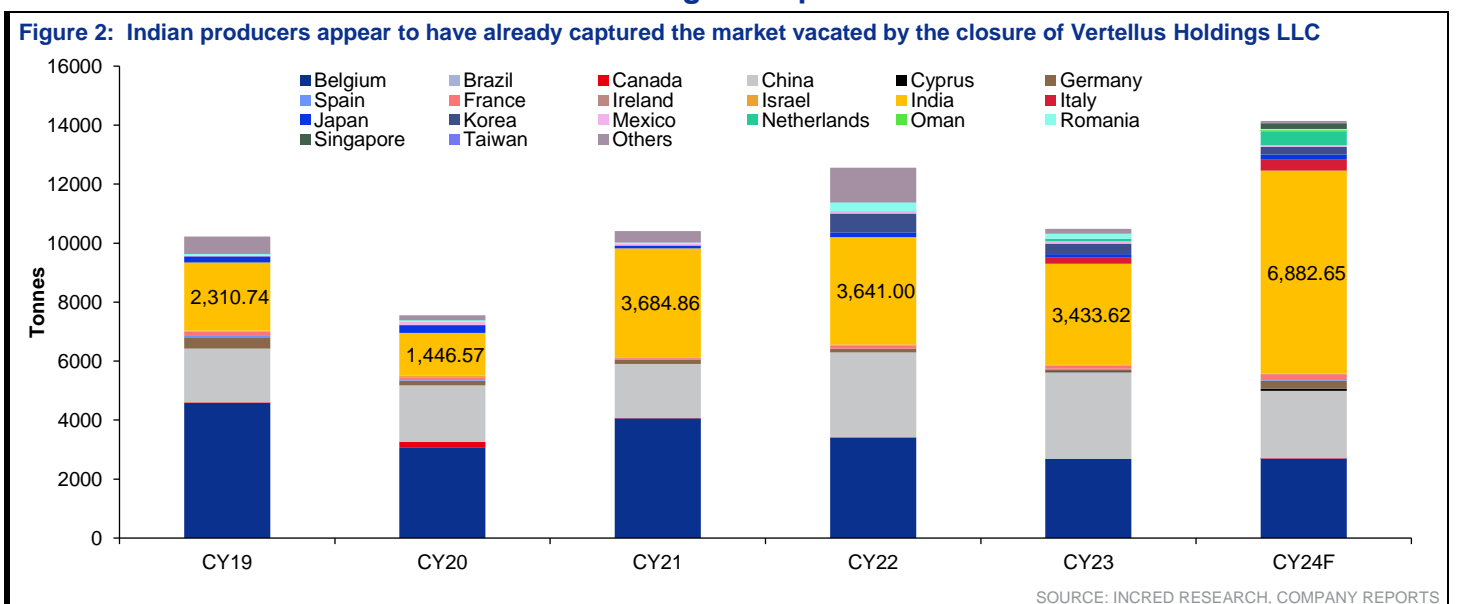
**The closure of Vertellus Holdings LLC’s capacity has already resulted in increased imports into the US**

The Indian market was initially excited by the opportunity presented to Indian pyridine producers like Jubilant Ingrevia due to the closure of Vertellus Holdings LLC's Indianapolis plant. Jubilant Ingrevia is even commissioning significant capacity to address the perceived demand-supply gap. However, it now appears that the US market is already sufficiently supplied, limiting the expected upside.

**Vertellus Holdings LLC closed its pyridine manufacturing facility in the US in 2023 ►**

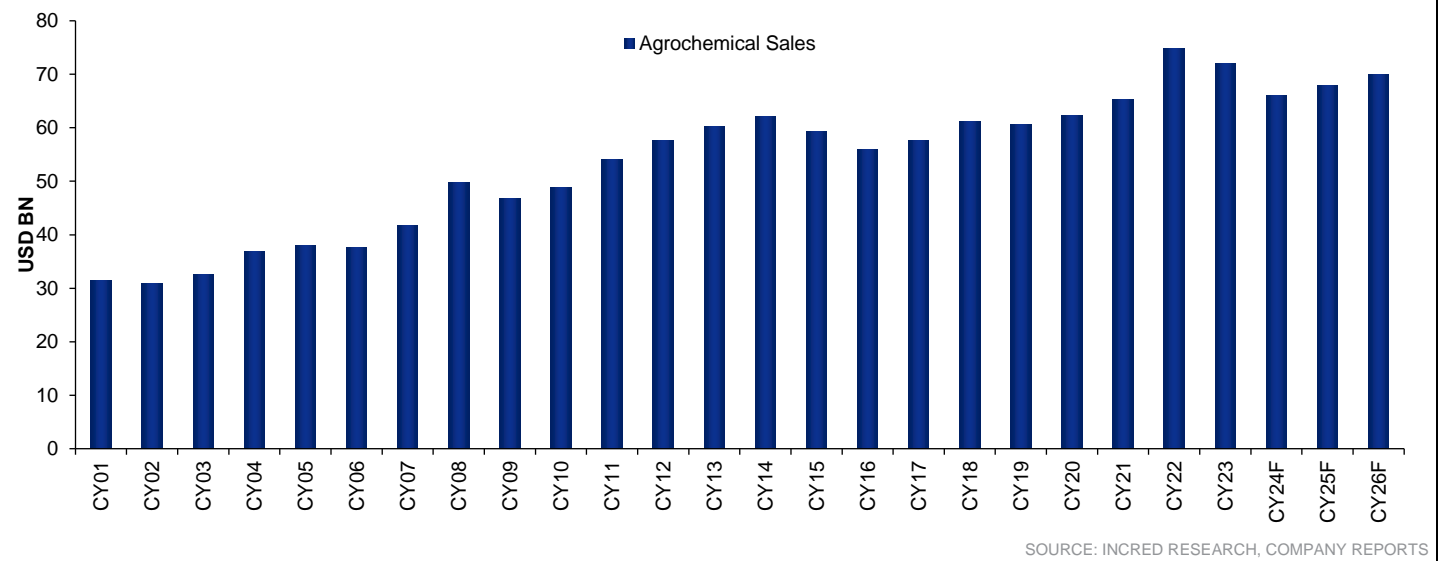
Indianapolis-based specialty chemicals manufacturer Aurorium (the new name is Vertellus Holdings LLC) closed its Indianapolis capacity in Oct 2023, fuelling expectations of a huge market for Indian manufacturers.

**However, the US markets adjusted to the reality soon, and 2024 saw much higher imports ►**



**Global agrochemicals sales appear to be bottoming out ➤**

**Figure 3: Global agrochemicals sales appear to be bottoming out**



**The commentary from leading agrochemical players indicates the same ➤**

**Figure 4: Syngenta highlights**

Adverse weather conditions across key markets affected applications of crop protection products. Sustained price pressure, particularly in the commoditized segments of the crop protection portfolio (and notably in Latin America), and reduced grower profitability had an impact on demand. Crop commodity prices have continued to decline, reducing farmer income and hampering demand for input materials.

The crop protection market is showing initial signs of recovery with channel inventories now closer to normal levels. Syngenta Group expects the market to further recover after the first half of 2025 with a market also less impacted by lower crop prices and overcapacity.

Syngenta Group has continued to implement further initiatives to drive profitability improvements, streamlining operations and improving cash flow, including optimizing working capital.

SOURCE: INCRED RESEARCH, COMPANY REPORTS

**Figure 5: FMC indicates market recovery to be gradual in CY25F**

**Inventory**

- North America sales benefited from distributors shifting purchases from Q4 into Q3 in response to lower-than-expected inventory levels in the channel.
- Expected channel inventory improvement is on the horizon, which led to the decision to protect market share in Latin America despite price pressure.
- The US and most European countries are normalizing their inventory levels the fastest.
- Asia markets, particularly India, are still expected to be challenging in 2025 with no recovery expected until 2026 due to excess channel inventory.

SOURCE: INCRED RESEARCH, COMPANY REPORTS

**Figure 6: Adama**

**The General Crop Protection (CP) Market Environment<sup>2</sup>**

During the third quarter of 2024, key commodity crop prices remained subdued, pressuring farmer income, despite some ease in the prices of inputs.

While channel inventory continues to ease, the high interest rate environment coupled with ample product supply and active ingredient prices from China remain at historic lows, continue to drive a just-in-time purchasing approach by the channel.

These dynamics have negatively impacted the pricing in the crop protection market.

SOURCE: INCRED RESEARCH, COMPANY REPORTS

**Figure 7: Corteva**

**Macro Environment**

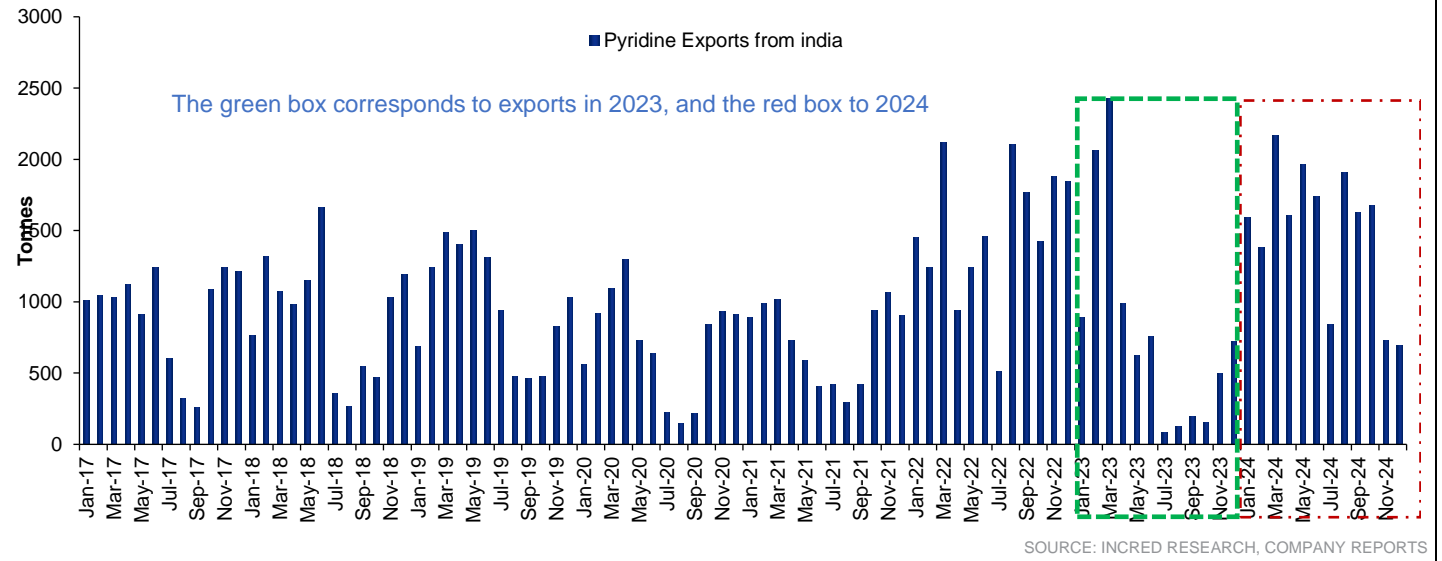
- Inflation is mentioned as a factor in the Seed business, with higher inflation on labor, freight, and warehousing, but it is expected to reverse in 2025 with lower commodity costs.
- Deflation is expected in Crop Protection raw materials, with a low-single-digit rate of deflation expected in 2025, weighted towards the first half of the year.
- Record demand for food and fuel is still being seen.
- Underlying farmer demand in terms of applications remains on track with historical levels.
- Anticipation of a continuation of record demand for grain, oilseeds, meat, and biofuels in 2025.
- Demand for new products and biologicals is driving Crop Protection volume growth, expected to be up low-to-mid single-digit.
- There is good demand and interest in PowerCore Enlist products in North America.
- The company has seen very good demand from a volume perspective on their spinosyns franchise, new products, and biologicals, which will carry into 2025 and beyond.

SOURCE: INCRED RESEARCH, COMPANY REPORTS

**This may lead to higher pyridine volume but pricing will remain under pressure ➤**

The recovery in the global agrochemicals cycle is leading to higher pyridine volumes, but its prices and spreads are falling.

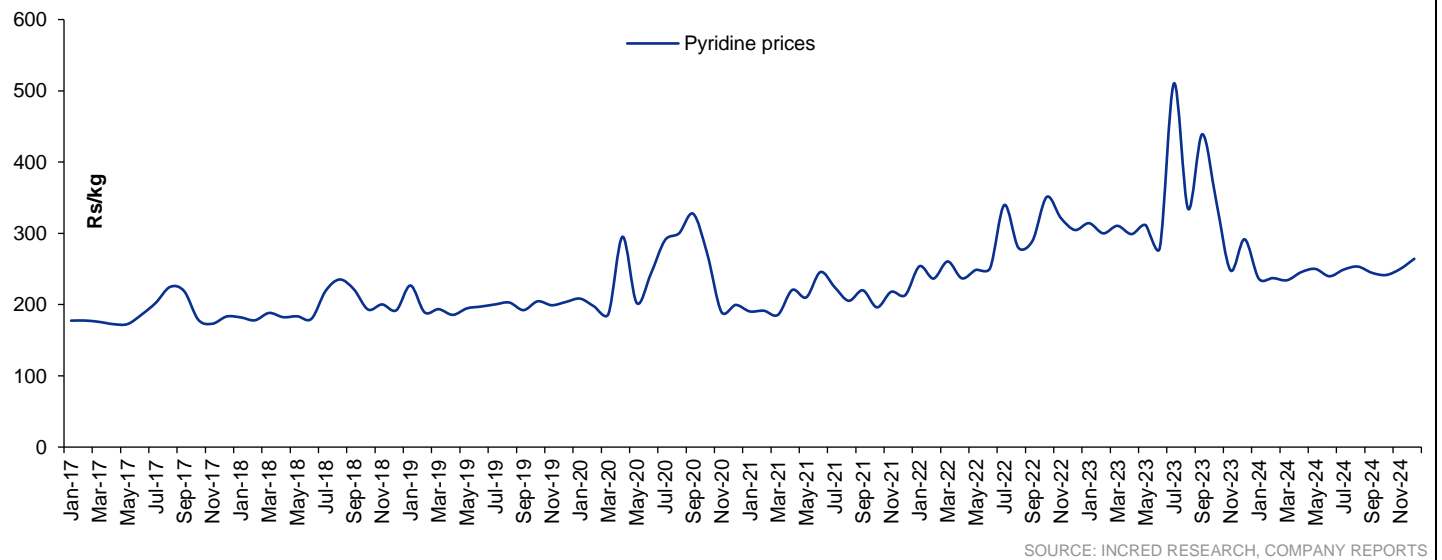
Figure 8: Compared to CY23, volumes have gone up in CY24



SOURCE: INCRED RESEARCH, COMPANY REPORTS

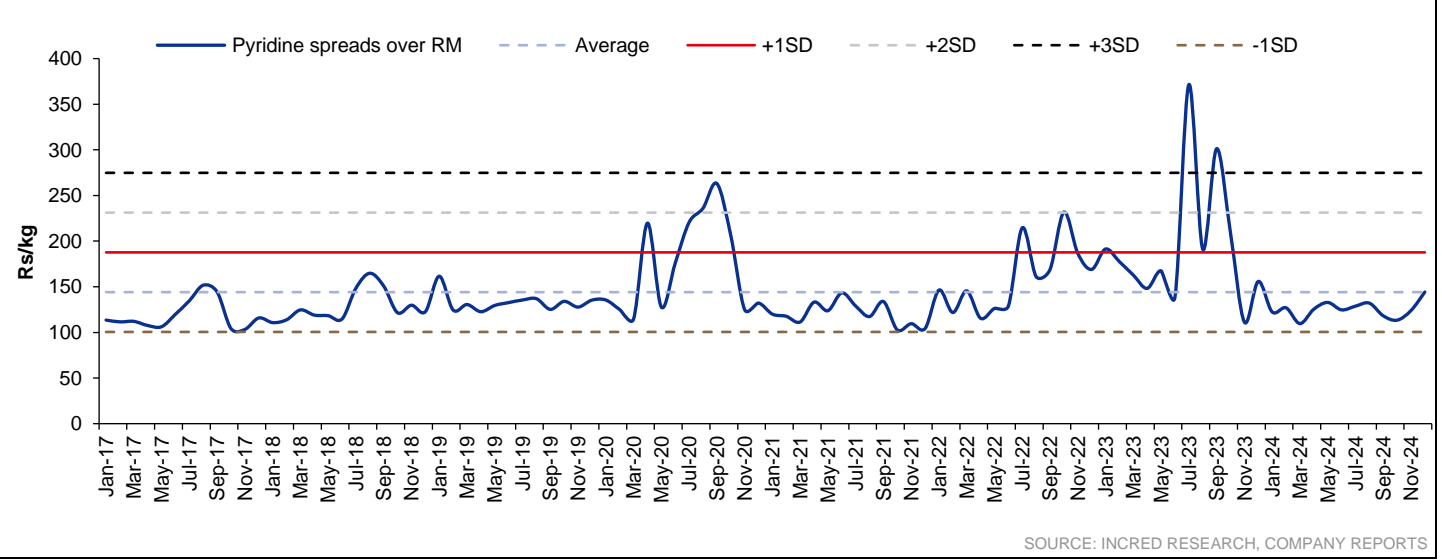
However, as indicated in the commentary from global players, pyridine prices are falling, and its spreads over raw materials are also collapsing.

Figure 9: Pyridine prices are well below the peak attained after the closure of Vertellus' Holdings' US capacity



SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 10: Pyridine's spreads over raw material are below the long-term mean, and they may remain subdued, especially as Jubilant Ingrevia is coming up with a large capacity



SOURCE: INCRED RESEARCH, COMPANY REPORTS

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