



India

REDUCE (no change)

Consensus ratings*: Buy 2 Hold 2 Sell 1

Current price: Rs794
Target price: ▲ Rs458
Previous target: Rs315
Up/downside: -42.3%
InCred Research / Consensus: -49.7%

Reuters:
Bloomberg: JUBLINGR IN
Market cap: US\$1,468m
Rs126,398m
Average daily turnover: US\$3.4m
Rs294.6m
Current shares o/s: 159.3m
Free float: 48.5%

*Source: Bloomberg



Source: Bloomberg

Price performance	1M	3M	12M
Absolute (%)	13.4	17.0	53.9
Relative (%)	15.1	6.5	46.1

Major shareholders	% held
Promoter & Promoter Group	51.5
DSP Investment Managers Pvt Ltd	9.4
Edelweiss MF	1.1

Research Analyst(s)

**Satish KUMAR**

T (91) 22 4161 1562

E satish.kumar@incredresearch.com

Abbas PUNJANI

T (91) 22 4161 1598

E abbas.punjani@incredresearch.com

Jubilant Ingrevia Ltd

Guidance hinges on multiple moving parts

- Jubilant's ambitious plan hinges on multiple moving parts coming together simultaneously and hence, probability of its success appears to be very low.
- While the company has chlorination capabilities, it lags in advanced fluorination—critical for future agrochemical and semiconductor markets.
- Without effective acquisitions, Jubilant is unlikely to achieve meaningful growth through its current plans; the stock is priced to perfection with no room for error.

Revenue and profit guidance don't appear realistic

Despite a muted earnings performance (last five years' EPS growth at 2.6% and EBITDA growth at a 5.4% CAGR, despite a capex of ~Rs16bn over FY22-25), Jubilant Ingrevia's (Jubilant) stock has rallied on the back of its strong guidance. While it's difficult to reconcile how revenue growth assumed to be guaranteed purely based on the capex, the counterargument often presented is deceptively simple: "If your logic is so clear, surely the management knows it too — so why would they proceed with capex?" While it's hard to challenge such a circular logic, we will attempt to demonstrate why the planned capex by Jubilant is unlikely to translate into meaningful revenue growth. The stock price is building in all the management's aspirations, and it has no room for a negative surprise on that front. We reiterate our REDUCE rating on the stock as its price is awesome.

Most capabilities need to be developed/acquired

While it is well established that the base pyridine ring is a commodity, the ability to add methyl groups or halogen atoms at specific positions on the ring requires considerable technical skill. That said, most leading manufacturers have already mastered chlorination of pyridines. The real frontier now lies in fluorination, as future agrochemical molecules will increasingly demand fluorinated pyridine structures. SRF has already demonstrated this capability through its success in SDHI fungicides and is well-positioned to extend the same expertise to insecticides. Importantly, SRF has taken decades to develop and refine its fluorination technology. In the semiconductor segment, Jubilant first needs to build core competencies in fluorine handling and fluorination chemistry before it can develop high-purity, application-specific products. While acquisition remains a quicker route to capability-building, challenges around pricing and seamless integration into Jubilant's existing ecosystem may limit its effectiveness. Historically, Navin Fluorine has pursued the acquisition strategy to build its fluorine platform, but even then, Indian companies have struggled to break meaningfully into the semiconductor chemicals space. Semiconductor chemicals bring a unique set of challenges—demanding cleanroom environment, ultra-high purity standards, and a rigorous qualification process for supply chain integration (empanelment). While Jubilant's success with chlorantraniliprole is encouraging, it's important to note that this molecule is now off-patent and supplied by several players globally. Margins on intermediates like 2,3-dichloropyridine are extremely thin, with profitability heavily dependent on process efficiency and yield optimization. Hence, in our view, extrapolating current margins from chlorantraniliprole to future fluorinated or semiconductor-grade products would be misguided.

Financial Summary	Mar-24A	Mar-25A	Mar-26F	Mar-27F	Mar-28F
Revenue (Rsm)	41,358	41,776	46,596	51,400	56,800
Operating EBITDA (Rsm)	4,211	5,191	5,377	6,639	8,543
Net Profit (Rsm)	1,829	2,512	2,451	2,917	3,831
Core EPS (Rs)	11.5	15.8	15.4	18.3	24.0
Core EPS Growth	(40.5%)	37.3%	(2.4%)	19.0%	31.4%
FD Core P/E (x)	69.11	50.33	51.57	43.34	33.00
DPS (Rs)	1.2	1.2	1.3	1.3	1.3
Dividend Yield	0.18%	0.18%	0.20%	0.20%	0.20%
EV/EBITDA (x)	31.55	25.59	25.44	21.12	16.72
P/FCFE (x)	9.47	14.09	10.07	9.46	8.70
Net Gearing	23.9%	22.5%	33.3%	40.8%	43.9%
P/BV (x)	4.62	4.32	4.02	3.70	3.35
ROE	6.8%	8.9%	8.1%	8.9%	10.7%
% Change In Core EPS Estimates			35.19%	45.53%	
InCred Research/Consensus EPS (x)					

SOURCE: INCRED RESEARCH, COMPANY REPORTS

Guidance hinges on multiple moving parts

Despite muted earnings performance, the stock has rallied on the back of a strong narrative. While it's difficult to reconcile how revenue growth is assumed to be guaranteed purely based on upcoming capex, the counterargument often presented is deceptively simple: *"If your logic is so clear, surely the management knows it too — so why would they proceed with capex?"* This line of reasoning mirrors the classic, yet flawed, efficient market logic — famously illustrated by the example: *"You can't find a US\$100 note lying on the street, because if it were really there, someone would've already picked it up."* While it's hard to challenge such a circular logic, we will attempt to demonstrate why the planned capex by Jubilant is unlikely to translate into meaningful revenue growth. The stock price is building in all the management's aspirations, and it has no room for a negative surprise on that front. We reiterate our REDUCE rating on the stock as its price is awesome.

While pyridines are commodity chemicals, the real value lies in their regioselective halogenation

Pyridine is a basic heterocyclic compound used widely in the chemical industry. Because it is mass-produced and available from many suppliers, it is considered a commodity—which means it has little differentiation and low pricing power. Strategically, just making or selling pyridine does not provide a competitive advantage, as many companies can do it.

The key is regioselective halogenation of the pyridine ring. The pyridine ring has several positions where substitution (like adding halogen atoms such as chlorine, bromine, fluorine) can occur. Regioselectivity refers to the ability to control which specific position on the ring the halogen attaches to. For example, putting a chlorine at the 2-position vs. the 3-position creates entirely different molecules with different chemical behaviour. Achieving regioselective halogenation is chemically challenging and requires advanced process knowhow. This process adds value because such halogenated pyridines are key building blocks for high-value molecules—especially in agrochemicals (e.g., insecticides like chlorantraniliprole), pharmaceuticals, and specialty chemicals.

Anyone can make or buy bulk pyridine (low margin, low entry barriers). But being able to precisely and efficiently halogenate pyridine at the desired position (say, only the 3-position) creates valuable intermediates that are not easily available. That's where the real differentiation and profitability lie.

Pyridine is a widely available compound, and producing it offers no strategic advantage—nor does not producing it pose any disadvantage ➤

Pyridine is primarily manufactured through chemical synthesis from petrochemical feedstocks. There are several methods, but the **most common and industrially significant route today is the Chichibabin Synthesis**. Here's a breakdown:

1. Chichibabin Synthesis (Modern Industrial Process)

- a. Acetaldehyde + formaldehyde + ammonia → pyridine + derivatives
 - i. Vapour-phase reaction.
 - ii. Temperature: ~350–500°C.
- b. **Catalyst:** Silica or alumina-based catalyst (often with metal oxides).

Products:

- i. **Pyridine (C₅H₅N).**
- ii. Other derivatives like 2-methylpyridine and 3-methylpyridine, depending on stoichiometry and conditions.

2. By-Product Route (Coal Tar / Coke Oven Gas) – Historic Method

a. **Source:** Pyridine was originally recovered from **coal tar** during coal carbonization in coke ovens.

b. **Drawbacks:**

- Inefficient and impure.
- Largely obsolete now, used only for niche recovery.

Yields & Economics:

- Yields:** Typically, 30–50% for pyridine; higher total yield including by-products.
- Economics:** Cost-effective due to raw material affordability, but thin margin due to commodity pricing.

India imports a significant amount of pyridine from China and elsewhere ➤

Figure 1: India is a big importer of commodity grade pyridine, CCMP as well as 3 cyano pyridine

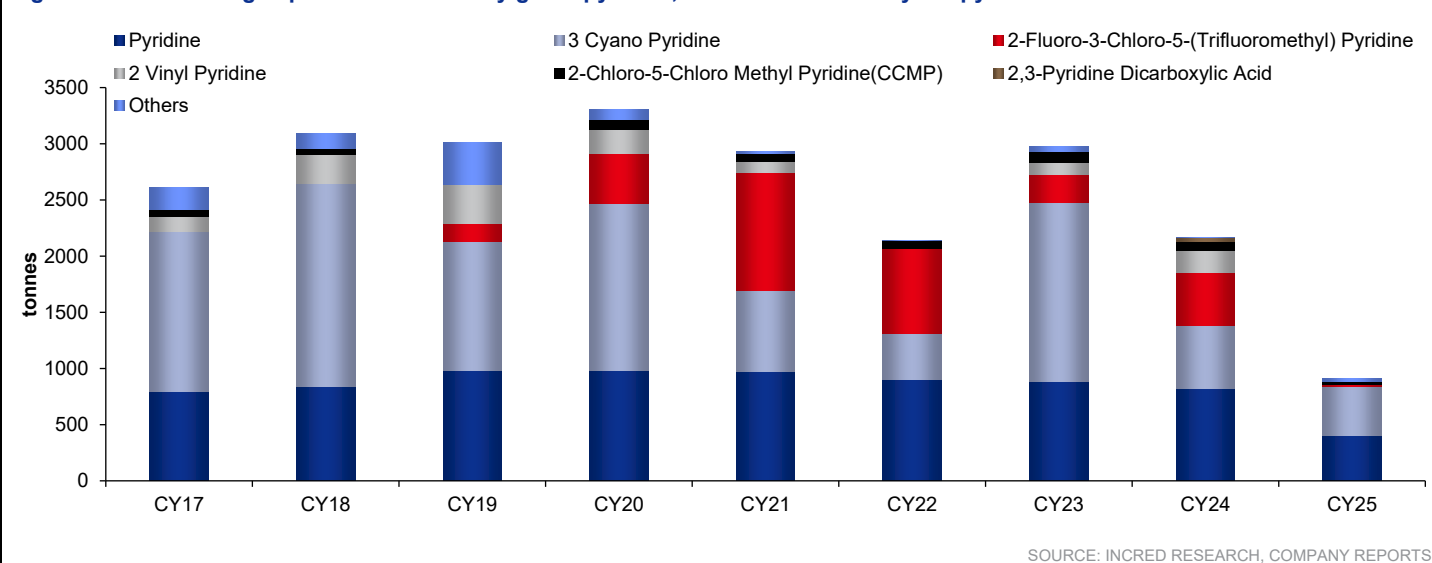
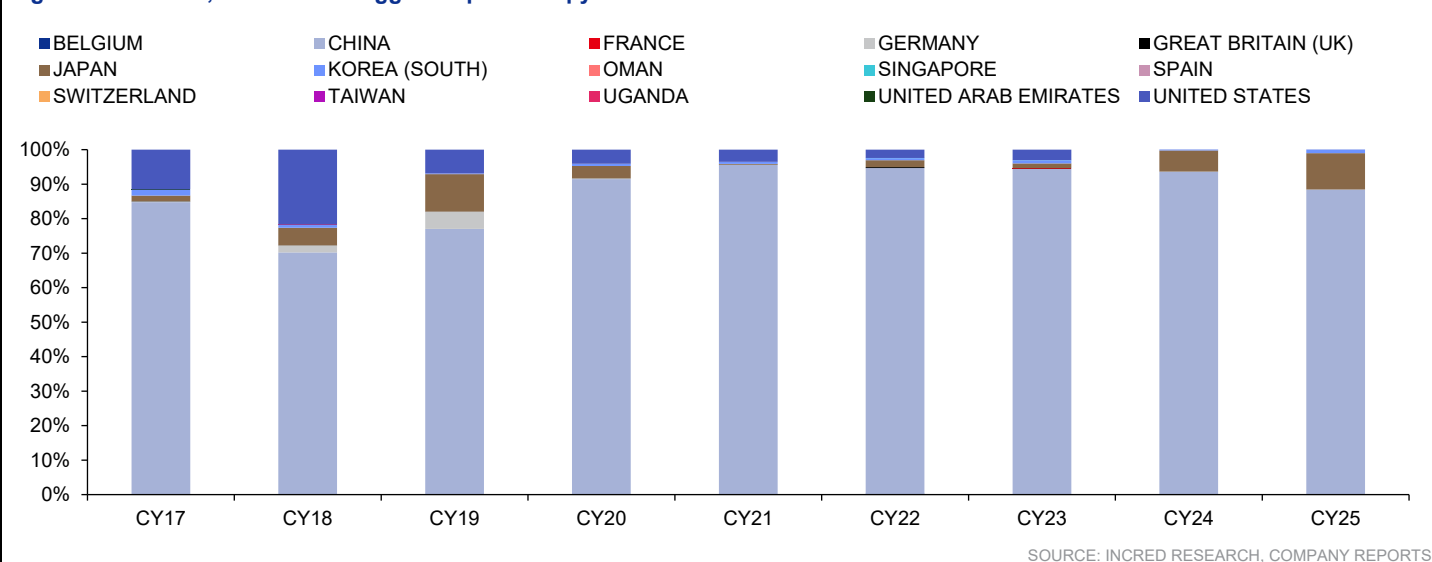
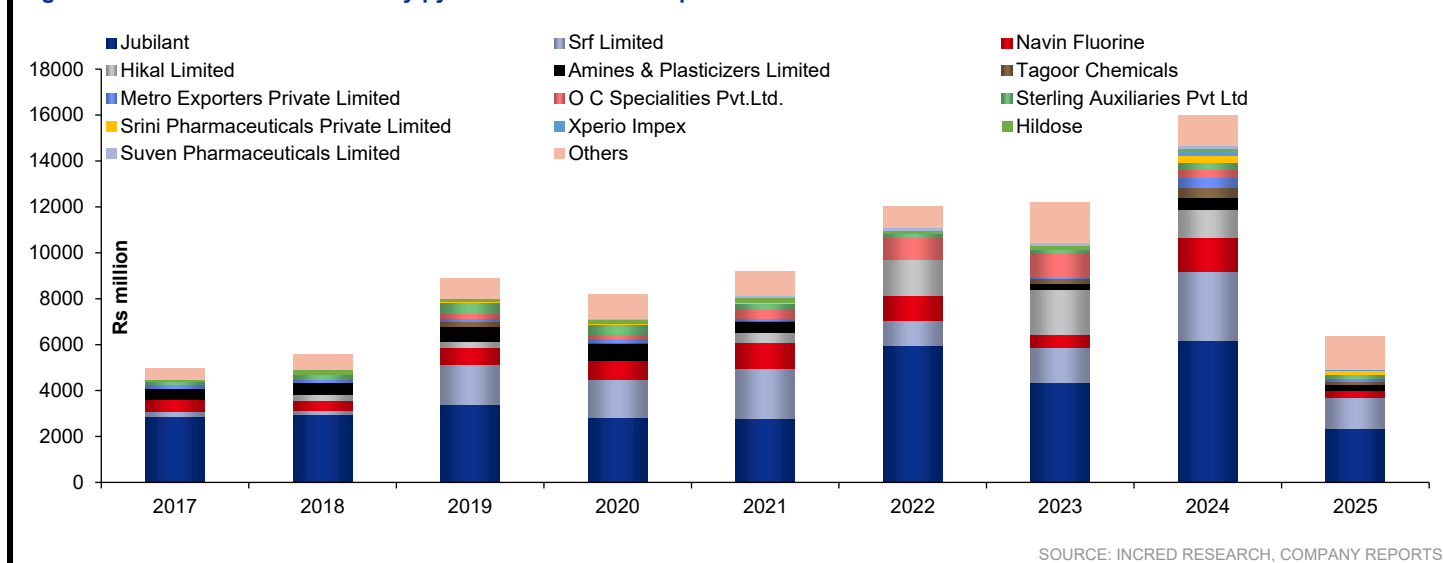


Figure 2: As usual, China is the biggest exporter of pyridine to India



India is a big exporter of pyridine and its compounds as well and Jubilant is one of the many exporters >

Figure 3: Jubilant is one of the many pyridine and its salts exporters from India



Remember, pyridine salts can contain various halogen substituents (radicals), depending on their intended applications >

Pyridine salts can contain various halogen radicals, especially when pyridine is functionalized or quaternized (quaternisation is a process in which the nitrogen atom in pyridine is manipulated to have permanent + charge). Here's the breakdown:

1. Halogenated Pyridines:

- These are pyridine derivatives where halogen atoms (F, Cl, Br, I) are directly substituted on the pyridine ring:
- Examples:** 2-chloropyridine, 3-bromopyridine, 2,6-difluoropyridine, etc.
- These are often intermediates in agrochemical and pharmaceutical synthesis.

2. Quaternary Pyridinium Salts:

- Formed by alkylation of the pyridine nitrogen, often with alkyl halides (e.g., methyl iodide):
- Structure:** $R-N^+(Pyridine)-R'R-N^+(Pyridine)-R''R-N^+(Pyridine)R'''-X^-$ (the counterion) can be a halide like Cl^- , Br^- , or I^- .
- Used as phase-transfer catalysts, antimicrobial agents, and ionic liquids.

3. Halogen-Containing Side Chains:

- Pyridines can also have side chains (e.g., haloalkyl groups) or substituents that include halogen atoms:
- Example: 4-(trifluoromethyl) pyridine or 3-(chloromethyl)pyridine.

Several agrochemicals use halogenated pyridines as either a building block or an integral part of the molecule ➤

Figure 4: These are some of the prominent agrochemicals which contain halogenated pyridines as one of the integral parts of the molecule chain

Agrochemical	Halogenated Pyridine type	Type	Comments
Chlorantraniliprole	3-Bromo-2-chloropyridine	Insecticide	Anthranilic diamide; halo pyridine moiety directly in active molecule.
Imidacloprid	6-Chloronicotinyl moiety	Insecticide	Neonicotinoid; based on chloropyridinyl structure.
Thiacloprid	3-Chloropyridinyl	Insecticide	Neonicotinoid; like imidacloprid.
Acetamiprid	6-Chloronicotinyl moiety	Insecticide	Neonicotinoid; contains chloropyridine.
Clothianidin	2-Chlorothiazolyl + chloropyridine	Insecticide	Neonicotinoid family.
Nitenpyram	Chloronicotinic acid derivative	Insecticide	Fast-acting neonicotinoid.
Flupyradifurone	Difluorinated pyridine derivative	Insecticide	Butenolide family; fluoropyridine included.
Fluazifop-P-butyl	Trifluoromethyl-substituted pyridine	Herbicide	Aryloxyphenoxypropionate herbicide.
Fluroxypyr	3,5-Dichloropyridin-2-yl ether	Herbicide	Synthetic auxin herbicide.
Aminopyralid	4-Amino-3,6-dichloropyridine	Herbicide	Pyridine carboxylic acid group.
Picloram	4-Amino-3,5,6-trichloropyridine	Herbicide	Highly chlorinated pyridine ring.
Clopyralid	3,6-Dichloropyridine-2-carboxylic acid	Herbicide	Selective systemic herbicide.
Haloxypop-R methyl	Fluorinated pyridinyloxy group	Herbicide	Used on grasses.
Fluridone	Trifluoromethyl-substituted pyridone	Herbicide	Carotenoid biosynthesis inhibitor.
Pyrifluquinazon	Fluorinated quinazoline + pyridine	Insecticide	Complex halo pyridine structure.
Indaziflam	Difluoroethyl + pyridine moiety	Herbicide	Cellulose biosynthesis inhibitor.
Bromoxynil	3,5-Dibromo-4-hydroxybenzonitrile + pyridine linker	Herbicide	Brominated benzonitrile with pyridine bridge.

SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 5: These are widely used to synthesize the above agrochemicals

Halo pyridine	Used In Synthesis of
2-Chloropyridine	Neonicotinoid precursors, fungicides
3-Chloropyridine	Thiacloprid, research herbicides
2,3-Dichloropyridine	Fluroxypyr, pyridyl carboxylic acids
3,5-Dichloropyridine	Fluroxypyr, aminopyralid
3-Bromo-2-chloropyridine	Chlorantraniliprole
6-Chloronicotinic acid	Imidacloprid, acetamiprid, clothianidin
Trifluoromethyl pyridines	Fluazifop, fluridone, flupyradifurone

SOURCE: INCRED RESEARCH, COMPANY REPORTS

1. Neonicotinoids are mostly chlorinated pyridines.
2. **Fluorinated pyridines are popular in modern herbicides and insecticides due to increased lipophilicity and metabolic stability.**
3. Brominated pyridines are rarer but crucial in a few molecules like chlorantraniliprole.

However, the key to progress lies in fluorination of pyridines ➤

Fluorination of pyridines is strategically important because of:

1. Enhanced Bioactivity

- Fluorine atoms significantly increase lipophilicity, improving cell membrane penetration in insects or plants.
- They often enhance binding affinity to target receptors (e.g., ryanodine, nAChRs).

2. Improved Metabolic Stability

- Fluorinated pyridines resist oxidative metabolism and degradation, improving residual efficacy in crops.
- This leads to longer field performance and reduced dosage needs.

3. New Modes of Action

- Many newer fluorinated pyridines are being used to access novel mechanisms. Flupyradifurone (a fluorinated butenolide with a pyridine ring) works on nAChRs but is structurally distinct from traditional neonicotinoids.

4. Patentability & Novelty

- Fluorination opens the intellectual property or IP-friendly chemical space, enabling innovation in crowded pyridine chemistry.
- It creates room for new agrochemical classes with better regulatory profiles.

Figure 6: Examples of fluorinated pyridines in agrochemicals

Agrochemical	Fluorinated Pyridine Moiety	Type
Flupyradifurone	Difluoro pyridine	Insecticide
Indaziflam	Difluoro ethyl-pyridine	Herbicide
Fluazifop-P-butyl	Trifluoromethyl-substituted pyridine	Herbicide
Pyriproxyfen	Fluoro-substituted pyridine-quinazoline	Insecticide
Fluridone	Trifluoromethyl pyridone	Herbicide

SOURCE: INCRED RESEARCH, COMPANY REPORTS

However, fluorination of pyridines remains a technically challenging project➤

1. Regioselective (a regioselective reaction gives mainly one structural isomer, even though multiple isomers are theoretically possible) fluorination on pyridine rings is technically complex.
2. Requires advanced fluorination techniques (e.g. Selectfluor, DAST, electrophilic fluorination, Pd-catalysed methods).
3. This is why only a few Indian or mid-scale manufacturers can handle it — it remains a high-entry-barrier capability.

Jubilant needs fluorination capability of pyridines to grow and meet its CDMO goal ➤

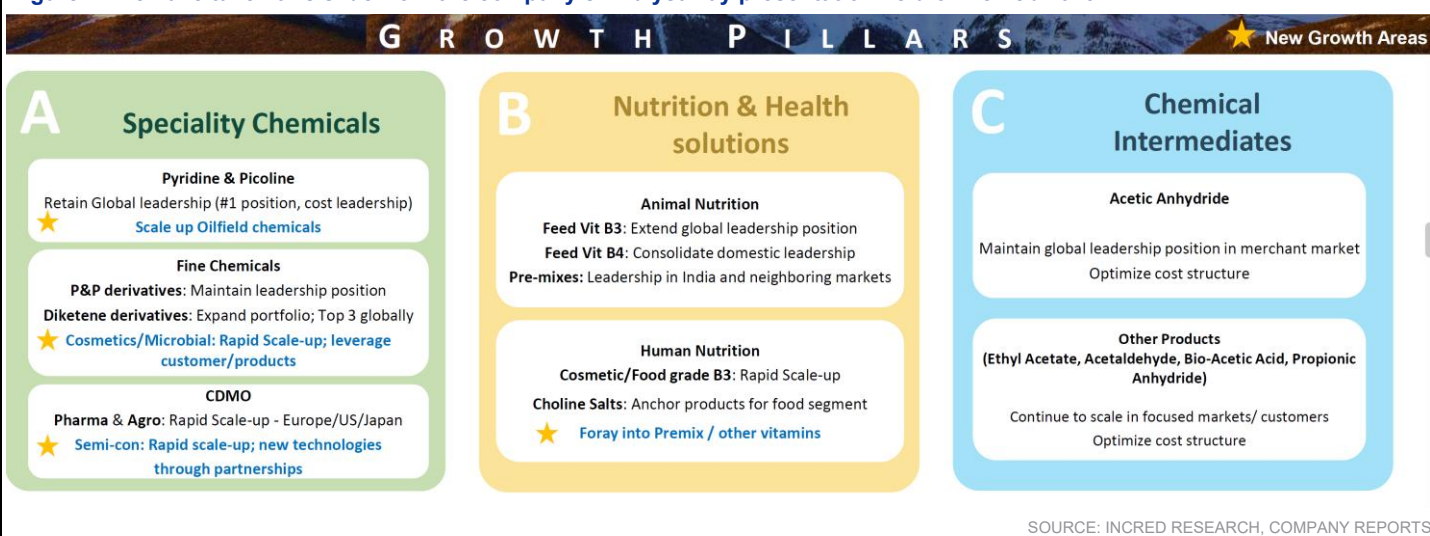
For a company like Jubilant or PI Industries, building or acquiring fluorination expertise in pyridine chemistry is critical to move up the value chain — especially as:

- Chlorinated chemistry saturates.
- Regulatory scrutiny increases.
- IP-driven fluorinated actives dominate global pipelines.

The growth strategy has multiple moving parts, and it's highly unlikely that all will fall in line with management expectations

We understand that financial performance is an outcome of the company's strategic direction. In its presentation, the management has outlined three key strategic pillars. Historically, such narratives have excited market participants, particularly the specialty chemicals pillar, which includes newly proposed areas such as oilfield chemicals, cosmetic and microbial chemicals, as well as chemicals for semiconductors, pharmaceuticals, and agrochemicals.

Figure 7: We have taken this slide from the company's Analyst Day presentation held on 28 Feb 2025



In commodity pyridines, Jubilant undoubtedly holds a leadership position ➤

Figure 8: Jubilant has a leadership position in multiple chlorinated derivatives of pyridines

Product	Global Market Share
Pyridine & picolines	#1 in ~14 derivatives
Gamma picoline	30%
Cyanopyridines	26%
Lutidines	55%
Cetyl pyridinium chloride	52%

SOURCE: INCRED RESEARCH, COMPANY REPORTS

1. Jubilant commands 22% market share in global pyridine/picoline, 30% in gamma-picoline, 26% in cyanopyridines, 55% in lutidines, and 52% in cetyl pyridinium chloride.
2. It's the only scaled-down non-Chinese competitor in pyridine/picoline markets, enabling it to capture customers shifting away from China.
3. Jubilant is fully backward integrated - from feedstocks like acetaldehyde to advanced derivatives - enabling cost leadership.
4. Its speciality chemicals portfolio includes 240+ pyridine-based products, with market-leading positions globally in many of them.
5. Global market research marks Jubilant as a key player alongside Vertellus, Lonza, and others.

However, chlorinated pyridines is a very thin-margin business ➤

1. Chlorinated pyridines, while essential intermediates, are typically low-margin products. Here's a breakdown of why chlorinated pyridines is a thin-margin business despite their industrial significance:
2. Chlorinated pyridines like 2-chloropyridine, 3-chloropyridine, and 2,6-dichloropyridine are widely used in agrochemicals (e.g., for insecticides like chlorantraniliprole), but they are produced in bulk with limited product differentiation.
3. This makes them price-sensitive and easily substitutable, exerting pressure on margins.
4. Chlorination reactions (using reagents like chlorine gas or SOCl_2) are:
 - A. Technically mature.
 - B. Energy-intensive.
 - C. Environmentally challenging (halogen waste management, corrosive effluents).
 - D. The value addition over base pyridines is relatively modest, especially when sold as intermediates rather than finished molecules.
5. China has historically dominated halogenated pyridine production.
 - a. Overcapacity and price undercutting by Chinese manufacturers keep global ASPs (average selling prices) depressed.
 - b. As a result, Indian or Western producers struggle to maintain premium pricing unless they offer niche grades or supply security.
6. Agrochemical majors like Syngenta, Bayer, FMC are aggressive on procurement costs. This makes backward integration mandatory but not necessarily margin-accretive. Chlorinated pyridines become a pass-through intermediate, not a profit centre.

Picolines are not particularly difficult to develop or manufacture at scale; however, margins are thin, and the key challenge lies in the ability to effectively separate all isomers ➤

1. Picoline is the general name for any of the three methyl-substituted pyridines. These are colourless liquids with a pyridine-like odour, widely used as

intermediates in agrochemicals, pharmaceuticals, and vitamins (like B₃ and B₆).

Figure 9: Picoline is the general name for any of the three methyl-substituted pyridines

Common Name	IUPAC Name	Structure Description
2-Picoline	2-Methylpyridine	Methyl group next to nitrogen
3-Picoline	3-Methylpyridine	Methyl one carbon away from N
4-Picoline	4-Methylpyridine	Methyl opposite the nitrogen

SOURCE: INCRED RESEARCH, COMPANY REPORTS

- Is it difficult to manufacture? In modern chemical industry terms, picoline is not difficult to manufacture, but doing so efficiently, at scale, and with high selectivity requires process knowhow and integration.
- Raw materials: Acetaldehyde + ammonia (sometimes formaldehyde is used). Process: Gas-phase or liquid-phase reaction over specific catalysts. Side Products: Pyridine, picolines (2-, 3-, 4-), lutidines. **Gas-Phase Chichibabin Process** is common: Acetaldehyde + ammonia → pyridine + picolines (at 300–500°C, over a catalyst like silica–alumina).

Figure 10: Making picoline is a little bit challenging

Challenge	Explanation
Selectivity	All 3 isomers form — controlling which isomer you get is tricky.
Catalyst Sensitivity	Needs precise catalyst and operating conditions.
By-product Handling	Pyridine, lutidines, tars — downstream separation adds to costs.
Corrosive Conditions	Harsh reaction conditions (high temp, ammonia) require durable equipment.
Purity Standards	Agro/pharma customers often demand >99.5% purity.

SOURCES: COMPANY REPORTS, INCRED RESEARCH

- Jubilant Ingrevia, Vertellus, and some Chinese companies dominate this space due to process optimization, economies of scale and integrated setups (e.g., downstream vitamins or agrochemicals).

Figure 11: The input-output of the picoline process is shown below

Input Component	Quantity (approx.)
Acetaldehyde	650–750kg
Ammonia (NH ₃)	250–300kg
Catalyst (non-consumable, silica–alumina)	Small amount, reused
Energy (fuel/electric)	~120–150kWh
Output Component	Quantity (approx.)
Pyridine	400–450kg
2-Picoline	150–200kg
3-Picoline	80–120kg
4-Picoline	20–30kg
Tars, heavy residues	~100–150kg

SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 12: Selling price & margin range- prices fluctuate based on demand (pharma, vitamins), input costs, and Chinese competition

Product	Estimated Bulk Price (India/China)	Margin Characteristics
2-Picoline	Rs300–400/kg (≈US\$3.5–4.8)	Moderate (medium value, steady demand)
3-Picoline	Rs400–600/kg (≈US\$4.8–7.2)	Higher due to use in vitamin B ₃ (Niacin)
4-Picoline	Rs300–500/kg	Lower demand = variable margin
Pyridine	Rs200–250/kg	Thin-margin commodity

SOURCE: INCRED RESEARCH, COMPANY REPORTS

There is overall growth in pyridine and picoline markets globally and the growth is seen at 6-7% over the next decade ➤

We estimate that global market size of pyridine + picoline was ~US\$1.4bn in 2023. It can grow at ~7.3% from 2023 to 2033F.

Figure 13: In an optimistic scenario, global pyridine + picoline market can grow at a 6-7% CAGR over the next decade

Market	Size (Recent)	CAGR Forecast	Forecast Period
Global Pyridine	US\$1.3–1.4bn (2022–23)	6–8% common; 4.4–9.5% reported	2023–2033 (varies)
Global Picolines	Included in above	~5–9%, with beta picoline the fastest	2025–2033
India (Derivatives)	US\$63m (2024)	7.60%	2025–2030

SOURCE: INCRED RESEARCH, COMPANY REPORTS

- Global demand is growing steadily, driven by agrochemicals, pharmaceuticals, and specialty chemicals.
- Picolines, especially beta picoline, grow faster as they feed vitamin and agrochemical value chains.

- Asia, led by China and India, is the fastest-growing region, aligned with generic and specialty chemical expansion.

Oilfield pyridine chemicals are miniscule in size when compared to other usage ➤

Companies focusing on pyridine-based oilfield applications are unlikely to scale meaningfully unless they innovate a high-value, performance-driven molecule that displaces existing chemistries. As of now, this segment is not volume-driven and not a core growth area.

- Most common oilfield-useful pyridines are quaternized (e.g., pyridinium salts) — not raw pyridines.
- C₁₂–C₁₆ alkyl-substituted pyridines are typically used because: They combine hydrophilic head (pyridine) and hydrophobic tail, mimicking surfactant structure.
- Direct use of basic pyridine or picolines is rare — they are intermediates to value-added molecules.

Figure 14: Oilfield chemical usage is miniscule when compared to other usage of pyridines

Sector	% Share of Global Pyridine Use	Key Applications
Agrochemicals	50–60%	Herbicides (e.g., paraquat), insecticides.
Pharmaceuticals	20–25%	Vitamin B ₃ /B ₆ , APIs, intermediates.
Vitamins/Nutrition	10–15%	Niacin, niacinamide from 3-picoline.
Solvents/Resins	5–8%	Specialty resins, rubber additives.
Oilfield Chemicals	<2–3%	Corrosion inhibitors, surfactants (niche).
Others	Balance	Dyes, adhesives, lab reagents.

SOURCES: INCRED RESEARCH, COMPANY REPORTS

Oilfield pyridines are small because of the following reasons:

- Function-Specific:** Used as corrosion inhibitors or in biocide packages — not a core volume additive.
- Alternatives Available:** Oilfield industry often uses quaternary amines, imidazolines, or non-pyridine surfactants.
- Cost Pressure:** Oilfield chemical suppliers prefer cheaper, simpler molecules for bulk treatment packages.
- Downstream Use Only:** Pyridine is rarely used directly — needs derivatization, which adds cost and complexity.

Figure 15: These are the areas where pyridines and picoline are used in oilfields

Application Area	Role of Pyridine Derivative
Corrosion Inhibitors	Pyridinium-based quats bind to steel surfaces in pipelines.
Biocides	Quats kill sulphate-reducing bacteria (SRB).
Demulsifiers	Modified alkylpyridines help break water-oil emulsions.
Scale Inhibitors	Some pyridyl phosphonates are used (rare).

SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 16: Different types of pyridines and picoline and their usage as oilfield chemicals

Pyridine Compound	Role in Oilfield Applications	Notes
Pyridine (C ₅ H ₅ N)	Base scaffold for derivatization	Not used directly due to volatility & odour.
Quaternary Pyridinium Salts (e.g., Cetylpyridinium chloride)	Corrosion inhibitors, biocides	Effective in sour environments (H ₂ S).
Alkylpyridines (C ₁₂ –C ₁₈ substituted)	Emulsifiers, surfactants, corrosion inhibitors	Lipophilic; better oil solubility.
4-Picoline (4-Methylpyridine)	Intermediate for quats and surfactants	Acts as a precursor.
2-Picoline (2-Methylpyridine)	Intermediate in fine-tuned corrosion inhibitors	Often a part of complex synthesis.

SOURCE: COMPANY REPORTS, INCRED RESEARCH

Semiconductor chemicals – What are they? Do they have anything to do with pyridines directly? No, they have no direct link with pyridines ➤

Figure 17: These are the different class of chemicals used in semiconductors

Category	Function/Use	Example Chemicals
Cleaning agents	Remove particles, metals, organics from wafers	UHP hydrogen peroxide, sulfuric acid
Etchants	Pattern transfer by removing material selectively	Hydrofluoric acid (HF), nitric acid
Photoresists	Light-sensitive polymers used in photolithography	ArF resists, KrF resists
Developers & Strippers	Remove exposed resist after lithography	Tetramethylammonium hydroxide (TMAH)
CMP slurries	Planarize wafer surface using chemical-mechanical polishing	Silica, alumina-based formulations
Dopants	Add impurities to change electrical properties	Boron, phosphorus, arsenic compounds
Deposition precursors	Create thin films of conductors or insulators	TEOS, silane, tungsten hexafluoride
Solvents & carriers	Used in resist formulations and wet processes	PGMEA, PGME, NMP

SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 18: These are the chemicals which are commonly used in the semiconductor-making process

Chemical	Typical Use
Hydrofluoric acid (HF)	Wet etching of silicon dioxide.
Tetramethylammonium hydroxide	Photoresist developer.
Ammonium hydroxide	RCA cleaning (removal of organics/particles).
Hydrogen peroxide (H ₂ O ₂)	Cleaning agent, often in SC-1/SC-2 recipes.
Silane (SiH ₄)	Precursor for silicon deposition.
Phosphine (PH ₃)	Doping of n-type semiconductors.

SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 19: Pyridine-based chemicals are relatively rare in semiconductor chemical usage

Chemical	Pyridine-Based?	Notes
Hydrofluoric acid (HF)	✗	Inorganic acid, made from fluorite + sulfuric acid.
Tetramethylammonium hydroxide	✗	Made from trimethylamine + methyl iodide (quaternization), not pyridine.
Hydrogen peroxide (H ₂ O ₂)	✗	Inorganic oxidizer.
Ammonium hydroxide	✗	Aqueous ammonia, no pyridine.
Silane, TEOS, PH ₃	✗	Organosilicon and inorganic precursors.
CMP slurries	✗	Typically, colloidal silica + surfactants.
NMP, PGMEA (solvents)	✗	Derived from lactams or glycols, not pyridine.

Pyridine derivatives may find niche use in:

Use Case	Possible Pyridine Link	Example
Specialty corrosion inhibitors	Quaternary pyridinium salts (e.g., cetylpyridinium)	Used in wet bench or copper etch processes, very rare.
Surface active agents	Pyridinium surfactants	For specialty cleanroom chemical blends.
Organic photo initiators	Some advanced resist chemistry	Complex pyridine-based heterocycles, but not common.

SOURCE: INCRED RESEARCH, COMPANY REPORTS

Most mainstream semiconductor chemicals do not use the pyridine route. Pyridine chemistry is much more prevalent in pharmaceuticals, agrochemicals, and vitamin production, but is largely absent from high-purity electronic chemicals due to:

- Their inorganic or aliphatic nature.
- Pyridine's own toxicity and volatility (unsuitable for UHP environments).
- Lack of surface interaction advantage vs. alternatives.

Hence, to foray and ramp up very fast, Jubilant will have to opt for inorganic acquisition ➤

Given the high entry barriers, technical purity requirements, and deep customer qualifications in the semiconductor chemicals space, Jubilant cannot meaningfully scale in this segment through organic efforts alone. To foray and ramp up quickly, an inorganic acquisition — preferably of a niche specialty player with UHP capabilities and existing customer validation — is essential. Jubilant has process chemistry and scale experience, but not the cleanroom-grade, UHP manufacturing or semiconductor fab relationships required. A strategic acquisition would provide:

- Immediate credibility.
- Technical and compliance assets.
- Access to global semiconductor supply chains.

Figure 20: Organic entry in semiconductor chemicals is a very difficult and time-consuming process

Barrier	Description
Purity Requirements	UHP chemicals demand 99.9999%+ purity and trace metal limits in ppb/ppt .
Customer Qualification	Semiconductor fabs (e.g., TSMC, Intel) require 12–24 months for supplier approval.
Infrastructure	Needs cleanroom-grade packaging, storage, and filling facilities.
IP & Knowhow	Process recipes are tightly guarded; suppliers often work under NDAs .
Global Competition	Dominated by entrenched players: Entegris, BASF, MGC, Honeywell, JSR .

SOURCE: INCRED RESEARCH, COMPANY REPORTS

Figure 21: Why acquisition is the only way out?

Acquisition Target Profile	Why Important
Small or mid-sized UHP (ultra high purity) chemical maker	Already meets purity standards.
Client base in Asia (e.g., Taiwan, Korea)	Access to TSMC, Samsung, Hynix fab ecosystem.
Portfolio in cleaning/etching agents	Entry via high-volume base chemicals (HF, H ₂ O ₂ , TMAH).
Technology transfer capability	Speeds up scaling and certification in India.

SOURCE: INCRED RESEARCH, COMPANY REPORTS

Following are the examples of how big companies forayed into semiconductor chemicals:

- Entegris acquired BASF's electronic chemicals business to expand their cleanroom portfolio.
- JSR spun off its semiconductor unit to private equity to focus on high-growth photolithography.
- Navin Fluorine (India) acquired US-based Manchester Organics to access fluorination tech — a model for Jubilant.

On the CDMO side, the market is highly enthused by their success with chlorantraniliprole ►

Chlorantraniliprole is a generic, but with important nuances. Originally developed and patented by DuPont (later transferred to FMC). The core composition patent expired around 2022–2023 in key markets like the US, India, and parts of Asia. However, some formulation/process patents and combination patents may still be in effect in certain countries.

- India: Several Indian agrochemical companies (e.g., Meghmani, Dhanuka, PI Industries, Best Agrolife) have launched or are preparing to launch generic chlorantraniliprole formulations.
- China: Multiple Chinese companies are also manufacturing it post-patent expiry.
- Global: Generics are beginning to appear in Latin America, Southeast Asia, and parts of Africa.
- The entry of generics has started to reduce pricing power for FMC (original patent holder).
- Still, FMC retains a strong market share due to brand loyalty (e.g., *Coragen*) established distribution, and some proprietary mixtures/formulations.

Jubilant can make dichloro pyridines which are a building block for chlorantraniliprole. However, getting the right yields is very very important for chlorantraniliprole. As of now, no one in India is getting more than 80% yield and hence, every one is working on a razor-thin margin.

Recently, there was a fire at a Chinese manufacturer and that's why the prices of chlorantraniliprole have shot up; however, they will come back to the US\$110-120/kg level in a few weeks.

Jubilant's nutrition and health solutions segment primarily comprises vitamin B3, vitamin B4, and vitamin blends—most of which are low-grade commodity products ➤

1. Vitamin B3:

- Large-volume product made by several global players (Lonza, Vanetta, Jubilant, Brothers).
- Prices fluctuate based on beta picoline availability, crude oil price, and Chinese supply glut.
- Margins are cyclical and volume-dependent.

2. Vitamin B4 (Choline Chloride):

- Dominated by the animal feed market.
- Highly commoditized and price-elastic.
- Jubilant is a small player compared to Chinese and European bulk suppliers.

3. Premixes and blends:

- Often customized to customer specifications but based on standard, widely available inputs.
- Competitive advantage lies in distribution, not in proprietary technology.

While these products offer stable volume and cash flow, they lack pricing power and differentiation. This makes the segment vulnerable to raw material volatility and Chinese overcapacity. To move up the value chain, Jubilant would need to:

- Shift toward specialty nutraceuticals (e.g., coenzyme Q10, lutein, bioactives)
- Invest in clinical-backed formulations or contract manufacturing for global nutrition brands.

Figure 22: Jubilant's nutrition and health solutions segment primarily comprises vitamin B3, vitamin B4, and vitamin blends—most of which are low-grade commodity products

Product Category	Notes
Vitamin B3 (Niacin, Niacinamide)	Produced from beta picoline; key focus area; large global market (~60,000+ MT/year).
Vitamin B4 (Choline Chloride)	Bulk animal feed additive; low-margin, highly competitive.
Vitamin Premixes	Standardized blends for animal/poultry feed; commoditized, price-sensitive.
Special Blends (Minor)	Small portfolio of niche blends for human nutrition.

SOURCE: INCRED RESEARCH, COMPANY REPORTS

The status of acetic anhydride, ethyl acetate, etc. is well known as commodity chemicals ➤

Acetic anhydride, ethyl acetate, and similar compounds are classic examples of commodity chemicals. They are produced through well-established chemical processes, have globally standardized specifications, and are traded based primarily on price and availability rather than innovation. While they remain essential to the chemical industry's supply chain, they offer limited scope for differentiation or strategic advantage in isolation. Their volatile spreads over raw material is a proof of their being commodity chemicals.

Figure 23: Ethyl acetate spreads are falling...

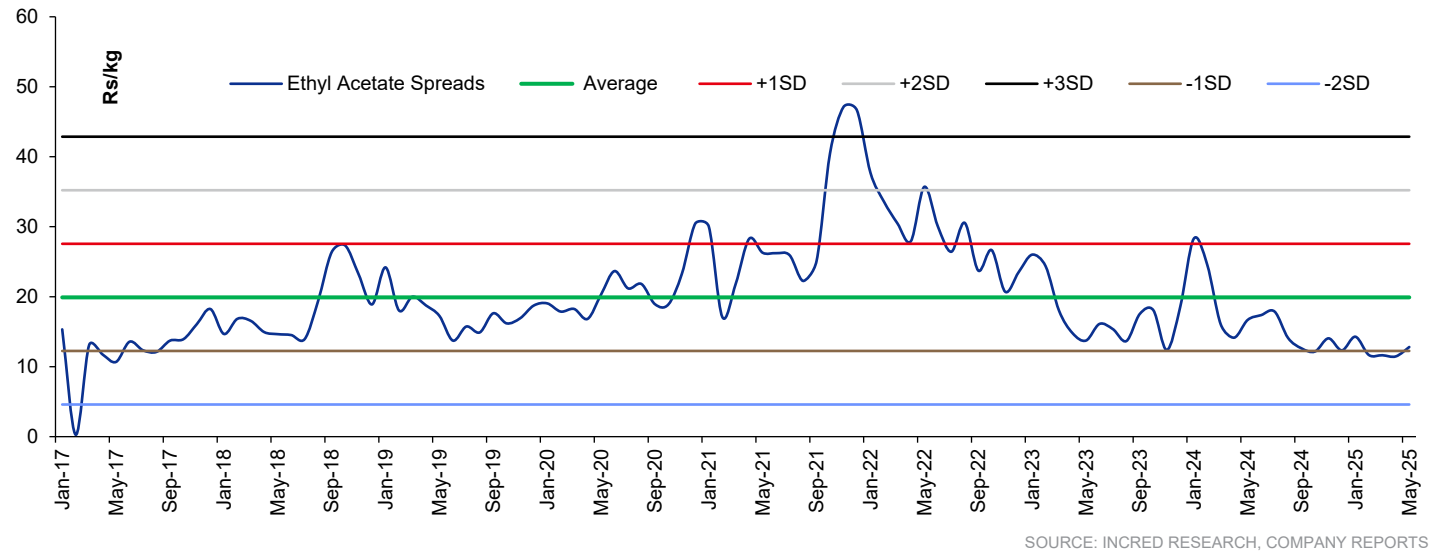
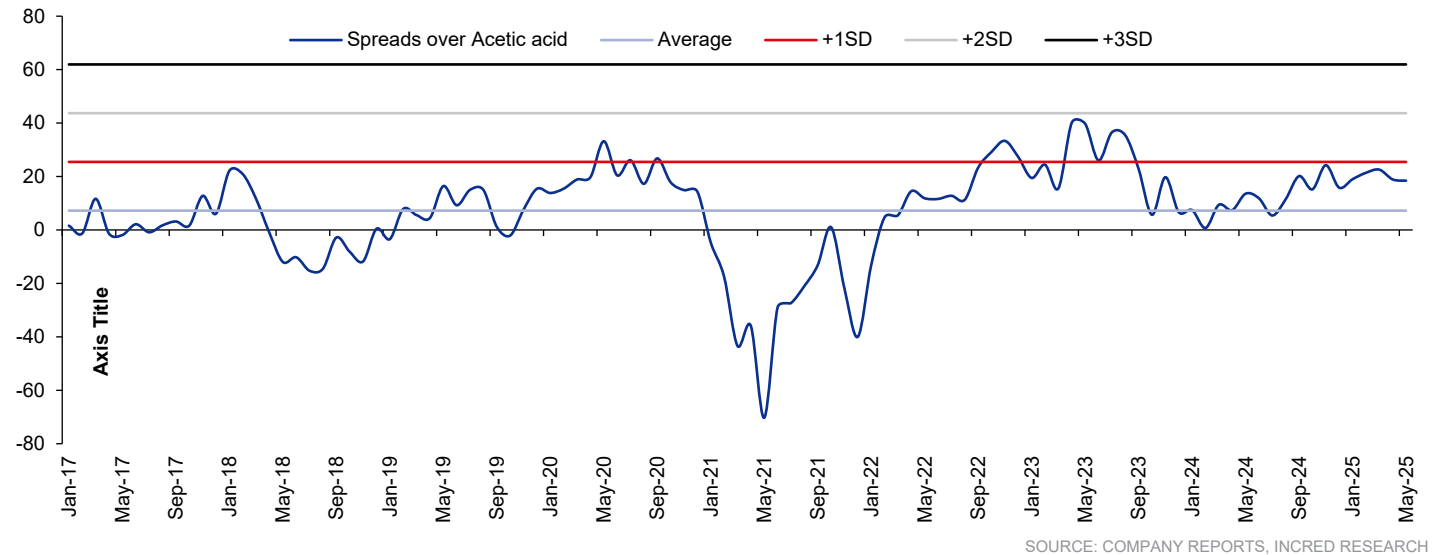
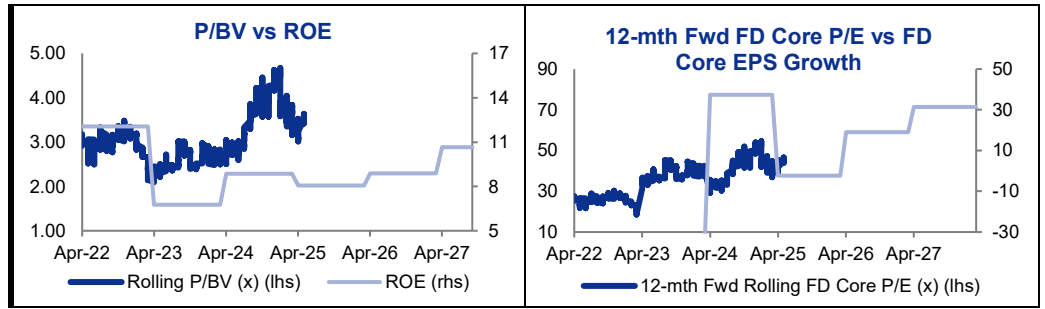


Figure 24: ... and similar is the case with acetic anhydride spreads



BY THE NUMBERS



Profit & Loss

(Rs mn)	Mar-24A	Mar-25A	Mar-26F	Mar-27F	Mar-28F
Total Net Revenues	41,358	41,776	46,596	51,400	56,800
Gross Profit	19,932	20,703	22,366	24,672	27,264
Operating EBITDA	4,211	5,191	5,377	6,639	8,543
Depreciation And Amortisation	(1,362)	(1,576)	(1,805)	(2,136)	(2,466)
Operating EBIT	2,850	3,615	3,572	4,504	6,076
Financial Income/(Expense)	(527)	(556)	(705)	(1,055)	(1,405)
Pretax Income/(Loss) from Assoc.					
Non-Operating Income/(Expense)	354	378	410	450	450
Profit Before Tax (pre-EI)	2,676	3,436	3,277	3,899	5,122
Exceptional Items					
Pre-tax Profit	2,676	3,436	3,277	3,899	5,122
Taxation	(847)	(924)	(826)	(983)	(1,291)
Exceptional Income - post-tax					
Profit After Tax	1,829	2,512	2,451	2,917	3,831
Minority Interests					
Preferred Dividends					
FX Gain/(Loss) - post tax					
Other Adjustments - post-tax					
Net Profit	1,829	2,512	2,451	2,917	3,831
Recurring Net Profit	1,829	2,512	2,451	2,917	3,831
Fully Diluted Recurring Net Profit	1,829	2,512	2,451	2,917	3,831

Cash Flow

(Rs mn)	Mar-24A	Mar-25A	Mar-26F	Mar-27F	Mar-28F
EBITDA	4,211	5,191	5,377	6,639	8,543
Cash Flow from Invt. & Assoc.					
Change In Working Capital	59	228	(860)	(857)	(963)
(Incr)/Decr in Total Provisions					
Other Non-Cash (Income)/Expense	147	108	(1,805)	(2,136)	(2,466)
Other Operating Cashflow	870	906	1,115	1,505	1,855
Net Interest (Paid)/Received	(527)	(556)	(705)	(1,055)	(1,405)
Tax Paid	(460)	(796)	(826)	(983)	(1,291)
Cashflow From Operations	4,300	5,081	2,296	3,114	4,272
Capex	5,684	3,658	5,252	5,252	5,252
Disposals Of FAs/subsidiaries					
Acq. Of Subsidiaries/investments					
Other Investing Cashflow					
Cash Flow From Investing	5,684	3,658	5,252	5,252	5,252
Debt Raised/(repaid)	3,363	235	5,000	5,000	5,000
Proceeds From Issue Of Shares					
Shares Repurchased					
Dividends Paid					
Preferred Dividends					
Other Financing Cashflow					
Cash Flow From Financing	3,363	235	5,000	5,000	5,000
Total Cash Generated	13,346	8,974	12,548	13,366	14,524
Free Cashflow To Equity	13,346	8,974	12,548	13,366	14,524
Free Cashflow To Firm	10,510	9,295	8,252	9,420	10,929

SOURCE: INCRED RESEARCH, COMPANY REPORTS

BY THE NUMBERS...cont'd

Balance Sheet

(Rs mn)	Mar-24A	Mar-25A	Mar-26F	Mar-27F	Mar-28F
Total Cash And Equivalents	796	987	2,079	3,638	6,005
Total Debtors	5,720	6,071	6,781	7,488	8,283
Inventories	9,413	9,434	10,537	11,636	12,871
Total Other Current Assets	1,870	2,040	2,040	2,040	2,040
Total Current Assets	17,799	18,532	21,436	24,802	29,199
Fixed Assets	28,084	30,410	35,662	40,914	46,166
Total Investments	104	141	141	141	141
Intangible Assets	412	419	419	419	419
Total Other Non-Current Assets	920	815	815	815	815
Total Non-current Assets	29,520	31,785	37,037	42,289	47,541
Short-term Debt	3,074	3,933	3,933	3,933	3,933
Current Portion of Long-Term Debt					
Total Creditors	7,667	8,149	9,102	10,051	11,118
Other Current Liabilities	2,120	1,928	1,928	1,928	1,928
Total Current Liabilities	12,861	14,010	14,963	15,912	16,979
Total Long-term Debt	4,256	3,632	8,632	13,632	18,632
Hybrid Debt - Debt Component					
Total Other Non-Current Liabilities	44	488	488	488	488
Total Non-current Liabilities	4,300	4,120	9,120	14,120	19,120
Total Provisions	2,784	2,917	2,917	2,917	2,917
Total Liabilities	19,944	21,047	26,999	32,949	39,016
Shareholders Equity	27,376	29,271	31,474	34,142	37,724
Minority Interests					
Total Equity	27,376	29,271	31,474	34,142	37,724

Key Ratios

	Mar-24A	Mar-25A	Mar-26F	Mar-27F	Mar-28F
Revenue Growth	(13.3%)	1.0%	11.5%	10.3%	10.5%
Operating EBITDA Growth	(23.0%)	23.3%	3.6%	23.5%	28.7%
Operating EBITDA Margin	10.2%	12.4%	11.5%	12.9%	15.0%
Net Cash Per Share (Rs)	(41.02)	(41.29)	(65.83)	(87.43)	(103.95)
BVPS (Rs)	171.85	183.75	197.57	214.32	236.81
Gross Interest Cover	5.41	6.50	5.07	4.27	4.33
Effective Tax Rate	31.7%	26.9%	25.2%	25.2%	25.2%
Net Dividend Payout Ratio	12.5%	9.1%	10.1%	8.5%	6.5%
Accounts Receivables Days	47.78	51.51	50.34	50.66	50.67
Inventory Days	168.35	163.23	150.42	151.40	151.43
Accounts Payables Days	133.54	136.97	129.94	130.78	130.81
ROIC (%)	6.0%	7.2%	6.8%	7.4%	8.9%
ROCE (%)	8.2%	9.5%	8.4%	9.0%	10.4%
Return On Average Assets	4.9%	6.0%	5.5%	5.9%	6.8%

SOURCE: INCRED RESEARCH, COMPANY REPORTS

DISCLAIMER

This report (including the views and opinions expressed therein, and the information comprised therein) has been prepared by Incred Research Services Private Ltd. (formerly known as Earnest Innovation Partners Private Limited) (hereinafter referred to as "IRSPL"). IRSPL is registered with SEBI as a Research Analyst vide Registration No. INH000011024. Pursuant to a trademark agreement, IRSPL has adopted "Incred Equities" as its trademark for use in this report.

The term "IRSPL" shall, unless the context otherwise requires, mean IRSPL and its affiliates, subsidiaries and related companies. This report is not directed or intended for distribution to or use by any person or entity resident in a state, country or any jurisdiction, where such distribution, publication, availability or use would be contrary to law, regulation or which would subject IRSPL and its affiliates/group companies to registration or licensing requirements within such jurisdictions.

This report is being supplied to you strictly on the basis that it will remain confidential. No part of this report may be (i) copied, photocopied, duplicated, stored or reproduced in any form by any means; or (ii) redistributed or passed on, directly or indirectly, to any other person in whole or in part, for any purpose without the prior written consent of IRSPL.

The information contained in this report is prepared from data believed to be correct and reliable at the time of issue of this report.

IRSPL is not required to issue regular reports on the subject matter of this report at any frequency and it may cease to do so or change the periodicity of reports at any time. IRSPL is not under any obligation to update this report in the event of a material change to the information contained in this report. IRSPL has not any and will not accept any, obligation to (i) check or ensure that the contents of this report remain current, reliable or relevant; (ii) ensure that the content of this report constitutes all the information a prospective investor may require; (iii) ensure the adequacy, accuracy, completeness, reliability or fairness of any views, opinions and information, and accordingly, IRSPL and its affiliates/group companies (and their respective directors, associates, connected persons and/or employees) shall not be liable in any manner whatsoever for any consequences (including but not limited to any direct, indirect or consequential losses, loss of profits and damages) of any reliance thereon or usage thereof.

Unless otherwise specified, this report is based upon reasonable sources. Such sources will, unless otherwise specified, for market data, be market data and prices available from the main stock exchange or market where the relevant security is listed, or, where appropriate, any other market. Information on the accounts and business of company(ies) will generally be based on published statements of the company(ies), information disseminated by regulatory information services, other publicly available information and information resulting from our research. While every effort is made to ensure that statements of facts made in this report are accurate, all estimates, projections, forecasts, expressions of opinion and other subjective judgments contained in this report are based on assumptions considered to be reasonable as of the date of the document in which they are contained and must not be construed as a representation that the matters referred to therein will occur. Past performance is not a reliable indicator of future performance. The value of investments may go down as well as up and those investing may, depending on the investments in question, lose more than the initial investment. No report shall constitute an offer or an invitation by or on behalf of IRSPL and its affiliates/group companies to any person to buy or sell any investments.

The opinions expressed are based on information which is believed to be accurate and complete and obtained through reliable public or other non-confidential sources at the time made (information barriers and other arrangements may be established, where necessary, to prevent conflicts of interests arising. However, the analyst(s) may receive compensation that is based on his/their coverage of company(ies) in the performance of his/their duties or the performance of his/their recommendations. In reviewing this report, an investor should be aware that any or all of the foregoing, among other things, may give rise to real or potential conflicts of interest. Additional information is, subject to the duties of confidentiality, available on request. The report is not a "prospectus" as defined under Indian Law, including the Companies Act, 2013, and is not, and shall not be, approved by, or filed or registered with, any Indian regulator, including any Registrar of Companies in India, SEBI, any Indian stock exchange, or the Reserve Bank of India. No offer, or invitation to offer, or solicitation of subscription with respect to any such securities listed or proposed to be listed in India is being made, or intended to be made, to the public, or to any member or section of the public in India, through or pursuant to this report.

The research analysts, strategists or economists principally responsible for the preparation of this research report are segregated from the other activities of IRSPL. Information barriers and other arrangements have been established, as required, to prevent any conflicts of interests.

The research analysts, strategists or economists principally responsible for the preparation of this research report are segregated from the other activities of IRSPL. Information barriers and other arrangements have been established, as required, to prevent any conflicts of interests.

IRSPL may have issued other reports (based on technical analysis, event specific, short-term views, etc.) that are inconsistent with and reach a different conclusion from the information presented in this report.

Holding of Analysts/Relatives of Analysts, IRSPL and Associates of IRSPL in the covered securities, as on the date of publishing of this report

Research Analyst or his/her relative(s) or InCred Research Services Private Limited or our associate may have any financial interest in the subject company.

Research Analyst or his/her relatives or InCred Research Services Limited or our associates may have actual or beneficial ownership of 1% or more securities of the subject company(ies) at the end of the month immediately preceding the date of publication of the Research Report.

Research Analyst or his/her relative or InCred Research Services Private Limited or our associate entities may have any other material conflict of interest at the time of publication of the Research Report.

In the past 12 months, IRSPL or any of its associates may have:

- a) Received any compensation/other benefits from the subject company,
- b) Managed or co-managed public offering of securities for the subject company,
- c) Received compensation for investment banking or merchant banking or brokerage services from the subject company,
- d) Received compensation for products or services other than investment banking or merchant banking or brokerage services from the subject company

We or our associates may have received compensation or other benefits from the subject company(ies) or third party in connection with the research report.

Research Analyst may have served as director, officer, or employee in the subject company.

We or our research analyst may engage in market-making activity of the subject company.

Analyst declaration

- The analyst responsible for the production of this report hereby certifies that the views expressed herein accurately and exclusively reflect his or her personal views and opinions about any and all of the issuers or securities analysed in this report and were prepared independently and autonomously in an unbiased manner.
- No part of the compensation of the analyst(s) was, is, or will be directly or indirectly related to the inclusion of specific recommendations(s) or view(s) in this report or based on any specific investment banking transaction.
- The analyst(s) has(have) not had any serious disciplinary action taken against him/her(them).
- The analyst, strategist, or economist does not have any material conflict of interest at the time of publication of this report.
- The analyst(s) has(have) received compensation based upon various factors, including quality, accuracy and value of research, overall firm performance, client feedback and competitive factors.

IRSPL and/or its affiliates and/or its Directors/employees may own or have positions in securities of the company(ies) covered in this report or any securities related thereto and may from time to time add to or dispose of, or may be materially interested in, any such securities.

IRSPL and/or its affiliates and/or its Directors/employees may do and seek to do business with the company(ies) covered in this research report and may from time to time (a) buy/sell the securities covered in this report, from time to time and/or (b) act as market maker or have assumed an underwriting commitment in securities of such company(ies), and/or (c) may sell them to or buy them from customers on a principal basis and/or (d) may also perform or seek to perform significant investment banking, advisory, underwriting or placement services for or relating to such company(ies) and/or (e) solicit such investment, advisory or other services from any entity mentioned in this report and/or (f) act as a lender/borrower to such company and may earn brokerage or other compensation. However, Analysts are forbidden to acquire, on their own account or hold securities (physical or uncertificated, including derivatives) of companies in respect of which they are compiling and producing financial recommendations or in the result of which they play a key part.

Registration granted by SEBI, membership of a SEBI recognized supervisory body (if any) and certification from NISM in no way guarantee performance of the intermediary or provide any assurance of returns to investors.

InCred Research Services Private Limited

Research Analyst SEBI Registration Number: INH000011024

Registered Office: Unit No 1203, 12th Floor, B Wing, The Capital, C-70, G Block, BKC, Bandra (E), Mumbai – 400051

Phone: +91-22-6844-6100

Corporate Office: 05th floor, Laxmi Towers, Plot No. C-25, G Block, Bandra – Kurla Complex, Bandra (East), Mumbai – 400051

Phone: +91-22-4161-1500

Name of the Compliance Officer: Mr. Yogesh Kadam

Email ID: compliance@incredresearch.com, Phone No: +91-22-41611539

For any queries or grievances, you may contact the Grievance Officer.

Name of the Grievance Officer: Mr. Rajarshi Maitra

Phone no. +91-022-41611546

Email ID: rajarshi.maitra@incredresearch.com

CIN: U74999MH2016PTC287535

Recommendation Framework

Stock Ratings

Definition:

- Add** The stock's total return is expected to exceed 10% over the next 12 months.
- Hold** The stock's total return is expected to be between 0% and positive 10% over the next 12 months.
- Reduce** The stock's total return is expected to fall below 0% or more over the next 12 months.

The total expected return of a stock is defined as the sum of the: (i) percentage difference between the target price and the current price and (ii) the forward net dividend yields of the stock. Stock price targets have an investment horizon of 12 months.

Sector Ratings

Definition:

- Overweight** An Overweight rating means stocks in the sector have, on a market cap-weighted basis, a positive absolute recommendation.
- Neutral** A Neutral rating means stocks in the sector have, on a market cap-weighted basis, a neutral absolute recommendation.
- Underweight** An Underweight rating means stocks in the sector have, on a market cap-weighted basis, a negative absolute recommendation.

Country Ratings

Definition:

- Overweight** An Overweight rating means investors should be positioned with an above-market weight in this country relative to benchmark.
- Neutral** A Neutral rating means investors should be positioned with a neutral weight in this country relative to benchmark.
- Underweight** An Underweight rating means investors should be positioned with a below-market weight in this country relative to benchmark.