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INDIA SPECIALTY CHEMICALS

INNOVATION EDGE

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India Specialty Chemicals

31 March, 2022

Initiating Coverage

Innovation Edge

India Specialty Chemicals sector has been a clear outperformer over the last 3-4 years in terms of earnings delivery and future growth prospects are also promising on the back of accelerated capex. Themes like 'China+1' and 'import substitution' are very much relevant in select pockets and we see respective companies reaping the benefits of the same. However, in this report, we have mainly covered companies specifically focused on R&D, process innovation and adoption of clean & green chemistry practices in their operations. We believe that an R&D-centric growth approach has enabled select companies to compete with China in terms of pricing as well as quality without having a matching scale. This approach makes these companies strong contenders as substitutes when the western world is aggressively look to reduce its dependence on China. Process innovation is a mega theme in our view as the superior processes and adoption of catalytic chemistry have enabled few companies to compete even with global giants. We look at innovation in terms of new product development as well as improvement in the process or synthesis of existing products in order to reduce waste, improve yield etc. We like companies involved in new product development with niche applications and process innovation in existing ones through in-house R&D and technology backing. Growth runway for such companies is very long and hence valuation premium over companies using conventional methods is justified, in our view. We initiate coverage on Clean Science & Technology (CLEAN) with an Accumulate rating and Neogen Chemicals (NEOGEN) and Tatva Chintan Pharma (TATVA) with a BUY rating. India's Specialty Chemicals sector is trading at ~30x FY24E. All the above 3 names should trade at a premium vs the sector, led by above-average earnings visibility, ongoing benefits of process improvement & innovation, opening up of new opportunities and improved client engagements.

Green chemistry is future of businesses across the globe: We believe that the economic benefits of green chemistry are central drivers in its advancement. Green chemistry applies across the life cycle of a chemical product, including its design, manufacture, use and ultimate disposal. We prefer chemical companies who have adopted green chemistry practices over the conventional methods. While multiple companies have been talking about green chemistry process innovation, very few companies have been able to roll out the same on a large scale. Shift towards green chemistry results in low/nil generation of by-products, higher yield and lower cost of production. In our view, achieving sustainability goals and operational efficiency go hand in hand.

Western countries looking at India as a preferred supplier: We believe that an R&D- centric growth approach has enabled select companies to compete with China in terms of pricing as well as quality without having a matching scale. This approach makes these companies strong contenders as substitutes when the western world is aggressively look to reduce its dependence on China. CLEAN and TATVA have reasonable revenue share from China. Whereas NEOGEN's chemistry-based sales approach and R&D-backed presence in multi-stage reactions have enabled the company to gain market share in the specialty bromine space.

Customers also prefer suppliers with green practices: Innovator companies in Pharma, Agrochemicals or other global giants in the end-user industries (client base of specialty chemicals companies) have also set their sustainability goals, which involve focus on circular economy, emission reduction etc. In our view, these companies would ideally prefer their supply partners to also follow the same practices. This sustainable sourcing should also be cost-effective approach for these clients in our view.

View: Positive

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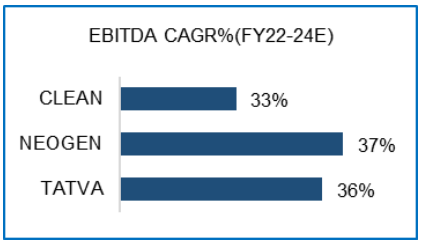
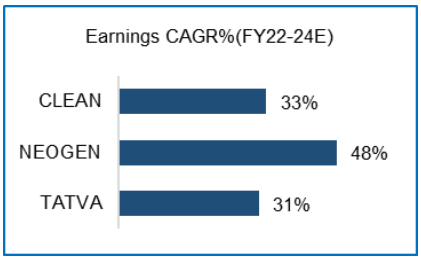


Source: Nirmal Bang Institutional Equities Research



Source: Nirmal Bang Institutional Equities Research

Company	Rating	Market cap		CMP (Rs)	TP (Rs)	Upside/ (Downside)	EPS		PE (x)		EV/EBITDA (x)		ROE
		Rsbn	USD bn				FY22E	FY24E	FY22E	FY24E	FY22E	FY24E	FY24E
CLEAN	Acc	214	2.8	2014	2,000	(1)	21.5	37.9	93.6	53.2	71.3	38.8	31.6
NEOGEN	Buy	40	0.5	1,655	2,000	21	18.7	41.1	88.4	40.3	47.1	27.2	18.1
TATVA	Buy	49	0.7	2,300	2,650	15	44.1	75.6	52.2	30.4	46.0	24.3	24.2

Source: Nirmal Bang Institutional Equities Research

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Green chemistry is the future of businesses across the globe

Green chemistry is the design of chemical products and processes that reduce or eliminate the use or generation of hazardous substances. Green chemistry applies across the life cycle of a chemical product, including its design, manufacture, use and ultimate disposal. We prefer chemical companies with sustainable/green chemistry practices over the conventional methods. While multiple companies have been talking about green chemistry process innovation, very few companies have been able to roll out the same on a large scale. Shift towards green chemistry results in low/nil generation of by-products, higher yield and lower cost of production. Excessive use of solvents and reagents pose safety risks over and above lower efficiency.

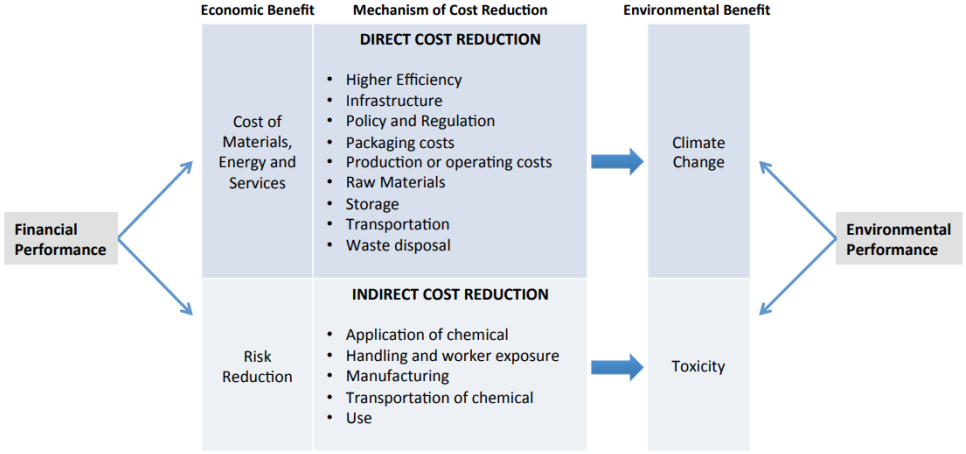
12 principles of Green Chemistry

- **Avoid pollution:** chemical syntheses, processes and reactors need to be designed to avoid dirt and contamination
- **Design & develop safer chemical products**: these principles emphasize effective products that use less toxic than comparable materials
- **Produce less hazardous substances:** create and use substances that pose no risk to humans and the environment
- **Use renewable raw materials** as much as possible
- **Use catalysts** instead of stoichiometric reagents by minimizing the reaction partners
- **Avoid unnecessary intermediate steps in chemical processes**
- **Maximize the atom efficiency:** design syntheses and reactions so that no, or only a few atoms or molecules of the initial reagents remain, or, so that no unwanted dangerous substances remain
- **Use safe solvents** and safe reaction conditions: if possible, avoid the use of adjuvants
- **Increase energy efficiency:** if possible, manage reactions and processes at room temperature
- Produce chemicals and side products: these can be degraded without harming the environment
- Control all operations through real-time management to prevent pollution and contamination, which will help to avoid waste
- Minimize the risk of accidents

We believe that the economic benefits of green chemistry are central drivers in its advancement. Recycling is one of the concepts in green chemistry and very fundamental in promoting a circular economy, which is a new paradigm of sustainability that is able to reduce environmental implications, and in creating new business opportunities. It helps in finding methods and techniques to speed up chemical reactions using small amounts of reactants to deliver the same results and the same price of the product. It also helps in reducing the number of steps that enable enhanced production, increase in plant capacity while saving energy & water. Using fewer chemicals for manufacturing the products results in reduced waste, which leads to reduced cost for the disposal of chemical waste and toxic waste treatments.

Zero Liquid Discharge (ZLD) is a strategic wastewater management system that ensures that there will be no discharge of industrial wastewater into the environment. It is achieved by treating wastewater through recycling process before recovery and reuse for industrial purpose. All the manufacturing facilities of CLEAN and TATVA are ZLD facilities and the new Dahej plant of NEOGEN also has ZLD status. We believe that businesses with a major focus on sustainability objectives and circular economy should outperform others, both in terms of earnings delivery as well as shareholders' returns over the long run, in our view.

Exhibit 1: Environmental and economic benefits associated with green chemistry

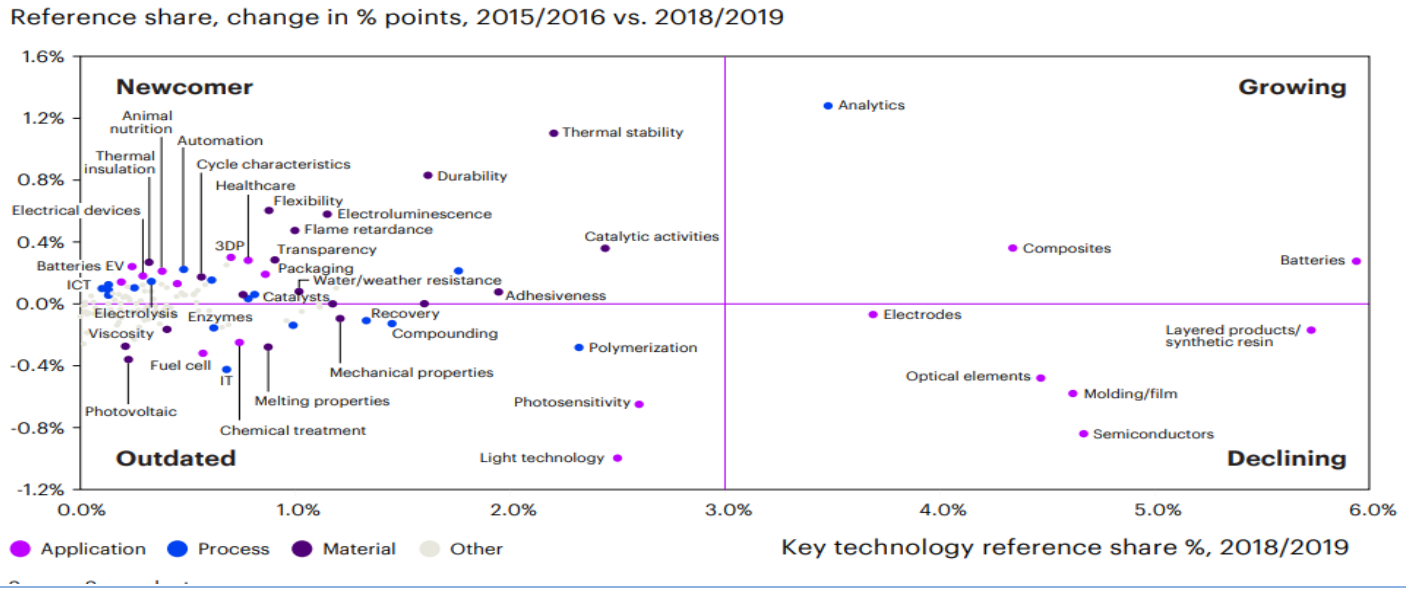


Source: The Business cases for Green Chemistry, Nirmal Bang Institutional Equities Research

Process innovation is a mega trend

Process innovation has gained significant traction over the last few years and we believe this is mega trend as the race to design more efficient catalysts, synthetic methodologies using renewable feedstocks, to reduce chemical waste and to discover reaction pathways that require milder conditions is more important than ever before. Solvent-free synthesis, for example, has emerged as an opportunity for green chemistry. Research as per Accenture Global's Chemicals report examined more than 100,000 priority patent filings from 100 leading chemical companies in three categories: materials, processes and applications. This was used to gauge the importance of various areas of innovation, while year-on-year changes in share were used to identify increases and decreases in a given category's patent activity. We believe that the patents in process segment would have been higher than the reported number; however, patents require a company to disclose innovations, prompting some to avoid filing them to keep their intellectual property (IP) confidential. Typically, companies file more patents on products that they intend to sell in the open market (where competitors can scrutinize them) and less on production processes which can be kept confidential as they represent a greater IP risk. We believe that because of the same reason, CLEAN would not have filed patents for any of its processes involving catalytic chemistry.

Exhibit 2: Patent filing activity - Process patents reported number should be lower than actual rate of innovation

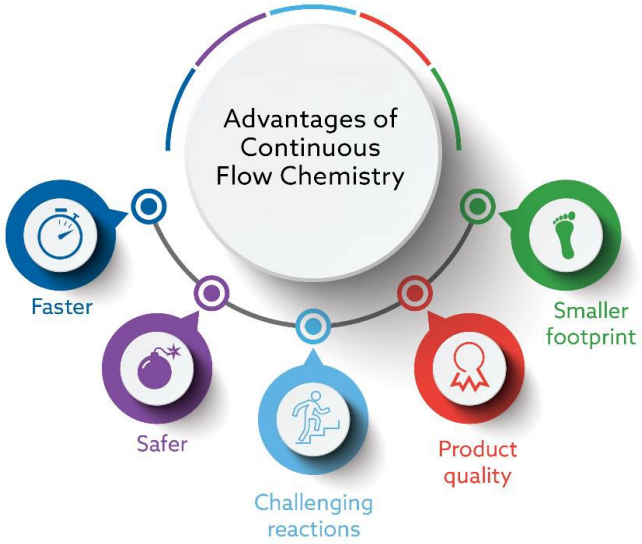


Source: Accenture Report, Nirmal Bang Institutional Equities Research

We believe that there is a huge opportunity for the discovery and development of green chemistry in flow. While global companies are ahead in this race, select Indian companies like TATVA and CLEAN have adopted continuous flow chemistry in majority of their products. Incrementally, both these companies are spending time and money on improving the coverage of continuous flow chemistry in their products– both for existing as well as new products. NEOGEN has recently announced capex for starting a pilot plant to speed up product development of existing and new products. We believe that even other leading companies in the Indian listed space have been working towards the same objective.

Continuous flow processing has been considered safer due to various reasons, including lower reaction volume, better temperature control and ability to accommodate high pressure without risk. Flow processing offers better optionality, can be more environmentally friendly, has a smaller footprint and can offer an accelerated scale-up route from proof-of-concept studies to large scale manufacturing. These advantages can address a number of key priority areas, including sustainable chemistry to lead to cleaner, more efficient, less time consuming and safer chemical processes, as well as the area of novel and efficient chemical synthesis. Apart from environmentally friendly processes, it results in significant cost savings through process efficiency and elimination or reduction of select direct and indirect costs. For example, the vapour phase technology developed by CLEAN to produce Anisole is a continuous flow process and CLEAN's gross margin is significantly better than peers, including global companies, in our view.

Exhibit 3: Advantages of continuous flow chemistry



Source: Industry, Nirmal Bang Institutional Equities Research

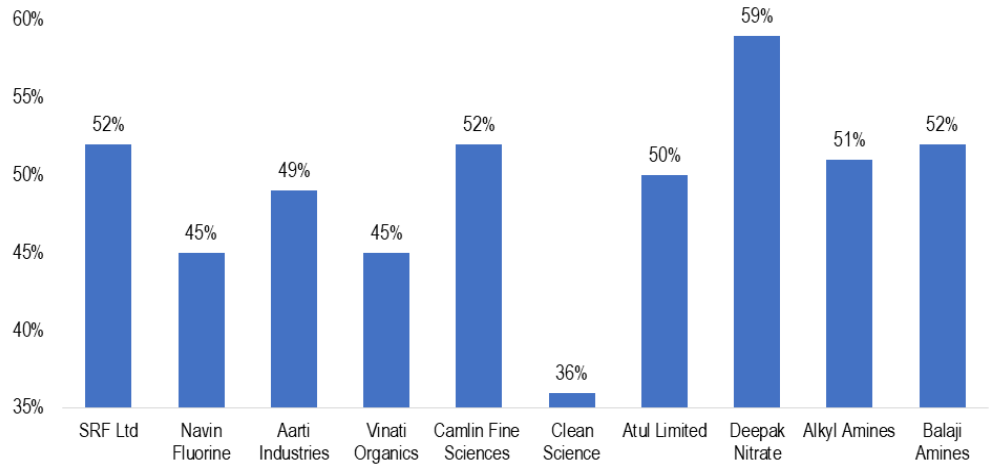
Chemical companies are continuously looking for new routes of synthesis, which are more efficient and reduce effluents. Catalytic technology has evolved as a very important R&D skill across chemical businesses. An appropriate catalyst reduces waste and energy requirement for reactions and enables acceleration in the manufacturing process. Companies like CLEAN have been consistently working towards designing catalysts in-house to create new manufacturing processes and new products. Zeolites are the precursors to catalysts. TATVA is focusing on SDAs, which are the main raw materials in zeolites. It also manufacturers zeolites for internal use in order to develop and improve process technology. Benefits of using differentiated, reusable and affordable catalysts are clearly visible with CLEAN enjoying significantly higher margins vis-à-vis like-to-like peers by selling the same products. We see this as a Technology and R&D edge over companies that have been manufacturing these products through the conventional methods.

Exhibit 4: Financial comparison between CLEAN, CFIN and YASHO

Particulars	CLEAN	CFIN	YASHO
Revenue CAGR (FY18-21)	28.6%	18.1%	12.9%
Gross margin (Avg FY18-21)	63.6%	47.0%	34.5%
EBITDA margin (Avg FY18-21)	39.9%	9.3%	13.5%
Staff cost % sales (Avg FY18-21)	7.2%	9.9%	6.2%
Number of Employees (FY21)	349	975	412
Staff Cost per employee (FY21, Rsmn)	1.2	1.2	0.6
Consumption of stores % sales (Avg FY18-21)	0.2%	0.6%	0.7%
Power & fuel % sales (Avg FY18-21)	7.8%	8.0%	5.4%
Water charges % sales (Avg FY18-21)	0.3%	NA	0.1%
Sub-contract work % sales (Avg FY18-21)	1.8%	1.3%	1.1%
Other expenses % sales (Avg FY18-21)	6.4%	17.9%	8.7%
ROCE (Avg FY18-21)	50.9%	7.0%	15.1%
ROE (Avg FY18-21)	40.6%	2.5%	29.0%
Asset turnover (Avg FY18-21)	3.0	1.0	3.8
Debtor Days (Avg FY18-21)	50	84	68
Inventory Days (Avg FY18-21)	35	104	84
Creditor Days (Avg FY18-21)	28	61	41
Cash Conversion Cycle (Avg FY18-21)	56	126	111

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 5: COGS as % of sales (FY17-21 average) - CLEAN has the lowest ratio on account of green chemistry adoption on a large scale

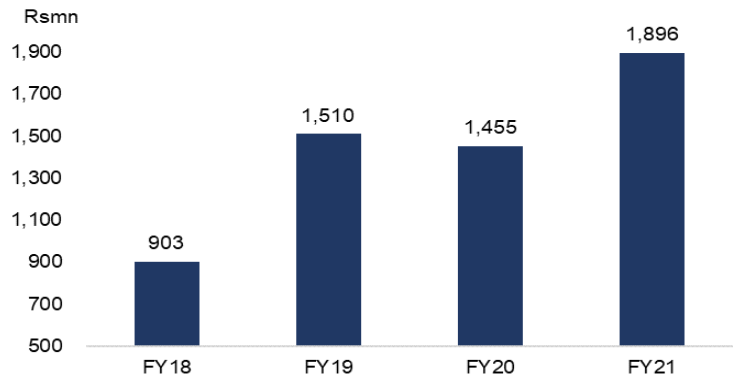


Source: Company, Nirmal Bang Institutional Equities Research

TATVA also continuously strives to improve its processes & infrastructure to help reduce adverse impact on the environment. It undertakes green chemistry processes such as electrolysis based on the principles of clean chemistry, minimum requirement of auxiliary substances, minimum waste and by-products and safe chemistry. In the electrolysis process, apart from the single starting raw material, the process largely uses only water and electricity to produce the target product. Since it does not use any additional solvents or other chemicals in this process to make the target product, no additional waste or by-products are generated. While NEOGEN's business model is different compared to CLEAN and TATVA, one common aspect is significant thrust on R&D, technology adoption and new process development. NEOGEN has recently announced capex for a pilot plant to speed up the process of product development.

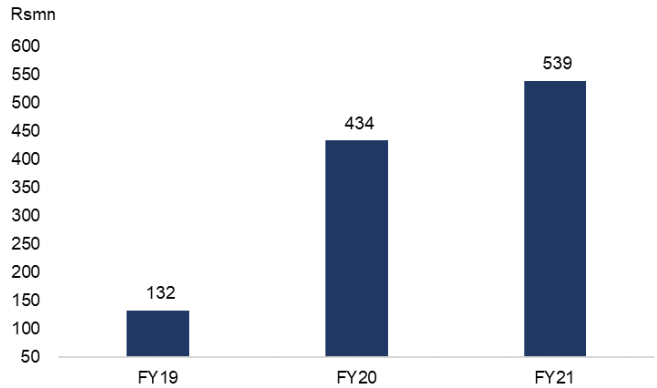
Adoption of catalytic chemistry and other sustainability practices with innovative processes have enabled select Indian companies to compete with China as well in terms of pricing without having matching scale. These are innovative companies wherein the same products are synthesized differently in order to protect the environment and improve operational parameters.

Exhibit 6: CLEAN's China revenue has reported 28% CAGR over FY18-21



Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 7: TATVA's China revenue has reported 102% CAGR over FY19-21



Source: Company, Nirmal Bang Institutional Equities Research

Environment targets and operational efficiency go hand in hand

The chemical sector is a partner, innovation enabler and solutions provider for essentially all sectors of the economy and hence it's contribution towards Strategic Development Goals (SDGs) will be very crucial. Governments have set ambitious targets and timelines for moving towards sustainability, greenhouse gas (GHG) reduction and circular economy. UN's SDGs include a clear focus on areas such as climate change, clean water, green energy and responsible consumption. In our view, achieving these sustainability goals and operational efficiency go hand in hand. Global chemical companies have therefore set ambitious targets for efficiency-led savings as well. While some of these global giants could be peers for Indian chemical companies, majority of small businesses deal with these global companies and hence companies with sustainable practices should have an edge over others, in our view. Also, in other industries like Pharma, Automobiles etc. there is an equal thrust on waste reduction, emission reduction etc. and these global companies would ideally prefer their supply partners to also follow the same practices.

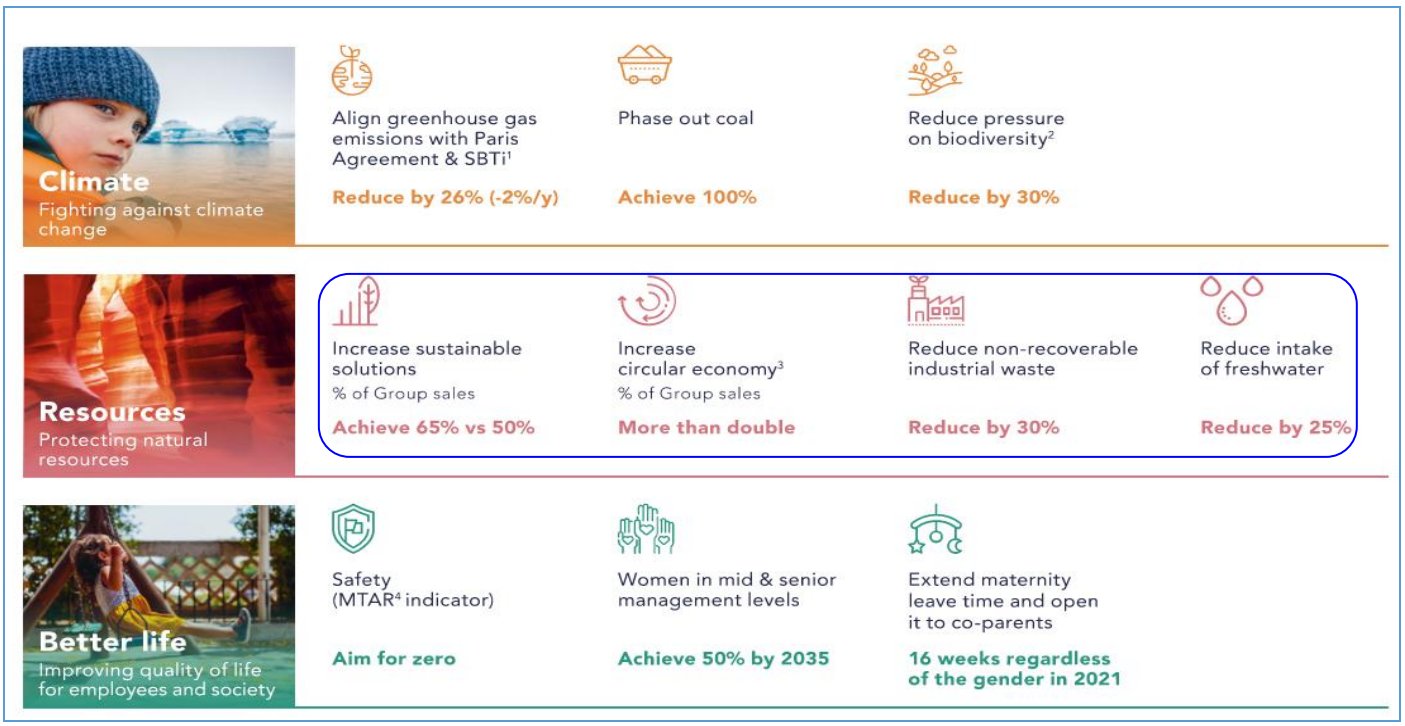
Exhibit 8: Chemours's CRC goal focusing on sustainability practices of supply partners

Our 2030 CRC Goals	Our 2020 Performance*
50% or more of our revenue will be from offerings that make a specific contribution to the UN SDGs	**37.5%:** Chemours revenue that came from products that made a specific contribution to the UN SDGs
80% of suppliers by spend will have a baseline for sustainability performance and will demonstrate a 15% improvement	**59%:** Suppliers by spend that completed supplier corporate responsibility assessment evaluations **0%:** Improvement in supplier sustainability performance

*Unique impact in 2020, see GRI for more details.

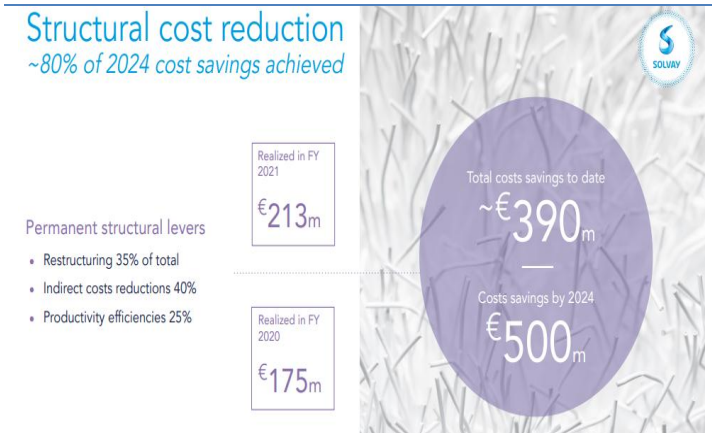
Source: Chemours PPT, Nirmal Bang Institutional Equities Research

Exhibit 9: Solvay One Plant Goal 2030 highlighting the focus on sustainable practices and operating efficiency



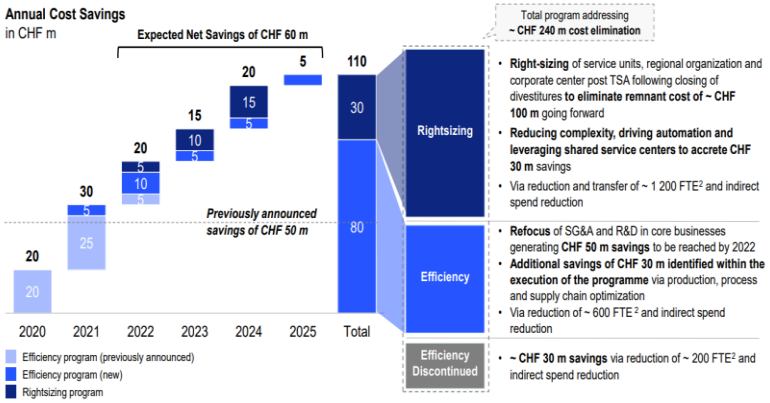
Source: Solvay PPT, Nirmal Bang Institutional Equities Research

Exhibit 10: Solvay's cost reduction programme has productivity efficiency related saving as a big component



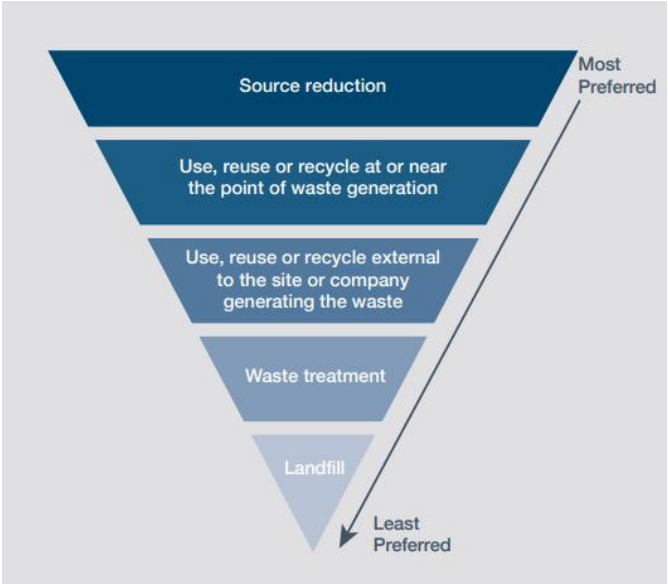
Source: Solvay PPT, Nirmal Bang Institutional Equities Research

Exhibit 11: Clariant has raised its efficiency-led savings target on the back of production and process optimisation



Source: Clariant PPT, Nirmal Bang Institutional Equities Research

Exhibit 12: Waste reduction target philosophy



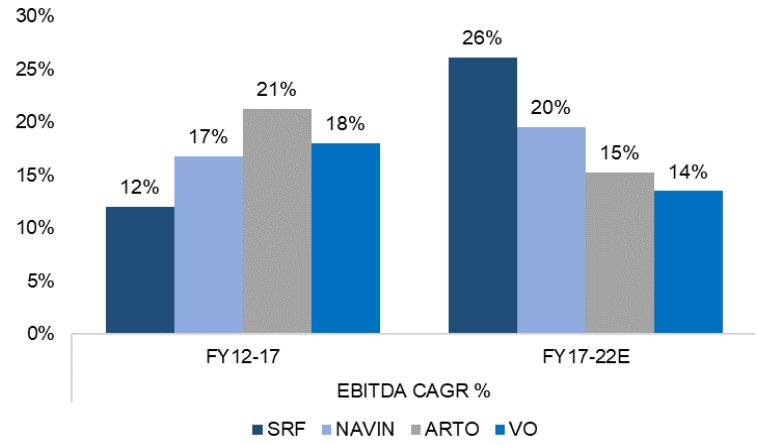
Source: Dow Chemicals PPT, Nirmal Bang Institutional Equities Research

Vinati Organics (VO) case study - premium valuation despite earnings under-delivery on relative basis on account of focus on green chemistry

We highlight that among the major specialty chemicals companies in India, VO has been focused on green chemistry since inception and sustainable practices have enabled the company to report strong performance and compete with China despite higher pricing disparity in the past. As a result, VO has always traded at a premium compared to peers despite earnings under-delivery.

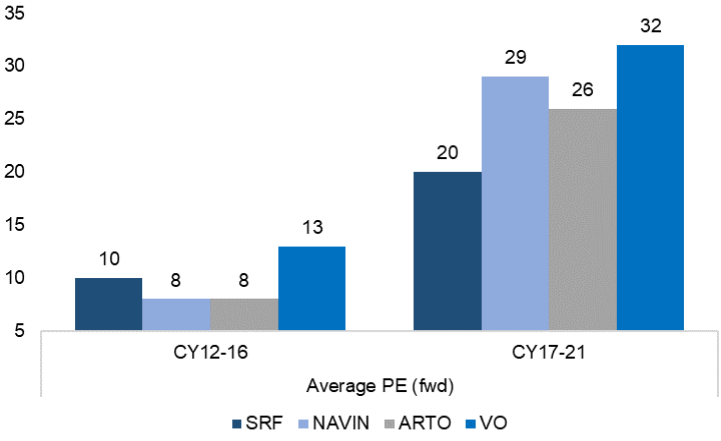
While the premium has narrowed over the last 5 years on account of relative underperformance, VO is still considered as the benchmark for process innovation in respective chemistries. CLEAN has also delivered similar, if not better performance and hence should continue to trade at a premium ,in our view. Also, technological entry barriers are fairly high, in our view. Since the end-product is the same in terms of quality, peers have not been able to replicate the process of CLEAN or innovate a new one with even better cost advantages.

Exhibit 13: EBITDA CAGR comparison of VO with its peers- VO has under-delivered



Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 14: Average PE multiple comparison of VO with its peers- premium valuation on account of adoption of green practices



Source: Company, Nirmal Bang Institutional Equities Research

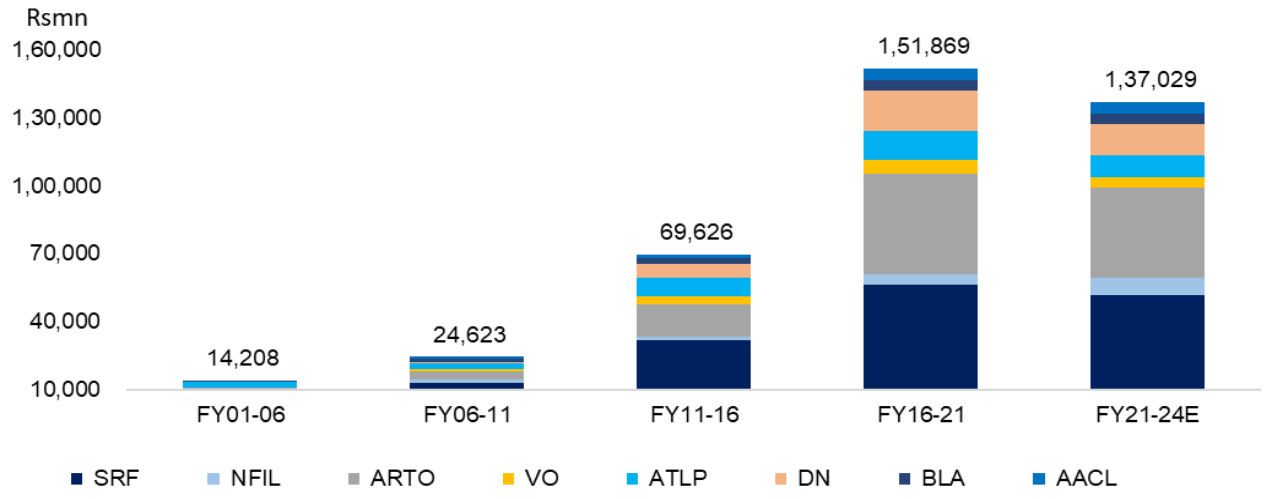
Our view on Indian Specialty Chemicals sector

The Indian Specialty Chemicals basket has significantly outperformed all the leading indices over the last one year. The entire sector got massively re-rated (current valuation ~30x PE on FY24E) on the back of market opportunities across select chemistries, import substitution and 'China+ 1 theme. Apart from future growth potential, which might be driving the stock price performance to a great extent, earnings delivery of Indian Specialty Chemicals companies has been far superior compared to any other sector indices (see Exhibit 16). These companies have more than doubled their capex every 5 years and the next 3-4 years' guidance also remains very promising. This should create a very solid asset base for these companies and hence there is a strong case for ~25% earnings CAGR over the next 5 years, in our view. Despite their rich valuations currently, we believe that there is still enough value in select pockets from a medium-term perspective. All our coverage companies are leading players globally in their respective chemistries. We assign high probability to these names winning new long-term contracts in future. Rising share of specialty chemicals revenue in these companies would reduce the risk associated with RM volatility & pricing to an extent and enable consistent earnings growth. Structurally, we are positive on businesses with focus on niche chemistry or application, process innovation and new-age segments with a high optionality value.

Capex acceleration makes a good case for ~25% earnings CAGR over the next 5 years

Indian Specialty Chemicals companies have more than doubled their capex in every 5-year period and for future too, most managements have raised their capex guidance. Out of the 8 companies which we have considered for our analysis (market cap >US$2bn), for FY22-24, companies have committed 73-152% of the cumulative capex incurred during FY16-FY21. Considering the capex announcements of key companies for the next 3 years (FY22-24), we believe that the sector is poised to deliver ~25% earnings CAGR over the next 5 years. A significant portion of this incremental capex is towards value-added segments.

Exhibit 15: Capex acceleration across the board; incremental focus on specialty verticals



Source: Bloomberg, Nirmal Bang Institutional Equities Research

Exhibit 16: Sector can deliver ~25% earnings CAGR over FY21-FY26E based on our pro-forma estimates

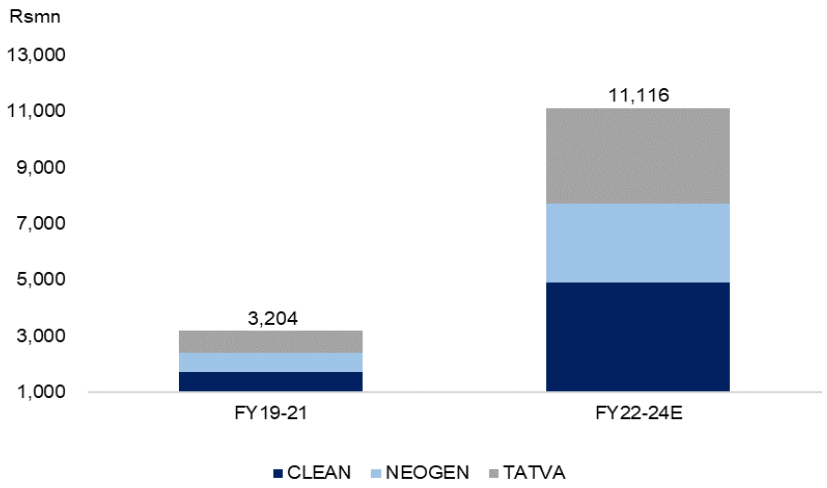
Company (Rsmn)	FY21 Revenue	FY21 APAT	FY21 Gross block	FY22-24E Capex	FY24 Gross block	Asset turn (n-2)	FY26E revenue	Revenue CAGR	FY26E PAT	PAT CAGR
SRF	84,000	11,983	97,834	53,413	1,51,246	1.4	2,04,183	19%	29,126	19%
NFIL	11,794	2,468	6,112	39,632	45,745	2.1	96,063	52%	20,103	52%
ARTO	45,061	5,352	52,241	10,298	62,539	1.5	90,681	15%	10,771	15%
VO	9,543	2,693	9,055	5,500	14,555	1.8	26,199	22%	7,394	22%
ATLP	37,315	6,600	19,809	12,540	32,350	3.1	1,00,284	22%	17,738	22%
DN	43,598	7,758	21,059	20,927	41,986	3.4	1,42,751	27%	25,402	27%
BLA	13,115	2,435	7,907	7,085	14,992	2.0	29,984	18%	5,567	18%
AACL	12,424	2,953	5,278	5,300	10,578	2.6	27,503	17%	6,538	17%
Total	**2,56,849**	**42,243**	**2,19,296**	**1,54,695**	**3,73,990**	**1.9**	**7,17,649**	**23%**	**1,22,640**	**24%**

Source: Bloomberg, Nirmal Bang Institutional Equities Research

CLEAN, TATVA and NEOGEN could deliver ~30% earnings CAGR over the next 5 years on the back strong capacity addition

We see significant capex acceleration in our new coverage companies over FY22-24E. Building a huge capex base should enable these companies to deliver strong earnings growth beyond FY24 as well. We expect these companies to deliver ~30% earnings growth over FY21-26E, as per our pro-forma estimates.

Exhibit 17: CLEAN, TATVA and NEOGEN capex - we expect significant capacity addition over the next 2 years



Source:Company, Nirmal Bang Institutional Equities Research

Exhibit 18: Our new coverage companies can deliver ~30% earnings CAGR over FY21-26E as per our pro-forma estimates

Company (Rsmn)	FY21 Revenue	FY21 APAT	FY21 Gross block	FY22-24E Capex	FY24 Gross block	FY26E revenue	Revenue CAGR	FY26E PAT	PAT CAGR
CLEAN	5,124	1,984	2,586	4,913	7,499	17,464	28%	6,332	26%
NEOGEN	3,364	314	1,435	2,803	4,238	12,283	30%	1,688	40%
TATVA	3,004	523	1,382	3,400	4,782	10,591	29%	2,277	34%
Total	**11,492**	**2,821**	**5,404**	**11,116**	**16,520**	**40,338**	**29%**	**10,297**	**30%**

Source:Company, Nirmal Bang Institutional Equities Research

Premium valuation to sustain in innovation-backed businesses

The entire sector has got massively re-rated and is trading at ~30x PE on FY24E earnings. All these names were trading at low single-digit multiples 10 years back. Sharper R&D focus, rising salience of specialty products, strong client relationships with global giants and market opportunities on the back of themes like 'import substitution' and 'China+ 1 have led to this re-rating. Also, we believe that companies with strong focus on R&D and technology development, process innovation and which are in a position to leverage technical know-how to widen their coverage in terms of newer applications with huge growth potential should continue to trade at a premium to the sector's average multiple.

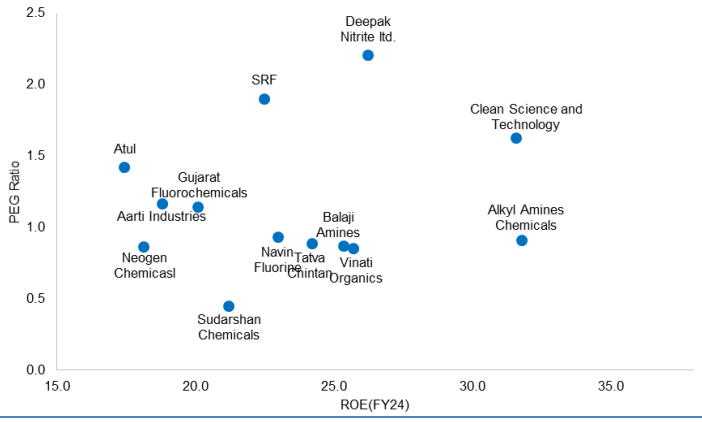
Since growth visibility is higher in chemicals compared to any other sector, we have compared Sector PEG with other sector indices and also on individual company basis. While we are valuing CLEAN, TATVA and NEOGEN at a premium to sector average multiple, it is backed by above-industry earnings growth expectations over FY22-24E. Our Accumulate rating on CLEAN is predominantly on account of rich valuation.

Exhibit 19: Indian companies' financial & valuation comparison

Company Name	Mcap	FY22-24E CAGR (%)			ROE (%)	P/E (x)			EV/EBITDA (x)			P/B (x)		
	(USD bn)	Rev	EBITDA	PAT	FY24E/CY23E	FY22E/CY21E	FY23E/CY22E	FY24E/CY23E	FY22E/CY21E	FY23E/CY22E	FY24E/CY23E	FY22E/CY21E	FY23E/CY22E	FY24E/CY23E
Navin Fluorine International L	2.7	38.0	43.6	40.0	23.0	72.7	46.6	37.1	53.2	33.4	25.8	11.0	9.4	7.8
SRF Ltd	10.6	17.8	18.3	17.0	22.5	44.1	38.4	32.2	26.8	22.9	19.0	9.5	7.9	6.7
Aarti Industries Ltd	4.5	18.8	22.2	24.1	18.8	43.2	32.3	28.0	26.9	21.1	18.1	6.5	5.7	5.0
Vinati Organics Ltd	2.7	31.0	40.5	38.4	25.7	62.8	42.0	32.8	49.1	31.5	24.8	11.3	9.3	7.7
Clean Science and Technology	2.8	32.1	33.4	32.6	31.6	93.6	69.0	53.2	70.5	50.9	38.9	28.0	19.9	14.5
Neogen Chemicals	0.5	27.9	36.6	48.1	18.1	88.4	55.7	40.3	48.4	34.8	27.2	9.3	8.1	6.9
Tatva Chintan	0.7	27.9	36.0	31.0	24.2	52.2	42.8	30.4	42.8	32.2	24.3	16.8	11.4	8.1
Atul Ltd	4.0	13.2	19.6	21.7	17.5	47.2	36.0	30.7	31.4	25.3	21.6	7.0	6.1	5.3
Deepak Nitrite Ltd	4.0	8.4	11.3	10.3	26.2	28.5	26.3	22.6	19.2	17.4	15.0	9.2	7.0	5.5
Alkyl Amines Chemicals	2.0	19.6	37.0	37.3	31.8	63.9	43.5	33.9	N/A	N/A	N/A	15.2	11.8	9.3
Balaji Amines Ltd	1.3	17.8	20.2	20.9	25.4	26.6	21.4	18.2	N/A	N/A	N/A	9.3	7.8	6.2
Sudarshan Chemical Industries	0.5	15.5	28.6	34.9	21.2	28.5	20.8	15.6	16.0	12.0	9.5	4.4	3.8	3.2

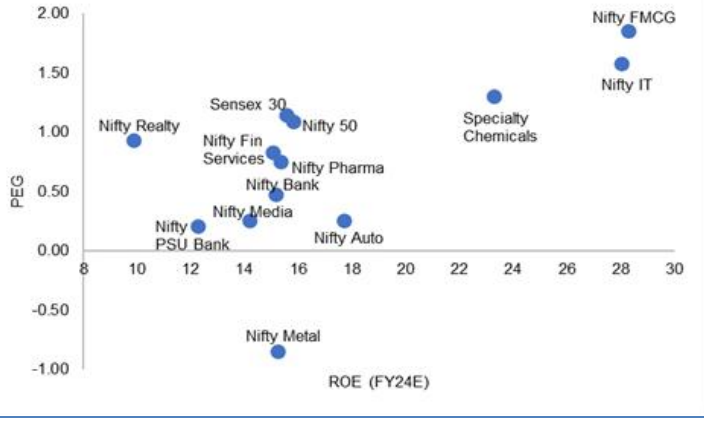
Source: Bloomberg, Nirmal Bang Institutional Equities Research

Exhibit 20: Indian Chemical Companies PEG



Source: Bloomberg, Nirmal Bang Institutional Equities Research

Exhibit 21: Sector PEG comparison



Source: Bloomberg, Nirmal Bang Institutional Equities Research

(Note – Specialty chemicals include Navin fluorine, SRF, Aarti Industries, Vinati Organics, Atul ltd, Gujarat Fluorochemicals, Tatva Chintan, Neogen Chemicals, Deepak Nitrite, Alkyl Amines, Balaji Amines, Clean Science & Technology, Sudarshan Chemicals)

Exhibit 22: Global companies' financial & valuation

Company Name	Mcap	FY22-24E CAGR (%)			ROE (%)	P/E (x)			EV/EBITDA (x)			P/B (x)		
	(USD bn)	Rev	EBITDA	PAT	FY24E/CY23E	FY22E/CY21E	FY23E/CY22E	FY24E/CY23E	FY22E/CY21E	FY23E/CY22E	FY24E/CY23E	FY22E/CY21E	FY23E/CY22E	FY24E/CY23E
DuPont de Nemours Inc	40.0	3.5	7.7	10.0	10.9	18.5	16.2	14.1	12.3	11.3	10.3	1.5	1.5	1.4
BASF SE	54.6	1.7	5.3	4.1	12.4	8.0	9.5	8.8	6.0	6.2	6.0	1.3	1.2	1.2
Chemours Co/The	5.1	4.2	7.9	11.5	50.3	7.9	7.2	6.1	7.2	5.3	4.7	5.2	3.9	3.0
Solvay SA	11.0	4.8	6.2	10.1	11.8	10.4	9.9	9.1	6.4	5.3	4.8	1.3	1.1	1.0
FMC Corp	16.5	5.2	7.7	9.6	32.4	19.3	17.0	15.0	15.4	13.4	12.2	5.3	5.1	4.8
China Petroleum & Chemical Cor	77.7	1.8	6.1	3.2	8.4	7.3	7.2	7.2	3.1	2.4	2.3	0.7	0.6	0.6
Clariant AG	6.0	5.4	8.4	14.4	12.4	24.9	19.4	17.1	12.5	9.0	7.6	2.2	2.5	2.1
Exxon Mobil Corp	348.7	1.1	12.1	6.7	15.3	15.7	10.0	11.6	8.7	4.9	5.6	2.1	1.9	1.8
Albemarle Corp	26.1	20.2	20.3	111.5	16.8	55.0	36.7	26.6	26.4	23.4	17.9	4.3	4.2	3.8
ICL Group Ltd	15.1	4.0	-0.1	10.2	24.9	21.6	11.4	12.2	10.3	6.4	7.0	3.4	2.9	2.7
LANXESS AG	4.1	6.5	16.8	27.0	11.3	9.5	8.6	7.5	7.0	5.9	5.3	1.1	1.0	0.9
Umicore SA	10.8	-26.4	-1.0	-6.1	13.8	14.4	17.6	18.4	9.2	9.6	9.9	3.1	2.7	2.5
Dow Inc	47.2	-0.1	-3.9	-8.6	22.0	7.2	9.4	9.6	5.4	5.5	5.4	2.8	2.3	2.1

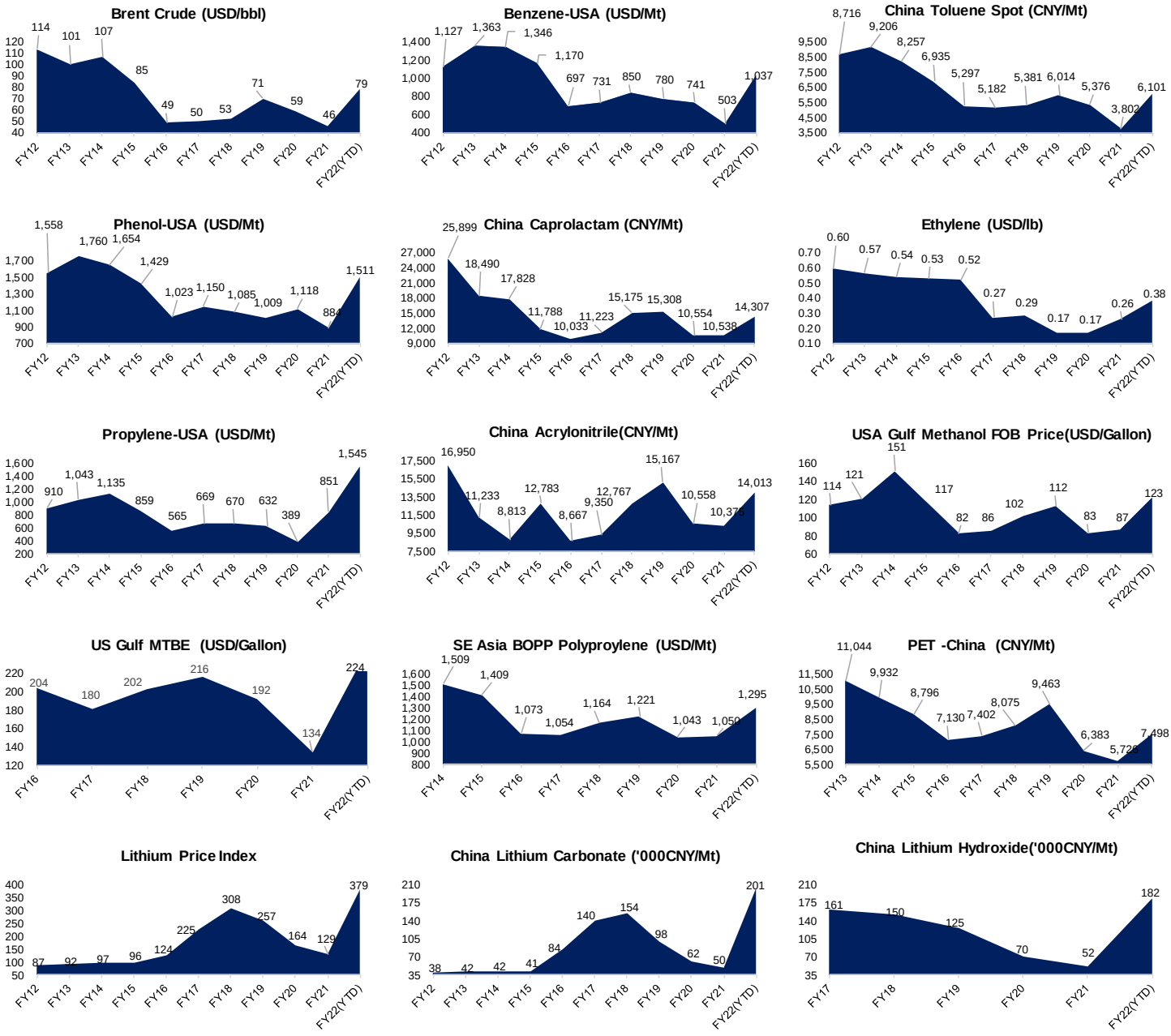
Source: Bloomberg, Nirmal Bang Institutional Equities Research

Exhibit 23: Share price movement

Company Name	1 month absolute	3 months absolute	0.5yr absolute	1yr absolute	1.5yr CAGR	2yr CAGR	3yr CAGR	4yr CAGR	5yr CAGR	10yr CAGR	15yr CAGR
Nifty 50	4	2	-1	18	34	45	15	15	14	13	11
Sensex 30	4	2	-1	17	33	44	15	16	15	13	11
Average of Indian chemical companies	6	-3	-5	35	41	79	43	31	30	38	33
Average of Agro chemical companies	10	-1	-6	15	17	42	18	12	14	20	25
Average of Specialty chemical companies	6	-1	-1	57	69	108	63	50	47	51	39
Average of Specialty Ingredient companies	-1	-4	-13	14	17	62	37	12	2	29	24
MSCI World Chemical Index	4	-7	2	3	14	29	11	7	8	7	6
Indian chemicals companies											
UPL	17	4	10	24	34	59	7	12	10	25	14
Coromandel	3	6	0	4	2	22	16	11	21	11	24
PI Industries	16	-5	-10	25	28	63	40	34	28	39	52
Rallis India	1	-12	-17	-9	-12	20	13	-0	-1	7	19
Bayer Cropscience India	10	-1	-8	-6	-12	22	3	4	5	20	23
BASF India	12	4	-10	52	61	66	28	13	18	20	20
Navin Fluorine	4	-2	10	49	50	84	79	51	47	50	32
SRF	14	13	20	150	121	120	78	62	53	49	37
Aarti Industries	2	-4	1	41	51	61	34	35	38	51	40
Vinati Organics	6	0	2	40	30	57	34	45	40	47	57
Deepak Nitrate	11	-9	-8	36	94	146	101	73	78	66	41
Alkyl Amines	-3	-13	-24	28	72	149	106	87	74	67	41
Balaji Amines	3	-7	-35	69	137	248	81	51	50	55	37
Atul	12	15	10	47	42	65	42	41	34	49	38
Neogen Chemicals	8	1	34	110	83	126	NA	NA	NA	NA	NA
Sudarshan Chemicals	-1	-6	-19	2	6	25	16	5	9	27	30
Clean Science & Tech	10	-17	-2	NA	NA	NA	NA	NA	NA	NA	NA
Tatva Chintan Pharma Chem	8	-14	5	NA	NA	NA	NA	NA	NA	NA	NA
Fine Organic Industries	-5	11	33	79	33	47	49	NA	NA	NA	NA
Rossari Biotech	-7	-28	-37	-13	9	NA	NA	NA	NA	NA	NA
Galaxy Surfactant	5	-6	-11	19	33	57	40	18	NA	NA	NA
Camlin Fine Sciences	10	12	-22	2	16	94	42	9	10	29	24
Advanced Enzyme Technologies	-9	-10	-25	-17	-8	50	17	8	-7	NA	NA
Global chemicals companies											
Du Pont Nemours Inc	1	-3	15	-0	25	52	1	-4	-3	5	1
BASF SE	-9	-13	-18	-25	2	12	-7	-10	-10	-2	2
Chemours	17	-3	11	16	33	82	-5	-10	-3	NA	NA
Solvay SA	-6	-9	-13	-14	18	20	-1	-5	-4	1	-1
Sinopec	-0	2	-3	-	7	-2	-9	-10	-5	-2	-4
Clariant AG	0	-12	-6	-14	-6	2	-7	-8	-3	3	-1
Eastman Chemical Company	-4	-5	13	2	28	55	14	2	7	8	9
Mitsui Chemicals, Inc.	5	-0	-18	-14	14	21	5	-2	2	9	-3
Guilin Layn Natural Ingredients Corp	45	28	37	53	30	24	18	8	3	11	NA
Kawaguchi Chemical Industry Co., Ltd.	3	-18	-37	4	3	16	-3	-12	-7	-0	-5
Exxonmobil Chemical	5	35	40	45	79	48	1	3	-0	-1	1
Albemarle Corp	14	-5	2	53	84	100	39	24	16	13	12
ICL Group Ltd	1	22	61	99	124	94	31	29	22	0	4
LANXESS AG	-3	-22	-28	-34	-9	8	-4	-9	-8	-4	1
Johnson Matthey PLC	-1	-11	-31	-40	-15	2	-16	-12	-9	-3	0
Umicore SA	7	10	-23	-13	7	13	-0	-2	8	7	7
Dow Inc	9	13	12	-1	23	50	8	NA	NA	NA	NA

Source: Bloomberg, Nirmal Bang Institutional Equities Research

Exhibit 24: Key raw materials' pricing trends over the last decade



Source: Bloomberg, Nirmal Bang Institutional Equities Research

Clean Science and Technology

Clean Science & Technology (CLEAN), a leading chemicals player in India, is among the few companies globally focusing on green, eco-friendly and cost-competitive technologies using in-house catalytic processes. Entire product & process R&D and technology development has been done in-house. While multiple companies are increasingly talking about green chemistry and clean processes, we believe that very few companies like CLEAN have been able to implement it on a large scale. As a result, environmental as well economic benefits are clearly visible. Catalysts, which are the key differentiators in the process, are identified, designed, customized and re-generated in-house by CLEAN. While mastering the catalytic chemistry takes time initially, operating parameters change dramatically post implementation and scale-up. Because of the effective implementation of sustainable chemistry practices, CLEAN has the lowest effluent generation in the Specialty Chemicals industry, as per industry experts. CLEAN enjoys market leadership in majority of its products (see Exhibit 5). Process improvements and use of catalytic chemistry keep the cost structure of CLEAN's products significantly low compared to peers. Hence, this relative cushion enables CLEAN to gain market share even in an inflationary scenario. As the end-users are also moving towards sustainable supplies meaningfully, we expect CLEAN to be one of the key beneficiaries of this trend and the same provides the company a long runway for growth. Also, CLEAN's cost effectiveness enables the company to aggressively compete with China and gain market share domestically as well as in overseas markets. We initiate coverage on CLEAN with an ACCUMULATE rating and target price (TP) of Rs2,000 (53x P/E on FY24E earnings). Comparison of PEG across our coverage suggests that CLEAN should outperform on a relative basis in long term. CLEAN trades at a significant premium to the chemicals basket (30x on FY24E). Premium on account of sustainable chemistry practices and innovation focus should continue going forward as well, in our view. Vinati Organics (VO) is also known for its process improvements and has consistently traded at a premium in the past vis-à-vis peers. despite earnings under delivery on relative basis.

Exhibit 25: Financial Summary

Particulars (Rsm)	FY20	FY21	FY22E	FY23E	FY24E
Net Sales	4,193	5,124	6,689	9,084	11,682
Growth YoY%	*6.6*	*22.2*	*30.5*	*35.8*	*28.6*
Gross margin %	*69.2*	*75.9*	*68.0*	*68.4*	*68.0*
EBITDA	1,853	2,590	2,991	4,125	5,325
EBITDA margin %	*44.2*	*50.5*	*44.7*	*45.4*	*45.6*
Adj PAT	1,397	1,984	2,286	3,098	4,021
Growth YoY%	*42.8*	*42.1*	*15.2*	*35.5*	*29.8*
Adj EPS	*13.1*	*18.7*	*21.5*	*29.2*	*37.9*
Growth YoY%	*42.8*	*42.8*	*42.1*	*15.2*	*35.5*
RoCE %	*55.4*	*54.6*	*42.2*	*41.0*	*38.5*
RoE %	*45.5*	*45.0*	*35.0*	*33.7*	*31.6*
P/E	153.2	107.8	93.6	69.0	53.2
EV/EBITDA	115.4	82.6	71.3	51.7	40.0
P/BV	62.5	39.6	27.9	19.9	14.5

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 26: Variance with consensus

Particulars	NBIE estimates			Consensus estimates			Variance (%)		
	FY22E	FY23E	FY24E	FY22E	FY23E	FY24E	FY22E	FY23E	FY24E
Revenue	6,689	9,084	11,682	6,609	8,706	11,007	1.2%	4.3%	6.1%
EBITDA	2,991	4,125	5,325	3,017	4,254	5,414	-0.9%	-3.0%	-1.6%
EBITDA margin	44.7%	45.4%	45.6%	45.6%	48.9%	49.2%	-94bps	-346bps	-360bps
APAT	2,286	3,098	4,021	2,283	3,169	4,015	0.1%	-2.2%	0.2%

Source: Bloomberg, Nirmal Bang Institutional Equities Research

Neogen Chemicals

NEOGEN is one of the India's leading bromine-based and lithium-based specialty chemicals manufacturers, backed by technocrat promoters. While bromine remains the core chemistry, NEOGEN focuses more on innovative processes and has adopted other chemistries to perform multi-stage reactions for several molecules. The company has been actively engaging with innovator companies and we believe NEOGEN's incremental focus on Advanced Intermediates and its chemistry-based sales approach could be a huge growth driver going ahead. Custom Synthesis & Manufacturing (CSM) segment has grown rapidly over the last 3-4 years (~2% of sales in FY18 to ~16% in FY22E) on the back of long-term order wins from innovator companies and we expect this trend to continue. Significant capacity addition in Organic Chemicals segment (3x over FY20-22) should ensure no capacity constraints for NEOGEN, in our view. Globally, bromine manufacturers have also not made a significant foray into Advanced Intermediates. NEOGEN is not present in bulk bromine derivatives like flame retardants and focuses mainly on high-value, low-volume segment. In bromine, the total addressable market for NEOGEN is ~US$1bn, as per the management. Also, NEOGEN has 30 years of experience in handling lithium chemistry, which the company should be able to leverage in making lithium salts for electrolyte application. While it is difficult to hazard a guess on the revenue potential from 2-3 years' perspective in this segment, NEOGEN could benefit from the EV trend in a big way, at least in India. We believe that optionality value is very high, both in NEOGEN's organic as well as inorganic businesses because of newer applications and potential big client additions. The recent fund raise of Rs2.25bn gives the company safe cushion in order to capitalize on some of the existing and/or new opportunities. We compare financial parameters of NEOGEN with global bromine manufacturers and it has been able to do well mainly on account of consistent focus on 'moving up the value chain' with significant emphasis on product and process R&D. We initiate coverage on NEOGEN with a BUY rating and target price (TP) of Rs2,000, indicating an upside of 21% from CMP. We value NEOGEN at 49x on FY24E earnings. NEOGEN's higher multiple compared to sector valuation is due to niche play and higher probability of delivering above normal growth over next 5 years.

Exhibit 27: Financial Summary

Particulars (Rsm)	FY20	FY21	FY22E	FY23E	FY24E
Net Sales	3,061	3,364	4,696	6,125	7,682
Growth YoY%	*28.1*	*9.9*	*39.6*	*30.4*	*25.4*
Gross margin %	*39.9*	*41.3*	*43.8*	*44.0*	*44.0*
EBITDA	581	644	836	1,176	1,559
EBITDA margin %	*19.0*	*19.1*	*17.8*	*19.2*	*20.3*
Adj PAT	288	314	467	741	1,024
Growth YoY%	*36.8*	*9.3*	*48.5*	*58.6*	*38.3*
Adj EPS	*12.3*	*13.5*	*18.7*	*29.7*	*41.1*
Growth YoY%	*17.7*	*9.3*	*39.0*	*58.6*	*38.3*
RoCE	*22.2*	*17.0*	*14.8*	*15.6*	*18.6*
RoE	*25.0*	*20.5*	*16.0*	*15.3*	*18.1*
P/E	134.2	122.8	88.4	55.7	40.3
EV/EBITDA	68.8	63.1	47.1	34.0	25.6
P/BV	24.6	21.1	8.6	7.5	6.3

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 28: Variance with consensus

Particulars	NBIE estimates			Consensus estimates			Variance (%)		
	FY22E	FY23E	FY24E	FY22E	FY23E	FY24E	FY22E	FY23E	FY24E
Revenue	4,696	6,125	7,682	4,698	6,082	7,582	0.0%	0.7%	1.3%
EBITDA	836	1,176	1,559	875	1,216	1,563	-4.5%	-3.3%	-0.2%
EBITDA margin	17.8%	19.2%	20.3%	18.6%	20.0%	20.6%	*-83bps*	*-79bps*	*-31bps*
APAT	467	741	1,024	444	736	992	5.1%	0.6%	3.2%

Source: Bloomberg, Nirmal Bang Institutional Equities Research

Tatva Chintan Pharma Chem

Tatva Chintan Pharma Chem (TATVA) is a leading manufacturer and supplier of specialty chemicals with focus on clean and green chemistry practices. It operates under 4 key segments, namely, Structure Directing Agents (SDAs), Phase Transfer Catalysts (PTCs), Pharmaceuticals and Agrochemicals Intermediates and Other Specialty Chemicals (PASCs) and Electrolyte Salts for supercapacitor batteries. TATVA is the sole Indian manufacturer of SDAs and 2nd biggest globally after SACHEM Inc. Primary applications of TATVA's SDAs are as refining catalysts and in emission control of commercial vehicles as of now. With increasing regulatory guidelines on emission control (NOx reduction), we expect SDAs to deliver robust growth in the coming years. We are given to understand that the gestation period in SDAs is much longer and hence probability of new entrants disrupting the market is low. Technology is the biggest entry barrier in SDAs, in our view, considering the high precision, high consistency and very high purity requirements of these substances and ongoing technological developments. The PASC segment has come into existence and is growing predominantly on the back of China+1 theme. Electrolyte Salts for supercapacitor batteries should be one of the future growth drivers for TATVA over the medium term, in our view. Also, TATVA is in the process of developing new products, which are high purity substances with very niche applications and high entry barriers. The company has been increasingly deploying electrolysis and continuous flow chemistry with the goal of improving productivity and cost efficiency. Greenfield expansion in Dahej is expected to be commissioned in 2HFY23, which can contribute to revenue meaningfully in the next 3-4 years. Greenfield plant in Dahej can contribute at least Rs5bn revenue at peak potential (assuming 3x asset turn), as per our estimates. TATVA has also acquired additional land in Dahej. Overall, we are building in Revenue/EBITDA/APAT CAGR of 28%/36%/31% over FY22-24E. We initiate coverage on TATVA with a target price (TP) of Rs2,600, indicating an upside of 15% from CMP. We value TATVA at 35x PE on FY24E earnings. Multi-year opportunity in SDAs, strong thrust on product & process R&D and technology and new growth opportunities justify TATVA's premium valuation compared to the sector in our view.

Exhibit 29: Financial Summary

Particulars (Rsm)	FY20	FY21	FY22E	FY23E	FY24E
Net Sales	2,632	3,004	4,505	5,482	7,374
Growth YoY%	*27.6*	*14.1*	*50.0*	*21.7*	*34.5*
Gross margin %	*49.6*	*50.3*	*52.5*	*52.5*	*53.4*
EBITDA	550	657	1,082	1,393	2,001
EBITDA margin %	*20.9*	*21.9*	*24.0*	*25.4*	*27.1*
Adj PAT	378	523	977	1,191	1,675
Growth YoY%	*89.1*	*38.3*	*86.9*	*22.0*	*40.6*
Adj EPS	*18.8*	*26.0*	*44.1*	*53.7*	*75.6*
Growth YoY%	*53.5*	*89.1*	*38.3*	*69.3*	*22.0*
RoCE	*28.8*	*26.9*	*24.5*	*20.1*	*22.7*
RoE	*38.3*	*36.8*	*29.8*	*21.7*	*24.2*
P/E	122.3	88.4	52.2	42.8	30.4
EV/EBITDA	94.0	78.7	46.0	35.8	24.8
P/BV	43.3	30.7	10.4	8.4	6.6

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 30: Variance with consensus

Particulars	NBIE estimates			Consensus estimates			Variance (%)		
	FY22E	FY23E	FY24E	FY22E	FY23E	FY24E	FY22E	FY23E	FY24E
Revenue	4,505	5,482	7,374	4,449	5,727	7,163	1.2%	-4.3%	2.9%
EBITDA	1,082	1,393	2,001	1,233	1,591	2,074	-12.2%	-12.5%	-3.5%
EBITDA margin	24.0%	25.4%	27.1%	27.7%	27.8%	29.0%	*-369bps*	*-237bps*	*-181bps*
APAT	977	1,191	1,675	1,082	1,253	1,601	-9.7%	-4.9%	4.6%

Source: Bloomberg, Nirmal Bang Institutional Equities Research

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Company Section

Clean Science and Technology

31 March 2022

Bloomberg: CLEAN:IN

Initiating Coverage

Clean, Lean and Mean

Clean Science & Technology (CLEAN), a leading chemicals player in India, is among the few companies globally focusing on green, eco-friendly and cost-competitive technologies using in-house catalytic processes. Entire product & process R&D and technology development has been done in-house. While multiple companies are increasingly talking about green chemistry and clean processes, we believe that very few companies like CLEAN have been able to implement it on a large scale. As a result, environmental as well economic benefits are clearly visible. Catalysts, which are the key differentiators in the process, are identified, designed, customized and re-generated in-house by CLEAN. While mastering the catalytic chemistry takes time initially, operating parameters change dramatically post implementation and scale-up. Because of the effective implementation of sustainable chemistry practices, CLEAN has the lowest effluent generation in the Specialty Chemicals industry, as per industry experts. CLEAN enjoys market leadership in majority of its products (see Exhibit 5). Process improvements and use of catalytic chemistry keep the cost structure of CLEAN's products significantly low compared to peers. Hence, this relative cushion enables CLEAN to gain market share even in an inflationary scenario. As the end-users are also moving towards sustainable supplies meaningfully, we expect CLEAN to be one of the key beneficiaries of this trend and the same provides the company a long runway for growth. Also, CLEAN's cost effectiveness enables the company to aggressively compete with China and gain market share domestically as well as in overseas markets. We initiate coverage on CLEAN with an ACCUMULATE rating and target price (TP) of Rs2,000 (53x P/E on FY24E earnings). Comparison of PEG across our coverage suggests that CLEAN should outperform on a relative basis in long term. CLEAN trades at a significant premium to the chemicals basket (30x on FY24E). Premium on account of sustainable chemistry practices and innovation focus should continue going forward as well, in our view. Vinati Organics (VO) is also known for its process improvements and has consistently traded at a premium in the past vis-à-vis peers. (see Exhibit 3 & 4) despite earnings under delivery on relative basis.

Revenue CAGR at ~32% over FY22-24E on capacity addition and new products: While existing products like MEHQ, BHA etc. are expected to maintain the high growth trajectory, capacity addition and addition of new products would be the key growth drivers for the next 3-4 years. The company has recently introduced TBHQ and PBQ and is planning to enter HALS chemistry, wherein the total addressable market is ~US$1bn. While CLEAN's overall revenue has expanded by ~3x over the last 4 years, we expect strong ~32% revenue CAGR over FY22-24E on top of it.

Margin dominance to continue even after moderation with scale-up of new products: CLEAN's margin delivery over the last 3 years (~20% EBITDA margin improvement over FY18-21) was perceived as unreal by the financial world at the time of IPO, as none of the Specialty Chemicals companies in India has delivered such a stellar performance. CLEAN's expertise in catalytic chemistry and technological edge has led to this improvement. While the addition of new products to the portfolio should moderate the margin profile compared to FY21, its margin dominance vs like-to-like peers as well as the entire Specialty Chemicals industry is likely to continue. We are building in ~33% EBITDA CAGR over FY22-24E.

Benchmark in the chemicals industry: Implementation of sustainable chemistry practices and ongoing process improvement to cut down or eliminate the use of toxic materials as KSMs, efflux is the need of the hour. While many companies are increasingly taking initiatives on that front, CLEAN is the pioneer in the same and is the classic example of why industry should shift to these practices in order to protect the environment without compromising operational performance. Hence, valuation premium vis-à-vis like-to-like peers as well as chemicals industry should persist, in our view.

Risks: Demand slowdown in China and other key markets, competition developing a similar or a better process for its key products, delay in scale-up of new products/chemistries etc.

ACCUMULATE

Sector: Chemicals

CMP: Rs2,014

Target Price: Rs2,000

Downside: 1%

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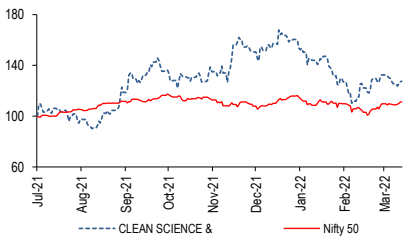
Key Data	
Current Shares O/S (mn)	106.2
Mkt Cap (Rsbn/US$bn)	210.3/2.8
52 Wk H / L (Rs)	2,705/1,422
Daily Vol. (3M NSE Avg.)	230,131

Share holding (%)	3QFY22	2QFY22	1QFY22
Promoters	78.5	78.8	78.5
Public	21.5	21.5	21.5
Non-Institutions	-	-	-

One Year Indexed Stock Performance



Price Performance (%)

	1 M	6 M	1 Yr
Clean Science & Technology	8.5	(3.3)	-
Nifty Index	4.0	(0.9)	17.6

Source: Bloomberg

Financial Summary

Particulars (Rsm)	FY20	FY21	FY22E	FY23E	FY24E
Net Sales	4,193	5,124	6,689	9,084	11,682
Growth YoY %	*6.6*	*22.2*	*30.5*	*35.8*	*28.6*
Gross margin %	*69.2*	*75.9*	*68.0*	*68.4*	*68.0*
EBITDA	1,853	2,590	2,991	4,125	5,325
EBITDA margin %	*44.2*	*50.5*	*44.7*	*45.4*	*45.6*
Adj PAT	1,397	1,984	2,286	3,098	4,021
Growth YoY %	*42.8*	*42.1*	*15.2*	*35.5*	*29.8*
Adj EPS	*13.1*	*18.7*	*21.5*	*29.2*	*37.9*
Growth YoY %	*42.8*	*42.8*	*42.1*	*15.2*	*35.5*
RoCE %	*55.4*	*54.6*	*42.2*	*41.0*	*38.5*
RoE %	*45.5*	*45.0*	*35.0*	*33.7*	*31.6*
P/E	153.2	107.8	93.6	69.0	53.2
EV/EBITDA	115.4	82.6	71.3	51.7	40.0
P/BV	62.5	39.6	27.9	19.9	14.5

SouSource: Company, Nirmal Bang Institutional Equities Research

Valuation Summary

We initiate coverage on CLEAN with an Accumulate rating and TP of Rs2,000. We value CLEAN at 53x PE on FY24E earnings. R&D-centric growth approach, signficant outperformance on all financial paramters vis-à-vis like-for-like peers as well as the entire India Specialty Chemicals pack and a long runway for growth in existing as well as newer products justify CLEAN's premium valuation, in our view. CLEAN's performance has been fairly impressive on all the important financial paramters and has significantly outperformed Indian as well global chemical businesses. We are structurally positive on CLEAN and our Accumulate rating is purely from the next 1-yr standpoint.

Exhibit 1: Financial and valuation comparison

Particulars	FY22-24E CAGR (%)		FY24E EBITDA Margin (%)	ROE% (FY24E)	PE (FY24E)
	EBITDA	PAT			
Global Chemical Companies	2.6	3.3	16	13	10
Indian Chemical Companies	23.8	23.7	27	23	30
Clean Science & Technology	33.4	32.6	46	32	53

Source: Bloomberg, Nirmal Bang Institutional Equities Research
*(**Global chemical companies** include DuPont de Nemours Inc, BASF SE, Chemours Co, Solvay SA, FMC Corp, China Petroleum & Chemical Co., Clariant AG. **Indian chemical companies** include Navin Fluorine International, SRF Ltd, Aarti Industries Ltd, Vinati Organics Ltd, Atul Ltd, Gujarat Fluorochemicals, Tatva Chintan, Neogen Chemicals, Deepak Nitrite Ltd, Alkyl Amines Chemicals, Balaji Amines Ltd, Sudarshan Chemical Industries).*

Exhibit 2: Company Valuation and Target Price

Particulars	Details
FY24E EPS	38
Target PE multiple (x)	53
Target Price	**2,000**

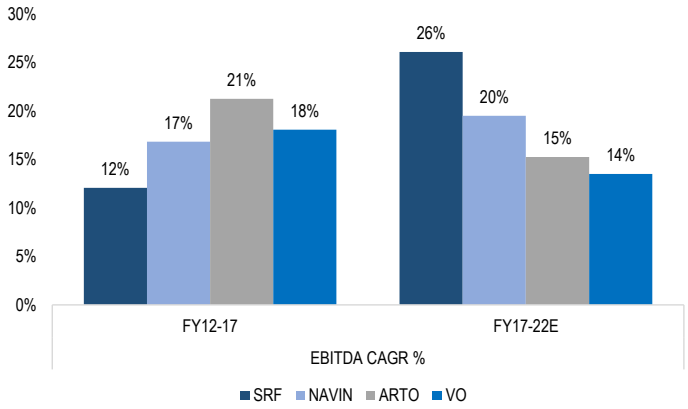
Source:Nirmal Bang Institutional Equities Research

Vinati Organics (VO) case study - premium valuation despite earnings under-delivery on relative basis

We highlight that among the major Specialty Chemicals companies in India, VO has been focused on green chemistry since inception and sustainable practices have enabled the company to report strong performance and compete with China despite higher pricing disparity in the past. As a result, VO has always traded at a premium compared to peers despite earnings under-delivery on relative basis vis-à-vis other Indian chemical companies.

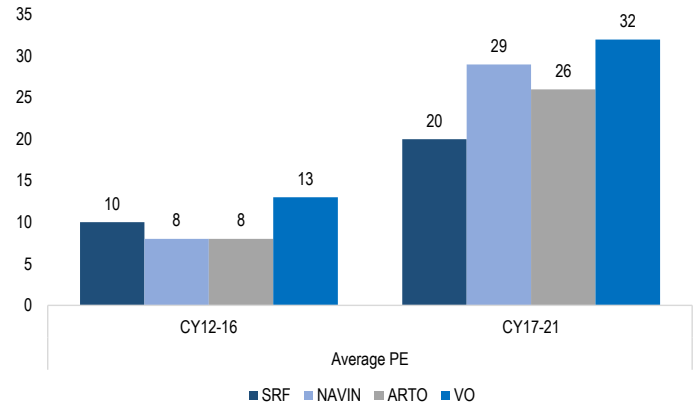
While the premium has narrowed over the last 5 years on account of relative under-performance, VO is still considered as the benchmark for process innovation in the respective chemistries. CLEAN has significantly outperformed like-to-like players as well as other chemical companies. Also, technological entry barriers are fairly high, in our view. Since the end-product is the same in terms of quality, peers have not been able to replicate the process followed by CLEAN or innovate a new one with even better cost advantages.

Exhibit 3: EBITDA CAGR comparison of VO with its peers- VO has relatively under-delivered



Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 4: Average PE multiple comparison of VO with its peers- premium valuation on adoption of green practices



Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 5: CLEAN's Product Grid

Particulars	Performance Chemicals			FMCG Chemicals		Pharmaceutical intermediates	
	MEHQ	BHA	AP	Anisole	4-MAP	Guaiacol	DCC
Description	Organic compound and synthetic derivative of hydroquinone	Antioxidant as it has the property of preventing rancidification of food which creates obnoxious odors	Produced from ascorbic acid, or vitamin C	Precursor to perfumes, insect pheromones, Pharmaceuticals	Aromatic chemical compound with an aroma described as sweet, fruity, nutty, and similar to vanilla	Naturally occurring organic compound & is also used in the synthesis of pharmaceuticals & in cough syrups	dehydrating agent commonly used to manufacture amides, esters, and anhydrides
End-user industries	Polymerization inhibitor in acrylic acids, acrylic esters, super absorbent polymers. Stabilizer for cosmetics, liquid detergents etc.	Anti-oxidant in food and feed industry	Infant food formulations, breakfast cereals and cosmetics	Cosmetics, pharmaceutical and agrochemicals	UV blocker in Sunscreens	Pre-cursor to manufacture APIs for cough syrup. Raw material to produce Vanillin.	Reagent in anti-retroviral
Revenue FY21E (Rsmn)	2,534	939	74	164	468	711	119
Revenue share FY21	48%	18%	1%	3%	9%	14%	2%
Capacity (FY22)	14,460 MTPA			16,200 MTPA		6,090 MTPA	
Global Market share (FY21)	43.9%			39.3%		6.1%	
Global Market share	~55%	~16%	~10%	>50%	~20%	~4%	~5%
Global Rank	1	1	2	1	1	3	Among the largest
India Rank	1	1	2	1	1	2	1
Margin profile	Very high	High	Moderate	Moderate	Moderate	Moderate	Moderate
Global market size(MT)	12,500	9,000	450	34,000	7,200	60,000	7,000
Global industry Size (USD mn)	122	92	9	85	32.5	309	63
Industry growth CAGR(2019-2025E)	5.8%	3.3%	5.8%	5.0%	3.6%	1.3%	4.9%
Key clients	BASF, Evonik Nutrition, Sinochem Hebei, Allesaproduktion	Dupont, Vitablend, Perstorp Waspik	American Int Chemicals LLC, Aquanova	Sensient Fragrances, Innochem N.V	Symrise, Sinochem Hebei	Zhejiang Pharmaceuticals, Aceto Corporation	Spera Nexus, Biesterfeld Spezialchemie
Peers	Solvay,Camlin Fine Sciences	Solvay,Camlin Fine Sciences	Camlin Fine Sciences ,Yasho Industries, DSM Nutrition Products	Atul Ltd, Mithila Rasayan, Solvay	Cosmos Nanjing, Haining Sino Fine Chemicals	Solvay,Camlin Fine Sciences	Shandong Huihai Pharma, Hongrui Fine Chemicals

Source: Company, Nirmal Bang Institutional Equities Research

New product launches - future drivers of growth

While we are positive on the growth outlook of CLEAN's existing products and the company can gain even further market share in few of them, new launch activity is very critical in order to understand the growth drivers from a medium-long term perspective. In 3QFY22, CLEAN launched TBHQ and PBQ. Also, the company is planning to foray into HALS chemistry, which is ~US$1bn market opportunity. We believe that while the initial scale-up might take time and margin moderation is probable considering these new launches, adoption of catalytic chemistry and innovative processes will eventually help scale up these products faster and overall operational parameters should improve.

CLEAN has recently launched PBQ, which has applications mainly in the Agrochemicals and Monomer industry. Currently, India imports PBQ from China (70 tonnes a month vs CLEAN's initial capacity of 40 tonnes a month). However, CLEAN has developed a very innovative catalytic process. In Phase 2 expansion, PBQ capacity could be doubled and considering the better process and pricing dynamics, we expect PBQ sales to pick up pace in the coming quarters.

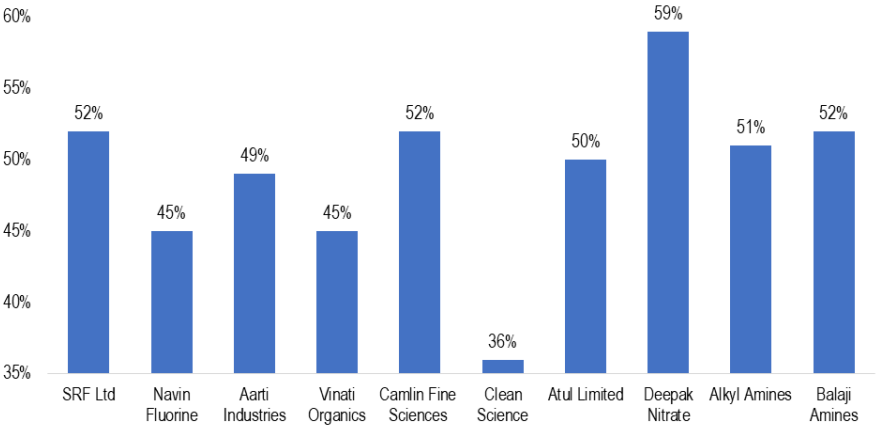
TBHQ, which is a key anti-oxidant in the foods space, has been recently launched by the company. CLEAN's existing clientele in BHA and AP need TBHQ as well and hence it is relatively easy to scale up this product. Also, addition of TBHQ completes the end-to-end requirements of these clients and this will enable CLEAN to gain further wallet share of these clients. TBHQ capacity is 1,200 tonnes p.a. at the moment. Camlin Fine Sciences (CFIN) and Solvay are the other key players in this segment with a sizeable market share.

Commercial production of HALS is expected in 1HFY23. HALS stands for Hindered Amine Light Stabilizers. The addition of HALS to a polymer is the most effective way to stabilize it against UV radiation. It finds application in diverse industries, including water treatment, paints, master batches, polymerization inhibitor etc. CLEAN is the first Indian company venturing into HALS. Global addressable market in this segment is ~US$1bn, growing at ~8% CAGR. The management has ambitious plans in this segment, wherein it sees CLEAN becoming a dominant player globally in the next 3-4 years. We are given to understand that this is a very complex chemistry and involves multi-step processes. There will be multiple products under this range as the endeavor is to develop the entire HALS portfolio eventually. Few products would be India centric and others would have export focus, depending on the duty structure, demand and competitive landscape. BASF and Sabo are the leading players in HALS globally.

Peer comparison gives a clear perspective on economic benefits of sustainably chemistry

We have a broad understanding of the chemical reactions followed by CLEAN vis-à-vis peers in key products. Usage of catalyst technology and process-related initiatives has helped CLEAN to limit the use of raw materials (non-toxic), limited by-products and close to nil waste. As per our estimates and assuming constant input prices, gross margin differential in conventional chemistry and sustainable chemistry for majority of the products is >15%. Also, a company like CLEAN, where share of RM as % of sales is lower than peers, stands to gain market share in an inflationary environment, in our view.

Exhibit 6: COGS as % of sales (FY17-21 average)- CLEAN has the lowest share on account of limited use of raw materials by using catalytic chemistry



Source: Company, Nirmal Bang Institutional Equities Research

CFIN and Yasho Industries (YASHO) are like-to-like peers of CLEAN, considering the product portfolio in the listed space. We have done a detailed comparison on financial parameters of these three companies. Margin profile of CLEAN is far superior than the other two companies and the incremental part is a function of higher gross margin as well as lower cost structure on account of efficiency related measures. Very limited use of solvents, no major expeneses related to effluent, energy saving initiatives and operating leverage have led to significant increase in EBITDA margin for CLEAN. CFIN, after Dahej commercialisation, is expected to report higher margin than the past; however, EBITDA margin differential with CLEAN is huge even after accounting for the same.

Exhibit 7: Financial Comparison between CLEAN, CFIN and YASHO

Particulars	CLEAN	CFIN	YASHO
Revenue CAGR (FY18-21)	28.6%	18.1%	12.9%
Gross margin (Avg FY18-21)	63.6%	47.0%	34.5%
EBITDA margin (Avg FY18-21)	39.9%	9.3%	13.5%
Staff cost % sales (Avg FY18-21)	7.2%	9.9%	6.2%
Number of Employees (FY21)	349	975	412
Staff Cost per employee (FY21, Rsmn)	1.2	1.2	0.6
Consumption of stores % sales (Avg FY18-21)	0.2%	0.6%	0.7%
Power & fuel % sales (Avg FY18-21)	7.8%	8.0%	5.4%
Water charges % sales (Avg FY18-21)	0.3%	NA	0.1%
Other expenses % sales (Avg FY18-21)	6.4%	17.9%	8.7%
ROCE (Avg FY18-21)	50.9%	7.0%	15.1%
ROE (Avg FY18-21)	40.6%	2.5%	29.0%
Asset turnover (Avg FY18-21)	3.0	1.0	3.8
Debtor Days (Avg FY18-21)	50	84	68
Inventory Days (Avg FY18-21)	35	104	84
Creditor Days (Avg FY18-21)	28	61	41
Cash Conversion Cycle (Avg FY18-21)	56	126	111

Source: Company, Nirmal Bang Institutional Equities Research

Since the entire Specialty Chemicals sector in India is in the high capex mode for the last 3-4 years and future guidance is also fairly aggressive, we track asset turnover and ROCE on n-2 basis in order to understand how quickly companies can ramp up their capacities and if the same is getting refleced in numbers. While asset turnover tends to be in line with the industry, return ratios of CLEAN have been far superior, suggesting a strong order pipeline and consistent margin improvement on account of efficiency gains.

Exhibit 8: Sector Asset turnover & ROCE (n-2)

Asset t/o (on Gross Block) (n-2)	FY19	FY20	FY21
SRF Ltd	1.4	1.2	1.2
Navin Fluorine international	1.9	2.5	2.8
Aarti Industries	1.6	1.4	1.3
Vinati Organics	2.3	2.0	1.7
Camlin Fine Sciences	4.2	3.1	3.3
Clean Science & Technology	3.8	3.1	3.0
Atul Limited	3.5	3.2	2.6
Deepak Nitrate	4.4	6.7	2.5
Alkyl Amines	3.7	2.6	2.9
Balaji Amines	2.0	2.0	2.6

ROCE (n-2)	FY19	FY20	FY21
SRF Ltd	18%	17%	23%
Navin Fluorine international	22%	23%	25%
Aarti Industries	29%	23%	16%
Vinati Organics	58%	47%	29%
Camlin Fine Sciences	7%	13%	17%
Clean Science & Technology	87%	91%	88%
Atul Limited	32%	38%	32%
Deepak Nitrate	26%	49%	51%
Alkyl Amines	41%	50%	80%
Balaji Amines	39%	24%	45%

Source: Company, Nirmal Bang Institutional Equities Research

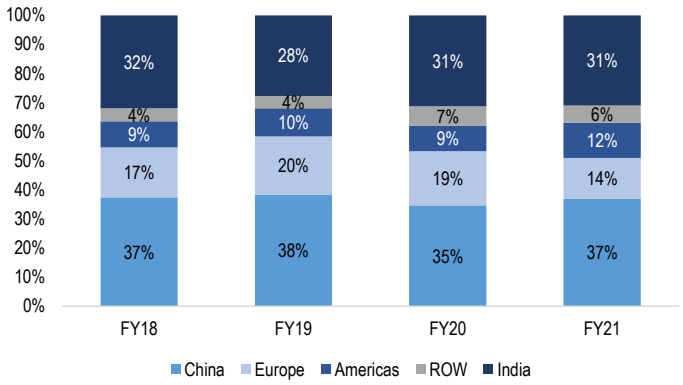
1/3rd revenue from China with no margin pressure indicates its strength in efficiency parameters

While price disparity has narrowed down between India and China post environmental crackdown in China, overall cost of production is still lower than India because scale of operations and other tax incentives. Therefore, Indian companies find it extremly difficult to compete with China on the pricing front and those doing business with China operate at a very low margin band.

From the coverage space, we highlight that only VO, CLEAN & TATVA have reasonable share of revenue coming from China. As per our estimates, ~10% of VO's revenue comes from China whereas the same in case of CLEAN is ~37%. This clearly indicates the importance of green and sustainable practices from the economic standpoint. While VO and CLEAN are dealing in same quantities as Chinese domestic companies, their sharp focus on product and technology innovation and ongoing process improvement metrics keep the cost structure very low.

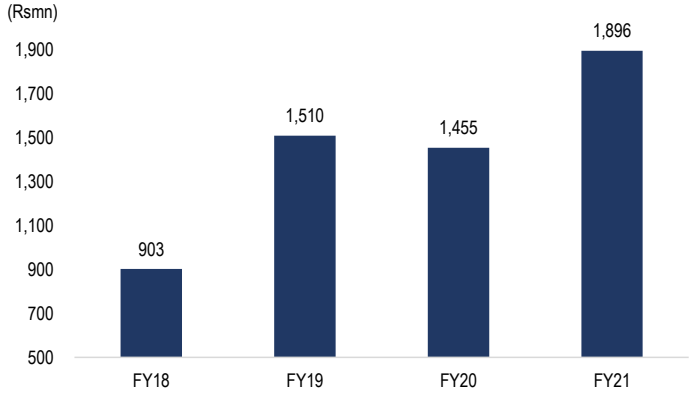
As the world is increasingly discussing themes like China+1 or import substitution, we believe that CLEAN would be a a big beneficiary, wherein incremental business can come from USA, EU and Japan in a big way, which are dependent on China in a meaningful way. Since majority of its clients are also moving towards sustainability initiatives, they would want their suppliers to also follow similar practices and adhere to the highest enivoenment standards. Therefore, we believe that CLEAN has an edge over other like-to-like peers that are producing same products, by using conventional chemistry techniques.

Exhibit 9: Geographical revenue (%) - China has ~37% share in overall revenue in FY21



Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 10: China revenue grew at ~28% CAGR over FY18-21



Source: Company, Nirmal Bang Institutional Equities Research

R&D centric growth approach is the key differentiator

We like CLEAN's R&D-centric growth approach wherein all the catalysts and processes adopted or used while manufacturing of its products have been developed in-house. CLEAN has pioneered commercialization of catalytic-reactions in production processes. The company's focus continues to be on developing eco-friendly or green processes in order to eliminate the use of toxic starting materials. Currently, CLEAN has two R&D centres with >35 scientists.

Economic benefits of adoption of zeolite-based catalysts in manufacturing of different products and adoption of green processes have been clearly visible and we expect the same to continue with new product launches. For example, gross margin differential between vapour phase anisole manufacturing and conventional method is ~16%, as per our estimates. Similarly, gross margin in MEHQ and Guaiacol by adopting catalytic chemistry could be >80% vs ~60% under the conventional method. CLEAN's strong know-how in catalytic chemistry and process technology should enable the company to gain market share in existing products and succeed with better quality and pricing in new products. Three key focus areas of CLEAN's R&D strategy are: (1) Stabilizers - entire focus on HALS (2) Intermediates for Agro and Pharma sectors and (3) Existing products - yield improvement and process improvement.

Exhibit 11: R&D centric growth strategy

R&D Strategy	• Designing catalysts to create new manufacturing processes and new products • Develop eco-friendly processes by eliminating use of toxic starting materials • Focus on good Atom economy to avoid wastage
R&D Focus	• Improve yields and selectivity in our existing processes • Expanding product portfolio across existing segments and adding new segments • Identifying products with high demand that only limited manufacturers produce globally
R&D Capabilities	• State of the art technological equipment to develop, test and evaluate products • Government of India's Department of Scientific and Industrial Research recognized R&D units • 2 R&D units with 35 personnel (including 6 PhD's)

Source: Company, Nirmal Bang Institutional Equities Research

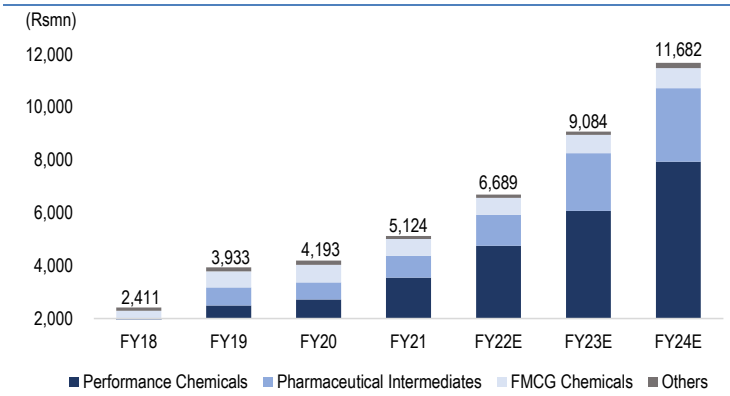
Key Financial Charts & Tables

Exhibit 12: Revenue assumptions

Particulars	FY18	FY19	FY20	FY21	FY22E	FY23E	FY24E
Segments							
Performance Chemicals	1,465	2,490	2,721	3,548	4,754	6,076	7,943
Pharmaceutical Intermediates	496	681	644	830	1,170	2,183	2,780
FMCG Chemicals	332	612	666	632	645	699	767
Other Products	38	65	63	59	59	59	119
Other Operating Revenue	80	84	100	55	60	66	73
Total Revenue	**2,411**	**3,933**	**4,193**	**5,124**	**6,689**	**9,084**	**11,682**
YoY Growth%	*27%*	*63%*	*7%*	*22%*	*31%*	*36%*	*29%*
% of Sales							
Performance Chemicals	*61%*	*63%*	*65%*	*69%*	*71%*	*67%*	*68%*
Pharmaceutical Intermediates	*21%*	*17%*	*15%*	*16%*	*17%*	*24%*	*24%*
FMCG Chemicals	*14%*	*16%*	*16%*	*12%*	*10%*	*8%*	*7%*
Other Products	*2%*	*2%*	*1%*	*1%*	*1%*	*1%*	*1%*
Other Operating Revenue	*3%*	*2%*	*2%*	*1%*	*1%*	*1%*	*1%*
Growth YoY %							
Performance Chemicals		*70%*	*9%*	*30%*	*34%*	*28%*	*31%*
Pharmaceutical Intermediates		*37%*	*-5%*	*29%*	*41%*	*87%*	*27%*
FMCG Chemicals		*85%*	*9%*	*-5%*	*2%*	*8%*	*10%*
Other Products		*72%*	*-3%*	*-5%*	*0%*	*0%*	*100%*
Other Operating Revenue		*5%*	*18%*	*-45%*	*10%*	*10%*	*10%*

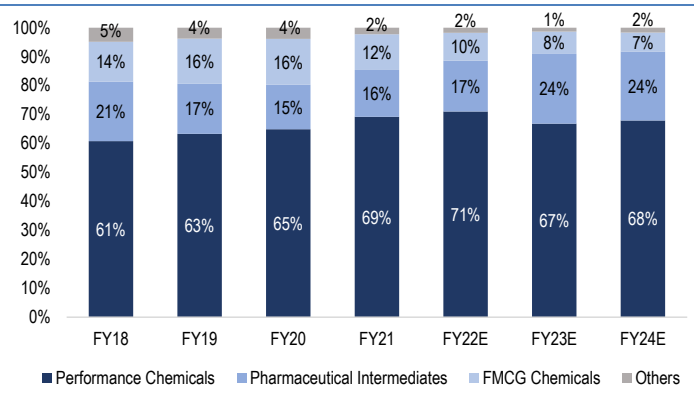
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 13: Segment-wise revenue break-up – continuous improvement in Performance Chemicals segment



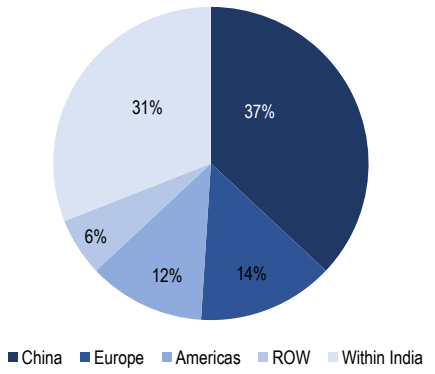
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 14: Revenue mix (%) – Performance Chemicals contributed ~69% in FY21



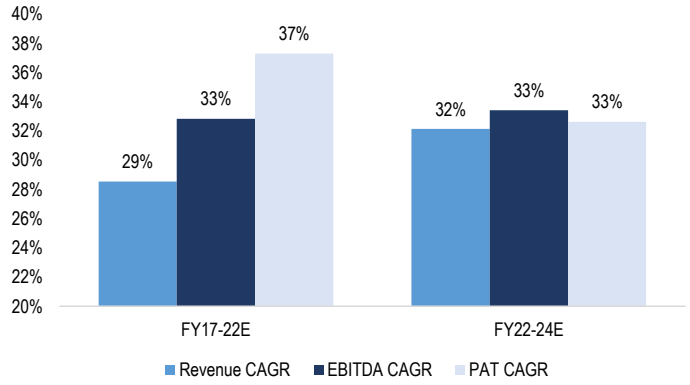
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 15: Geographical break-up - China & Europe together accounted for ~50% revenue in FY21



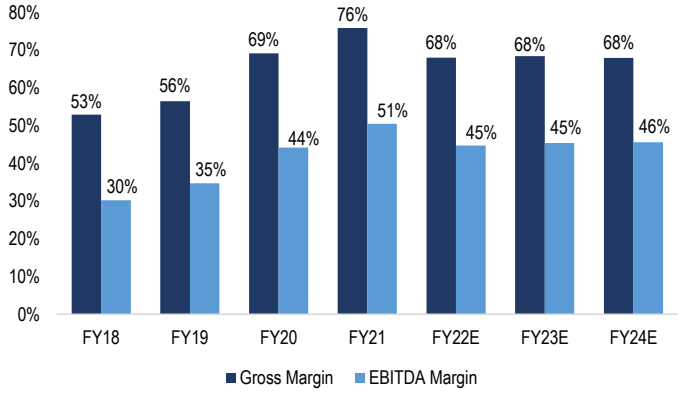
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 16: Earnings growth has been robust over the last 3 years



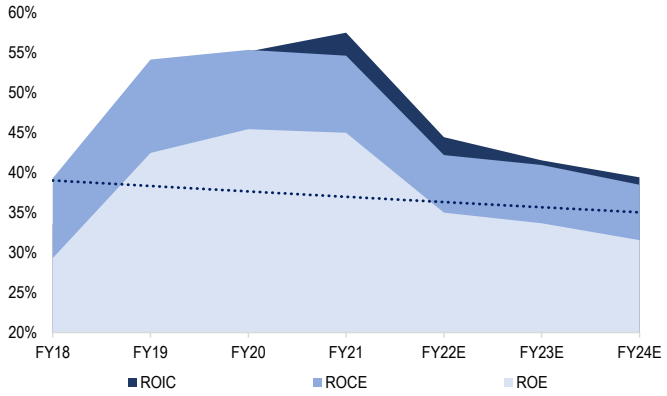
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 17: Above Industry margin on account of aggressive use of catalytic chemistry



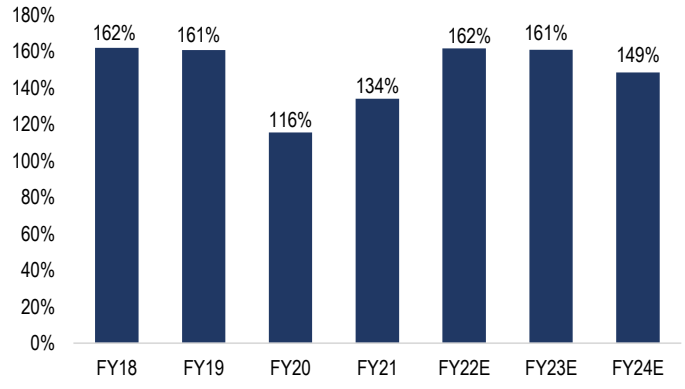
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 18: Return ratios – ROE to moderate on account of new launches ; however remain significant ahead of the industry



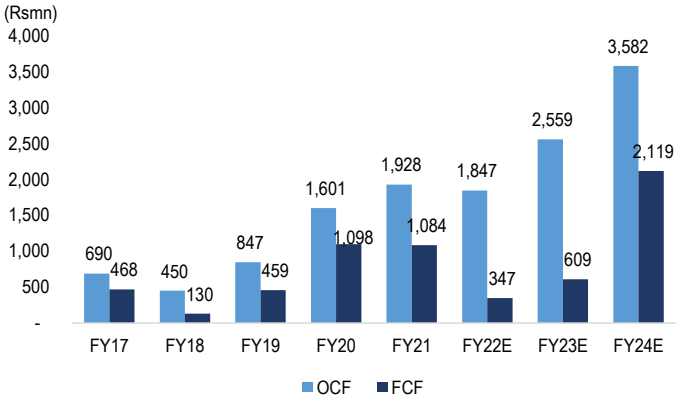
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 19: EBITDA to OCF conversion is fairly strong



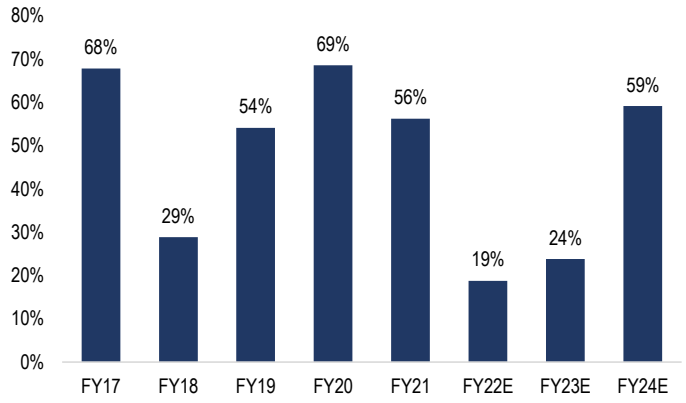
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 20: Strong free cash flow generation going ahead



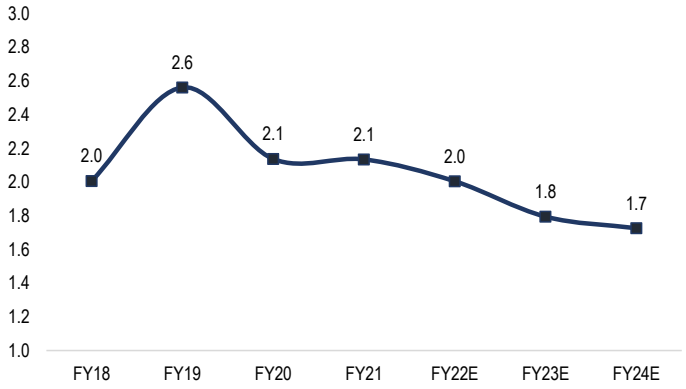
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 21: FCF/OCF ratio



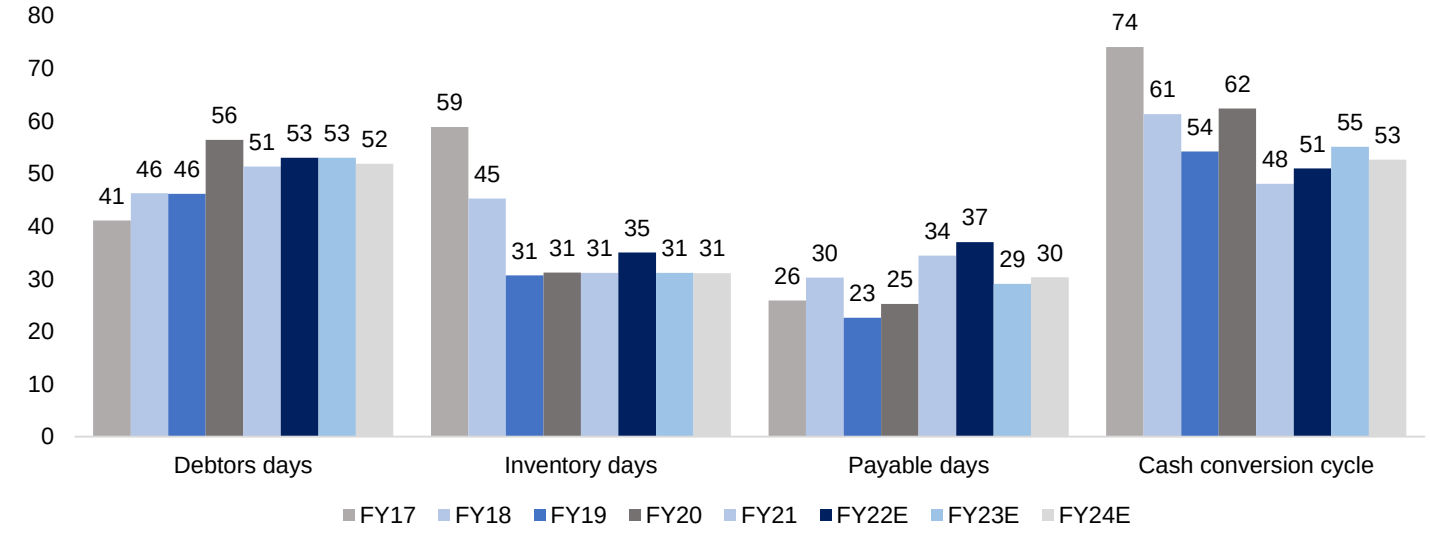
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 22: Asset turnover to moderate considering new product launches



Source: Company, Nirmal Bang Institutional Equities Research

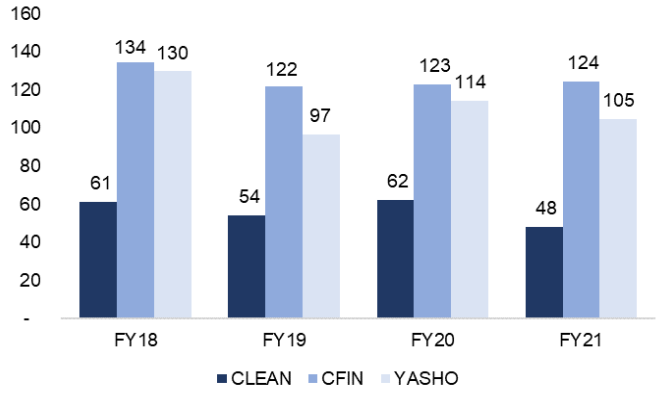
Exhibit 23: Working capital cycle is best in the industry



Source: Company, Nirmal Bang Institutional Equities Research

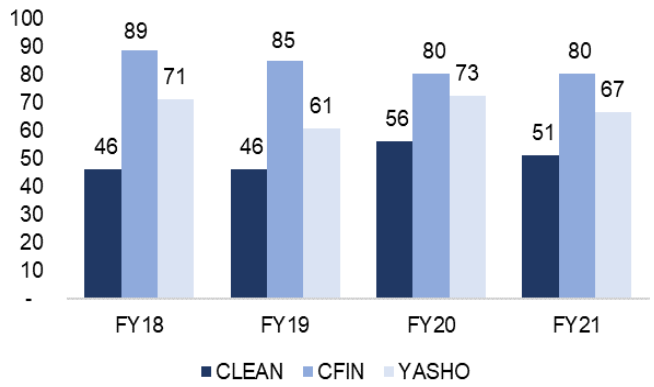
Working Capital Comparison with like-to-like peers

Exhibit 24: Working capital days (CLEAN Vs CFIN Vs YASHO)



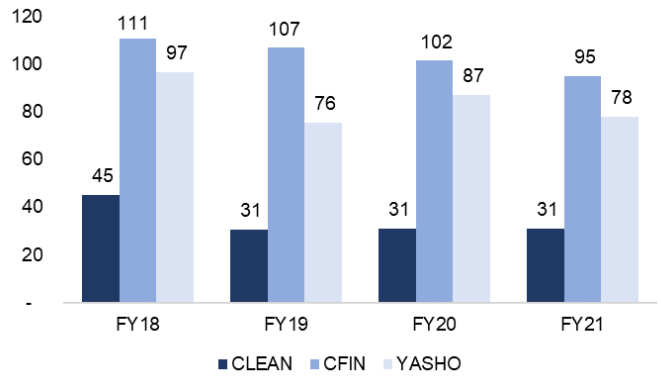
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 25: Debtor days (CLEAN Vs CFIN Vs YASHO)



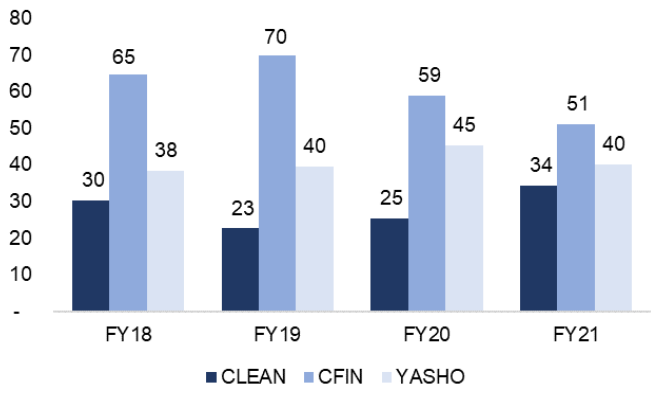
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 26: Inventory days (CLEAN Vs CFIN Vs YASHO)



Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 27: Creditor days (CLEAN Vs CFIN Vs YASHO)

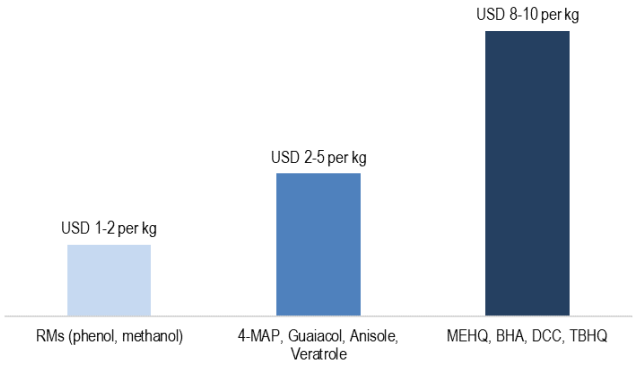


Source: Company, Nirmal Bang Institutional Equities Research

Raw materials - Lower COGS share vs peers could enable market share gains for CLEAN

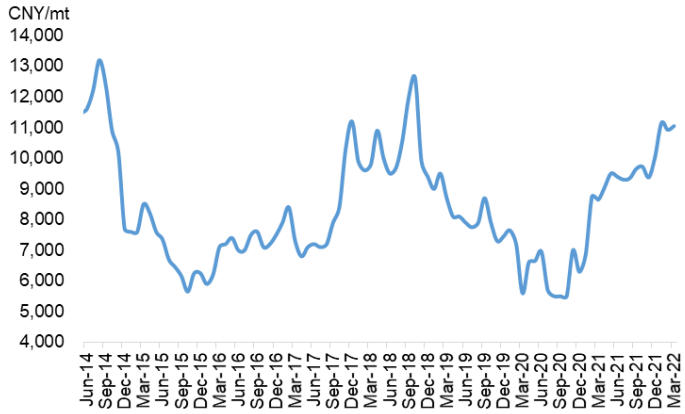
Phenol is the key raw material for CLEAN. Phenol, along with other raw materials used by CLEAN are priced ~US$1-2/kg as against end-products, which sell for ~US$4-15/kg. Also, COGS as % sales in case CLEAN is significantly lower than peers. Therefore, impact on margin is very limited in an inflationary input environment compared to peers. In fact, we believe that CLEAN would be a beneficiary in an inflationary environment and gain market share in its key products.

Exhibit 28: >70% of the portfolio has realisation >US$8 as per our estimates; RM costs per kg are fairly low



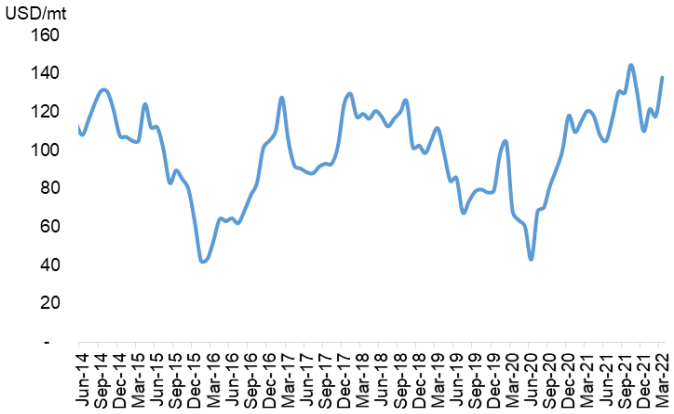
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 29: China Phenol Spot Price



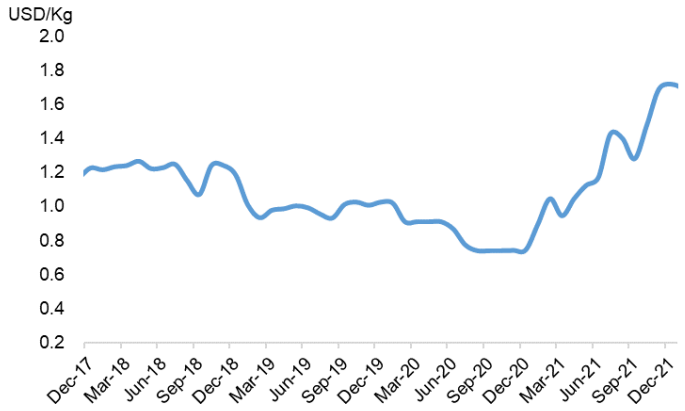
Source: Bloomberg, Nirmal Bang Institutional Equities Research

Exhibit 30: USA Gulf Methanol FOB Price



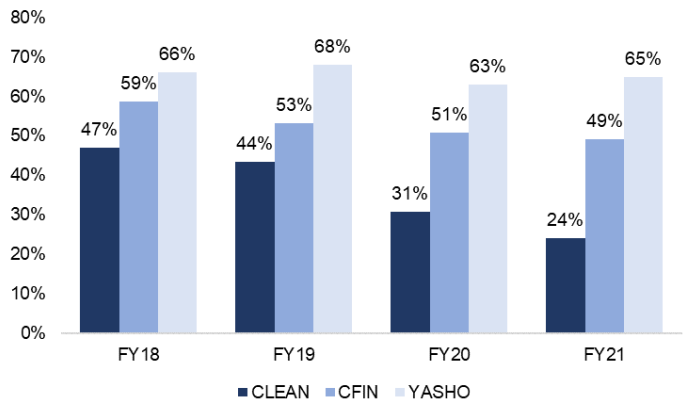
Source: Bloomberg, Nirmal Bang Institutional Equities Research

Exhibit 31: Tertiary Butanol Price



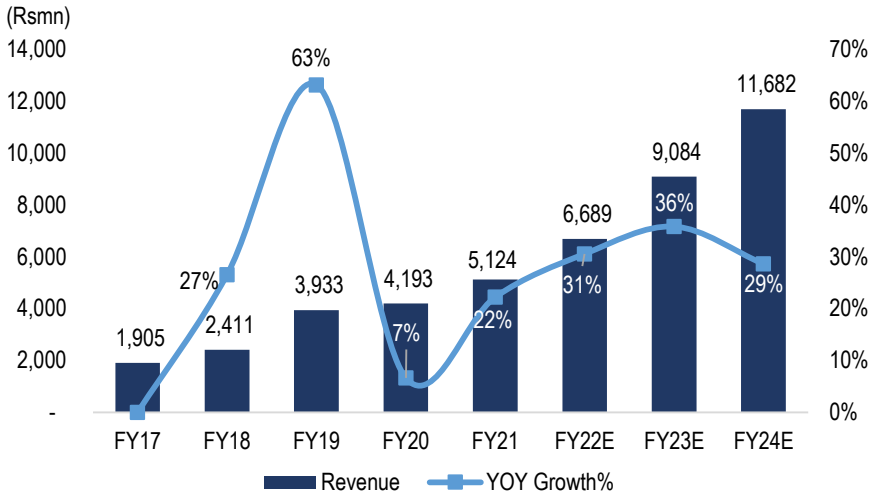
Source: Bloomberg, Nirmal Bang Institutional Equities Research

Exhibit 32: Overall raw material cost as % of sales



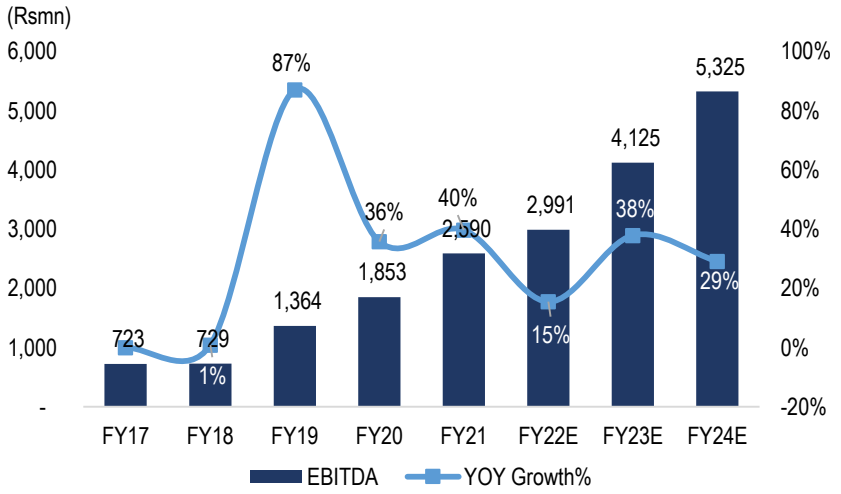
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 33: Revenue – we are building in ~32% CAGR over FY22-24E



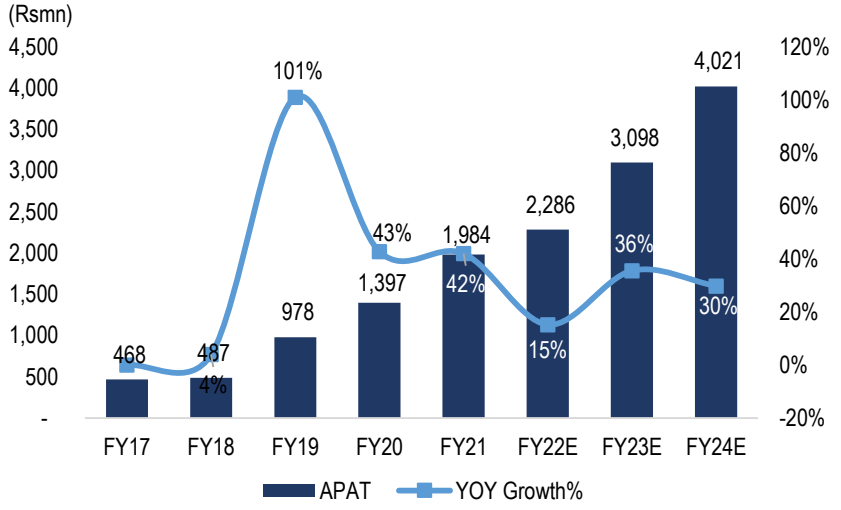
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 34: EBITDA – we are building in ~33% CAGR over FY22-24E



Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 35: APAT – we are building in ~33% CAGR over FY22-24E



Source: Company, Nirmal Bang Institutional Equities Research

Financial summary

Particulars (Rsm)	FY20	FY21	FY22E	FY23E	FY24E
Net Sales	4,193	5,124	6,689	9,084	11,682
Growth YoY%	*6.6*	*22.2*	*30.5*	*35.8*	*28.6*
Gross margin %	*69.2*	*75.9*	*68.0*	*68.4*	*68.0*
EBITDA	1,853	2,590	2,991	4,125	5,325
EBITDA margin %	*44.2*	*50.5*	*44.7*	*45.4*	*45.6*
Adj PAT	1,397	1,984	2,286	3,098	4,021
Growth YoY%	*42.8*	*42.1*	*15.2*	*35.5*	*29.8*
Adj EPS	*13.1*	*18.7*	*21.5*	*29.2*	*37.9*
Growth YoY%	*42.8*	*42.8*	*42.1*	*15.2*	*35.5*
RoCE	*55.4*	*54.6*	*42.2*	*41.0*	*38.5*
RoE	*45.5*	*45.0*	*35.0*	*33.7*	*31.6*
P/E	153.2	107.8	93.6	69.0	53.2

Source: Company, Nirmal Bang Institutional Equities Research

Variance with consensus

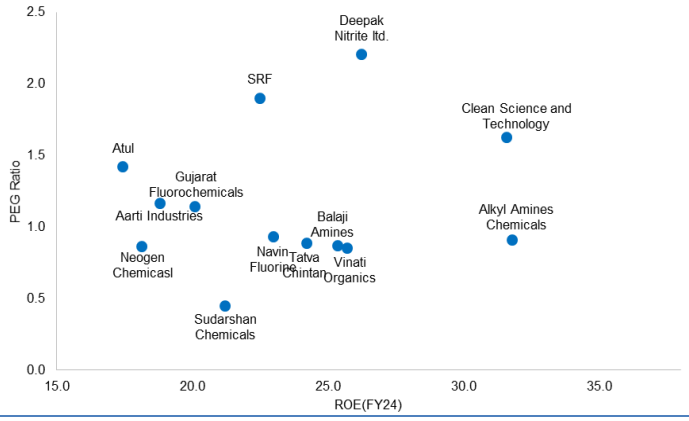
Particulars	NBIE estimates			Consensus estimates			Variance (%)		
	FY22E	FY23E	FY24E	FY22E	FY23E	FY24E	FY22E	FY23E	FY24E
Revenue	6,689	9,084	11,682	6,609	8,706	11,007	1.2%	4.3%	6.1%
EBITDA	2,991	4,125	5,325	3,017	4,254	5,414	-0.9%	-3.0%	-1.6%
EBITDA margin	44.7%	45.4%	45.6%	45.6%	48.9%	49.2%	-94bps	-346bps	-360bps
APAT	2,286	3,098	4,021	2,283	3,169	4,015	0.1%	-2.2%	0.2%

Source: Bloomberg, Nirmal Bang Institutional Equities Research

Our view on India Specialty Chemicals Industry

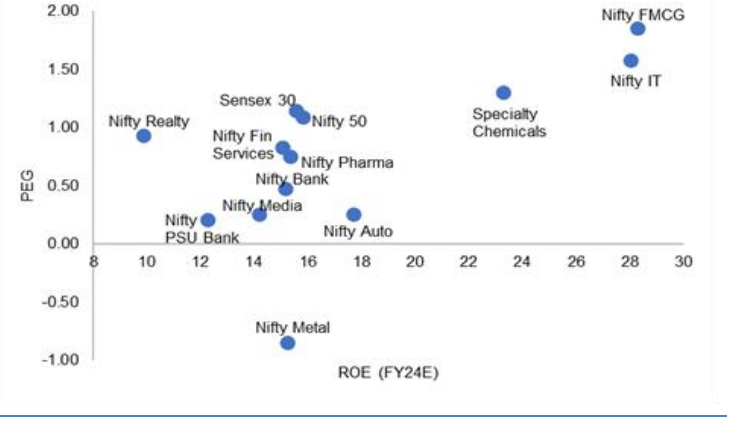
The Indian Specialty Chemicals basket has significantly outperformed all the leading indices over the last one year. The entire sector got massively re-rated (current valuation ~30x PE on FY24E) on the back of market opportunities across select chemistries, import substitution and 'China+ 1 theme. Apart from future growth potential, which might be driving the stock price performance to a great extent, earnings delivery of Indian Specialty Chemicals companies has been far superior compared to any other sector indices. These companies have more than doubled their capex every 5 years and the next 3-4 years' guidance also remains very promising. This should create a very solid asset base for these companies and hence there is a strong case for ~25% earnings CAGR over the next 5 years, in our view. Despite their rich valuations currently, we believe that there is still enough value in select pockets from a medium-term perspective. All our coverage companies are leading players globally in their respective chemistries. We assign high probability to these names winning new long-term contracts in future. Rising share of specialty chemicals revenue in these companies would reduce the risk associated with RM volatility & pricing to an extent and enable consistent earnings growth. Structurally, we are positive on businesses with focus on niche chemistry or application, process innovation and new-age segments with a high optionality value.

Exhibit 36: Indian Chemical Companies PEG



Source: Bloomberg, Nirmal Bang Institutional Equities Research

Exhibit 37: Sector PEG comparison



Source: Bloomberg, Nirmal Bang Institutional Equities Research

(Note – Specialty chemicals include Navin fluorine, SRF, Aarti Industries, Vinati Organics, Atul ltd, Gujarat Fluorochemicals, Tatva Chintan, Neogen Chemicals, Deepak Nitrite, Alkyl Amines, Balaji Amines, Clean Science & Technology, Sudarshan Chemicals)

Exhibit 38: Peer Financial Comparison

Company Name	Mcap (USD bn)	FY22-24E CAGR (%)			ROE (%)		
		Revenue	EBITDA	PAT	FY22E/ CY21E	FY23E/ CY22E	FY24E/ CY23E
Navin Fluorine International L	2.7	38.0	43.6	40.0	16.0	21.7	23.0
SRF Ltd	10.6	17.8	18.3	17.0	23.8	22.5	22.5
Aarti Industries Ltd	4.5	18.8	22.2	24.1	18.0	18.7	18.8
Vinati Organics Ltd	2.7	31.0	40.5	38.4	19.4	24.4	25.7
Clean Science and Technology	2.8	32.1	33.4	32.6	35.0	33.7	31.6
Neogen Chemicals	0.5	27.9	36.6	48.1	16.0	15.3	18.1
Tatva Chintan	0.7	27.9	36.0	31.0	29.8	21.7	24.2
Atul Ltd	4.0	13.2	19.6	21.7	15.8	17.3	17.5
Gujarat Fluorochemicals	4.1	17.0	23.3	24.8	18.2	19.5	20.1
Deepak Nitrite Ltd	4.0	8.4	11.3	10.3	36.9	29.6	26.2
Alkyl Amines Chemicals	2.0	19.6	37.0	37.3	27.6	32.6	31.8
Balaji Amines Ltd	1.3	17.8	20.2	20.9	30.6	28.2	25.4
Sudarshan Chemical Industries	0.5	15.5	28.6	34.9	16.6	18.9	21.2

Source: Bloomberg, Nirmal Bang Institutional Equities Research

Exhibit 39: Peer Valuation

Company Name	P/E (x)			EV/EBITDA (x)			P/B (x)			PEG
	FY22E/ CY21E	FY23E/ CY22E	FY24E/ CY23E	FY22E/ CY21E	FY23E/ CY22E	FY24E/ CY23E	FY22E/ CY21E	FY23E/ CY22E	FY24E/ CY23E	FY24E
Navin Fluorine International L	72.7	46.6	37.1	53.2	33.4	25.8	11.0	9.4	7.8	0.9
SRF Ltd	44.1	38.4	32.2	26.8	22.9	19.0	9.5	7.9	6.7	1.9
Aarti Industries Ltd	43.2	32.3	28.0	26.9	21.1	18.1	6.5	5.7	5.0	1.2
Vinati Organics Ltd	62.8	42.0	32.8	49.1	31.5	24.8	11.3	9.3	7.7	0.9
Clean Science and Technology	93.6	69.0	53.2	70.5	50.9	38.9	28.0	19.9	14.5	1.6
Neogen Chemicals	88.4	55.7	40.3	48.4	34.8	27.2	9.3	8.1	6.9	0.8
Tatva Chintan	52.2	42.8	30.4	42.8	32.2	24.3	16.8	11.4	8.1	1.0
Atul Ltd	47.2	36.0	30.7	31.4	25.3	21.6	7.0	6.1	5.3	1.4
Deepak Nitrite Ltd	28.5	26.3	22.6	19.2	17.4	15.0	9.2	7.0	5.5	2.2
Alkyl Amines Chemicals	63.9	43.5	33.9	N/A	N/A	N/A	15.2	11.8	9.3	0.9
Balaji Amines Ltd	26.6	21.4	18.2	N/A	N/A	N/A	9.3	7.8	6.2	0.9
Sudarshan Chemical Industries	28.5	20.8	15.6	16.0	12.0	9.5	4.4	3.8	3.2	0.4

Source: Bloomberg, Nirmal Bang Institutional Equities Research

Exhibit 40: Share price movement

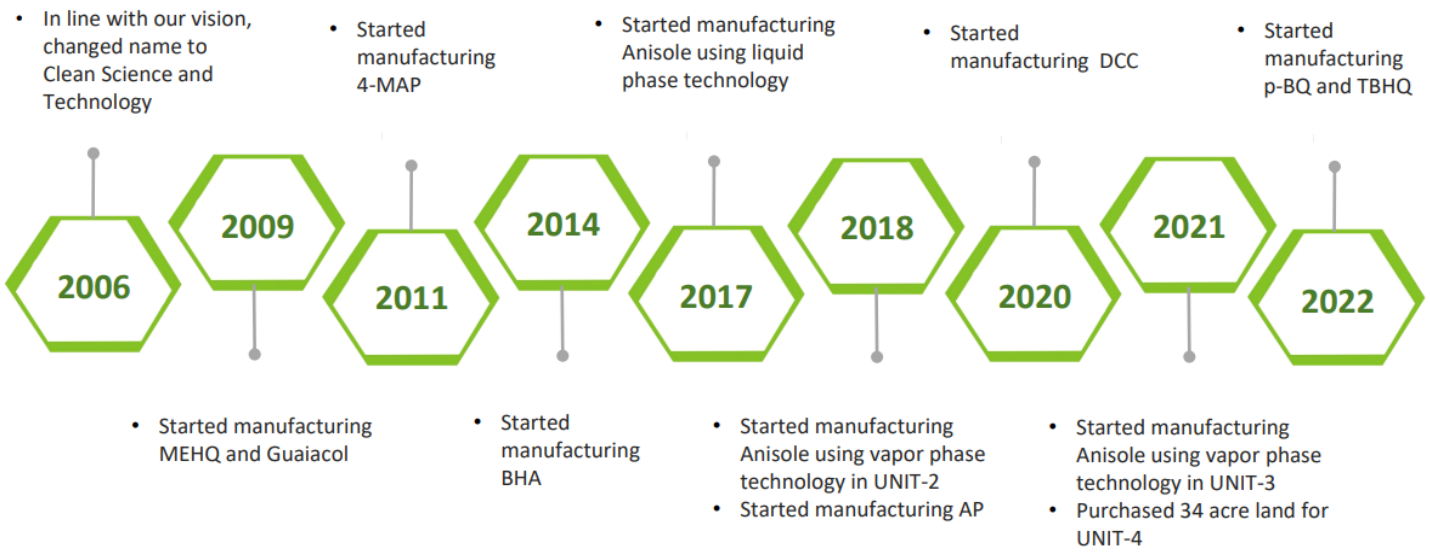
Company Name	1 month absolute	3 months absolute	0.5yr absolute	1yr absolute	1.5yr CAGR	2yr CAGR	3yr CAGR	4yr CAGR	5yr CAGR	10yr CAGR	15yr CAGR
Nifty 50	4	2	-1	18	34	45	15	15	14	13	11
Sensex 30	4	2	-1	17	33	44	15	16	15	13	11
Average of Indian chemical companies	6	-3	-5	35	41	79	43	31	30	38	33
Average of Agro chemical companies	10	-1	-6	15	17	42	18	12	14	20	25
Average of Specialty chemical companies	6	-1	-1	57	69	108	63	50	47	51	39
Average of Specialty Ingredient companies	-1	-4	-13	14	17	62	37	12	2	29	24
MSCI World Chemical Index	4	-7	2	3	14	29	11	7	8	7	6
Indian chemicals companies											
Navin Fluorine	4	-2	10	49	50	84	79	51	47	50	32
SRF	14	13	20	150	121	120	78	62	53	49	37
Aarti Industries	2	-4	1	41	51	61	34	35	38	51	40
Vinati Organics	6	0	2	40	30	57	34	45	40	47	57
Clean Science & Tech	10	-17	-2	NA	NA	NA	NA	NA	NA	NA	NA
Neogen Chemicals	8	1	34	110	83	126	NA	NA	NA	NA	NA
Tatva Chintan Pharma Chem	8	-14	5	NA	NA	NA	NA	NA	NA	NA	NA
Deepak Nitrate	11	-9	-8	36	94	146	101	73	78	66	41
Alkyl Amines	-3	-13	-24	28	72	149	106	87	74	67	41
Balaji Amines	3	-7	-35	69	137	248	81	51	50	55	37
Atul	12	15	10	47	42	65	42	41	34	49	38
Sudarshan Chemicals	-1	-6	-19	2	6	25	16	5	9	27	30
Fine Organic Industries	-5	11	33	79	33	47	49	NA	NA	NA	NA
Rossari Biotech	-7	-28	-37	-13	9	NA	NA	NA	NA	NA	NA
Galaxy Surfactant	5	-6	-11	19	33	57	40	18	NA	NA	NA
Camlin Fine Sciences	10	12	-22	2	16	94	42	9	10	29	24
Advanced Enzyme Technologies	-9	-10	-25	-17	-8	50	17	8	-7	NA	NA
Global chemicals companies											
Du Pont Nemours Inc	1	-3	15	-0	25	52	1	-4	-3	5	1
BASF SE	-9	-13	-18	-25	2	12	-7	-10	-10	-2	2
Chemours	17	-3	11	16	33	82	-5	-10	-3	NA	NA
Solvay SA	-6	-9	-13	-14	18	20	-1	-5	-4	1	-1
Sinopec	-0	2	-3	-	7	-2	-9	-10	-5	-2	-4
Clariant AG	0	-12	-6	-14	-6	2	-7	-8	-3	3	-1
Eastman Chemical Company	-4	-5	13	2	28	55	14	2	7	8	9
Mitsui Chemicals, Inc.	5	-0	-18	-14	14	21	5	-2	2	9	-3
Guilin Layn Natural Ingredients Corp	45	28	37	53	30	24	18	8	3	11	NA
Kawaguchi Chemical Industry Co., Ltd.	3	-18	-37	4	3	16	-3	-12	-7	-0	-5
Exxonmobil Chemical	5	35	40	45	79	48	1	3	-0	-1	1
Albemarle Corp	14	-5	2	53	84	100	39	24	16	13	12
ICL Group Ltd	1	22	61	99	124	94	31	29	22	0	4
LANXESS AG	-3	-22	-28	-34	-9	8	-4	-9	-8	-4	1
Johnson Matthey PLC	-1	-11	-31	-40	-15	2	-16	-12	-9	-3	0
Umicore SA	7	10	-23	-13	7	13	-0	-2	8	7	7
Dow Inc	9	13	12	-1	23	50	8	NA	NA	NA	NA

Source: Bloomberg, Nirmal Bang Institutional Equities Research

Company background

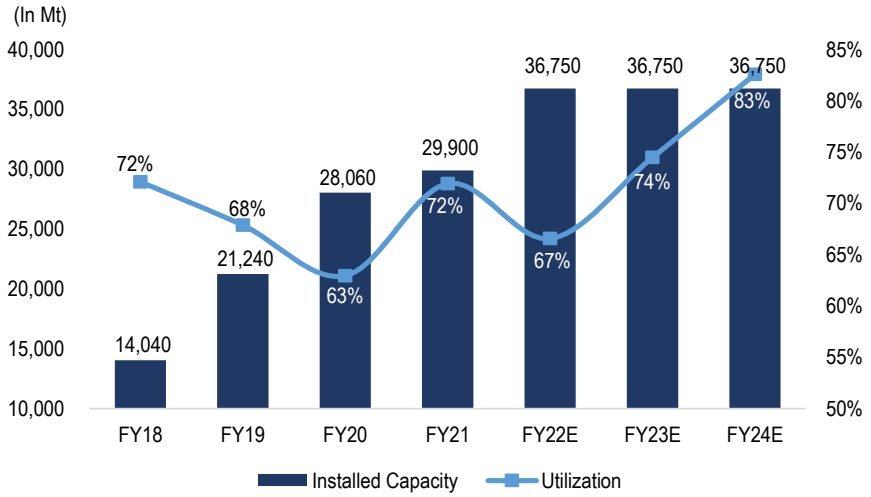
CLEAN is among the few companies globally that are focused entirely on developing newer technologies using in-house catalytic processes which are eco-friendly & cost-effective. CLEAN was incorporated in 2003 and manufactured functionally critical specialty chemicals. There are three broad segments in which CLEAN is working currently: (1) Performance Chemicals that include MEHQ, BHA and AP (2) Pharmaceutical Intermediates that include Guaiacol and DCC and (3) FMCG Chemicals, which include 4-MAP and Anisole. The company has also launched a new product called HALs (Hindered Amine Light Stabilizers). Over the years, CLEAN has been focused on improving its R&D and technical workforce. CLEAN is the market leader globally and India in almost all the segments where it operates. The company is predominantly export-oriented and has 69% revenue share coming from exports. China contributes the highest to the company's export revenue, followed by Europe. Major clients include Bayer AG, SRF, Vinati Organics etc. CLEAN has two production facilities, and construction of factories in unit 3 has been started. The company has also planned unit 4 by next year.

Exhibit 41: Journey so far



Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 42: Total Capacity & Utilization



Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 43: Segment-wise Capacity & Utilization

Installed Capacity (In mt)	FY18	FY19	FY20	FY21	FY22E	FY23E	FY24E
Performance Chemicals	5,388	8,580	8,680	9,640	14,460	14,460	14,460
Pharmaceutical Intermediates	2,052	3,060	3,780	4,060	6,090	6,090	6,090
FMCG Chemicals	6,600	9,600	15,600	16,200	16,200	16,200	16,200

Utilization (%)	FY18	FY19	FY20	FY21	FY22E	FY23E	FY24E
Performance Chemicals	64.2%	56.0%	61.8%	73.5%	58.3%	68.8%	79.2%
Pharmaceutical Intermediates	74.4%	70.0%	51.4%	64.1%	50.2%	61.0%	71.6%
FMCG Chemicals	77.8%	77.8%	66.4%	73.0%	80.1%	84.7%	89.5%

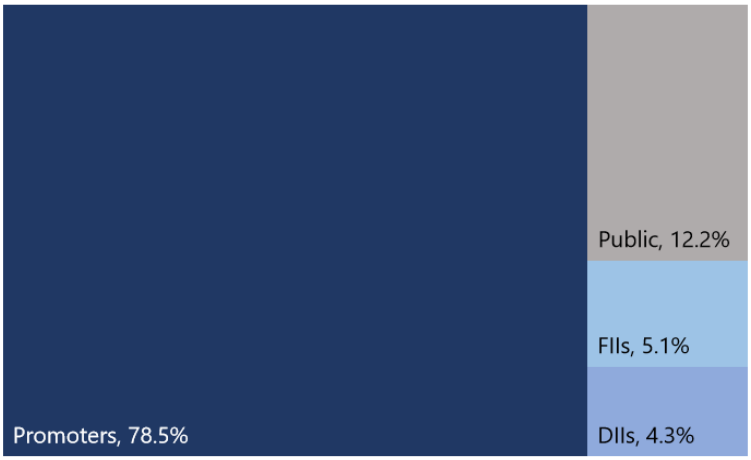
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 44: Management Profile

Name	Designation	Description
Ashok Boob	Managing Director	He has two and half decades of work experience in the chemical industry. He has completed his B. Chem. Engg from ICT, Mumbai. He has worked as an Executive Director at Mangalam Drugs & Organics Ltd.
Siddharth Sikchi	Executive Director	He has completed his M.Sc from Manitoba, Canada & B.Tech from ICT, Mumbai. He has over a decade of experience in the chemical industry.
Krishnakumar Boob	Executive Director	He has done B. Pharma from the University of Mumbai and has close to two decades of experience in the chemical industry. He has previously worked as a Director at Mangalam Drugs and Organics Ltd.
Pradeep Rathi	Chairman & Non-Executive Director	He has completed his B.Sc, M.S in Chemical Engineering from MIT, USA, and has done MBA from the Columbia University, USA. He has two and half decades of work experience in the chemical industry. Currently, he is also Director in Sudarshan Chemicals Ltd.
Prof. Ganapati Yadav	Non-Executive Independent Director	He has completed his B.Chem. Engg. & PhD in Technology from the University of Bombay, India. He has previously worked as the Vice-Chancellor of the Institute of Chemical Technology, Mumbai.
Sanjay Kothari	Non-Executive Director	He is a member of ICAI and ICSI. Currently, he is Director in Anantroop Financial Advisory Services Pvt. Ltd, Mumbai.
Keval Doshi	Non-Executive Independent Director	He is a member of ICAI. He was a Partner in EY India from 2007-2019 and has also led many roles in other firms like KPMG, RSM and PWC.
Madhu Dubhashi	Non-Executive Independent Director	He has done her Post-Graduation in Business Management from IIM, Ahmedabad, and currently, she is an Independent Director in many renowned listed entities, including Tube Investments, Sanghvi Movers, Majesco and Pudumjee Paper.

Source: Company, Bloomberg, Nirmal Bang Institutional Equities Research

Exhibit 45: Shareholding pattern as on Dec'21



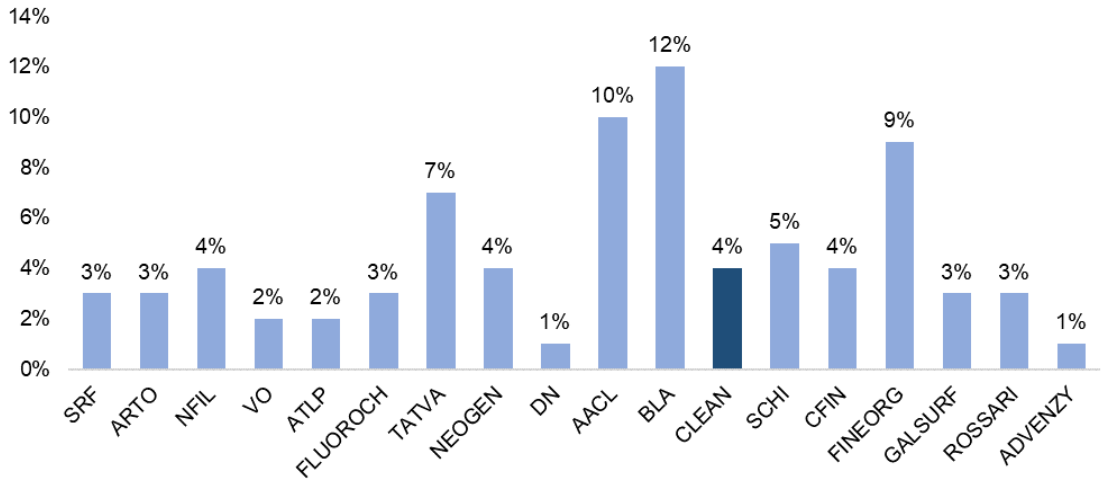
Source:Company, Nirmal Bang Institutional Equities Research

Exhibit 46: Top public shareholders (as on Dec'21)

Particulars	% holding
Anantroop Financial Advisory	3.92%
Axis Mutual Fund	1.75%
Nomura India Investment	1.23%

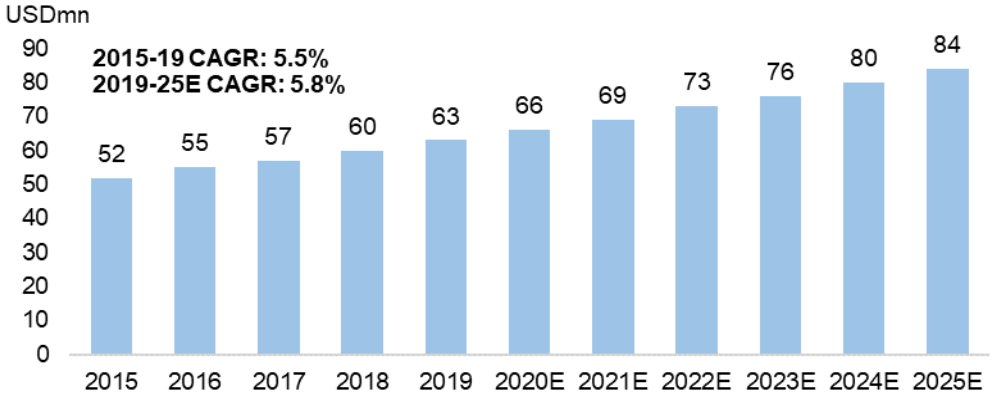
Source: BSE, Nirmal Bang Institutional Equities Research

Exhibit 47: Managerial remuneration as % PBT at 4%, in line with sector average



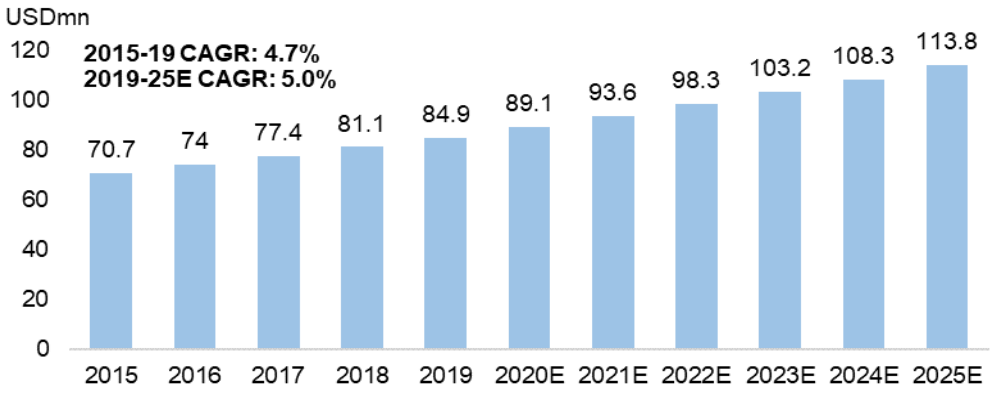
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 48: Global MEHQ market is expected to grow at a CAGR of ~5.8% over 2019-2025E



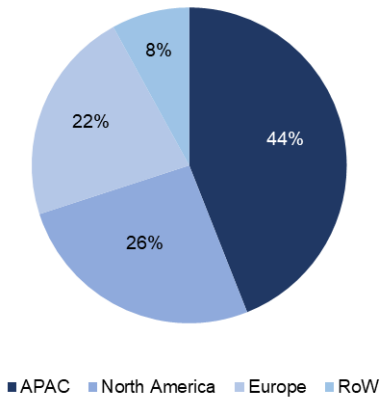
Source: DRHP, Nirmal Bang Institutional Equities Research

Exhibit 49: Global Anisole market is expected to grow at a CAGR of ~5.0% over 2019-2025E



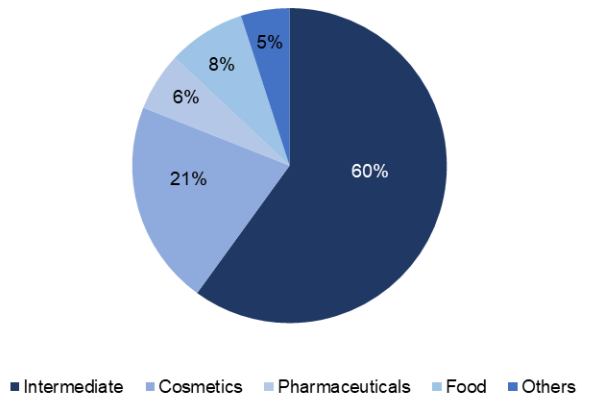
Source: DRHP, Nirmal Bang Institutional Equities Research

Exhibit 50: Global MEHQ market by geography



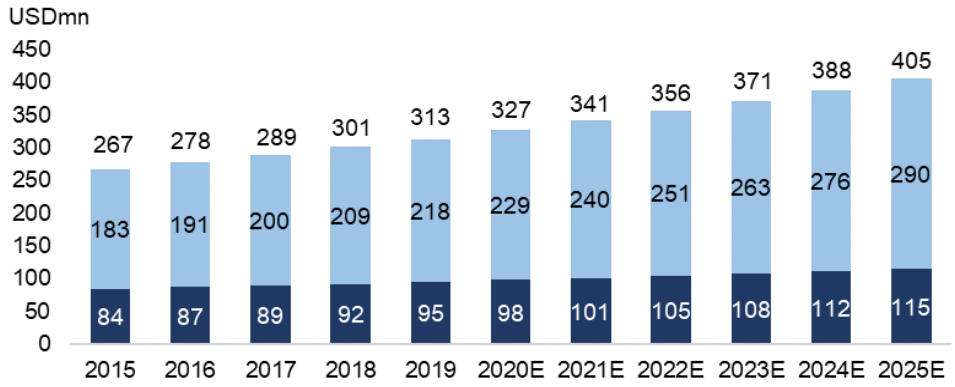
Source: DRHP, Nirmal Bang Institutional Equities Research

Exhibit 51: Global Anisole market, Application Analysis



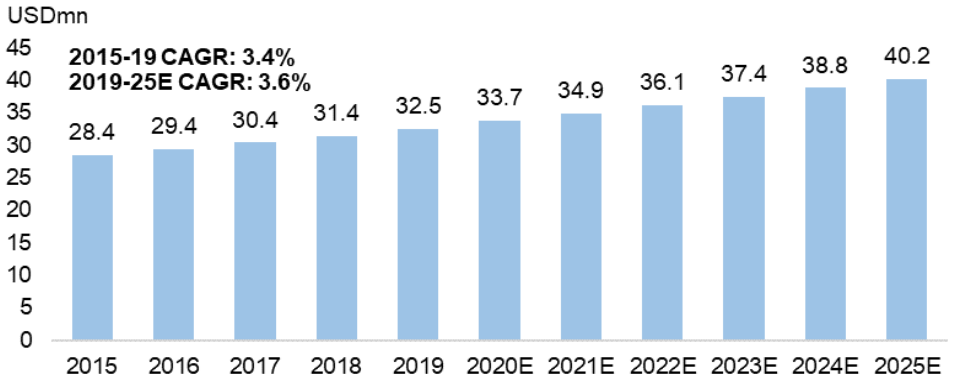
Source: DRHP, Nirmal Bang Institutional Equities Research

Exhibit 52: Global BHT and BHA Anti-Oxidants market is expected to grow at a CAGR of ~4.4% over 2019-2025E



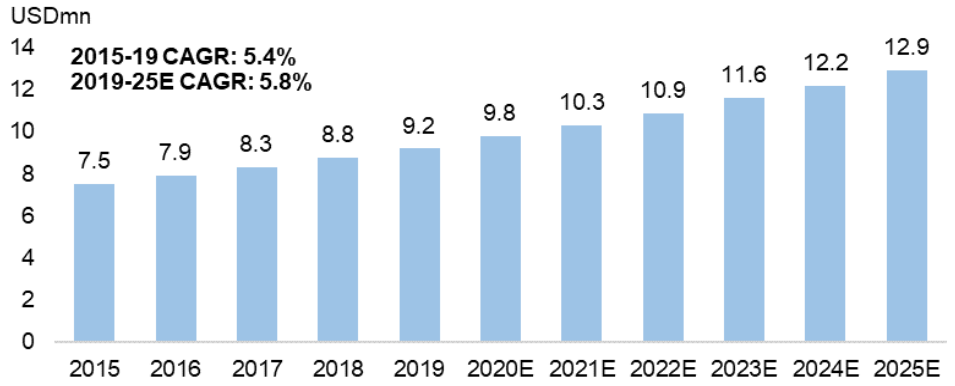
Source: DRHP, Nirmal Bang Institutional Equities Research

Exhibit 53: Global 4-MAP market is expected to grow at a CAGR of ~3.6% over 2019-2025E



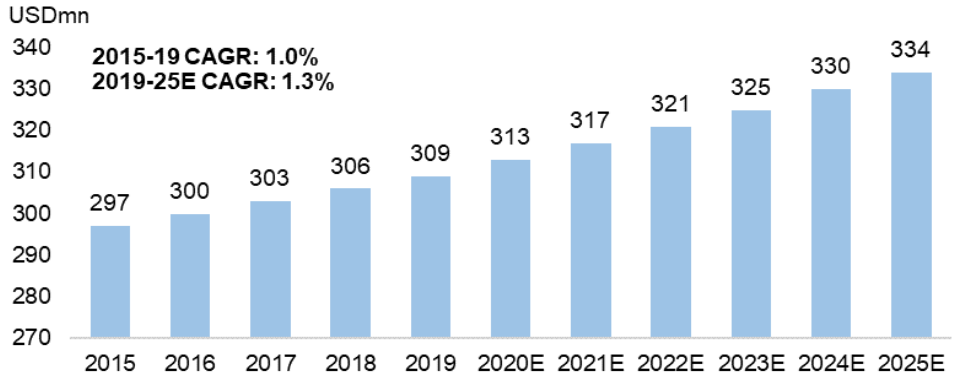
Source: DRHP, Nirmal Bang Institutional Equities Research

Exhibit 54: Global Ascorbyl Palmitate market is expected to grow at a CAGR of ~5.8% over 2019-2025E



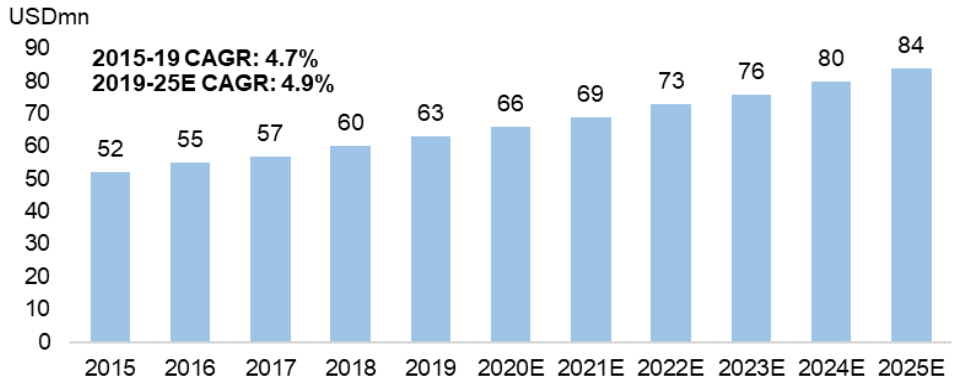
Source: DRHP, Nirmal Bang Institutional Equities Research

Exhibit 55: Global Guaiacol market is expected to grow at a CAGR of ~1.3% over 2019-2025E



Source: DRHP, Nirmal Bang Institutional Equities Research

Exhibit 56: Global DCC market is expected to grow at a CAGR of ~4.9% over 2019-2025E



Source: DRHP, Nirmal Bang Institutional Equities Research

Financials

Exhibit 57: Income statement

Y/E March (Rsm)	FY20	FY21	FY22E	FY23E	FY24E
Net Sales	**4,193**	**5,124**	**6,689**	**9,084**	**11,682**
Growth YoY%	*6.6*	*22.2*	*30.5*	*35.8*	*28.6*
COGS	1,292	1,236	2,140	2,870	3,740
Gross margin %	***69.2***	***75.9***	***68.0***	***68.4***	***68.0***
Staff costs	310	436	355	500	607
Other expenses	738	863	1,204	1,590	2,009
EBITDA	**1,853**	**2,590**	**2,991**	**4,125**	**5,325**
Growth YoY%	*35.8*	*39.8*	*15.5*	*37.9*	*29.1*
EBITDA margin %	***44.2***	***50.5***	***44.7***	***45.4***	***45.6***
Depreciation	137	172	234	354	420
EBIT	1,716	2,417	2,757	3,770	4,906
Interest	1	1	0	0	0
Other income	109	256	297	370	468
PBT (bei)	1,823	2,673	3,054	4,140	5,374
PBT	1,823	2,673	3,054	4,140	5,374
ETR	23	26	25	25	25
PAT	1,397	1,984	2,286	3,098	4,021
Adj PAT	**1,397**	**1,984**	**2,286**	**3,098**	**4,021**
Growth YoY%	***42.8***	***42.1***	***15.2***	***35.5***	***29.8***

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 58: Cash flow

Y/E March (Rsm)	FY20	FY21	FY22E	FY23E	FY24E
PBT	**1,823**	**2,673**	**3,054**	**4,140**	**5,374**
Depreciation	137	172	234	354	420
Interest	1	1	0	0	0
Other adjustments	(66)	(109)	(297)	(370)	(468)
Change in Working capital	130	(149)	(375)	(523)	(391)
Tax paid	(424)	(659)	(769)	(1,042)	(1,353)
Operating cash flow	**1,601**	**1,928**	**1,847**	**2,559**	**3,582**
Capex	(503)	(844)	(1,500)	(1,950)	(1,463)
Free cash flow	**1,098**	**1,084**	**347**	**609**	**2,119**
Other investing activities	(560)	(1,023)	297	(682)	(1,992)
Investing cash flow	**(1,063)**	**(1,868)**	**(1,203)**	**(2,632)**	**(3,455)**
Issuance of share capital	(491)	-	-	-	-
Movement of Debt	1	(24)	0	1	-
Dividend paid (incl DDT)	(153)	(33)	(21)	(21)	(21)
Other financing activities	(1)	(1)	(0)	(0)	(0)
Financing cash flow	**(554)**	**(59)**	**25**	**(37)**	**(36)**
Net change in cash flow	**(16)**	**2**	**669**	**(110)**	**91**
Opening C&CE	94	92	93	763	653
Closing C&CE	92	93	763	653	745

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 59: Balance sheet

Y/E March (Rsm)	FY20	FY21	FY22E	FY23E	FY24E
Share Capital	13	106	106	106	106
Reserves & Surplus	3,408	5,290	7,555	10,632	14,632
Net worth	**3,421**	**5,397**	**7,661**	**10,738**	**14,738**
Long term debt	3	3	4	4	4
Short term debt	24	-	-	-	-
Total debt	**27**	**3**	**4**	**4**	**4**
Other non-current liabilities	105	179	162	146	132
Total Equity & Liabilities	**3,553**	**5,579**	**7,827**	**10,888**	**14,874**
Gross block	2,214	2,586	4,086	6,036	7,499
Accumulated depreciation	588	760	994	1,348	1,767
Net Block	**1,626**	**1,826**	**3,093**	**4,688**	**5,731**
CWIP	34	550	550	550	550
Intangible and others	3	3	3	3	3
Other non-current assets	66	269	269	393	579
Investments	1,330	2,321	2,321	3,250	5,524
Trade receivables	698	742	971	1,319	1,660
Inventories	346	529	641	774	995
Cash & Cash equivalents	93	157	763	653	745
Other current assets	103	202	222	244	268
Total current assets	**1,240**	**1,630**	**2,598**	**2,991**	**3,668**
Trade payables	357	610	678	723	970
Other current liabilities	389	410	328	263	211
Total current liabilities	**746**	**1,020**	**1,006**	**986**	**1,181**
Total Assets	**3,553**	**5,579**	**7,827**	**10,888**	**14,874**

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 60: Key ratios

Y/E March (Rsm)	FY20	FY21	FY22E	FY23E	FY24E
Per share (Rs)					
Adj EPS	13.1	18.7	21.5	29.2	37.9
Book value	32.2	50.8	72.1	101.1	138.8
DPS	1.2	0.3	0.2	0.2	0.2
Valuation (x)					
P/Sales	51.0	41.7	32.0	23.5	18.3
EV/sales	51.0	41.7	31.9	23.5	18.2
EV/EBITDA	115.4	82.6	71.3	51.7	40.0
P/E	153.2	107.8	93.6	69.0	53.2
P/BV	62.5	39.6	27.9	19.9	14.5
Return ratios (%)					
RoCE	55.4	54.6	42.2	41.0	38.5
RoE	45.5	45.0	35.0	33.7	31.6
Profitability ratios (%)					
Gross margin	69.2	75.9	68.0	68.4	68.0
EBITDA margin	44.2	50.5	44.7	45.4	45.6
PAT margin	32.5	36.9	32.7	32.8	33.1
Liquidity ratios (%)					
Current ratio	3.3	3.9	4.9	6.3	7.8
Quick ratio	2.9	3.4	4.2	5.5	6.9
Solvency ratio (%)					
Debt to Equity ratio	0.0	0.0	0.0	0.0	0.0
Turnover ratios					
Fixed asset turnover ratio (x)	2.1	2.1	2.0	1.8	1.7
Debtor days	56	51	53	53	52
Inventory days	31	31	35	31	31
Creditor days	25	34	37	29	30
Net Working capital days	62	48	51	55	53

Source: Company, Nirmal Bang Institutional Equities Research

Neogen Chemicals

31 March 2022

Reuters: NEOE.NS; Bloomberg: NEOGEN:IN

Initiating Coverage

Expanding in the top end of the pyramid

NEOGEN is one of the India's leading bromine-based and lithium-based specialty chemicals manufacturers, backed by technocrat promoters. While bromine remains the core chemistry, NEOGEN focuses more on innovative processes and has adopted other chemistries to perform multi-stage reactions for several molecules. The company has been actively engaging with innovator companies and we believe NEOGEN's incremental focus on Advanced Intermediates and its chemistry-based sales approach could be a huge growth driver going ahead. Custom Synthesis & Manufacturing (CSM) segment has grown rapidly over the last 3-4 years (~2% of sales in FY18 to ~16% in FY22E) on the back of long-term order wins from innovator companies and we expect this trend to continue. Significant capacity addition in Organic Chemicals segment (3x over FY20-22) should ensure no capacity constraints for NEOGEN, in our view. Globally, bromine manufacturers have also not made a significant foray into Advanced Intermediates. NEOGEN is not present in bulk bromine derivatives like flame retardants and focuses mainly on high-value, low-volume segment. In bromine, the total addressable market for NEOGEN is ~US$1bn, as per the management. Also, NEOGEN has 30 years of experience in handling lithium chemistry, which the company should be able to leverage in making lithium salts for electrolyte application. While it is difficult to hazard a guess on the revenue potential from 2-3 years' perspective in this segment, NEOGEN could benefit from the EV trend in a big way, at least in India. We believe that optionality value is very high, both in NEOGEN's organic as well as inorganic businesses because of newer applications and potential big client additions. The recent fund raise of Rs2.25bn gives the company safe cushion in order to capitalize on some of the existing and/or new opportunities. We compare financial parameters of NEOGEN with global bromine manufacturers and it has been able to do well mainly on account of consistent focus on 'moving up the value chain' with significant emphasis on product and process R&D. We initiate coverage on NEOGEN with a BUY rating and target price (TP) of Rs2,000, indicating an upside of 21% from CMP. We value NEOGEN at 49x on FY24E earnings. NEOGEN's higher multiple compared to sector valuation is due to niche play and higher probability of delivering above normal growth over next 5 years.

Organic business to grow at ~29% CAGR over FY22-24E: Over FY20-22, NEOGEN has increased organic chemicals capacity 3x through Dahej expansion. This expanded capacity is mainly for Advanced Intermediates and CSM segments wherein NEOGEN has strong visibility, considering its engagements with multiple clients, including innovator companies. Currently, ~60% of the overall R&D focus is on the CSM segment and we expect multiple order conversions from innovator companies over the medium term considering the advanced stage of discussions and NEOGEN's focus towards various complex chemistries and multi-stage reactions.

Rising salience of new & complex molecules to lift margins: With rising share of Advanced Intermediates and CSM sales, gross margin should trend upwards, in our view whereas operational costs should rise proportionately. The management's incremental focus is mainly on handling new molecules wherein the initial scale-up might take time. However, we believe that the company's overall EBITDA margin should improve gradually with rising salience of new and complex molecules, multi-stage reactions, ongoing process innovation and operating leverage.

Superior operational parameters vs global bromine manufacturers: While the company's EBITDA margin or return ratios might look lower compared to Indian chemicals peers (non-bromine), its operating parameters are far superior vis-à-vis global bromine manufacturers like Albemarle and ICL which are predominantly present in bulk bromine derivatives and hence their asset turnover and return ratios are fairly low compared to NEOGEN.

Lithium salts for electrolyte - an additional growth lever for long term: While the current capital commitment is low, this could be a big growth driver from FY25 onwards, considering its expertise in lithium chemistry, EV growth outlook & PLI backing for manufacturers.

Risks: Delay in order conversion in CSM, input cost inflation, delay in lithium story etc.

BUY

Sector: Chemicals

CMP: Rs1,655

Target Price: Rs2,000

Upside: 21%

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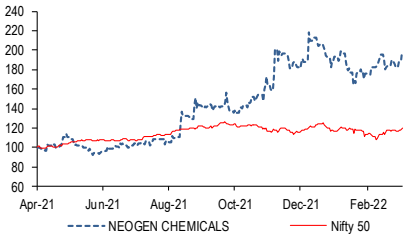
Key Data

Current Shares O/S (mn)	24.9
Mkt Cap (Rsbn/US$mn)	41.3/543.7
52 Wk H / L (Rs)	1,934/757
Daily Vol. (3M NSE Avg.)	73,118

Share holding (%)	3QFY22	2QFY22	1QFY22
Promoters	60.2	60.2	60.2
Public	39.8	39.8	39.8
Non-Institutions	-	-	-

One Year Indexed Stock Performance



Price Performance (%)

	1 M	6 M	1 Yr
Neogen Chemicals	8.0	33.6	92.3
Nifty Index	4.2	(0.7)	19.1

Source: Bloomberg

Financial Summary

Particulars (Rsm)	FY20	FY21	FY22E	FY23E	FY24E
Net Sales	3,061	3,364	4,696	6,125	7,682
Growth YoY%	*28.1*	*9.9*	*39.6*	*30.4*	*25.4*
Gross margin %	*39.9*	*41.3*	*43.8*	*44.0*	*44.0*
EBITDA	581	644	836	1,176	1,559
EBITDA margin %	*19.0*	*19.1*	*17.8*	*19.2*	*20.3*
Adj PAT	288	314	467	741	1,024
Growth YoY%	*36.8*	*9.3*	*48.5*	*58.6*	*38.3*
Adj EPS	*12.3*	*13.5*	*18.7*	*29.7*	*41.1*
Growth YoY%	*17.7*	*9.3*	*39.0*	*58.6*	*38.3*
RoCE %	*22.2*	*17.0*	*14.8*	*15.6*	*18.6*
RoE %	*25.0*	*20.5*	*16.0*	*15.3*	*18.1*
P/E	134.2	122.8	88.4	55.7	40.3
EV/EBITDA	68.8	63.1	47.1	34.0	25.6
P/BV	24.6	21.1	8.6	7.5	6.3

Source: Company, Nirmal Bang Institutional Equities Research

Valuation Summary

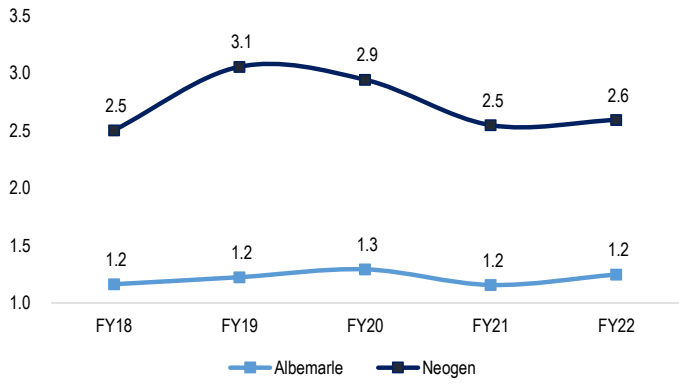
We initiate coverage on NEOGEN with a BUY rating and target price (TP) of Rs2,000, indicating an upside of 21% from CMP. We value NEOGEN at 49x FY24E earnings. Focus on the complex end of the chemistry and process improvements, rising share of contracts from innovator companies and optionality factor in both organic as well as inorganic businesses justify the company's premium valuation vs sector multiple. NEOGEN's EBITDA margin and return ratios are lower than India chemicals companies. In our view, a more correct comparison would be with the global bromine players who manufacturer and sell bromine derivatives. Since these companies are present predominantly in flame retardants and other segments, which are bulk bromine derivatives, their asset turnover and consequently return ratios are fairly poor compared to NEOGEN, which is not present in bulk bromine derivatives. Also, lower share of 'bottom of the pyramid' products in the bromine chain results in relatively stable margins despite RM cost fluctuations.

Exhibit 1: Company Valuation & Target Price

Particulars	Details
FY24E EPS	41
Target PE multiple (x)	49
Target price	**2,000**

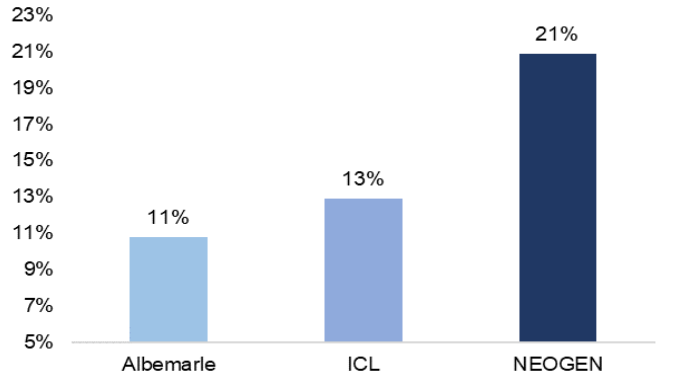
Source: Nirmal Bang Institutional Equities Research

Exhibit 2: NEOGEN's asset turnover Vs Albemarle



Source: Respective Company, Nirmal Bang Institutional Equities Research

Exhibit 3: CY16-21 average ROCE of NEOGEN & Global bromine leaders

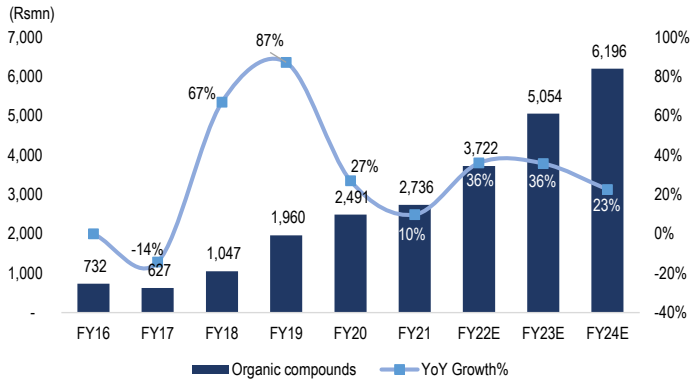


Source: Respective Company, Nirmal Bang Institutional Equities Research

Organic Chemicals to clock ~29% CAGR over FY22-24E on the back of growth in Advanced Intermediates and CSM

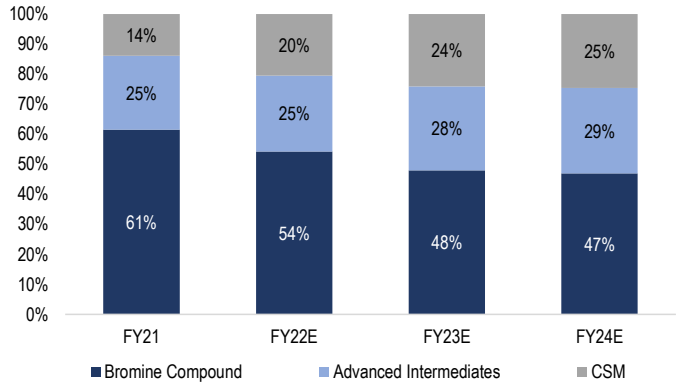
Organic Chemicals segment of NEOGEN is divided into three parts: Bromine Compounds, Advanced Intermediates and CSM. Bromine Compounds include organic compounds containing chlorine, fluorine, iodine-based combinations and others, including grignard reagents, and contributed ~50% to total revenue in FY21. Advanced Intermediates combines bromination with other chemistries to create forward integrated value-added products that have their uses in the Pharmaceuticals & Agrochemicals industry. Advanced Intermediates had clocked revenue of Rs673mn in FY21, contributing 20% to total revenue. In CSM, customized products are developed for specific customers with technical know-how of the company. In FY21, this segment contributed ~10% to overall revenue. We expect the CSM segment to report the fastest growth because of strong order visibility and disproportionate focus on R&D. Over FY20-22, NEOGEN has increased capacity of Organic Chemicals by 3x at Dahej. This expanded capacity is mainly for Advanced Intermediates and CSM segments, wherein NEOGEN has strong visibility considering its engagements with multiple clients, including innovator companies. Overall, we expect Organic Chemicals segment to report revenue CAGR of ~29% over FY22-24E.

Exhibit 4: Organic Chemicals revenue - to clock ~29% CAGR over FY22-24E based on Advanced Intermediates and CSM



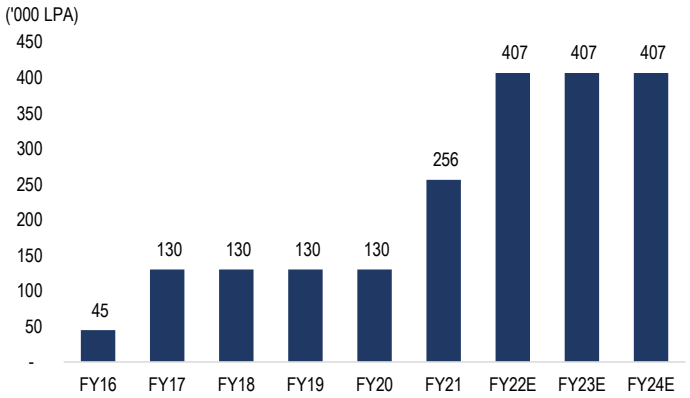
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 5: Revenue share of Organic Chemicals segment – share of Advanced Intermediates and CSM to improve further



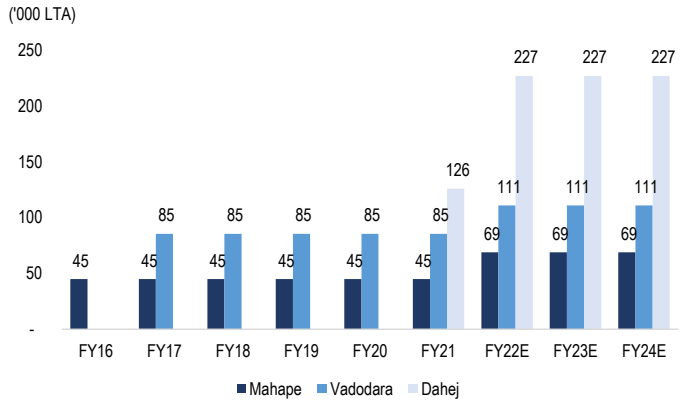
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 6: Organic Chemicals capacity - consistent capacity additions should enable NEOGEN to grow significantly



Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 7: Organic Chemicals capacity by location



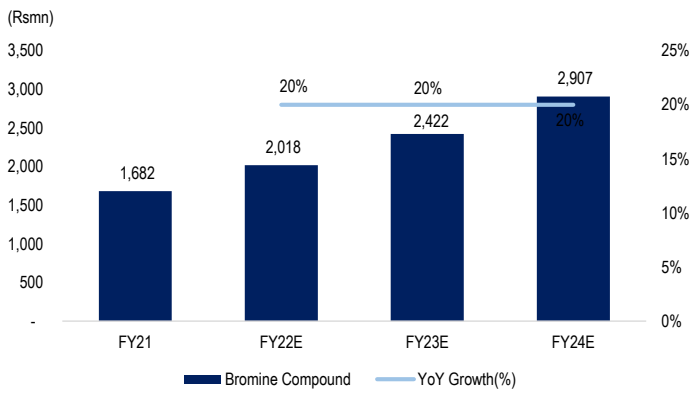
Source: Company, Nirmal Bang Institutional Equities Research

Disproportionate R&D focus to increase specialty segment's share in organic chemicals

NEOGEN is not present in bulk bromine derivatives like flame retardants, derivatives for water treatment and oilfields etc. While the market size for bromine derivatives is 50KTPA, as per industry estimates, annual demand for specialty bromine derivatives is fairly low at ~2KTPA. Global bromine manufacturers like Albemarle, ICL and Lanxess have also not made any meaningful foray into Advanced Intermediates. NEOGEN's incremental focus is mainly on Advanced Intermediates wherein it uses specialty bromine and non-bromine derivatives and performs multi-stage reactions. The company is incrementally handling newer molecules wherein complexity is much higher. These are high-value, low-volume products. Bromine under normal circumstances is priced at US$3-4 per kg. NEOGEN offers a wide array of solutions in a way that the product portfolio could command realisation in the range of US$D10-200 per kg with a major focus on value-added molecules. While new molecules take time for initial scale-up, overall margin delivery should improve with ramp-up and process innovation over a period of time. Therefore, while the rising share of Advanced Intermediates and CSM might not change the margin trajectory meaningfully in the near term, we expect structural margin improvement with rising salience of complex molecules and multi-stage reactions in the overall portfolio.

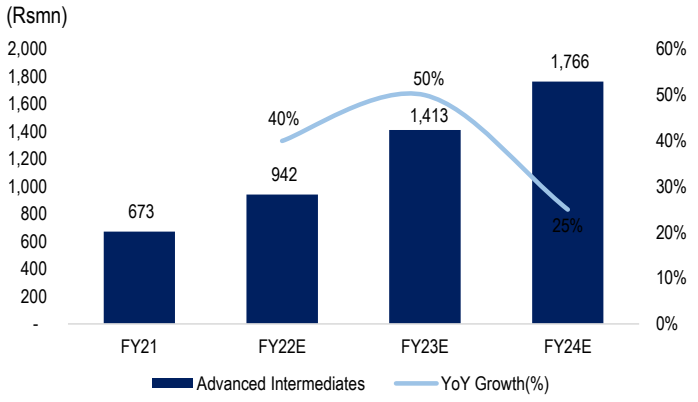
We are building in ~41% revenue CAGR in the CSM business over FY22-24E on the back disproportionate focus on R&D. NEOGEN entered the CSM business in 2016. Over the last 5 years, revenue share of CSM has gone up to 10% and we expect this segment to contribute ~20% of overall revenue in FY24. We believe that NEOGEN's chemistry-based sales approach and ability to handle multiple complex chemistries and multi-stage reactions have enabled early success in the CSM segment. ~60% of the overall R&D is focused on the CSM segment. NEOGEN has been engaging with 8-9 innovators and we expect multiple order conversions from innovator companies over the medium term. The company has already bagged one order from a US-based client, which is a patented molecule and has been commercialized in the US. The same molecule is expected to be launched in Europe and Japan shortly, as per the management. Very recently, the company's Board has approved a capex of Rs350mn for setting up an electrolyte facility, while the remaining part of the capex is mainly towards setting up a pilot plant to speed up product development (scale-up and commercialization) of specialty chemicals. We believe that all these initiatives should reflect in profitable growth going ahead.

Exhibit 8: Bromine Compounds revenue – we are building in ~20% CAGR over FY22-24E



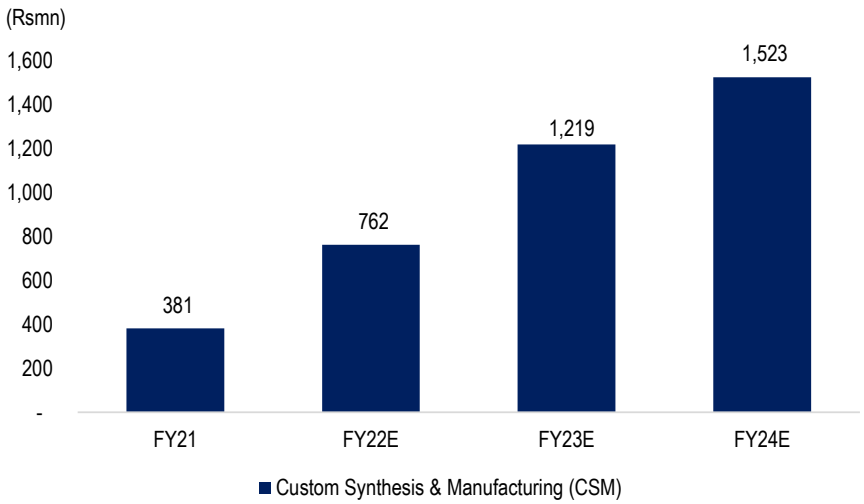
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 9: Advanced Intermediates revenue – we are building in ~37% CAGR over FY22-24E



Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 10: CSM revenue CAGR – we are building in ~41% CAGR over FY22-24E

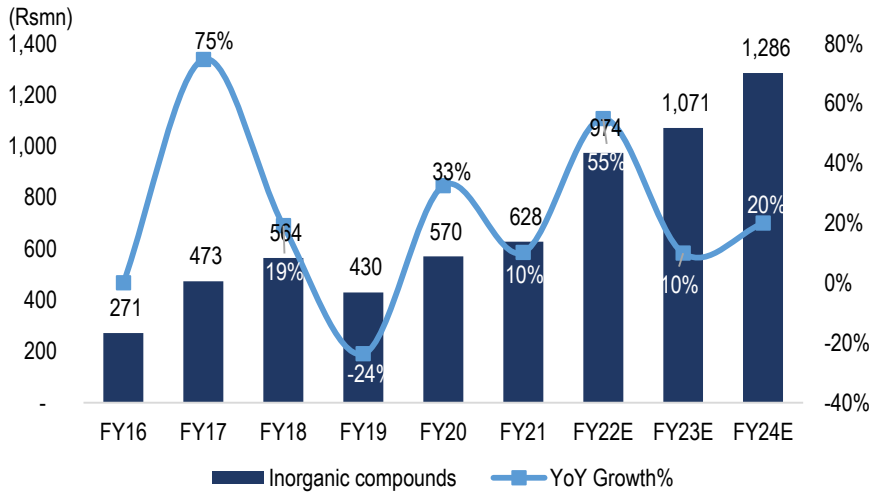


Source: Company, Nirmal Bang Institutional Equities Research

Inorganic Chemicals – to grow at ~15% CAGR over FY22-24E

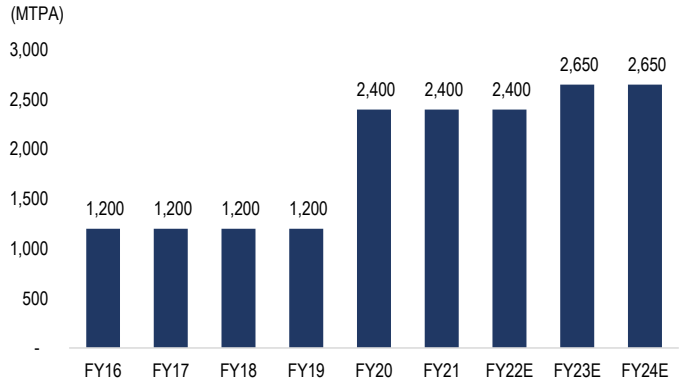
NEOGEN's Inorganic Chemicals includes specialty inorganic lithium-based chemical products, which find application across multiple industries, mainly Vapour Absorption Refrigerant for cooling air/water/process equipment. Besides HVAC, it is also used in Pharmaceuticals, Specialty Polymer and Construction. This segment contributes ~20% to overall revenue. Lithium bromide is used in the refrigeration industry, making it a seasonal business where demand is higher in the second half of the year. Volatility in lithium prices may have an adverse impact on margin, but broadly per kg margin is protected. Also, this segment's salience has declined considering the strong growth in the Organic Chemicals segment. We are building in ~15% revenue CAGR in this segment over FY22-24E.

Exhibit 11: Inorganic Chemicals revenue - we are building in ~15% CAGR over FY22-24E



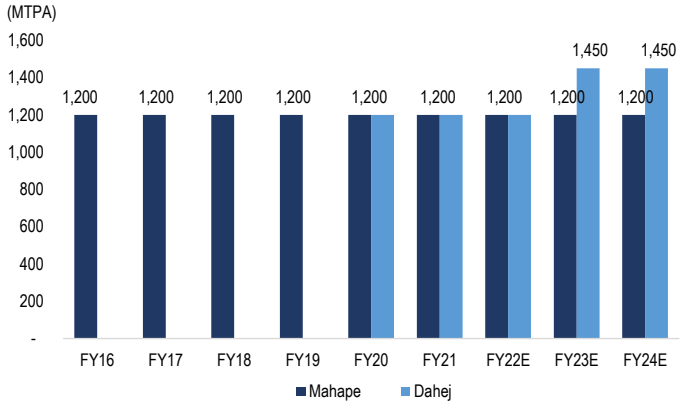
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 12: Inorganic Chemicals segment capacity



Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 13: Inorganic Chemicals capacity by location



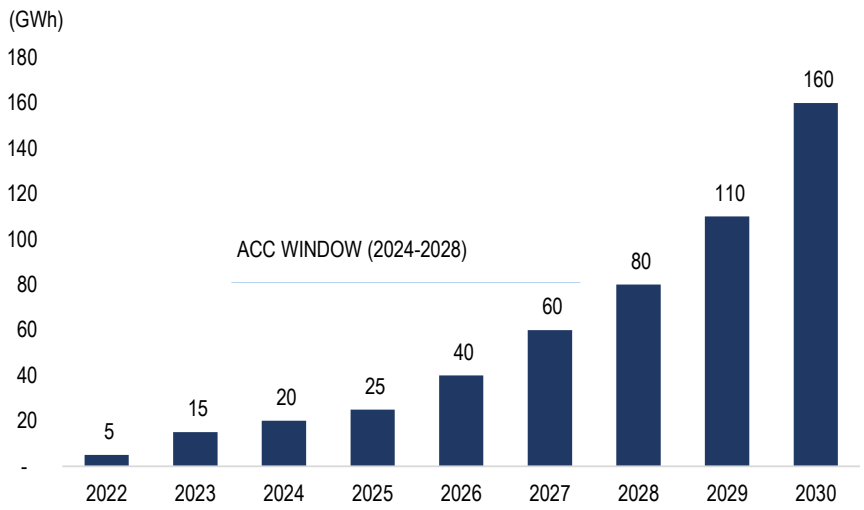
Source: Company, Nirmal Bang Institutional Equities Research

Electrolyte formulation & lithium salts – A new age opportunity

NEOGEN Board has approved an initial capex of Rs350mn for setting up 250 MT electrolyte formulation production capacity at Vadodara and for other process development activities in specialty chemicals. This electrolyte plant is expected to be commissioned by the end of FY23. The company expects Rs500mn revenue in FY24 based on current orders and potential additions. Government of India has announced US$2bn PLI scheme to support manufacturing and localisation of advanced chemistry cell production units with focus on localisation of supply chain. As per industry estimates, the production of lithium cells in India is expected to touch ~160 GWh by 2030 from negligible levels currently. This is expected to translate into the electrolyte demand of 50,000 to 70,000 MT by 2030.

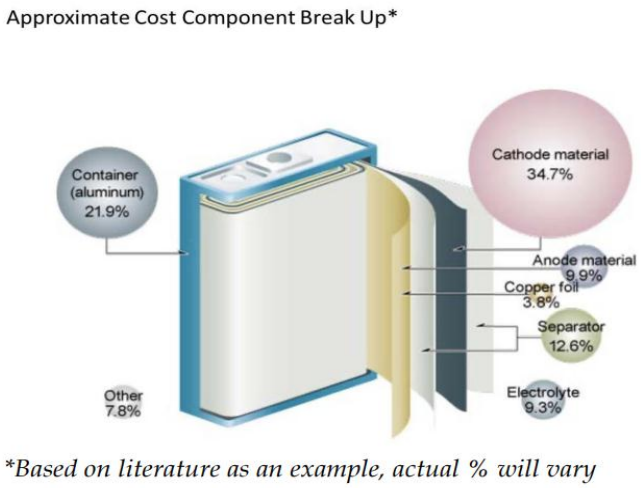
NEOGEN has 30 years of experience in handling lithium chemistry. While the purity standards of lithium salts used in electrolyte are higher than current products, NEOGEN is in a position to make these products by making modifications in the existing facility. Competitive challenges in electrolyte facility should be lower in India as no other company has done it in India. While globally, multiple companies have set up such facilities, setting up a manufacturing base in India will time consuming for them. On the product size, NEOGEN makes lithium compounds that go into lithium salts used in electrolyte. Also, NEOGEN is in a position to make lithium-based derivatives, which are required in electrolyte including the additives.

Exhibit 14: Demand estimate for lithium cell for Indian market to clock CAGR of ~54% over FY22-30



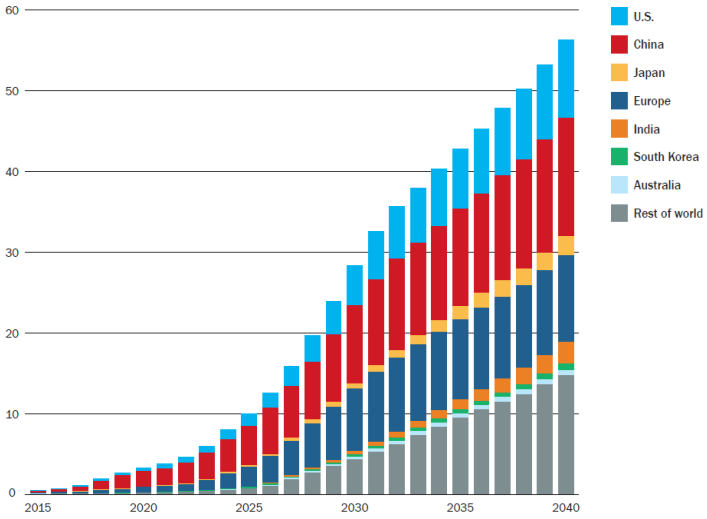
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 15: Cost composition of lithium-ion battery – Electrolyte constitutes ~9% of overall cost



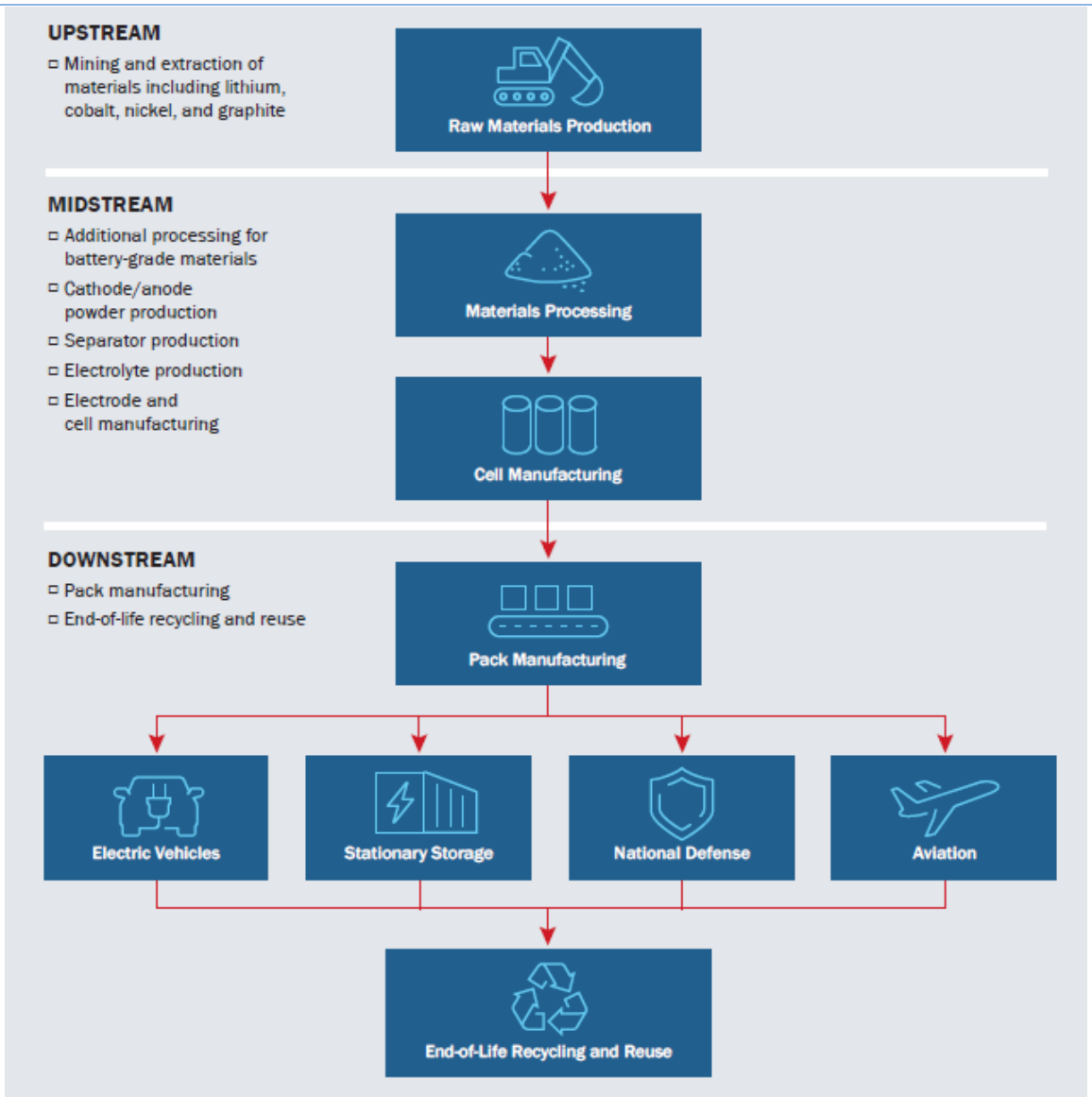
Source:Company, Nirmal Bang Institutional Equities Research

Exhibit 16: EV global growth projection across geographies



Source: Bloomberg, Nirmal Bang Institutional Equities Research

Exhibit 17: Lithium-based battery supply chain



Source: Energy.gov, Nirmal Bang Institutional Equities Research

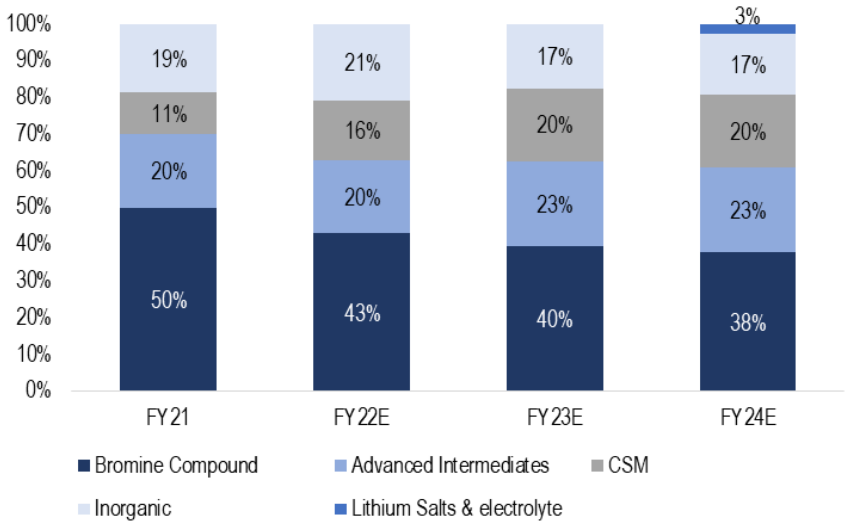
Exhibit 18: Midstream Lithium-ion battery manufacturing – Percentage of total manufacturing capacity by country for various battery components

Country	Cathodes Manufacturing (3 M tons)	Anode Manufacturing (1.2 M tons)	Electrolyte Solution Manufacturing (339,000 tons)	Separator Manufacturing (1,987 M sq. m)
United States	—	10%	2%	6%
China	42%	65%	65%	43%
Japan	33%	19%	12%	21%
Korea	15%	6%	4%	28%
Rest of World	10%	—	17%	2%

Source: Bloomberg, Nirmal Bang Institutional Equities Research

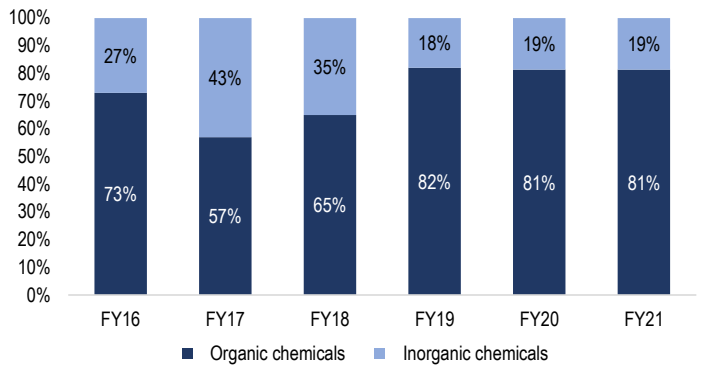
Key Financial Charts

Exhibit 19: Segment revenue share (%): NEOGEN's clear focus is on improving share from its CSM & Advanced Intermediate segments



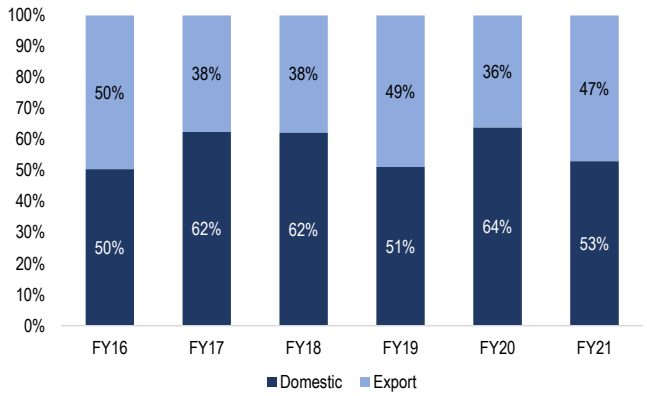
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 20: Segment-wise revenue break-up – will be in same trajectory going forward



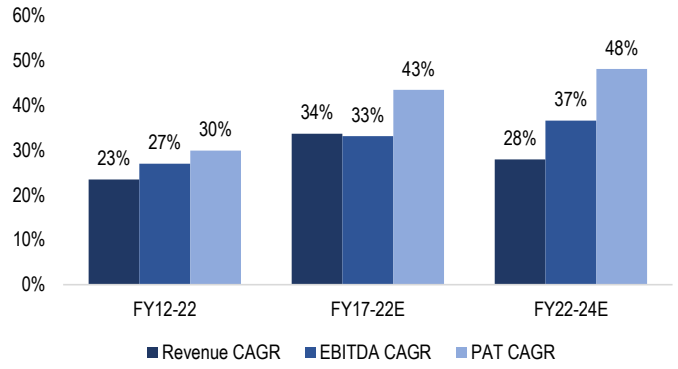
Source:Company, Nirmal Bang Institutional Equities Research

Exhibit 21: Revenue break-up as on FY21 (Domestic vs Exports)



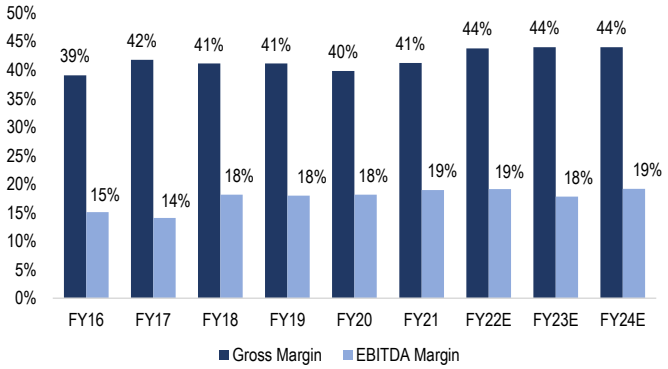
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 22: Very strong earnings delivery on consistent basis: we expect the same to continue



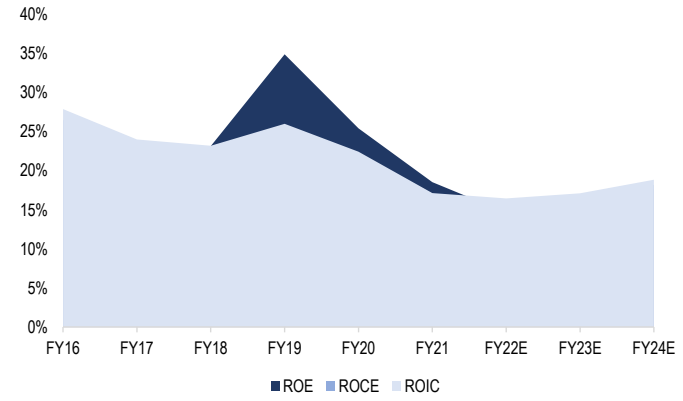
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 23: Formula based pricing hedges NEOGEN against RM fluctuations



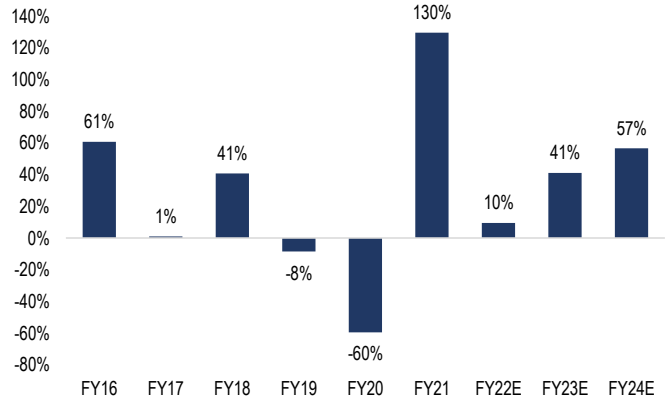
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 24: Return ratios – ROE for FY21 stood at ~21%



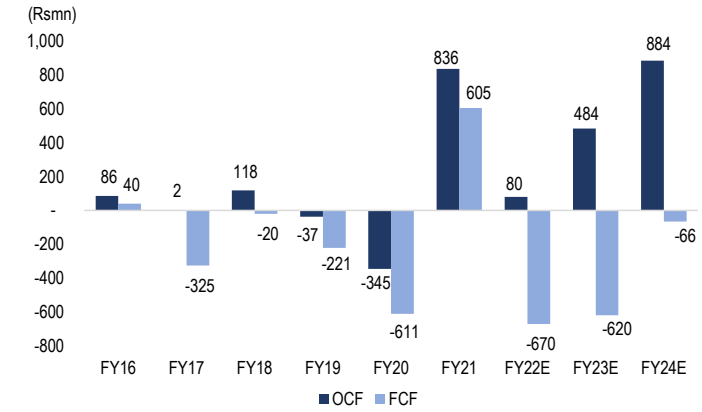
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 25: EBITDA to OCF conversion



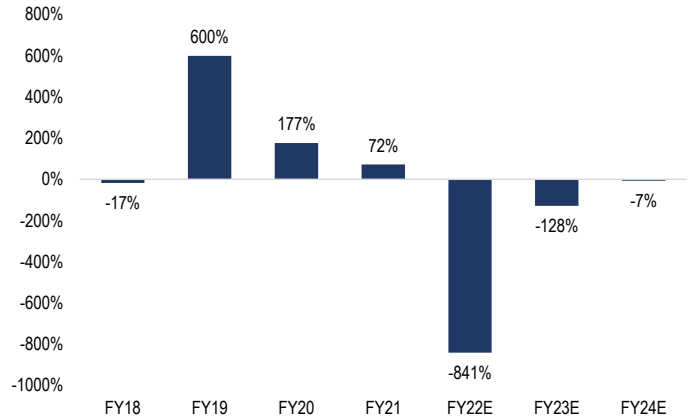
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 26: High capex should lead to lower FCF



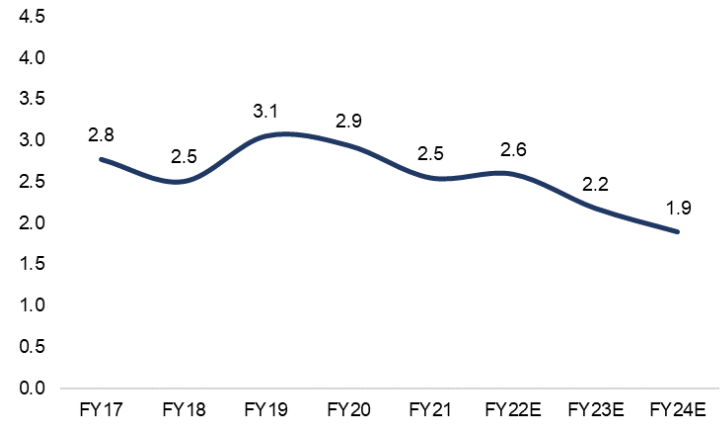
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 27: FCF/OCF ratio



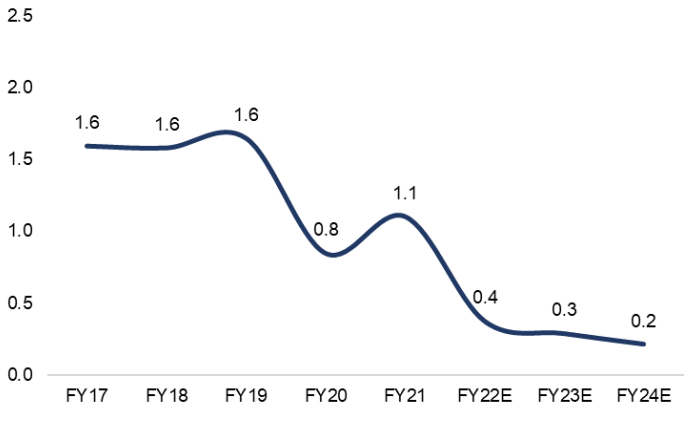
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 28: Asset turnover – moderation in near term as new molecules take time to scale up



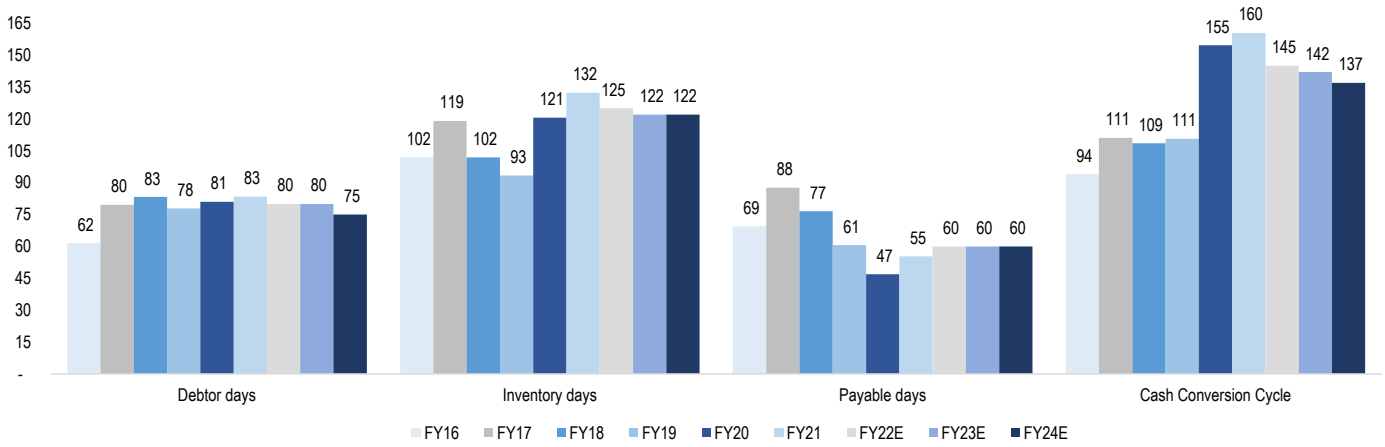
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 29: D/E ratio – post preferential issue, we expect D/E to fall



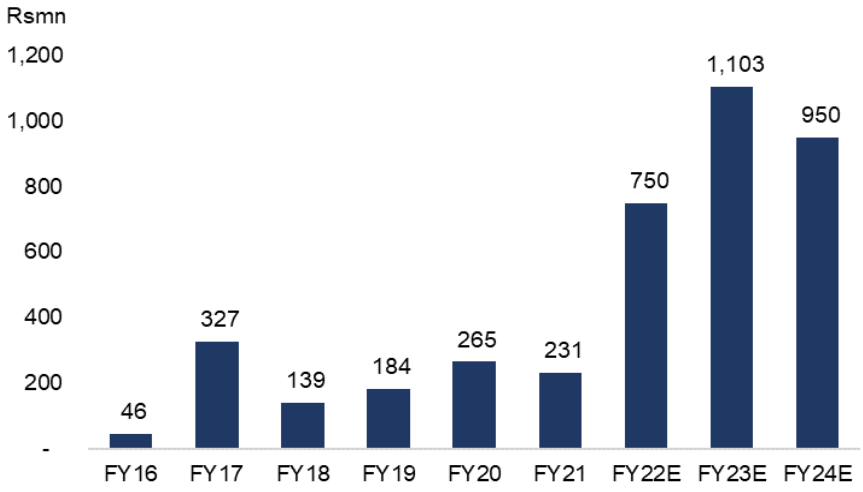
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 30: Working capital days to improve going ahead led by better inventory & receivable management



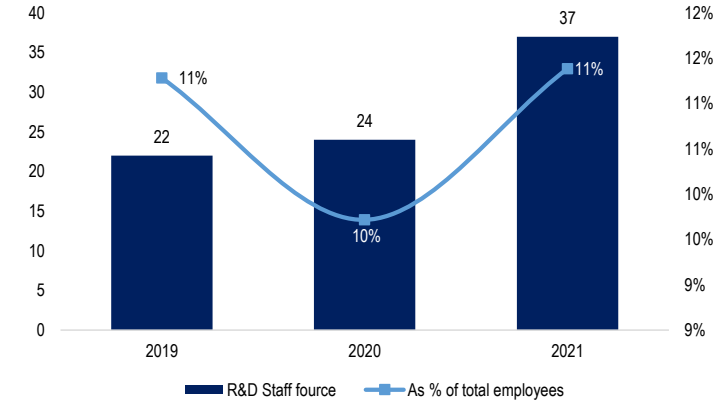
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 31: Capex- recent preferential allotment to further boost capex outlook over the medium term



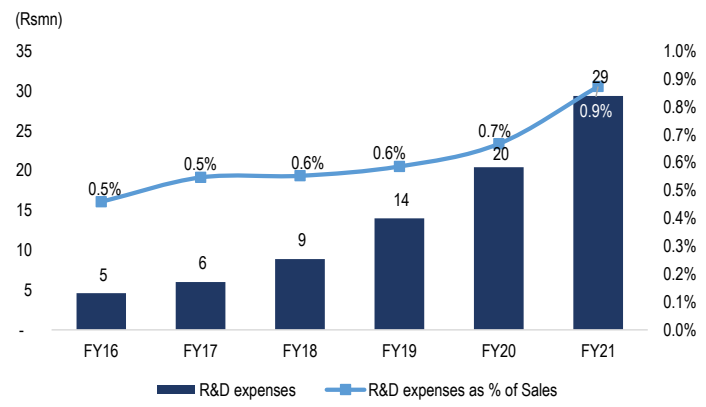
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 32: R&D team strength at ~10% of overall employee base



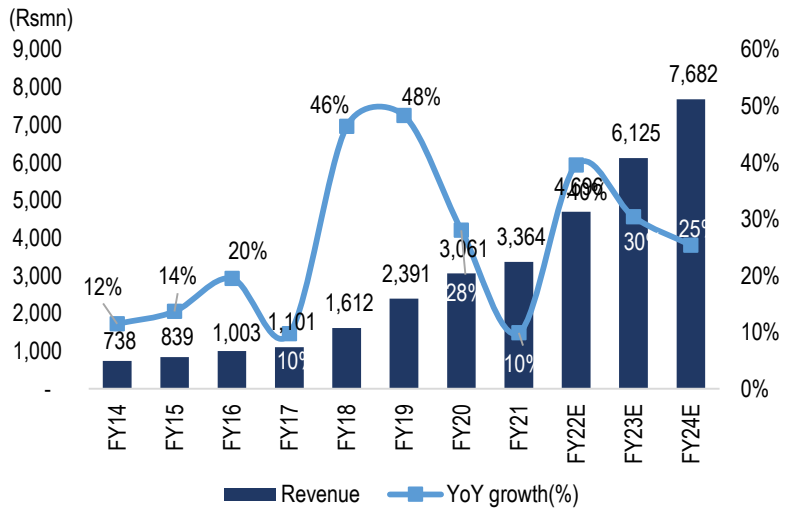
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 33: R&D expense as % sales gradually rising with focus on Advance Intermediates and CSM



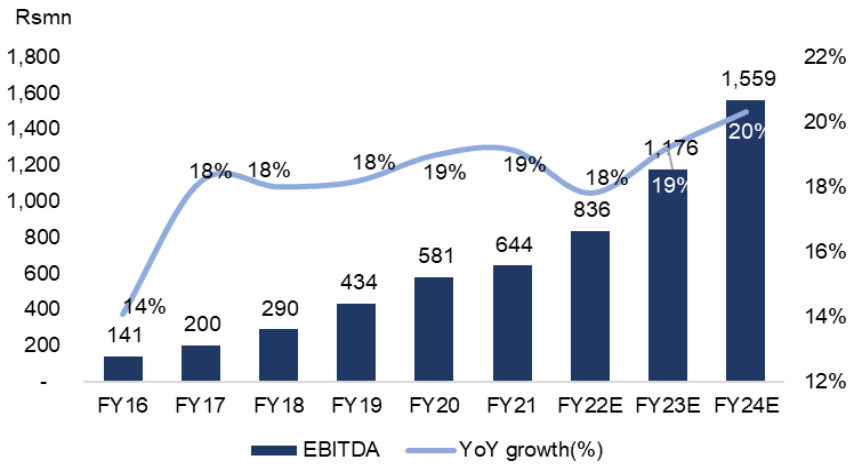
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 34: Revenue - we are building in ~28% CAGR over FY22-24E



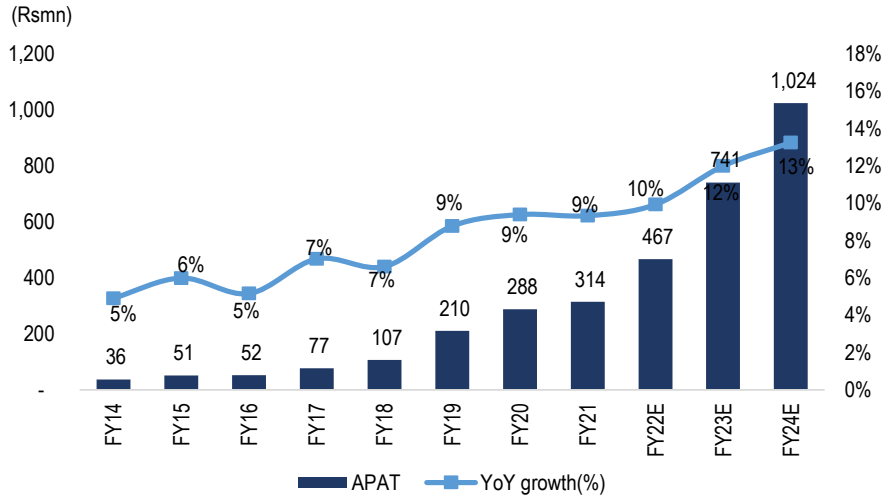
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 35: EBITDA- we are building in ~37% CAGR over FY22-24E



Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 36: APAT - we are building in ~48% CAGR over FY22-24E



Source: Company, Nirmal Bang Institutional Equities Resear

Financial summary

Particulars (Rsm)	FY20	FY21	FY22E	FY23E	FY24E
Net Sales	3,061	3,364	4,696	6,125	7,682
Growth YoY%	*28.1*	*9.9*	*39.6*	*30.4*	*25.4*
Gross margin %	*39.9*	*41.3*	*43.8*	*44.0*	*44.0*
EBITDA	581	644	836	1,176	1,559
EBITDA margin %	*19.0*	*19.1*	*17.8*	*19.2*	*20.3*
Adj PAT	288	314	467	741	1,024
Growth YoY%	*36.8*	*9.3*	*48.5*	*58.6*	*38.3*
Adj EPS	*12.3*	*13.5*	*18.7*	*29.7*	*41.1*
Growth YoY%	*17.7*	*9.3*	*39.0*	*58.6*	*38.3*
RoCE %	*22.2*	*17.0*	*14.8*	*15.6*	*18.6*
RoE %	*25.0*	*20.5*	*16.0*	*15.3*	*18.1*
P/E	134.2	122.8	88.4	55.7	40.3

Source: Company, Nirmal Bang Institutional Equities Research

Variance with consensus

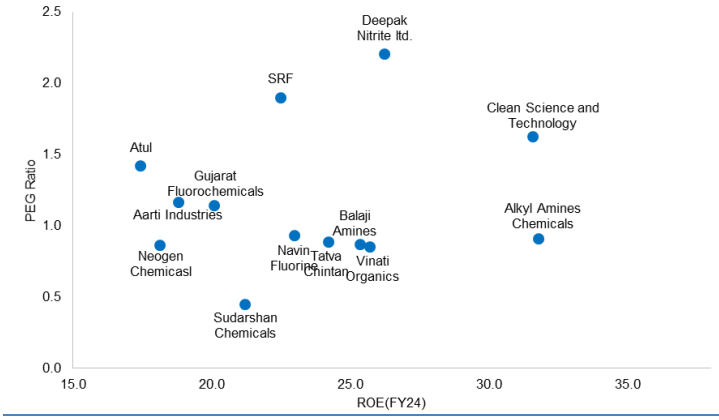
Particulars	NBIE estimates			Consensus estimates			Variance (%)		
	FY22E	FY23E	FY24E	FY22E	FY23E	FY24E	FY22E	FY23E	FY24E
Revenue	4,696	6,125	7,682	4,698	6,082	7,582	0.0%	0.7%	1.3%
EBITDA	836	1,176	1,559	875	1,216	1,563	-4.5%	-3.3%	-0.2%
EBITDA margin	17.8%	19.2%	20.3%	18.6%	20.0%	20.6%	*-83bps*	*-79bps*	*-31bps*
APAT	467	741	1,024	444	736	992	5.1%	0.6%	3.2%

Source: Company, Bloomberg, Nirmal Bang Institutional Equities Research

Our view on India Specialty Chemicals Industry

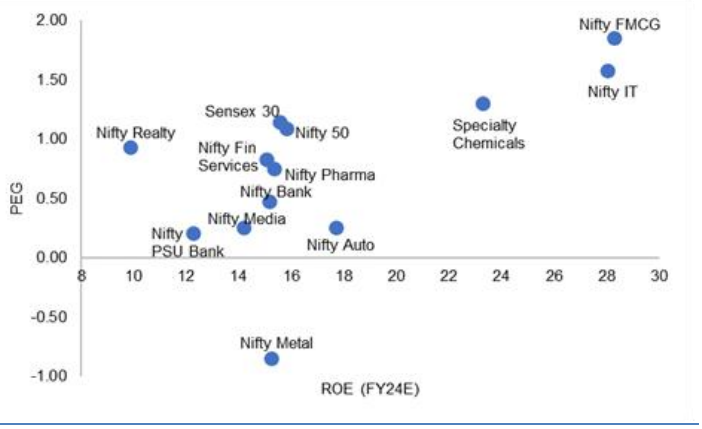
The Indian Specialty Chemicals basket has significantly outperformed all the leading indices over the last one year. The entire sector got massively re-rated (current valuation ~30x PE on FY24E) on the back of market opportunities across select chemistries, import substitution and 'China+ 1 theme. Apart from future growth potential, which might be driving the stock price performance to a great extent, earnings delivery of Indian Specialty Chemicals companies has been far superior compared to any other sector indices. These companies have more than doubled their capex every 5 years and the next 3-4 years' guidance also remains very promising. This should create a very solid asset base for these companies and hence there is a strong case for ~25% earnings CAGR over the next 5 years, in our view. Despite their rich valuations currently, we believe that there is still enough value in select pockets from a medium-term perspective. All our coverage companies are leading players globally in their respective chemistries. We assign high probability to these names winning new long-term contracts in future. Rising share of specialty chemicals revenue in these companies would reduce the risk associated with RM volatility & pricing to an extent and enable consistent earnings growth. Structurally, we are positive on businesses with focus on niche chemistry or application, process innovation and new-age segments with a high optionality value.

Exhibit 37: Indian Chemical Companies PEG



Source: Bloomberg, Nirmal Bang Institutional Equities Research

Exhibit 38: Sector PEG comparison



Source: Bloomberg, Nirmal Bang Institutional Equities Research

(Note – Specialty chemicals include Navin fluorine, SRF, Aarti Industries, Vinati Organics, Atul ltd, Gujarat Fluorochemicals, Tatva Chintan, Neogen Chemicals, Deepak Nitrite, Alkyl Amines, Balaji Amines, Clean Science & Technology, Sudarshan Chemicals)

Exhibit 39: Peer Financial Comparison

Company Name	Mcap (USD bn)	FY22-24E CAGR (%)			ROE (%)		
		Revenue	EBITDA	PAT	FY22E/ CY21E	FY23E/ CY22E	FY24E/ CY23E
Navin Fluorine International L	2.7	38.0	43.6	40.0	16.0	21.7	23.0
SRF Ltd	10.6	17.8	18.3	17.0	23.8	22.5	22.5
Aarti Industries Ltd	4.5	18.8	22.2	24.1	18.0	18.7	18.8
Vinati Organics Ltd	2.7	31.0	40.5	38.4	19.4	24.4	25.7
Clean Science and Technology	2.8	32.1	33.4	32.6	35.0	33.7	31.6
Neogen Chemicals	0.5	27.9	36.6	48.1	16.0	15.3	18.1
Tatva Chintan	0.7	27.9	36.0	31.0	29.8	21.7	24.2
Atul Ltd	4.0	13.2	19.6	21.7	15.8	17.3	17.5
Gujarat Fluorochemicals	4.1	17.0	23.3	24.8	18.2	19.5	20.1
Deepak Nitrite Ltd	4.0	8.4	11.3	10.3	36.9	29.6	26.2
Alkyl Amines Chemicals	2.0	19.6	37.0	37.3	27.6	32.6	31.8
Balaji Amines Ltd	1.3	17.8	20.2	20.9	30.6	28.2	25.4
Sudarshan Chemical Industries	0.5	15.5	28.6	34.9	16.6	18.9	21.2

Source: Bloomberg, Nirmal Bang Institutional Equities Research

Exhibit 40: Peer Valuation

Company Name	P/E (x)			EV/EBITDA (x)			P/B (x)			PEG
	FY22E/ CY21E	FY23E/ CY22E	FY24E/ CY23E	FY22E/ CY21E	FY23E/ CY22E	FY24E/ CY23E	FY22E/ CY21E	FY23E/ CY22E	FY24E/ CY23E	FY24E
Navin Fluorine International L	72.7	46.6	37.1	53.2	33.4	25.8	11.0	9.4	7.8	0.9
SRF Ltd	44.1	38.4	32.2	26.8	22.9	19.0	9.5	7.9	6.7	1.9
Aarti Industries Ltd	43.2	32.3	28.0	26.9	21.1	18.1	6.5	5.7	5.0	1.2
Vinati Organics Ltd	62.8	42.0	32.8	49.1	31.5	24.8	11.3	9.3	7.7	0.9
Clean Science and Technology	93.6	69.0	53.2	70.5	50.9	38.9	28.0	19.9	14.5	1.6
Neogen Chemicals	88.4	55.7	40.3	48.4	34.8	27.2	9.3	8.1	6.9	0.8
Tatva Chintan	52.2	42.8	30.4	42.8	32.2	24.3	16.8	11.4	8.1	1.0
Atul Ltd	47.2	36.0	30.7	31.4	25.3	21.6	7.0	6.1	5.3	1.4
Deepak Nitrite Ltd	28.5	26.3	22.6	19.2	17.4	15.0	9.2	7.0	5.5	2.2
Alkyl Amines Chemicals	63.9	43.5	33.9	N/A	N/A	N/A	15.2	11.8	9.3	0.9
Balaji Amines Ltd	26.6	21.4	18.2	N/A	N/A	N/A	9.3	7.8	6.2	0.9
Sudarshan Chemical Industries	28.5	20.8	15.6	16.0	12.0	9.5	4.4	3.8	3.2	0.4

Source: Bloomberg, Nirmal Bang Institutional Equities Research

Exhibit 41: Share price movement

Company Name	1 month absolute	3 months absolute	0.5yr absolute	1yr absolute	1.5yr CAGR	2yr CAGR	3yr CAGR	4yr CAGR	5yr CAGR	10yr CAGR	15yr CAGR
Nifty 50	4	2	-1	18	34	45	15	15	14	13	11
Sensex 30	4	2	-1	17	33	44	15	16	15	13	11
Average of Indian chemical companies	6	-3	-5	35	41	79	43	31	30	38	33
Average of Agro chemical companies	10	-1	-6	15	17	42	18	12	14	20	25
Average of Specialty chemical companies	6	-1	-1	57	69	108	63	50	47	51	39
Average of Specialty Ingredient companies	-1	-4	-13	14	17	62	37	12	2	29	24
MSCI World Chemical Index	4	-7	2	3	14	29	11	7	8	7	6
Indian chemicals companies											
Navin Fluorine	4	-2	10	49	50	84	79	51	47	50	32
SRF	14	13	20	150	121	120	78	62	53	49	37
Aarti Industries	2	-4	1	41	51	61	34	35	38	51	40
Vinati Organics	6	0	2	40	30	57	34	45	40	47	57
Clean Science & Tech	10	-17	-2	NA	NA	NA	NA	NA	NA	NA	NA
Neogen Chemicals	8	1	34	110	83	126	NA	NA	NA	NA	NA
Tatva Chintan Pharma Chem	8	-14	5	NA	NA	NA	NA	NA	NA	NA	NA
Deepak Nitrate	11	-9	-8	36	94	146	101	73	78	66	41
Alkyl Amines	-3	-13	-24	28	72	149	106	87	74	67	41
Balaji Amines	3	-7	-35	69	137	248	81	51	50	55	37
Atul	12	15	10	47	42	65	42	41	34	49	38
Sudarshan Chemicals	-1	-6	-19	2	6	25	16	5	9	27	30
Fine Organic Industries	-5	11	33	79	33	47	49	NA	NA	NA	NA
Rossari Biotech	-7	-28	-37	-13	9	NA	NA	NA	NA	NA	NA
Galaxy Surfactant	5	-6	-11	19	33	57	40	18	NA	NA	NA
Camlin Fine Sciences	10	12	-22	2	16	94	42	9	10	29	24
Advanced Enzyme Technologies	-9	-10	-25	-17	-8	50	17	8	-7	NA	NA
Global chemicals companies											
Du Pont Nemours Inc	1	-3	15	-0	25	52	1	-4	-3	5	1
BASF SE	-9	-13	-18	-25	2	12	-7	-10	-10	-2	2
Chemours	17	-3	11	16	33	82	-5	-10	-3	NA	NA
Solvay SA	-6	-9	-13	-14	18	20	-1	-5	-4	1	-1
Sinopec	-0	2	-3	-	7	-2	-9	-10	-5	-2	-4
Clariant AG	0	-12	-6	-14	-6	2	-7	-8	-3	3	-1
Eastman Chemical Company	-4	-5	13	2	28	55	14	2	7	8	9
Mitsui Chemicals, Inc.	5	-0	-18	-14	14	21	5	-2	2	9	-3
Guilin Layn Natural Ingredients Corp	45	28	37	53	30	24	18	8	3	11	NA
Kawaguchi Chemical Industry Co., Ltd.	3	-18	-37	4	3	16	-3	-12	-7	-0	-5
Exxonmobil Chemical	5	35	40	45	79	48	1	3	-0	-1	1
Albemarle Corp	14	-5	2	53	84	100	39	24	16	13	12
ICL Group Ltd	1	22	61	99	124	94	31	29	22	0	4
LANXESS AG	-3	-22	-28	-34	-9	8	-4	-9	-8	-4	1
Johnson Matthey PLC	-1	-11	-31	-40	-15	2	-16	-12	-9	-3	0
Umicore SA	7	10	-23	-13	7	13	-0	-2	8	7	7
Dow Inc	9	13	12	-1	23	50	8	NA	NA	NA	NA

Source: Bloomberg, Nirmal Bang Institutional Equities Research

Company background

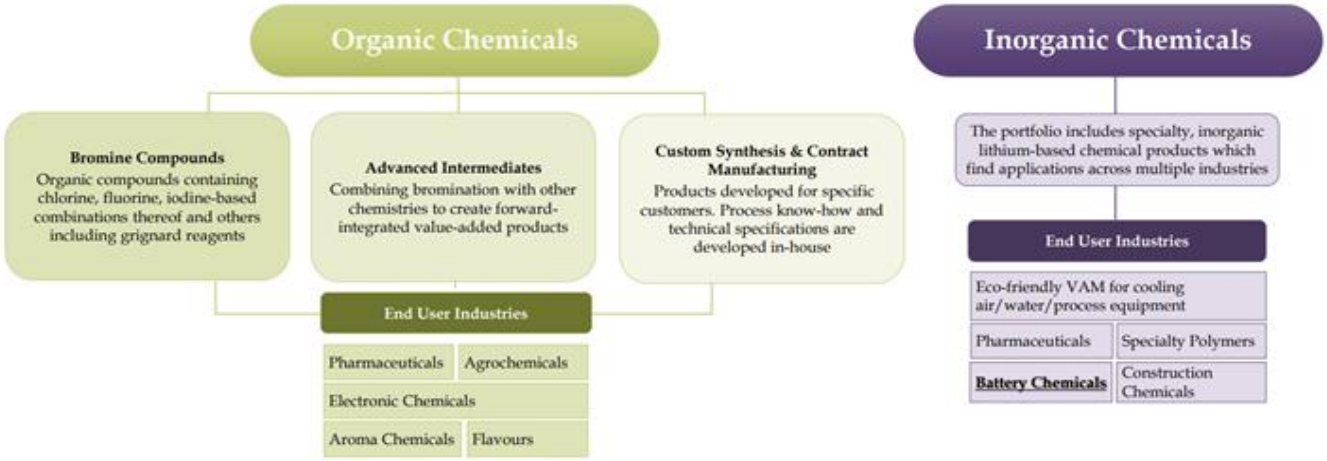
NEOGEN was set up by Mr Haridas Thakarshi Kanani in 1989 and started operation in 1991 with the manufacturing of four products. Currently, NEOGEN is one of the largest manufacturers of bromine-based compounds and inorganic lithium-based chemical products with a total of 227 products developed by in-house R&D. This product finds application in Pharmaceuticals, Agrochemicals, Water Treatment, Construction, Heating Ventilation & Air Conditioning (HVAC), Flavours and Fragrance. It has maintained good relations with its customers and caters to big companies such as Austin Chemical, CBS Co. Ltd, Divi's Laboratories, Lauras Labs, Solvay Specialties, etc. Promoters, Haridas Thakarshi Kanani and Harin Kanani are chemical engineers and alumni of IIT, Bombay, with six decades of cumulative experience. Harin Kanani has also completed his PhD from the University of Maryland, USA. Apart from being a bromination company, NEOGEN also has product manufacturing capabilities in alkylation, amination, dehalogenation, silylation and halex reaction. It has manufacturing facilities at Karakhadi in Vadodara, Mahape in Navi Mumbai andat Dahej in Gujarat with a total capacity of 4,07,000 litres/p.a. of organic and 2,400 metric tonnes/p.a. of inorganic compound manufacturing. Organic Chemicals compounds contribute ~80% to total revenue and inorganic compounds contribute the balance. Organic compound is further divided into Bromine Compounds, Advanced Intermediates and CSM. NEOGEN has operations in more than 25+ countries, including USA, UK, France, Germany, Italy, Japan etc. Exports contributed 47% to total revenue. NEOGEN has two dedicated R&D facilities at Vadodara and Mahape and a dedicated team of 30+ experienced scientists.

Exhibit 42: Management profile

Name	Designation	Description
Mr. Haridas Kanani	Chairman and Managing Director	Mr. Haridas Kanani is the Chairman and Managing Director of the Company and founder of the Company. He oversees manufacturing, R&D and process technology and general operation and management of the Company's manufacturing units. He holds a bachelor's degree in chemical Engineering from the Indian Institute of Technology (IIT), Mumbai and is a member of the Indian Institute of Chemical Engineers (MIICHE). He has previously worked with Excel Industries Limited.
Dr. Harin Kanani	Managing Director	Dr. Harin Kanani heads various business divisions of the Company, including R&D, business development, growth strategy, quality control, purchase, marketing and finance. He holds a bachelor's degree in Chemical Engineering from the Indian Institute of Technology (IIT), Bombay and a master's degree and a Doctorate in Chemical and Biomolecular Engineering from the University of Maryland. He has served as a researcher at the University of Maryland, USA, where he published four first author manuscripts in the field of chemical engineering.
Mr. Shyamsunder Upadhyay	Executive Director	Mr. Shyamsunder oversees manufacturing, maintenance, projects, logistics, plant administration and engineering store in the Company. He has a master's degree in science from Vikram University, Ujjain. He has more than 40 years of work experience in the field of chemicals and has previously been associated with companies, such as Savita Chemicals, Wimco, Gharda Chemicals, Clariant India, Tytan Organics Ltd, Arch Pharmalabs Ltd and Laxmi Organic Industries Ltd.
Mr. Anurag Surana	Non-Executive Director	Mr. Anurag Surana has over 25 years' experience in the Specialty Chemical industry. He has a bachelor's degree in commerce with honours from the University of Delhi. He founded and manages a consulting company Kagashin Global Network Private Limited, specialising in consulting with companies in the specialty chemicals & agrochemical sectors in India and abroad.
Mr. Sanjay Mehta	Independent Director	Mr. Sanjay Mehta is a post graduate and a member of the Institute of Chartered Accountants of India (ICAI). He is a founding partner of the Chartered Accountancy firm M/s Akkad Mehta & Co. LLP. He has a professional experience of more than 45 years as a practicing Chartered Accountant.
Mr. Hitesh Reshamwala	Independent Director	Mr. Hitesh Reshamwala is practicing as a Chartered Accountant since 1990. His know-how is spread across diverse sectors and geographies such as manpower, logistics, chemicals and oil & gas.
Prof. Ranjan Kumar Malik	Independent Director	Prof. Ranjan Kumar Malik has a Bachelor's degree in Science (Chemical Engineering) with a gold medal from the University of Kanpur. He also has a Master's degree in Chemical Engineering from the Indian Institute of Technology (IIT), Kanpur, and a Doctor of Philosophy (Ph.D.) degree from the University of Wisconsin-Madison, USA.
Mrs. Avi Sabavala	Independent Director	Mrs. Avi Sabavala has a bachelor's degree in Science (Honours) and a master's degree in Arts (Social Work) from the University of Delhi. She also holds a bachelor's degree in Law from the Maharaja Sayajirao University, Baroda, and a diploma in management from the Indira Gandhi National Open University. She is a well-known Corporate Trainer with wide experience in conducting various soft skill training programs for industrial personnel at all levels. She has wide experience in Business and Industry.

Source: Company, Bloomberg, Nirmal Bang Institutional Equities Research

Exhibit 43: Business Segments – Organic Chemicals contributed ~81% to total revenue in FY21



Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 44: Company History

1970's to 1991 Pre-Neogen

- Mr. HT Kanani graduated as a Chemical Engineer and started his association with Bromine chemistry in the early 1970s
- Set up one of India's first Bromine plants using indigenous technology at Navlakhi near Morbi, Gujarat
  - Plant was later destroyed in 1970s due to flooding followed by Morbi Dam Collapse
  - Mr. Kanani worked as a consultant for setting up Bromine and other manufacturing units till 1984 to recover these losses
- In 1985, started manufacturing Bromine derivatives from a 600 sq. ft. plant under a proprietorship firm, in small 20 lit reactors to start making n-propyl bromide and lithium bromide

1991 to 2016 Pre-expansion

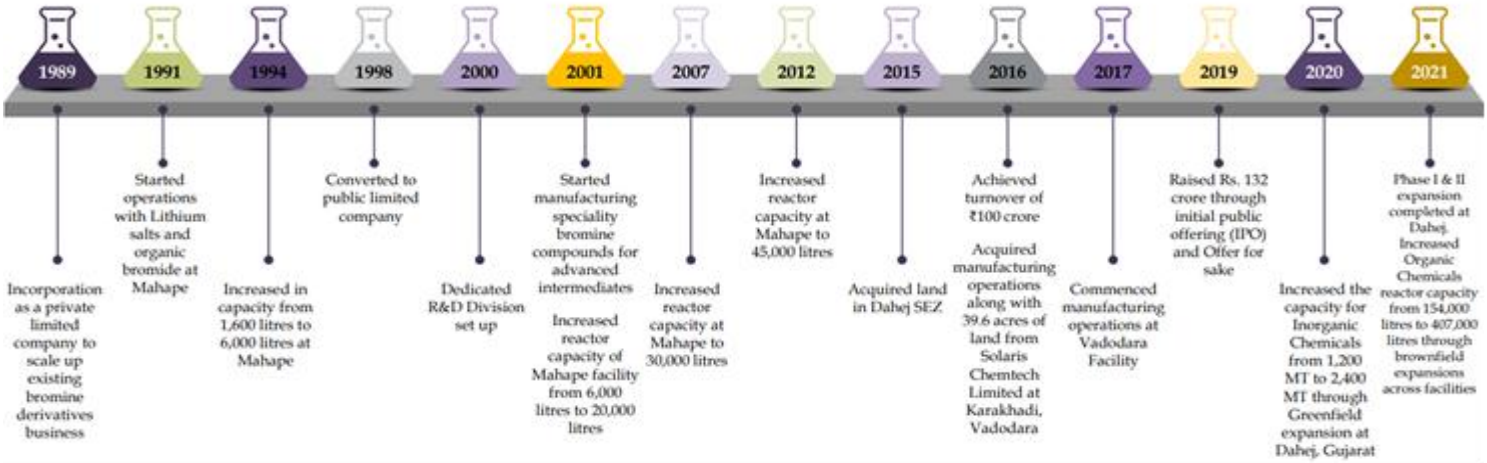
- 'Neogen Chemicals' commenced business operations in 1991, at Mahape, Navi Mumbai manufacturing a few Bromine Compounds and Lithium Compounds
- From 1991 to 1999, two molecules namely Lithium bromide and N-Propyl Bromide contributed almost 80-90% to the topline; revenues moved from ~Rs. 1 crore to ~Rs. 10 crore during this period
- Set up dedicated R&D and hired first PhD scientist in 2000
- Capacity expansions at Mahape plant took place in 2000, 2007 and 2012 exhausting all opportunities for brownfield expansion at Mahape
- Dr. Harin Kanani (now MD) re-joined Neogen Chemicals in 2008 after pursuing his PhD in Chemical Engineering from University of Maryland, USA and working as a Research Scientist with Pioneer – DuPont Company

2016 to 2022 Present

- Acquired 12 acres of land in Dahej for Greenfield expansion in 2015
- Achieved turnover of Rs. 100 crore in FY16 after reporting full utilisation at the Mahape plant
- Acquired Solaris ChemTech Industries' Bromine derivatives plant at Vadodara in 2016 via slump sale
  - Acquisation cost included 39 acres of land for the running business, plant and machinery at the site, ~50 trained manpower and several technologies developed by the acquired site
- Acquisition Increased total organic glass lined reactor capacity from 45,000 litres in FY16 to 130,000 litres in FY18
- Turnover more than doubled in two years, to Rs. 240 crore in FY19, from Rs. 110 crore in FY17
- Doubled Inorganic Chemicals capacity from 1200 MT to 2400 MT through Greenfield expansion at Dahej SEZ
- Phase I & II expansion completed at Dahej SEZ: Increased Organic Chemicals reactor capacity from 154,000 litres to 407,000 litres (2.5x increase) through brownfield expansions across facilities

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 45: Journey so far..



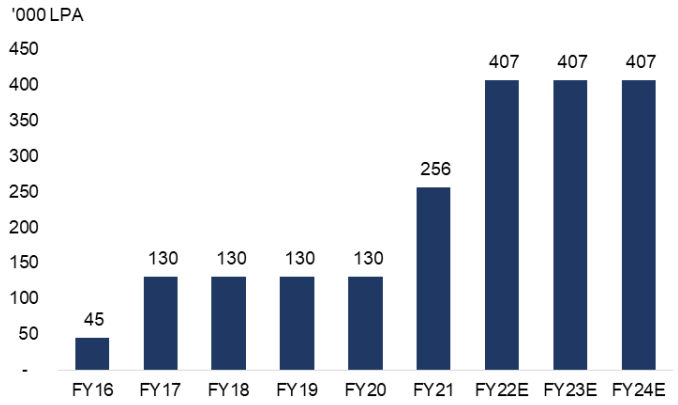
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 46: Capacity Details (FY22)

Capacity	FY22E
Organic (Litres/per annum)	**4,07,000**
Mahape	69,000
Vadodara	1,11,000
Dahej	2,27,000
Inorganic (MT/per annum)	**2,400**
Mahape	1,200
Dahej	1,200

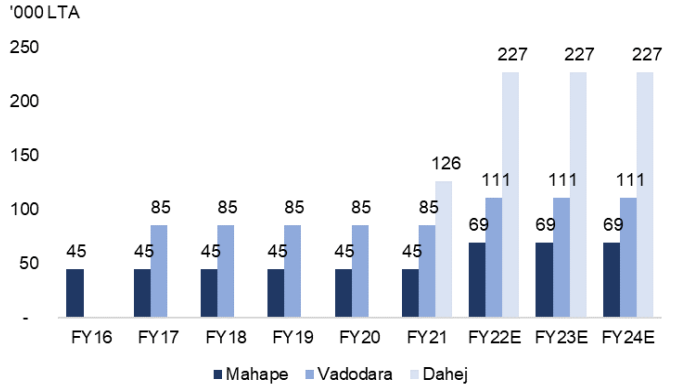
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 47: Organic Chemicals capacity - consistent capacity additions should enable NEOGEN to grow significantly



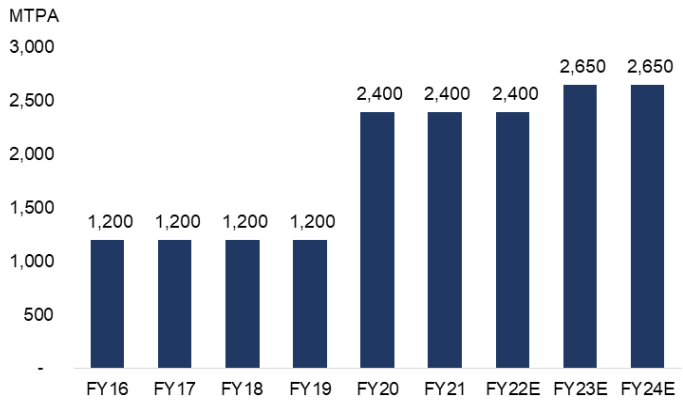
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 48: Organic Chemicals capacity by location



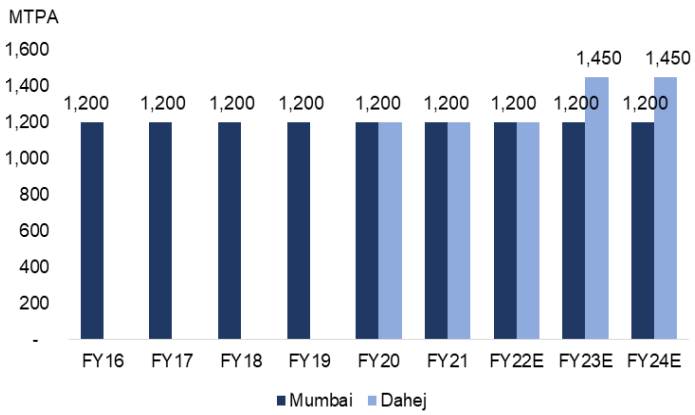
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 49: Inorganic Chemicals capacity



Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 50: Inorganic Chemicals capacity by location

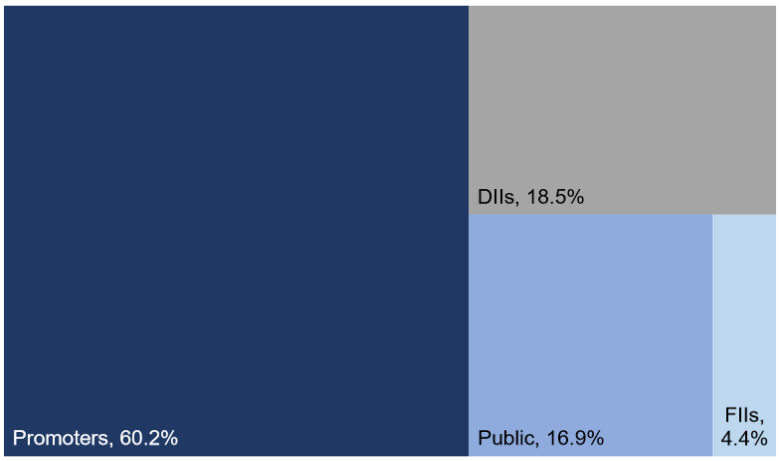


Source: Company, Nirmal Bang Institutional Equities Reseach

Exhibit 51: Key clientele

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 52: Shareholding pattern as on Dec'21



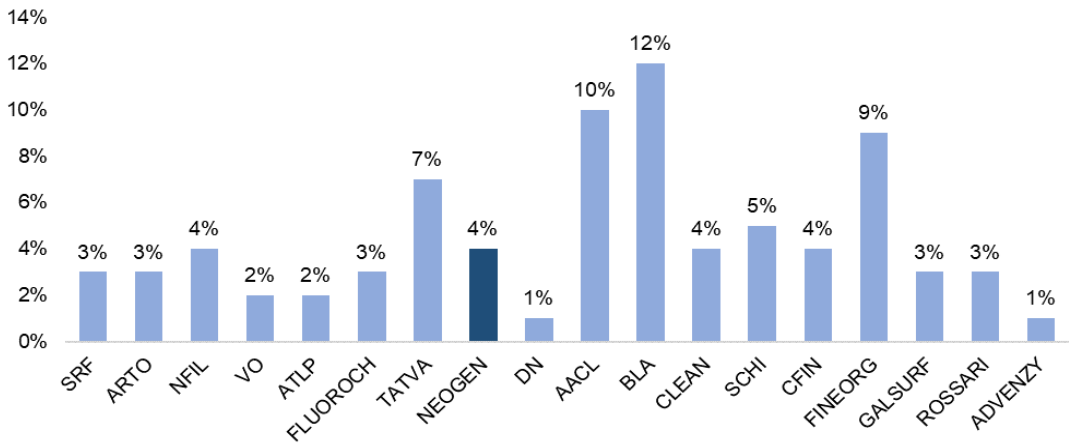
Source:Company, Nirmal Bang Institutional Equities Research

Exhibit 53: Top public shareholders (as on Dec'21)

Particulars	% holding
Malabar India Fund	3.95%
SBI Contra Fund	6.29%
Axis Mutual Fund	6.65%

Source: BSE, Nirmal Bang Institutional Equities Research

Exhibit 54: Managerial remuneration as % PBT at ~4% - in line with sector average

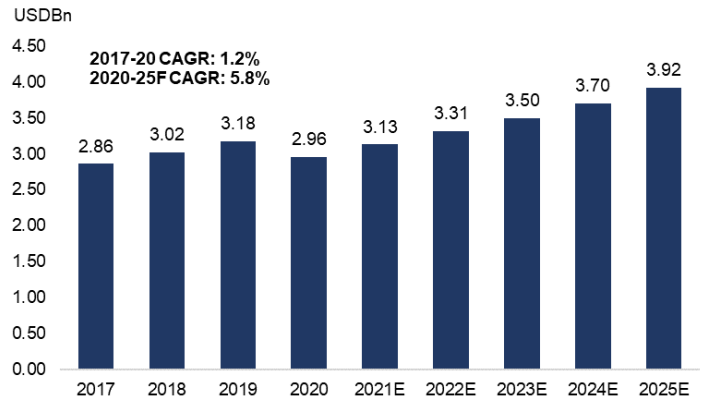


Source: Company, Nirmal Bang Institutional Equities Research

Bromine Industry is expected to clock CAGR of ~5.8% over CY20-25E.

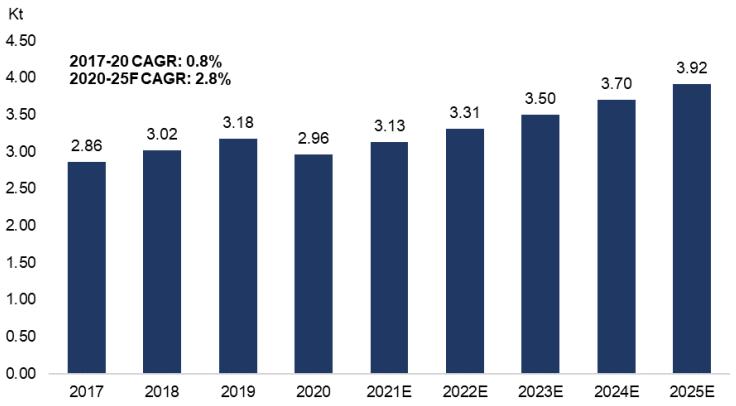
Bromine has various end-user applications in industry such as Agrochemicals, Pharmaceuticals, Aroma Chemicals, Dyes etc. It has been estimated that the bromine market can reach US$4.2bn by FY25, growing at a CAGR of 5.2%. Various bromine derivatives are organobromines, Clear Brine Fluids (CBFs) and Hydrogen Bromide (HDr). Organobromides hold the highest share in the bromine market as they are used to manufacture flame retardants, APIs for pharmaceuticals, agrochemicals, water treatment etc. The highest growth in the bromine industry is seen in the APAC region, which is led by multiple companies consuming bromine in large quantities for use in electronics, oil & gas, automobiles, construction, pharmaceuticals and other various sectors. The bromine industry saw some slowdown in FY21 due to lockdowns in multiple countries, reducing the end-user segments' demand. Future growth drivers of the bromine industry are: increasing demand for flame retardants, higher salience in Pharmaceuticals, Agrochemicals and Water Treatment. Demand for bromine has seen a sharp increase in Europe by pharmaceutical companies. Bromine compounds are used in anti-convulsants in human as well as animal medicines. It is used to manufacture sedatives, analgesics and anti-histamines and treat pneumonia and cocaine addiction. The Automotive industry is also a driver of growth in bromine and its derivatives. Countries like Germany and Europe are the major consumers of bromine and its derivatives. Bromine and its derivatives are used as emission reducing compounds in the batteries of EVs.

Exhibit 55: Global Bromine market size is expected to grow at a CAGR of ~5.8% over CY20-25E



Source: Archean DRHP, Nirmal Bang Institutional Equities Research

Exhibit 56: Global Bromine market volume is expected to clock CAGR of ~2.8% over CY20-25E

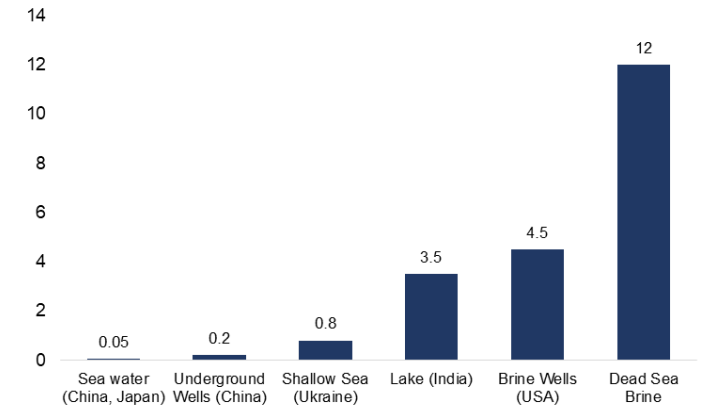


Source: Archean DRHP, Nirmal Bang Institutional Equities Research

Bromine Source – Asia contributes ~ 86% to total production

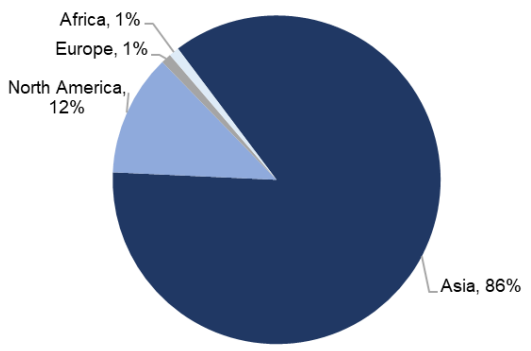
Bromine source is the essential RM for manufacturing Organic Chemicals. NEOGEN sources this RM from domestic as well as international manufacturers, mainly from India, Isreal, Jordan and US. It is being sourced in the form of Liquid Bromine or Hydrobromic Acid. 70% of this RM is being purchased from India. NEOGEN got into annual contracts with multiple suppliers to ensure continuous supply of RMs. Arrangements are formula linked, constituting volatility of RM prices to protect gross margins. The company also maintains some inventory to avoid supply-side disruption leading to higher inventory days.

Exhibit 57: Bromine concentration in water bodies



Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 58: Production of Bromine as per regions, CY20

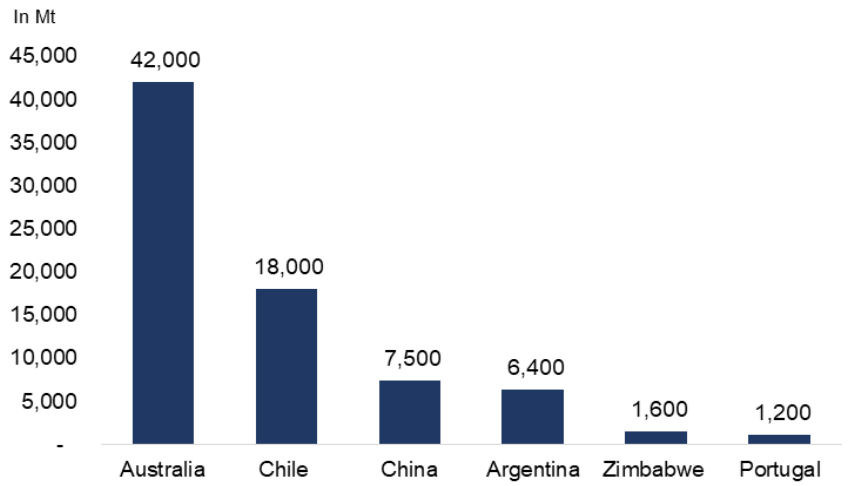


Source: Company, Nirmal Bang Institutional Equities Research

Lithium Industry is expected to grow at a CAGR of 10% over FY21-26E

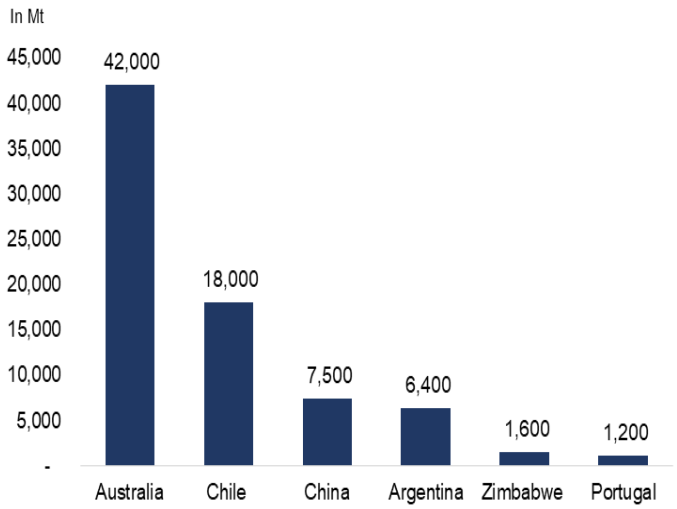
The size of the lithium market was 280 kiloton in 2020 and is estimated to grow at a CAGR of ~10% over FY21-26E. The primary application of lithium is in battery, polymers, glass/ceramic, etc. The lithium market is expected to slow due to the Covid-19 pandemic as major EV manufacturing companies are either shut down or working at minimum levels. Over the short term, accelerating demand for EVs, increasing usage and demand for lithium-ion batteries by portable consumer electronics and growing demand for lithium from the glass-making industry (to enhance glass melt rate and to lower the viscosity of glass) are expected to drive the market's growth in future. Lithium reserve is abundant in Chile and Australia. The highest consumer of lithium are countries in the Asia-Pacific region - China, Korea and Japan. The Chinese lithium-ion batteries market was estimated at US$12.6bn in 2018 and is expected to reach US$23.15bn by FY24 with a CAGR of ~10.5%. Japan is one of the significant regions for the lithium battery market, along with China and Korea, occupying a ~96% market share in battery capacity shipment. The Japanese lithium battery market was valued at US$329mn in 2019, with a decline rate of ~8.5% compared to the previous year, which in turn, affects demand for lithium. Japan's lithium metal consumption has fallen, mainly due to the shift of plants from Japan to other Asian countries.

Exhibit 59: Top lithium producing countries (2019)



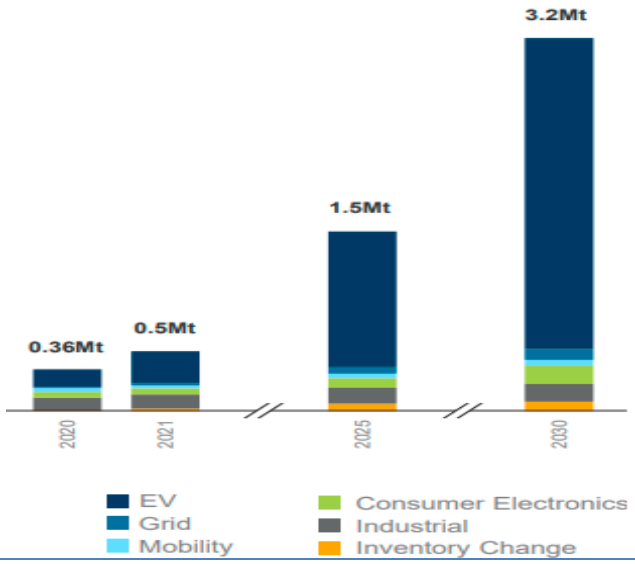
Source: Import Exports Bank of India, Nirmal Bang Institutional Equities Research

Exhibit 60: Top lithium producing countries (2019)



Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 61: Lithium demand by application - expected to grow at a CAGR of ~25% over 2020-2025



Source: Albemarle, Nirmal Bang Institutional Equities Research

Financials

Exhibit 62: Income statement

Y/E March (Rsm)	FY20	FY21	FY22E	FY23E	FY24E
Net Sales	**3,061**	**3,364**	**4,696**	**6,125**	**7,682**
Growth YoY%	*28.1*	*9.9*	*39.6*	*30.4*	*25.4*
COGS	1,841	1,976	2,639	3,430	4,302
Gross margin %	***39.9***	***41.3***	***43.8***	***44.0***	***44.0***
Staff costs	172	201	329	417	499
Other expenses	467	544	892	1,103	1,321
EBITDA	**581**	**644**	**836**	**1,176**	**1,559**
Growth YoY%	*33.7*	*10.9*	*29.9*	*40.7*	*32.6*
EBITDA margin %	***19.0***	***19.1***	***17.8***	***19.2***	***20.3***
Depreciation	52	69	91	169	244
EBIT	528	575	745	1,007	1,316
Interest	119	138	130	97	86
Other income	3	6	7	51	51
PBT (bei)	412	443	623	962	1,280
PBT	412	443	623	962	1,280
ETR	30.2	29.1	25.0	23.0	20.0
PAT	288	314	467	741	1,024
Adj PAT	**288**	**314**	**467**	**741**	**1,024**
Growth YoY%	***36.8***	***9.3***	***48.5***	***58.6***	***38.3***

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 63: Cash flow

Y/E March (Rsm)	FY20	FY21	FY22E	FY23E	FY24E
PBT	**412**	**443**	**623**	**962**	**1,280**
Depreciation	52	69	91	169	244
Interest	119	138	130	97	86
Other adjustments	49	-80	-7	-51	-51
Change in Working capital	-847	366	-601	-471	-419
Tax paid	-127	-104	-156	-221	-256
Operating cash flow	**-341**	**833**	**80**	**484**	**884**
Capex	-265	-231	-750	-1,103	-950
Free cash flow	**-606**	**602**	**-670**	**-620**	**-66**
Other investing activities	-24	-1,112	-135	115	90
Investing cash flow	**-289**	**-1,343**	**-885**	**-989**	**-860**
Issuance of share capital					
Movement of Debt	165	696	-319	-180	-170
Dividend paid (incl DDT)	-43	-47	-53	-56	-89
Other financing activities	-119	-138	-130	-97	-86
Financing cash flow	**625**	**507**	**1,760**	**-320**	**-117**
Net change in cash flow	**-5**	**-3**	**954**	**-825**	**-94**
Opening C&CE	20	15	12	966	141
Closing C&CE	15	12	966	141	47

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 64: Balance sheet

Y/E March (Rsm)	FY20	FY21	FY22E	FY23E	FY24E
Share Capital	233	233	249	249	249
Reserves & Surplus	1,334	1,598	4,246	4,931	5,866
Net worth	**1,567**	**1,831**	**4,496**	**5,180**	**6,116**
Long term debt	304	1,161	900	800	800
Short term debt	1,019	858	800	720	550
Total debt	**1,323**	**2,019**	**1,700**	**1,520**	**1,350**
Other non-current liabilities	184	189	200	213	440
Total Equity & Liabilities	**3,074**	**4,039**	**6,396**	**6,913**	**7,906**
Gross block	1,205	1,435	2,185	3,435	4,685
Accumulated depreciation	99	168	259	427	671
Net Block	**1,105**	**1,267**	**1,927**	**3,008**	**4,014**
CWIP	27	1,147	1,147	1,000	700
Intangible and others	-	-	-	-	-
Other non-current assets	100	97	194	130	91
Investments	5	5	50	50	50
Trade receivables	752	786	1,029	1,343	1,578
Inventories	1,299	1,140	1,608	2,047	2,568
Cash & Cash equivalents	15	12	966	141	47
Other current assets	251	468	468	421	354
Total current assets	**2,317**	**2,406**	**4,072**	**3,952**	**4,548**
Trade payables	359	661	772	1,007	1,263
Other current liabilities	121	220	220	220	234
Total current liabilities	**479**	**881**	**992**	**1,227**	**1,497**
Total Assets	**3,074**	**4,039**	**6,396**	**6,913**	**7,906**

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 65: Key ratios

Y/E March (Rsm)	FY20	FY21	FY22E	FY23E	FY24E
Per share (Rs)					
Adj EPS	12.3	13.5	18.7	29.7	41.1
Book value	67.2	78.5	192.7	222.0	262.1
DPS	2.0	2.3	2.2	3.6	4.9
Valuation (x)					
P/Sales	12.6	11.5	8.2	6.3	5.0
EV/sales	13.0	12.1	8.4	6.5	5.2
EV/EBITDA	68.8	63.1	47.1	34.0	25.6
P/E	134.2	122.8	88.4	55.7	40.3
P/BV	24.6	21.1	8.6	7.5	6.3
Return ratios (%)					
RoCE	22.2	17.0	14.8	15.6	18.6
RoE	25.0	20.5	16.0	15.3	18.1
Profitability ratios (%)					
Gross margin	39.9	41.3	43.8	44.0	44.0
EBITDA margin	19.0	19.1	17.8	19.2	20.3
PAT margin	9.4	9.3	9.9	12.0	13.2
Liquidity ratios (%)					
Current ratio	1.5	1.4	2.3	2.0	2.2
Quick ratio	0.7	0.7	1.4	1.0	1.0
Solvency ratio (%)					
Debt to Equity ratio	0.8	1.1	0.4	0.3	0.2
Turnover ratios					
Fixed asset turnover ratio (x)	2.9	2.5	2.6	2.2	1.9
Debtor days	81	83	80	80	75
Inventory days	121	132	125	122	122
Creditor days	47	55	60	60	60
Net Working capital days	155	160	145	142	137

Source: Company, Nirmal Bang Institutional Equities Research

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Tatva Chintan Pharma Chem

31 March 2022

Reuters: TATV.NS; Bloomberg: TATVA:IN

Initiating Coverage

A niche play with long runway for growth

Tatva Chintan Pharma Chem (TATVA) is a leading manufacturer and supplier of specialty chemicals with focus on clean and green chemistry practices. It operates under 4 key segments, namely, Structure Directing Agents (SDAs), Phase Transfer Catalysts (PTCs), Pharmaceuticals and Agrochemicals Intermediates and Other Specialty Chemicals (PASCs) and Electrolyte Salts for supercapacitor batteries. TATVA is the sole Indian manufacturer of SDAs and 2nd biggest globally after SACHEM Inc. Primary applications of TATVA's SDAs are as refining catalysts and in emission control of commercial vehicles as of now. With increasing regulatory guidelines on emission control (NOx reduction), we expect SDAs to deliver robust growth in the coming years. We are given to understand that the gestation period in SDAs is much longer and hence probability of new entrants disrupting the market is low. Technology is the biggest entry barrier in SDAs, in our view, considering the high precision, high consistency and very high purity requirements of these substances and ongoing technological developments. The PASC segment has come into existence and is growing predominantly on the back of China+1 theme. Electrolyte Salts for supercapacitor batteries should be one of the future growth drivers for TATVA over the medium term, in our view. Also, TATVA is in the process of developing new products, which are high purity substances with very niche applications and high entry barriers. The company has been increasingly deploying electrolysis and continuous flow chemistry with the goal of improving productivity and cost efficiency. Greenfield expansion in Dahej is expected to be commissioned in 2HFY23, which can contribute to revenue meaningfully in the next 3-4 years. Greenfield plant in Dahej can contribute at least Rs5bn revenue at peak potential (assuming 3x asset turn), as per our estimates. TATVA has also acquired additional land in Dahej. Overall, we are building in Revenue/EBITDA/APAT CAGR of 28%/36%/31% over FY22-24E. We initiate coverage on TATVA with a target price (TP) of Rs2,600, indicating an upside of 15% from CMP. We value TATVA at 35x PE on FY24E earnings. Multi-year opportunity in SDAs, strong thrust on product & process R&D and technology and new growth opportunities justify TATVA's premium valuation compared to the sector in our view.

SDAs - we are building in ~32% revenue CAGR over FY22-24E: TATVA has >20% global market share in relevant SDAs with high purity standards, technology adoption and backward integration being key entry barriers. Primary applications of its SDAs are in refining catalysts and emission control in CVs. We are positive about the growth prospects of this segment (in Automobiles) and competitive positioning of TATVA. EV penetration in CVs is relatively lower as of now and hence we do not see this as an immediate threat to SDA revenue. While the Auto sector is the major end-user segment for SDAs (~80% salience), in the medium to long term, upcoming regulations in other sectors could also benefit TATVA in a big way.

Gearing up for future through capacity addition: TATVA is in the process of starting a greenfield facility in Dahej in 2HFY23, which would increase the company's capacity by >70% and has a peak revenue potential of Rs5bn, in our view. Simultaneously, TATVA has acquired additional land in Dahej for future expansion. We believe that the management is gearing up for future opportunities from both existing as well as new products by significantly adding capacity base for the same.

Margin expansion on rising SDA revenue share and process improvements: Management's guidance for EBITDA margin stands at ~24-27%. SDAs have the highest margin followed by PASCs, Electrolyte Salts and PTCs. Rising share of SDAs (from ~40% in FY21 to ~57% in FY24E) would be the key margin driver, in our view. Also, significant focus on process improvements and adoption of continuous flow chemistry are the other margin drivers.

Risks: Prolonged chip shortage issues, delay in adoption of emission standards, difficulty in catering to new markets, delayed ramp-up of new products etc.

BUY

Sector: Chemicals

CMP: Rs2,300

Target Price: Rs2,650

Upside: 15%

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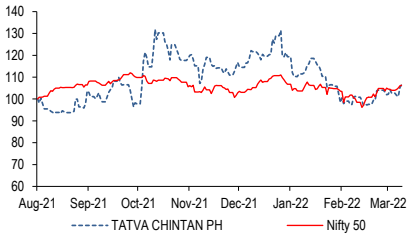
Key Data

Current Shares O/S (mn)	22.2
Mkt Cap (Rsbn/US$mn)	51.0/671.9
52 Wk H / L (Rs)	2,978/2,001
Daily Vol. (3M NSE Avg.)	48,866

Share holding (%)	3QFY22	2QFY22	1QFY22
Promoters	79.2	79.2	79.2
Public	20.8	20.8	20.8
Non-Institutions	-	-	-

One Year Indexed Stock Performance



Price Performance (%)

	1 M	6 M	1 Yr
Tatva Chintan Pharma Chem	8.1	5.0	-
Nifty Index	4.4	(0.5)	19.3

Source: Bloomberg

Financial Summary

Particulars (Rsm)	FY20	FY21	FY22E	FY23E	FY24E
Net Sales	2,632	3,004	4,505	5,482	7,374
Growth YoY%	*27.6*	*14.1*	*50.0*	*21.7*	*34.5*
Gross margin %	*49.6*	*50.3*	*52.5*	*52.5*	*53.4*
EBITDA	550	657	1,082	1,393	2,001
EBITDA margin %	*20.9*	*21.9*	*24.0*	*25.4*	*27.1*
Adj PAT	378	523	977	1,191	1,675
Growth YoY%	*89.1*	*38.3*	*86.9*	*22.0*	*40.6*
Adj EPS	*18.8*	*26.0*	*44.1*	*53.7*	*75.6*
Growth YoY%	*53.5*	*89.1*	*38.3*	*69.3*	*22.0*
RoCE %	*28.8*	*26.9*	*24.5*	*20.1*	*22.7*
RoE %	*38.3*	*36.8*	*29.8*	*21.7*	*24.2*
P/E	122.3	88.4	52.2	42.8	30.4
EV/EBITDA	94.0	78.7	46.0	35.8	24.8
P/BV	43.3	30.7	10.4	8.4	6.6

Source: Company, Nirmal Bang Institutional Equities Research

Valuation Summary

We initiate coverage on TATVA with Buy rating and TP of Rs2,650, indicating an upside of 15% from CMP. We value TATVA at 35x PE on FY24E earnings. We highlight that the Indian Specialty Chemicals universe is trading at 30x FY24E earnings and is expected to deliver ~24% earnings CAGR over FY22-24E. TATVA's earnings delivery is better than sector average, on a lower base. However, presence in the niche segment with very high optionality, significant capacity addition to cater to demand till FY28 and incremetal investments in green processes & continuous flow chemistry should enable the company to command premium valuation vis-à-vis the sector average multiple in our view.

Exhibit 1: Financial & Valuation comparison

Particulars	FY22-24E CAGR (%)		FY24E EBITDA Margin (%)	ROE % (FY24E)	PE (FY24E)
	EBITDA	PAT			
Global Chemical Companies	2.6	3.3	16	13	10
Indian Chemical Companies	23.8	23.7	27	23	30
Tatva Chintan Pharma Chem	36.0	31.0	27	24	30

Source: Bloomberg, Nirmal Bang Institutional Equities Research
*(**Global chemical companies** include DuPont de Nemours Inc, BASF SE, Chemours Co, Solvay SA, FMC Corp, China Petroleum & Chemical Co., Clariant AG. **Indian chemical companies** include Navin Fluorine International, SRF Ltd, Aarti Industries Ltd, Vinati Organics Ltd, Atul Ltd, Gujarat Fluorochemicals, Tatva Chintan, Neogen Chemicals, Deepak Nitrite Ltd, Alkyl Amines Chemicals, Balaji Amines Ltd, Sudarshan Chemical Industries).*

Exhibit 2: Company Valuation & Target Price

Particulars	Details
FY24E EPS	76
Target PE multiple (x)	35
Target price	**2,650**

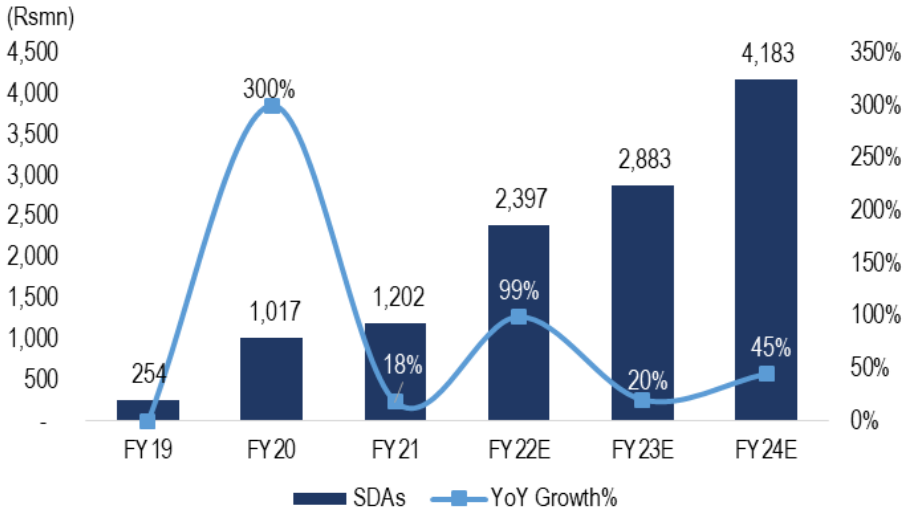
Source:Nirmal Bang Institutional Equities Research

SDAs is a multi-year growth opportunity

TATVA is the second largest manufacturer of SDAs globally. It manufacturers and supplies ~50 SDAs to zeolite manufacturers for catalytic convertors, refineries, chemical industries for continuous flow manufacturing, and others. The company is not involved in the manufacture of zeolite for commercial sales to avoid any conflict of interest with customers. However, it does manufacture for internal use, particularly for the continuous flow manufacturing process. Key end-user industry for its SDAs is Auto and has ~80% salience in the segment revenue.

SDAs enjoy the highest margin compared to other segments and continues to be the fastest growing segment. Over the period FY19-21, revenue share of SDAs has gone up from 12% to 40% (overall EBITDA margin expanded by ~500bps) and we expect the same at 57% by FY24E. We are building in another ~500bps margin expansion on an overall basis over FY21-24E, purely backed by strong growth in SDAs. The strong revenue growth over FY19-21 was driven by adoption of new auto emission norms in China and other markets. We are building in ~32% revenue CAGR over FY22-24E on the back of continuous demand from existing as well as new markets.

Exhibit 3: SDA revenue: We are building in ~32% revenue CAGR over FY22-24E based on the stringent emission norms



Source: Company, Nirmal Bang Institutional Equities Research

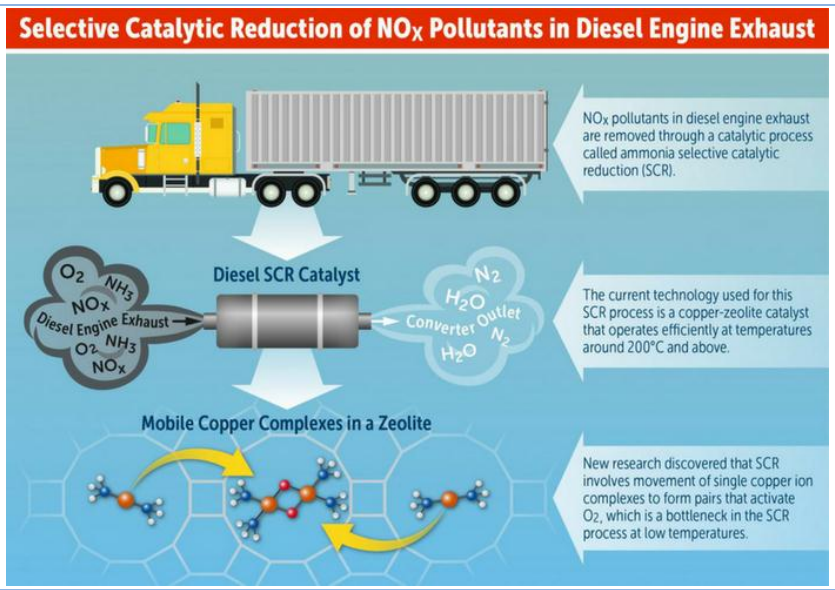
What are SDAs and their growth levers?

SDAs are quaternary salts that help form particular channels and pores during the synthesis of zeolites, which have varied applications, including as catalysts and absorbents. The key manufacturers of SDAs are SACHEM Inc, TATVA, Merck KGaA, Otto Chemie Pvt Ltd, Alfa Aesar and TCI Chemicals. SACHEM Inc is the global leader in the SDA market with a ~85% market share whereas TATVA claims ~12% market share globally. As per the management, SDA market is growing at ~25% CAGR.

SDAs are the key raw materials for zeolites. As per industry estimates, SDAs have ~60% share in the overall RM basket for zeolites. The quality of zeolites depends on the quality of SDAs. With increasing regulatory guidelines on emission control (NOx reduction), we expect SDAs to deliver robust growth in the coming years. We are given to understand that the gestation period in SDAs is much longer and hence probability of new entrants disrupting the market is low. Technology is the biggest entry barrier in SDAs, in our view, considering the high precision, high consistency and very high purity requirements of these substances and ongoing technological developments.

Zeolites have varied applications, including as catalysts and adsorbents. In particular, zeolites promoted with transition metals such as copper and iron have been proven to be effective for selective catalytic reduction (SCR) of Nitrogen Oxide (NOx) by ammonia, which is currently considered one of the preferred technologies for emission control in automotive applications for reducing NOx emissions from both stationary as well as mobile sources.

Exhibit 4: SCR of NOx by ammonia process



Source: Industry sources, Nirmal Bang Institutional Equities Research

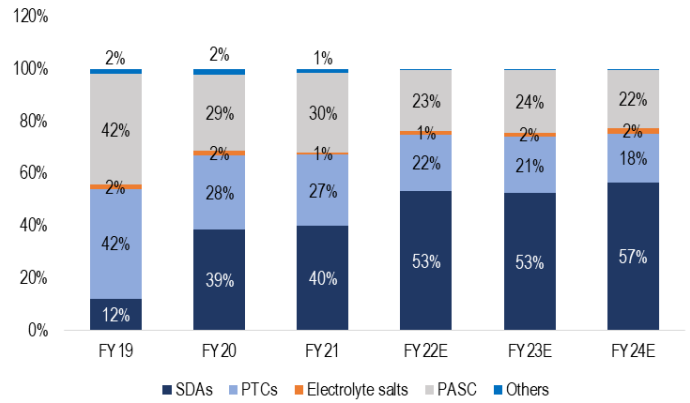
As per Celpress, more stringent emission legislations have offered new opportunities for zeolites as efficient catalysts for controlling NOx emissions in diesel engines, which are necessary for the transport of goods. As a major source of air pollution, NOx mainly results from the combustion of fossil fuels, including stationary sources and mobile sources. Due to the fast growth registered by the global economy in the past few decades, the number of transport vehicles with diesel engines has dramatically increased, resulting in a continuous increase in NOx emissions. Notably, diesel vehicles, which account for less than 10% of automobiles, produce ~70% of NOx (~4 million tons) in China. As a consequence, increasingly stringent emission legislations have been enacted since the turn of the century. For example, the NO legislation in the US for diesel engines in HDVs was 3.25 g per kilowatt in 2004, 0.26 g per kilowatt in 2010 and 0.03 g per kilowatt by 2024. Selective catalytic reduction of NOx with NH3 (NH3-SCR), urea, or even hydrocarbons in oxygen-rich exhausts, has been confirmed to be a highly efficient way to reduce NOx to solve this problem. But, traditional catalysts (e.g., WO3- or MoO3-doped V2O5/TiO2) have been prohibited in the US, Japan and China in recent years due to their toxicity and the stability of the vanadium species, which offer an opportunity for using zeolites as candidate catalysts in SCR.

Compared to the zeolites used in the petrochemical processes (e.g., Y and ZSM-5), the zeolites in SCR (e.g., SSZ-13 and SSZ-39) are costly, which is mainly attributed to the expensive templates employed in zeolite synthesis. For example, TMAda+ was applied as a standard template for the commercial production of Cu-SSZ-13, where the use of TMAda+ is even higher than half of the total cost for the preparation of SSZ-13. Compared to Cu-SSZ-13, the Cu-SSZ-39 zeolite with an AEI structure has superior catalytic performance in SCR and high hydrothermal stability, and has been regarded as one of the best candidates for the substitution of Cu-SSZ-13. However, the high cost of Cu-SSZ-39 has strongly affected its application in the market so far. Our discussion with the management suggests that since the technology is still evolving, the newer products will always be expensive and may seem unviable. However, once the volume starts to pick up, the pricing tends should normalise. The same thing happened 5-6 years back in case of Cu-SSZ-13 as well. When it comes to adoption of new technology, TATVA is focussed on the same and is in a position to adapt to newer technologies and innovate new products and processes. Tetrapropyl Ammonium Bromide and Tetraethyl Ammonium Hydroxide, TATVA's key products, are used as reagents in synthesizing zeolites.

Rising China revenue share on implementation of emission norms

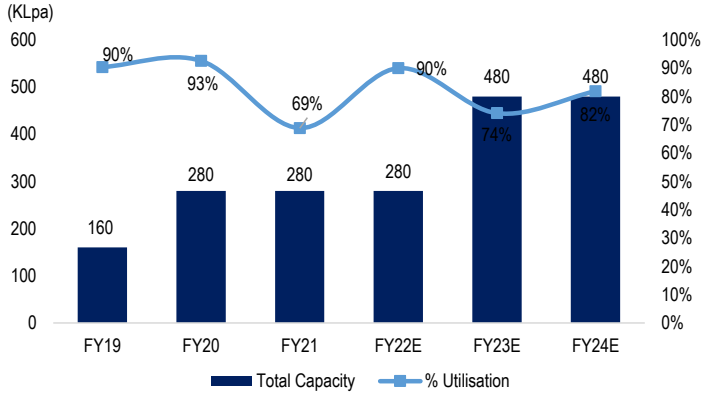
TATVA's China revenue share has risen signifcantly in the last 3 years (18% in FY21 vs 6% in FY19) on the back of implementation of auto emission norms in China. China adopted emission standards in mid-2019 and TATVA could capitalise on that opportunity. We believe this shows the company's ability to crack customers in China and offer products at competitive rates. Also, this gives us confidence that even in other regions, the company could garner share quickly post implementation of new emission norms. While China revenue has risen substantially, even RoW markets as defined by the company have delivered very strong growth over FY19-21 (revenue CAGR ~92%). We believe that a large part of this growth is attributed to SDAs. While TATVA could not capitalize on the opportunity in USA and Europe post EU 6 implementation, the management is very confident of capturing a share of these markets post implementation of EU 7 norms, based the on technology backing, product development and strong client relationships.

Exhibit 5: Geographical revenue % - China revenue increased from ~6% in FY18 to ~18% in FY21



Source: Company, Nirmal Bang Institutional Equities Research

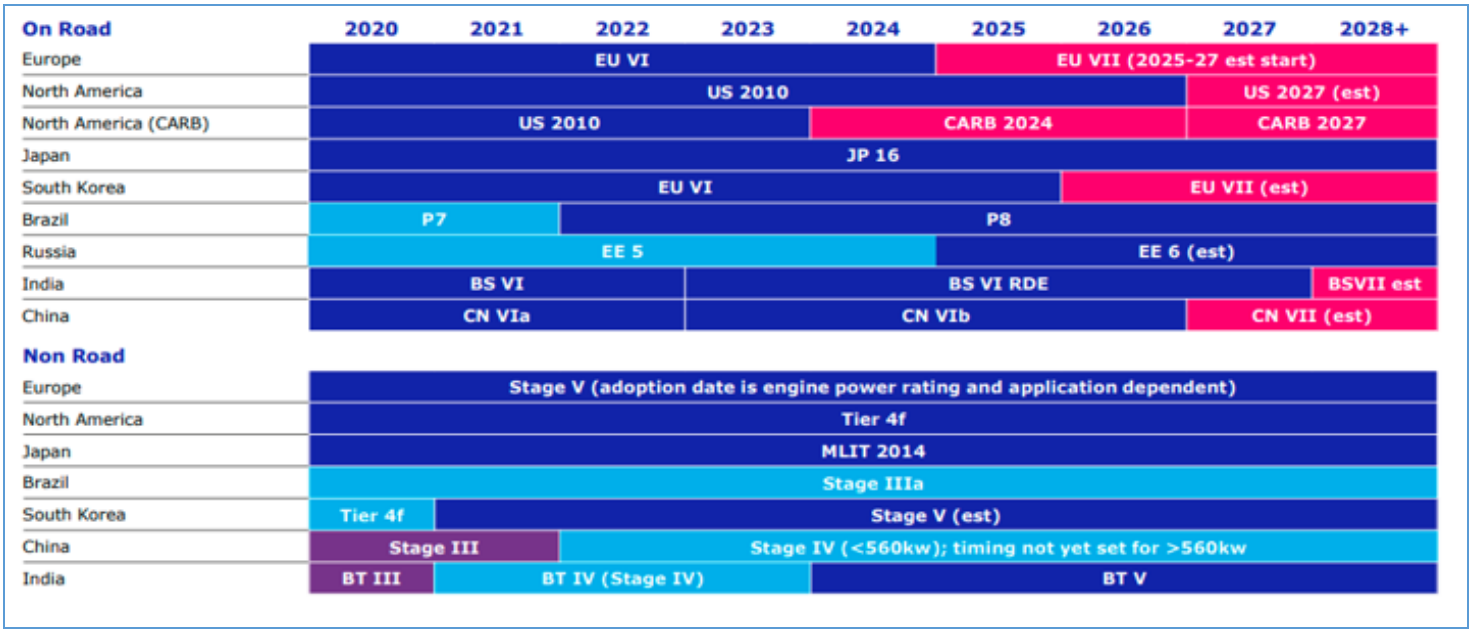
Exhibit 6: China revenue grew at ~102% CAGR over FY19-21



Source: Company, Nirmal Bang Institutional Equities Research

Current update on adoption of new emission norms in automobiles across different regions

Exhibit 7: Heavy duty emissions control legislation

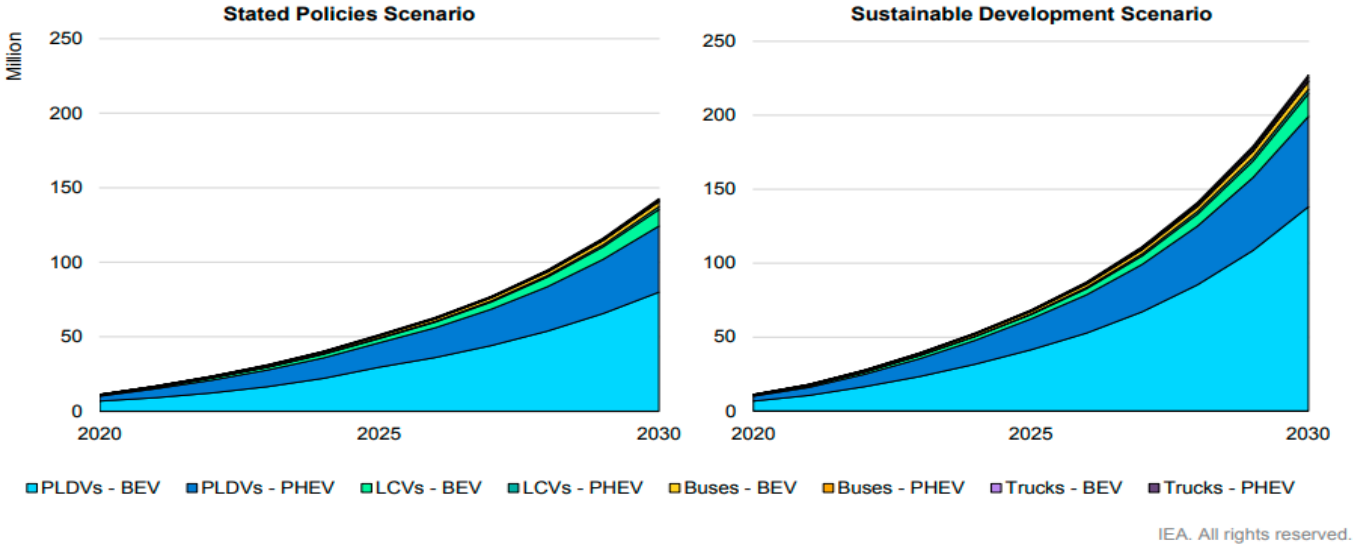


Source: Johnson Matthey PPT, Nirmal Bang Institutional Equities Research

Rising EV salience is not an immediate risk to SDA revenue

Since auto emission reduction continues to be the main driver for SDA growth for TATVA at least in the medium term, we checked the status of EV penetration in order to assess whether SDA's growth could be restrained post the fast ramp-up of EVs. Our interaction with experts and industry reports suggest that while EV penetration is expected to grow rapidly, it will be mainly in passenger vehicles. TATVA's SDAs are more relevant for commercial vehicles, where EV penetration is considerably low. It is important to mention that diesel engines in HDVs play vital roles in modern society due to their high efficiency, durability, reliability and low-operating costs for transportation of goods. There are more than 400mn HDVs (mainly trucks) using diesel engines globally and the number is still increasing, especially in China and India. Even in the US, the number of annual miles driven by heavy-duty trucks is projected to increase from 276bn in 2016 to 332bn in 2030, ~20% increase. Diesel engines are considered to be one of the largest contributors to environmental pollution caused by exhaust emissions (e.g., NOx). Although a proposal for lower-emission and zero-emission HDVs, including electric HDVs and hydrogen fuel cell HDVs, is being worked upon, a lot of work still needs to be done, especially given the lack of infrastructure. Therefore, we do not see downside risk to SDA revenue over the medium term.

Exhibit 8: Passenger cars to drive growth of EVs up to 2030

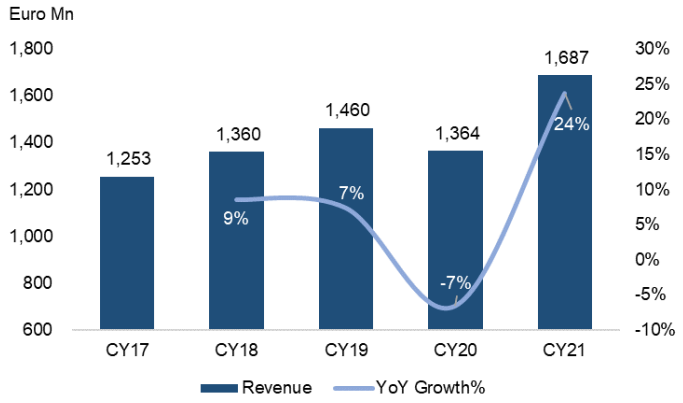


Notes: PLDVs = passenger light-duty vehicles; BEV = battery electric vehicle; LCVs = light-commercial vehicles; PHEV = plug-in hybrid electric vehicle. The figure does not include electric two/three-wheelers. For reference, total road EV stock (excluding two/three-wheelers) in 2030 is 2 billion in the Stated Policies Scenario and 1.9 billion in the Sustainable Development Scenario. Projected EV stock data by region can be interactively explored via the Global EV Data Explorer.

Source: IEA, Nirmal Bang Institutional Equities Research

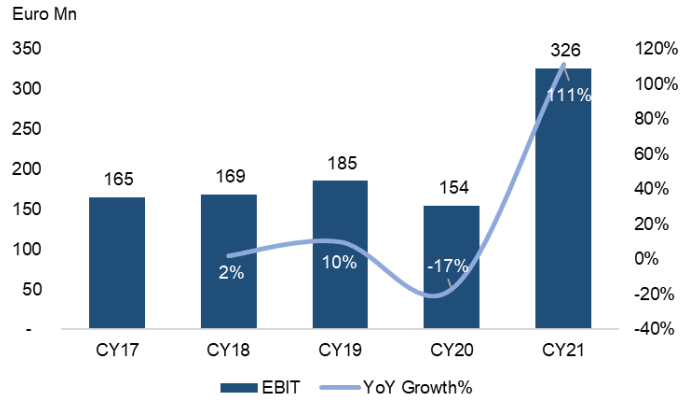
Globally, there are only 4 major companies that provide the catalyst technology and control the sourcing of SDAs, namely BASF, Johnson Matthey, Umicore and Clariant. TATVA's clients are predominantly zeolite manufacturers, which in turn supply zeolites to catalyst manufacturers, as mentioned above. However, currently, TATVA is in the process of getting direct approvals from Umicore. Similarly, TATVA is in dialogue with BASF to supply SDAs directly to the latter for their internal consumption for manufacturing zeolites. While overall revenue growth in the relevant segment was lower in JM, auto emission catalysts have done well as per the management commentary.

Exhibit 9: Umicore Catalysis segment revenue: Revenue grew at ~8% CAGR over FY17-21



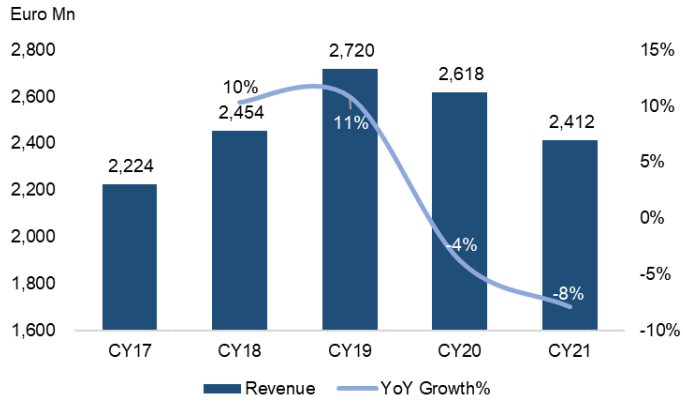
Source: Umicore, Nirmal Bang Institutional Equities Research

Exhibit 10: Umicore Catalysis segment EBIT: EBIT grew at ~18% CAGR over FY17-21



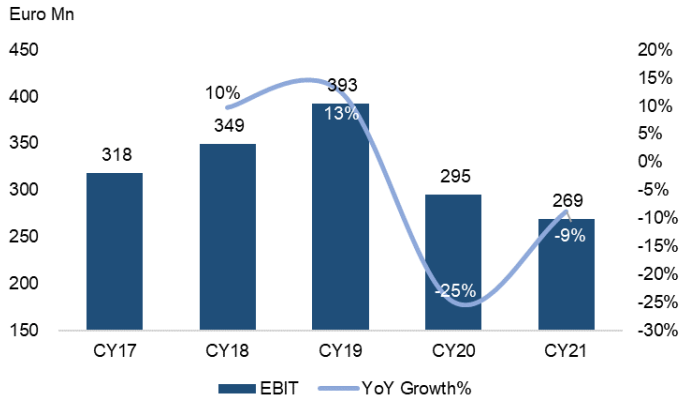
Source: Umicore, Nirmal Bang Institutional Equities Research

Exhibit 11: Johnson Matthey Clean Air segment revenue: Revenue grew at ~2% CAGR over FY17-21



Source: Johnson Matthey, Nirmal Bang Institutional Equities Research

Exhibit 12: Johnson Matthey Clean Air segment EBIT: EBIT declined at ~4% CAGR over FY17-21



Source: Johnson Matthey, Nirmal Bang Institutional Equities Research

Exhibit 13: Chinese emission standards for diesel engines

Standards	Implementation Date	Vehicle Type	Levels	Mass in Kg	Carbon Monoxide (CO)	Nitrogen Oxide (Nox)
China 3	July 2008	1	-	All	0.64	0.56
	July 2010	2	1	<1305	0.64	0.56
			2	1305-1760	0.80	0.72
			3	>1760	0.95	0.86
China 4	July 2010	1	-	All	0.50	0.30
		2	1	<1305	0.50	0.30
			2	1305-1760	0.63	0.39
			3	>1760	0.74	0.46
China 5	January 2016	1	-	All	0.50	0.23
		2	1	<1305	0.50	0.23
			2	1305-1760	0.63	0.30
			3	>1760	0.74	0.35
China 6a	n/a	1	-	All	0.70	-
		2	1	<1305	0.70	-
			2	1305-1760	0.88	-
			3	>1760	1.00	-
China 6b	n/a	1	-	All	0.50	-
		2	1	<1305	0.50	-
			2	1305-1760	0.63	-
			3	>1760	0.74	-

Type 1: Vehicles for no more than 6 passengers including the driver, and GVWR ≤ 2.5 tons
Type 2: Other light-duty vehicles (including N1 light commercial vehicles) are further divided into three classes based on the reference mass.

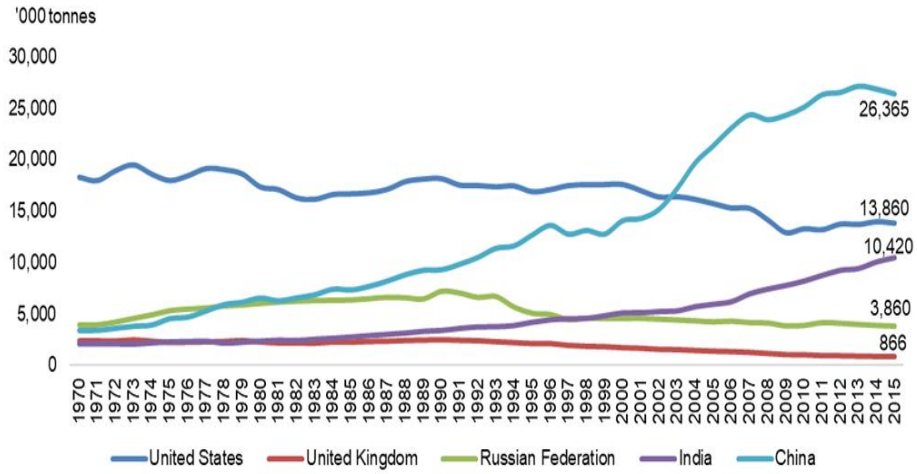
Source: dieselnet.com, Nirmal Bang Institutional Equities Research

Exhibit 14: European emission standards for diesel engines

Standards	Approval Date	Carbon Monoxide (CO)	Nitrogen Oxide (Nox)	HC + Nox
Euro 1	July 1992	2.72	-	0.97
Euro 2	January 1996	1.00	-	0.70
Euro 3	January 2000	0.66	0.50	0.56
Euro 4	January 2005	0.50	0.25	0.30
Euro 5	September 2009	0.50	0.18	0.23
Euro 6	September 2014	0.50	0.08	0.17
Euro 7	Expected in 2025	0.1 - 0.3	0.03	-

Source: dieselnet.com, Nirmal Bang Institutional Equities Research

Exhibit 15: Total NOx emission



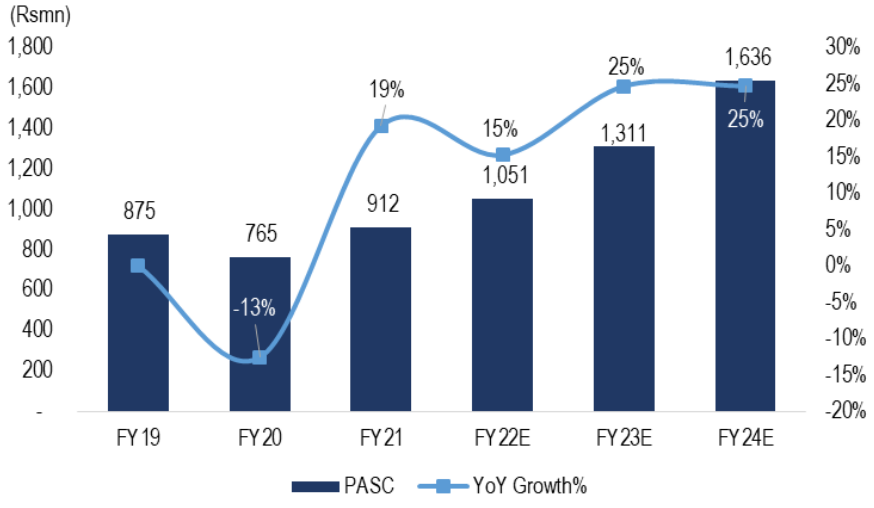
Source: OECD, Nirmal Bang Institutional Equities Research

PASC growth led by new launches, process improvement & better synthesis

TATVA manufactures specialty chemicals under this category that are used mainly in pharmaceuticals and agrochemicals and also used in dyes & pigments, personal care ingredients, flavour and fragrance sectors. Overall, this segment contributed ~30% to the total revenue in FY21 at Rs912mn and for 9MFY22, it has clocked revenue of Rs757mn. We are building in revenue CAGR of ~25% over FY22-24E in the PASC segment. This segment is the key beneficiary of China+1 theme and TATVA is well positioned to reap the benefits of the ongoing government incentives and initiatives to revive the Agrochemicals and Pharmaceuticals API industry and decrease over-reliance on Chinese imports. Also, through product and process R&D, TATVA is planning to start new molecules that are high purity substances with niche applications. Adoption of the continuous flow chemistry and improvement in the synthesis of existing products might result in affordable solutions for its clients and TATVA would be the preferred supplier. We expect overall margin profile of this segment to improve post handling of newer molecules and adoption of process efficiency measures.

The key product in this segment is Glyme, which is used as solvent in Pharmaceuticals; also, low-moisture and high-purity glyme is used as solvent for electrolytes of lithium-ion batteries. The global glyme market is estimated to grow by 15-17% over 2020-25E. TATVA is the largest producer of glyme in India and the third-largest globally. Other key products include agrochemical intermediates, pharmaceutical intermediates, disinfectants and antiseptics (personal care), including cetyl group and epoxy & resins. Monoglyme is produced industrially by the reaction of dimethylether with ethylene oxide. TATVA has been producing glyme using the conventional method and caters to the demand of the pharmaceuticals industry. However, the glyme required for battery (electrolyte) is of higher purity and has very low moisture. TATVA has developed a lab-scale continuous flow manufacturing process for glyme, wherein it will meet the requirements of the battery industry. We see glyme as one of the key growth drivers of this segment. The main application segments of epoxy resins include paints & coatings, adhesives & sealants and composites. The growing electrical & electronics industry is expected to have a positive influence on epoxy resin demand in this application segment. For examples, TATVA manufactures Ethyltriphenylphosphonium Bromide (ETPB), which is a phase transfer catalyst used to speed up the treatment of epoxy resins based on phenolics, some fluor elastomer resins and powder coatings.

Exhibit 16: We are building in ~25% revenue CAGR over FY22-24E based on the China +1 strategy



Source: Company, Nirmal Bang Institutional `Equities Research

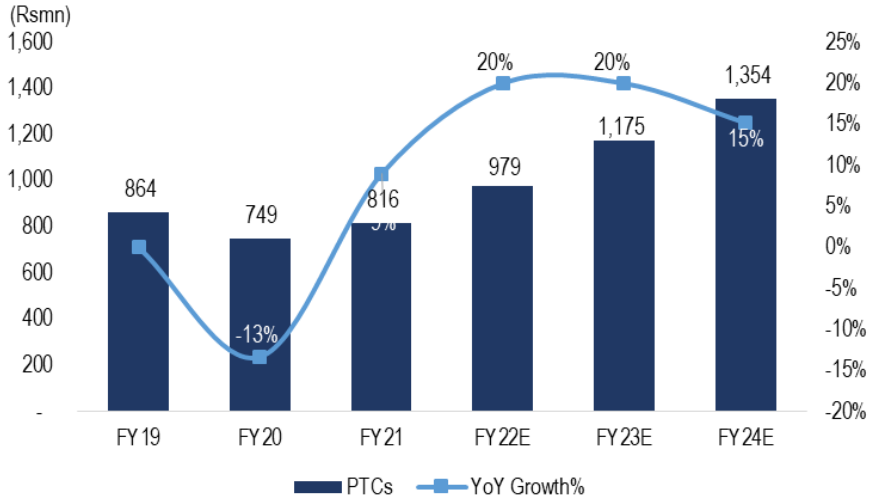
PTCs provide a solid backward integration

TATVA is involved in the manufacturing of PTCs and it is one of the leading producers with the entire range of PTCs in India and one of the key producers globally. PTCs have specific grades such as tetra butyl ammonium bromide, benzyl triethyl ammonium chloride, etc, which are available on demand. With the experience of more than two decades, TATVA has positioned itself as a reliable supplier for its customers due to its ability for faster turnaround in R&D for unique customized PTCs suited for every customer's requirement, which provides a differentiated experience to the customers.

PTCs enable migration of a reactant from one phase into another where the reaction occurs. The catalyst functions as a detergent for solubilizing the salts into organic. Phase-transfer catalyst offers faster reactions, higher conversions or yields, makes fewer by-products, eliminates the need for expensive or dangerous solvents, eliminates the need for costly raw materials and minimizes waste problems. In FY21, the PTC segment contributed ~27% to the total revenue of TATVA.

We are given to understand that SDA is forward integration of PTCs. SDA manufacturing is fairly complex as the manufacturer has to maintain high purity standards and quality of SDA has a major impact on the quality of zeolite. Naturally, realisation and margin profile of SDAs is superior compared to PTCs. Per kg realisation of SDA would be at least 2-2.5x compared to PTC, as per the management. Therefore, incremental focus is more towards SDAs. Backward integration gives TATVA an additional edge and hence a large part of the incremental capacity would be dedicated to SDAs. Therefore, we are building in ~18% revenue CAGR in PTCs over FY22-24E, lower than other segments. While we expect PTC's revenue share to fall from ~27% in FY21 to ~18% in FY24E, rise in SDA's share would lead to superior operating margin than in the past.

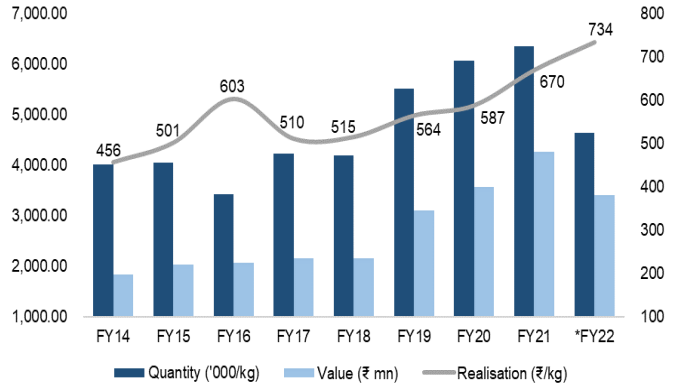
Exhibit 17: PTC revenue: We are building in ~18% revenue CAGR over FY22-24E based on diversified applications of the product



Source: Company, Nirmal Bang Institutional Equities Research

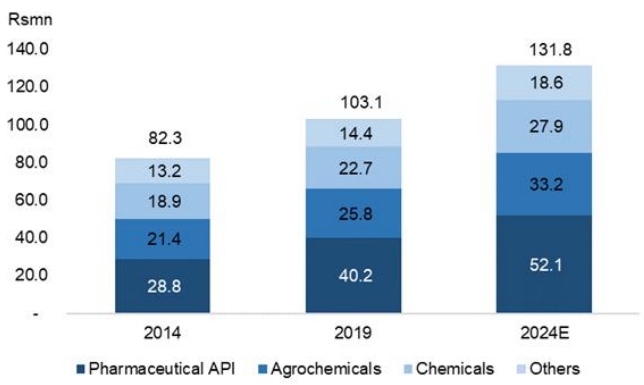
As per industry reports, Phase Transfer Catalyst market was valued at US$921.6mn in 2018 and is projected to reach US$1,349.21mn by 2026, growing at a CAGR of ~4.90% over 2019-2026. TATVA's key products like Methyl Tributyl Ammonium Chloride and Methyl Triocyl Ammonium Chloride are expected to grow globally at over ~3% CAGR. Exports of this product is increasing and is getting better realizations. The primary factor driving the Phase Transfer Catalyst market is the increasing demand for green chemistry in organic synthesis. Phase Transfer Catalysts are used in the healthcare sector to manufacture pharmaceutical drugs and APIs. They find extensive applications in the Agrochemicals sector to produce herbicides, fungicides, rodenticides, insecticides, soil conditioners and other products. Pharmaceutical APIs and Agrochemicals together constitute ~65% of the total market size.

Exhibit 18: Methyl Tributyl Ammonium exports over the years



*Source: Commerce department, Nirmal Bang Institutional Equities Research (*FY22 – April to Nov data)*

Exhibit 19: PTC end-uses - 65% is Pharma and Agro



Source: DRHP, Nirmal Bang Institutional Equities Research

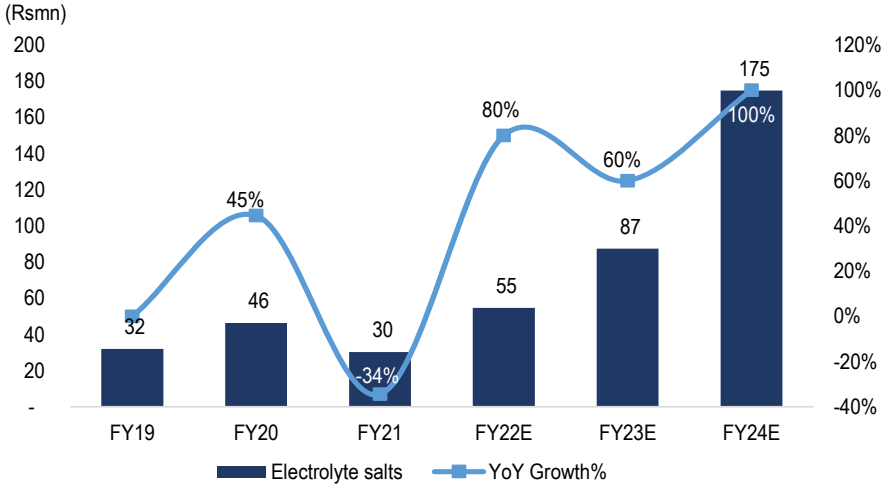
Electrolyte Salts – a long-term growth driver

TATVA is the largest producer of electrolyte salts used to manufacture supercapacitor batteries used in automobile batteries and other batteries for excess power storage. It currently has six products under this segment for supercapacitor batteries. Electrolyte salts for supercapacitor batteries should be one of the future growth drivers over the medium term, in our view. Contribution in the next 3-4 years would be relatively lower despite strong growth.

Super-capacitors or ultra-capacitors are charge storage devices that store electrical charges via electrochemical and electrostatic processes. In simple terms, they can be imagined as a cross between an ordinary capacitor and a battery; still, they are different from both. They have an unusually high energy density compared to standard capacitors. The application of battery electrolytes is found mainly in electrical devices like electrolytic cells and batteries, among other devices.

Supercapacitors have a much longer lifespan than batteries. Unlike a battery, they have a higher power throughput, which implies they can charge and discharge in a fraction of time. Still, they have a very low specific energy compared to batteries. A regular battery can handle ~2,000-3,000 charge and discharge cycles while ultracapacitors can usually sustain more than 1,000,000 cycles. It can lead to considerable savings in materials and costs. As per industry reports, the supercapacitor market size will witness robust growth at a CAGR of 23.9% over 2021-2028. The supercapacitor market size reached a valuation of US$5.02bn in 2021 and is likely to grow to US$22.50bn by 2028.

Exhibit 20: We are building in ~79% revenue CAGR over FY22-24E based on the robust demand from the battery segment



Source: Company, Nirmal Bang Institutional Equities Research

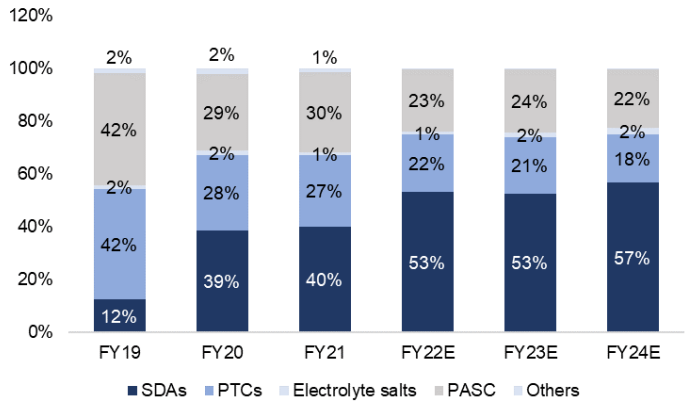
Key Charts & Tables

Exhibit 21: Revenue Assumptions

Consolidated Segment details	FY19	FY20	FY21	FY22E	FY23E	FY24E
Revenue (Rsmn)						
Structure Directing Agents(SDA)	254	1,017	1,202	2,397	2,883	4,183
Phase Transfer Catalysts(PTC)	864	749	816	979	1,175	1,354
Electrolyte salts	32	46	30	55	87	175
PASC	875	765	912	1,051	1,311	1,636
Others	39	56	43	23	25	27
Total Revenue	**2,063**	**2,632**	**3,004**	**4,505**	**5,482**	**7,374**
% Contribution						
Structure Directing Agents(SDA)	*12%*	*39%*	*40%*	*53%*	*53%*	*57%*
Phase Transfer Catalysts(PTC)	*42%*	*28%*	*27%*	*22%*	*21%*	*18%*
Electrolyte salts	*2%*	*2%*	*1%*	*1%*	*2%*	*2%*
PASC	*42%*	*29%*	*30%*	*23%*	*24%*	*22%*
Others	*2%*	*2%*	*1%*	*0%*	*0%*	*0%*
Growth YoY %						
Structure Directing Agents(SDA)		*300%*	*18%*	*99%*	*20%*	*45%*
Phase Transfer Catalysts(PTC)		*-13%*	*9%*	*20%*	*20%*	*15%*
Electrolyte salts		*45%*	*-34%*	*80%*	*60%*	*100%*
PASC		*-13%*	*19%*	*15%*	*25%*	*25%*
Others						

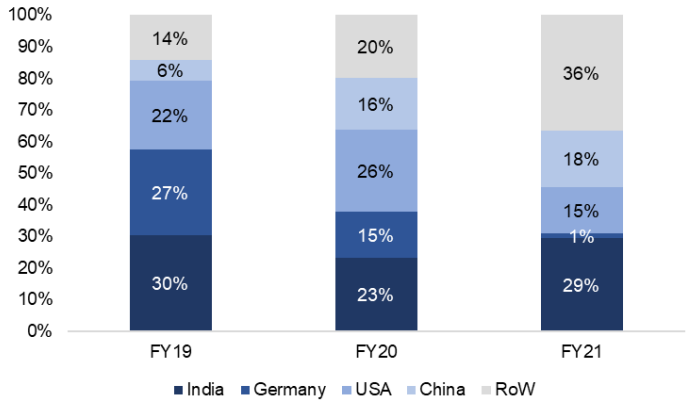
Source: Company,Nirmal Bang Institutional Equities Research

Exhibit 22: Segment revenue mix (%) - Share of SDAs has improved post adoption of emission norms in China



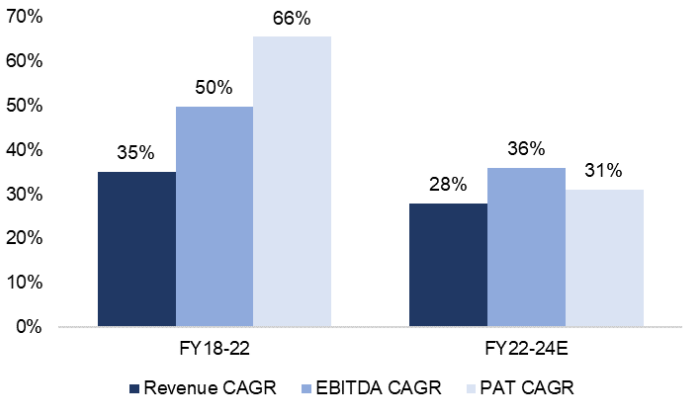
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 23: Geographical revenue share – China & RoW share has improved due to adoption of emission norms



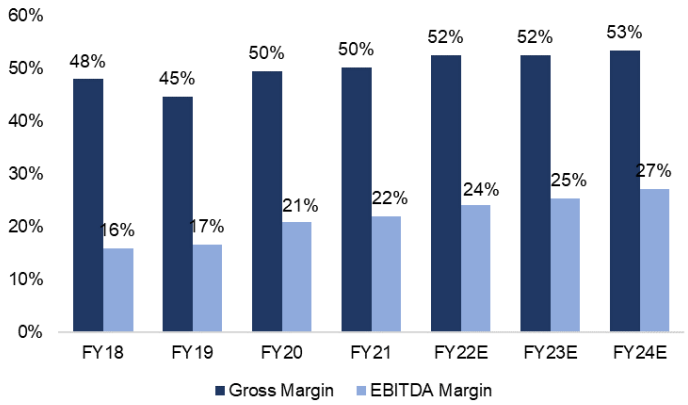
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 24: Earning growth to normalize going ahead



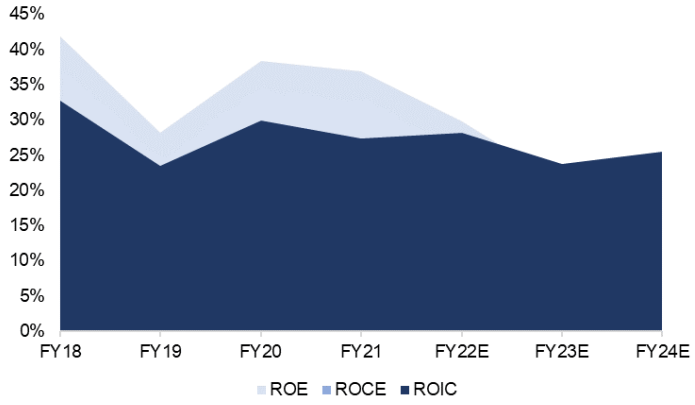
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 25: Over the years, TATVA has been able to continuously expand its margins



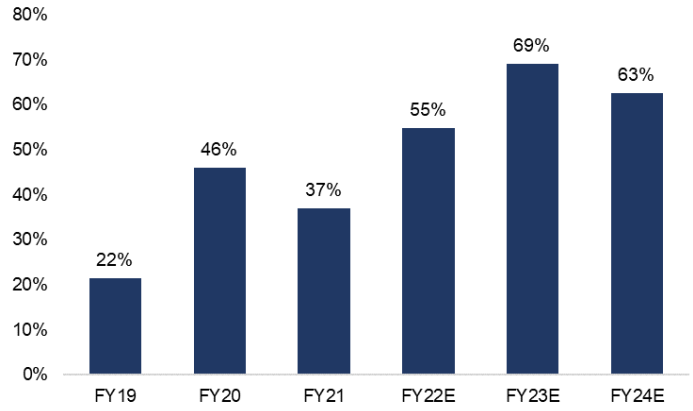
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 26: Return ratios – ROE for FY21 stood at ~37%



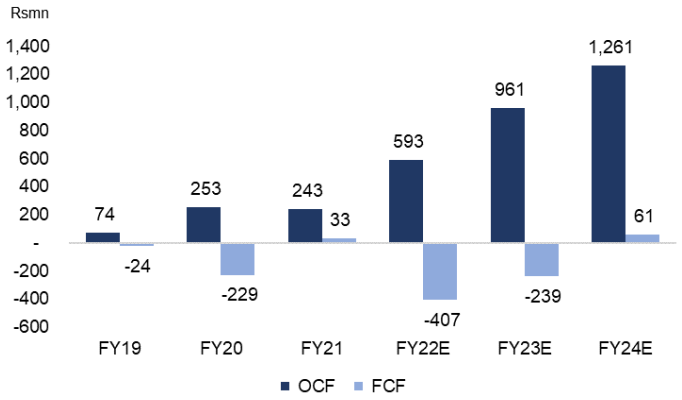
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 27: EBITDA to OCF conversion



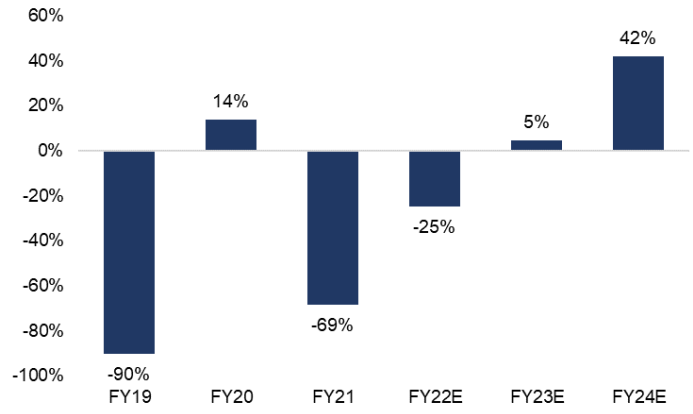
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 28: High capex will lead to low FCF for 2 years



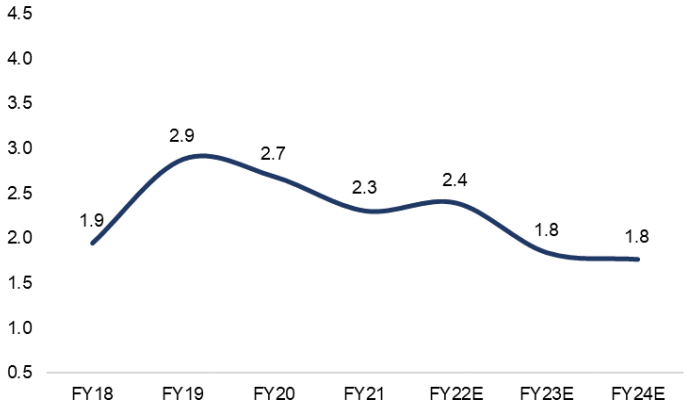
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 29: FCF/OCF ratio



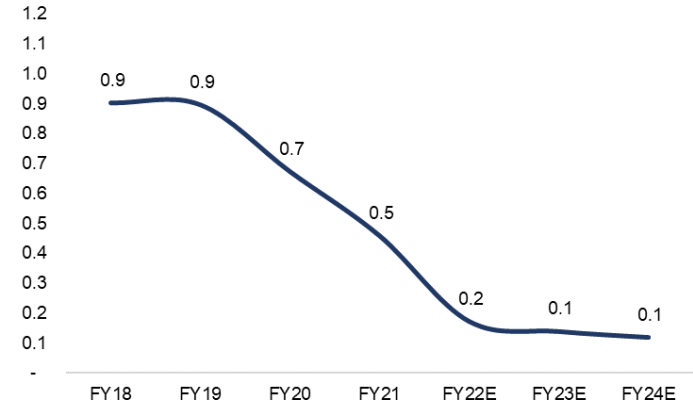
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 30: Asset turnover - Should improve once the new product scales up



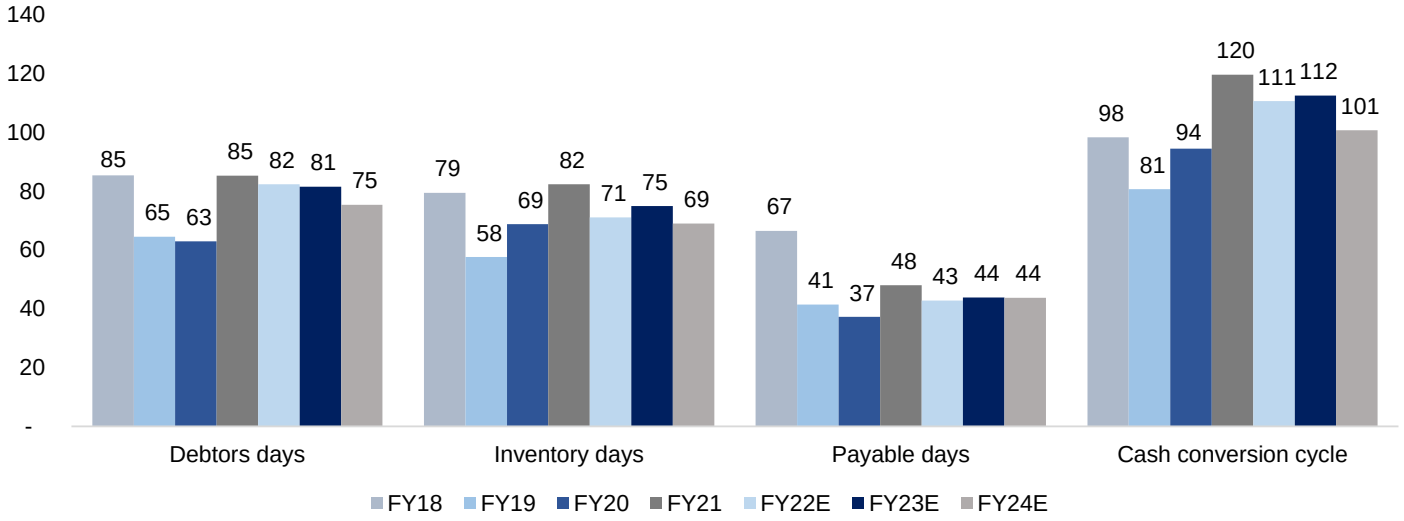
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 31: D/E ratio - Future capex will be funded through mix of debt and internal accruals



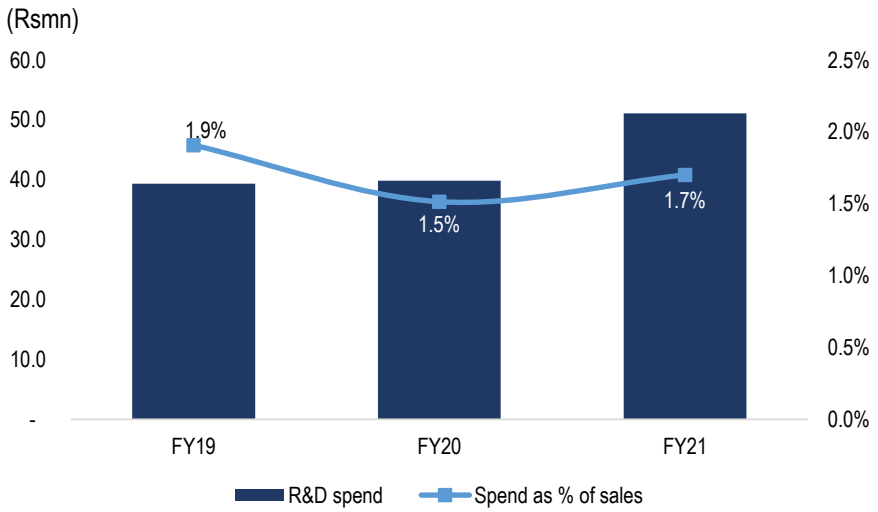
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 32: Working capital days has jumped and we expect it to sustain this trajectory



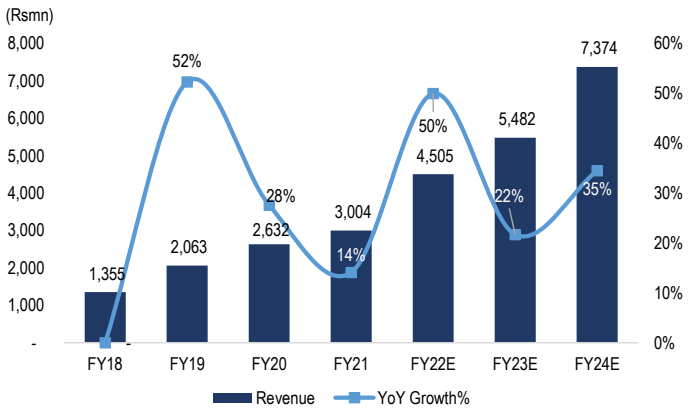
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 33: R&D expense and R&D spend as % of revenue



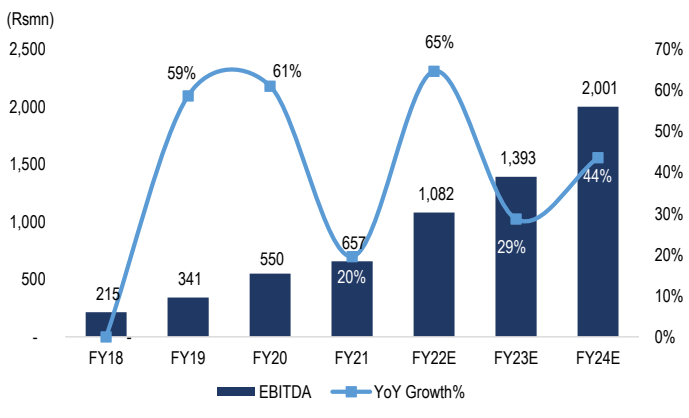
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 34: Revenue: We are building in ~28% CAGR over FY22-24E based on higher realization



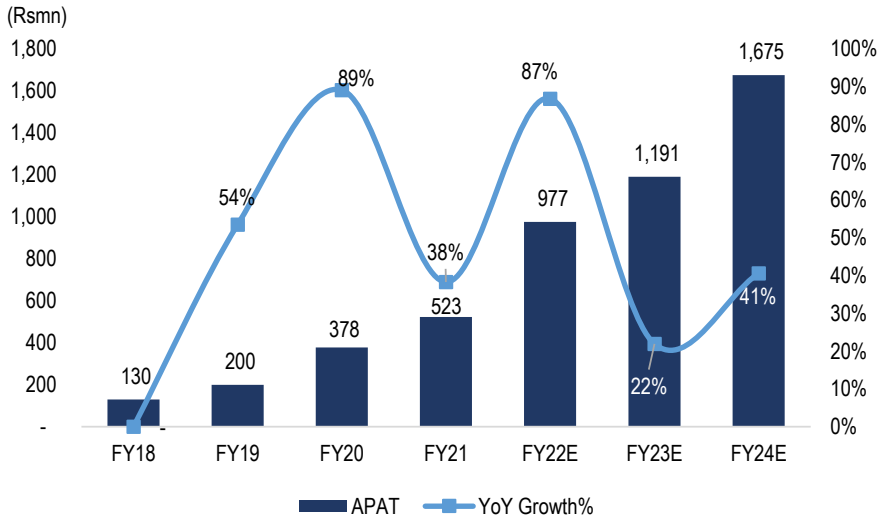
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 35: EBITDA: We are building in ~36% CAGR over FY22-24E



Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 36: APAT: We are building in ~31% CAGR over FY22-24E



Source: Company, Nirmal Bang Institutional Equities Research

Financial summary

Particulars (Rsm)	FY20	FY21	FY22E	FY23E	FY24E
Net Sales	2,632	3,004	4,505	5,482	7,374
Growth YoY%	*27.6*	*14.1*	*50.0*	*21.7*	*34.5*
Gross margin %	*49.6*	*50.3*	*52.5*	*52.5*	*53.4*
EBITDA	550	657	1,082	1,393	2,001
EBITDA margin %	*20.9*	*21.9*	*24.0*	*25.4*	*27.1*
Adj PAT	378	523	977	1,191	1,675
Growth YoY%	*89.1*	*38.3*	*86.9*	*22.0*	*40.6*
Adj EPS	*18.8*	*26.0*	*44.1*	*53.7*	*75.6*
Growth YoY%	*53.5*	*89.1*	*38.3*	*69.3*	*22.0*
RoCE %	*28.8*	*26.9*	*24.5*	*20.1*	*22.7*
RoE %	*38.3*	*36.8*	*29.8*	*21.7*	*24.2*
P/E	122.3	88.4	52.2	42.8	30.4

Source: Company, Nirmal Bang Institutional Equities Research

Variance with consensus

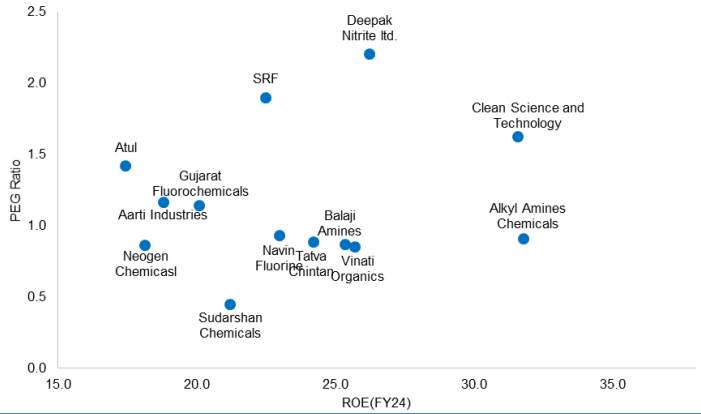
Particulars	NBIE estimates			Consensus estimates			Variance (%)		
	FY22E	FY23E	FY24E	FY22E	FY23E	FY24E	FY22E	FY23E	FY24E
Revenue	4,505	5,482	7,374	4,449	5,727	7,163	1.2%	-4.3%	2.9%
EBITDA	1,082	1,393	2,001	1,233	1,591	2,074	-12.2%	-12.5%	-3.5%
EBITDA margin	24.0%	25.4%	27.1%	27.7%	27.8%	29.0%	*-369bps*	*-237bps*	*-181bps*
APAT	977	1,191	1,675	1,082	1,253	1,601	-9.7%	-4.9%	4.6%

Source: Bloomberg, Nirmal Bang Institutional Equities Research

Our view on India Specialty Chemicals Industry

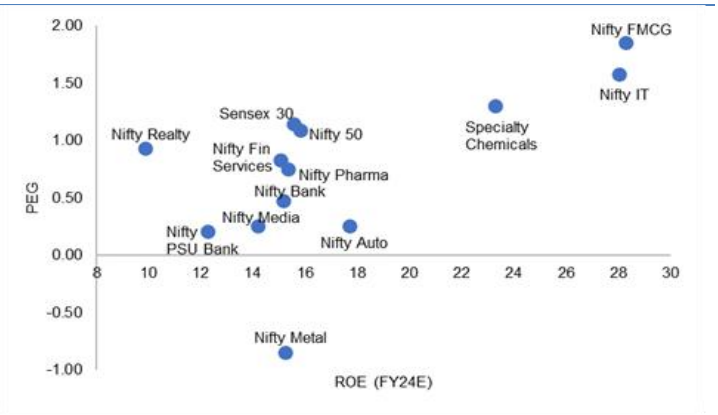
The Indian Specialty Chemicals basket has significantly outperformed all the leading indices over the last one year. The entire sector got massively re-rated (current valuation ~30x PE on FY24E) on the back of market opportunities across select chemistries, import substitution and 'China+ 1 theme. Apart from future growth potential, which might be driving the stock price performance to a great extent, earnings delivery of Indian Specialty Chemicals companies has been far superior compared to any other sector indices. These companies have more than doubled their capex every 5 years and the next 3-4 years' guidance also remains very promising. This should create a very solid asset base for these companies and hence there is a strong case for ~25% earnings CAGR over the next 5 years, in our view. Despite their rich valuations currently, we believe that there is still enough value in select pockets from a medium-term perspective. All our coverage companies are leading players globally in their respective chemistries. We assign high probability to these names winning new long-term contracts in future. Rising share of specialty chemicals revenue in these companies would reduce the risk associated with RM volatility & pricing to an extent and enable consistent earnings growth. Structurally, we are positive on businesses with focus on niche chemistry or application, process innovation and new-age segments with a high optionality value.

Exhibit 37: Indian Chemical Companies PEG



Source: Bloomberg, Nirmal Bang Institutional Equities Research

Exhibit 38: Sector PEG comparison



Source: Bloomberg, Nirmal Bang Institutional Equities Research

(Note – Specialty chemicals include Navin fluorine, SRF, Aarti Industries, Vinati Organics, Atul ltd, Gujarat Fluorochemicals, Tatva Chintan, Neogen Chemicals, Deepak Nitrite, Alkyl Amines, Balaji Amines, Clean Science & Technology, Sudarshan Chemicals)

Exhibit 39: Peer Financial Comparison

Company Name	Mcap (USD bn)	FY22-24E CAGR (%)			ROE (%)		
		Revenue	EBITDA	PAT	FY22E/ CY21E	FY23E/ CY22E	FY24E/ CY23E
Navin Fluorine International L	2.7	38.0	43.6	40.0	16.0	21.7	23.0
SRF Ltd	10.6	17.8	18.3	17.0	23.8	22.5	22.5
Aarti Industries Ltd	4.5	18.8	22.2	24.1	18.0	18.7	18.8
Vinati Organics Ltd	2.7	31.0	40.5	38.4	19.4	24.4	25.7
Clean Science and Technology	2.8	32.1	33.4	32.6	35.0	33.7	31.6
Neogen Chemicals	0.5	27.9	36.6	48.1	16.0	15.3	18.1
Tatva Chintan	0.7	27.9	36.0	31.0	29.8	21.7	24.2
Atul Ltd	4.0	13.2	19.6	21.7	15.8	17.3	17.5
Gujarat Fluorochemicals	4.1	17.0	23.3	24.8	18.2	19.5	20.1
Deepak Nitrite Ltd	4.0	8.4	11.3	10.3	36.9	29.6	26.2
Alkyl Amines Chemicals	2.0	19.6	37.0	37.3	27.6	32.6	31.8
Balaji Amines Ltd	1.3	17.8	20.2	20.9	30.6	28.2	25.4
Sudarshan Chemical Industries	0.5	15.5	28.6	34.9	16.6	18.9	21.2

Source: Bloomberg, Nirmal Bang Institutional Equities Research

Exhibit 40: Peer Valuation

Company Name	P/E (x)			EV/EBITDA (x)			P/B (x)			PEG
	FY22E/ CY21E	FY23E/ CY22E	FY24E/ CY23E	FY22E/ CY21E	FY23E/ CY22E	FY24E/ CY23E	FY22E/ CY21E	FY23E/ CY22E	FY24E/ CY23E	FY24E
Navin Fluorine International L	72.7	46.6	37.1	53.2	33.4	25.8	11.0	9.4	7.8	0.9
SRF Ltd	44.1	38.4	32.2	26.8	22.9	19.0	9.5	7.9	6.7	1.9
Aarti Industries Ltd	43.2	32.3	28.0	26.9	21.1	18.1	6.5	5.7	5.0	1.2
Vinati Organics Ltd	62.8	42.0	32.8	49.1	31.5	24.8	11.3	9.3	7.7	0.9
Clean Science and Technology	93.6	69.0	53.2	70.5	50.9	38.9	28.0	19.9	14.5	1.6
Neogen Chemicals	88.4	55.7	40.3	48.4	34.8	27.2	9.3	8.1	6.9	0.8
Tatva Chintan	52.2	42.8	30.4	42.8	32.2	24.3	16.8	11.4	8.1	1.0
Atul Ltd	47.2	36.0	30.7	31.4	25.3	21.6	7.0	6.1	5.3	1.4
Deepak Nitrite Ltd	28.5	26.3	22.6	19.2	17.4	15.0	9.2	7.0	5.5	2.2
Alkyl Amines Chemicals	63.9	43.5	33.9	N/A	N/A	N/A	15.2	11.8	9.3	0.9
Balaji Amines Ltd	26.6	21.4	18.2	N/A	N/A	N/A	9.3	7.8	6.2	0.9
Sudarshan Chemical Industries	28.5	20.8	15.6	16.0	12.0	9.5	4.4	3.8	3.2	0.4

Source: Bloomberg, Nirmal Bang Institutional Equities Research

Exhibit 41: Share price movement

Company Name	1 month absolute	3 months absolute	0.5yr absolute	1yr absolute	1.5yr CAGR	2yr CAGR	3yr CAGR	4yr CAGR	5yr CAGR	10yr CAGR	15yr CAGR
Nifty 50	4	2	-1	18	34	45	15	15	14	13	11
Sensex 30	4	2	-1	17	33	44	15	16	15	13	11
Average of Indian chemical companies	6	-3	-5	35	41	79	43	31	30	38	33
Average of Agro chemical companies	10	-1	-6	15	17	42	18	12	14	20	25
Average of Specialty chemical companies	6	-1	-1	57	69	108	63	50	47	51	39
Average of Specialty Ingredient companies	-1	-4	-13	14	17	62	37	12	2	29	24
MSCI World Chemical Index	4	-7	2	3	14	29	11	7	8	7	6
Indian chemicals companies											
Navin Fluorine	4	-2	10	49	50	84	79	51	47	50	32
SRF	14	13	20	150	121	120	78	62	53	49	37
Aarti Industries	2	-4	1	41	51	61	34	35	38	51	40
Vinati Organics	6	0	2	40	30	57	34	45	40	47	57
Clean Science & Tech	10	-17	-2	NA	NA	NA	NA	NA	NA	NA	NA
Neogen Chemicals	8	1	34	110	83	126	NA	NA	NA	NA	NA
Tatva Chintan Pharma Chem	8	-14	5	NA	NA	NA	NA	NA	NA	NA	NA
Deepak Nitrate	11	-9	-8	36	94	146	101	73	78	66	41
Alkyl Amines	-3	-13	-24	28	72	149	106	87	74	67	41
Balaji Amines	3	-7	-35	69	137	248	81	51	50	55	37
Atul	12	15	10	47	42	65	42	41	34	49	38
Sudarshan Chemicals	-1	-6	-19	2	6	25	16	5	9	27	30
Fine Organic Industries	-5	11	33	79	33	47	49	NA	NA	NA	NA
Rossari Biotech	-7	-28	-37	-13	9	NA	NA	NA	NA	NA	NA
Galaxy Surfactant	5	-6	-11	19	33	57	40	18	NA	NA	NA
Camlin Fine Sciences	10	12	-22	2	16	94	42	9	10	29	24
Advanced Enzyme Technologies	-9	-10	-25	-17	-8	50	17	8	-7	NA	NA
Global chemicals companies											
Du Pont Nemours Inc	1	-3	15	-0	25	52	1	-4	-3	5	1
BASF SE	-9	-13	-18	-25	2	12	-7	-10	-10	-2	2
Chemours	17	-3	11	16	33	82	-5	-10	-3	NA	NA
Solvay SA	-6	-9	-13	-14	18	20	-1	-5	-4	1	-1
Sinopec	-0	2	-3	-	7	-2	-9	-10	-5	-2	-4
Clariant AG	0	-12	-6	-14	-6	2	-7	-8	-3	3	-1
Eastman Chemical Company	-4	-5	13	2	28	55	14	2	7	8	9
Mitsui Chemicals, Inc.	5	-0	-18	-14	14	21	5	-2	2	9	-3
Guilin Layn Natural Ingredients Corp	45	28	37	53	30	24	18	8	3	11	NA
Kawaguchi Chemical Industry Co., Ltd.	3	-18	-37	4	3	16	-3	-12	-7	-0	-5
Exxonmobil Chemical	5	35	40	45	79	48	1	3	-0	-1	1
Albemarle Corp	14	-5	2	53	84	100	39	24	16	13	12
ICL Group Ltd	1	22	61	99	124	94	31	29	22	0	4
LANXESS AG	-3	-22	-28	-34	-9	8	-4	-9	-8	-4	1
Johnson Matthey PLC	-1	-11	-31	-40	-15	2	-16	-12	-9	-3	0
Umicore SA	7	10	-23	-13	7	13	-0	-2	8	7	7
Dow Inc	9	13	12	-1	23	50	8	NA	NA	NA	NA

Source: Bloomberg, Nirmal Bang Institutional Equities Research

Company background

TATVA is a specialty chemicals manufacturing company engaged in the manufacture of Structure Directing Agents (SDAs), Phase Transfer Catalysts (PTCs), Electrolyte Salts for supercapacitor batteries and Pharmaceutical & Agrochemical Intermediates and Other Specialty Chemicals (PASC). TATVA is India's most prominent and only commercial manufacturer of SDAs for zeolites. It also enjoys the second-largest position globally. TATVA was incorporated on June 12, 1996, and currently has two manufacturing facilities situated at Ankleshwar and Dahej in Gujarat with installed capacity of 280KL and 29 assembly lines. TATVA has a dedicated R&D facility recognized by the Department of Scientific & Industrial Research (DSIR), Government of India, at Vadodara. It has a customer base spanning 25+ countries, including USA, UK, China, Germany, Japan and South Africa. Exports constitute 71% of total revenue. Overseas subsidiaries in USA and the Netherlands provide off-shore support.

Exhibit 42: Company's history

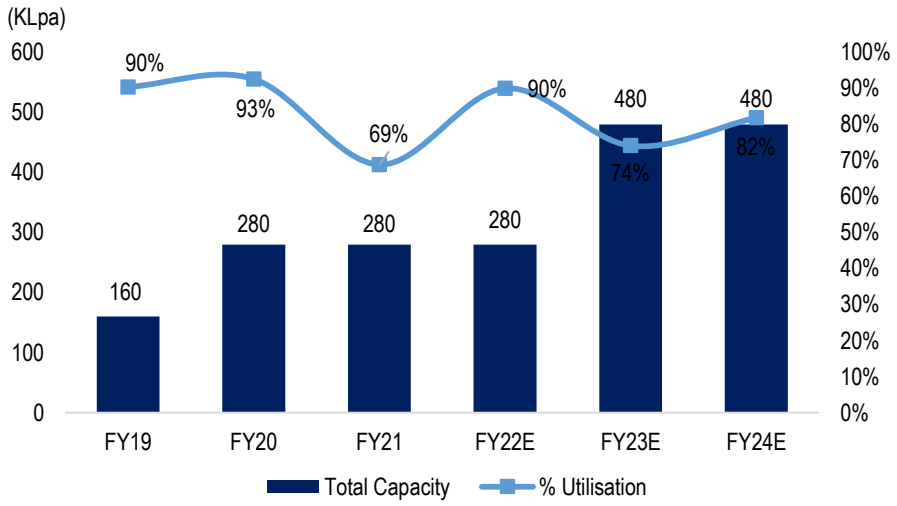
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 43: Promoter profile

Name	Designation	Description
Chintan Nitinkumar Shah	Managing Director	Chintan Shah is a graduate in Engineering with a specialization in Computer Science from Maharaja Sayajirao University of Baroda. He carries an experience of over 25 years and is responsible for Business Development, Finance and Information Services.
Ajaykumar Mansukhlal Patel	Whole Time Director	Ajaykumar Patel is a Chemical Engineer from Maharaja Sayajirao University of Baroda, with an experience of over 26 years. He takes care of Project Engineering & Development and implementation of new technology in the company.
Shekhar Rasiklal Somani	Whole Time Director	Shekhar Somani holds bachelor in Pharmacy from Maharaja Sayajirao University of Baroda. He looks after Business Development, Production Control, Quality and Supply Chain Management. He has over 25 years of experience.
Manher Chimanlal Desai	Independent Director	Manher Desai is a Post Graduate in Organic Chemistry and holds Doctorate in Science from the University of Mumbai. He carries rich experience in the Specialty Chemicals industry and was previously associated with companies like Indian Dyestuff Industries Limited, Metrochem Industries Limited, Alaknanda Organics Limited and Heubach Colour Private Limited.
Subhash Ambubhai Patel	Independent Director	Subhash Patel is a Chartered Accountant by profession and a Commerce Graduate from Maharaja Sayajirao University of Baroda. He is a Fellow Member of the Institute of Chartered Accountants of India (ICAI) and has an experience of over 3 decades. He is currently a partner at M/s S. A. Patel & Co., Chartered Accountants.
Avani Rajesh Umat	Independent Director	Avani Umat holds Doctorate in Chemistry from the Sardar Patel University. She has over 19 years of experience in research and academia. She is currently associated with TeamLease Skills University as Associate Professor, Dean Academics.

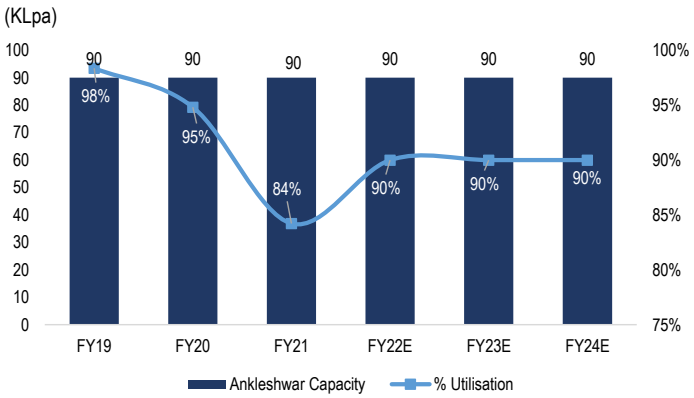
Source: Company, Bloomberg, Nirmal Bang Institutional Equities Research

Exhibit 44: Manufacturing capacity & utilization – TATVA operated at ~69% capacity utilization in FY21



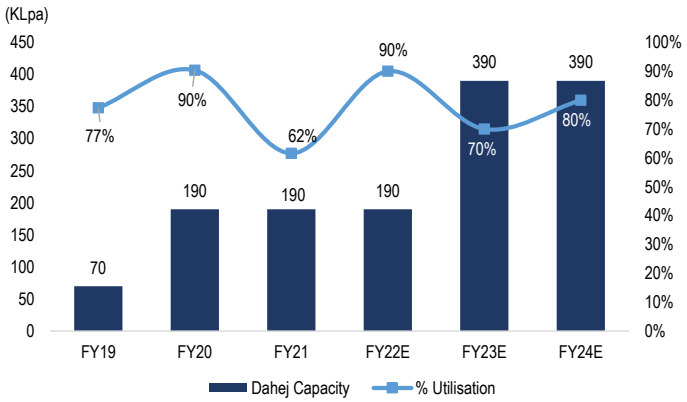
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 45: Ankleshwar facility capacity & utilization



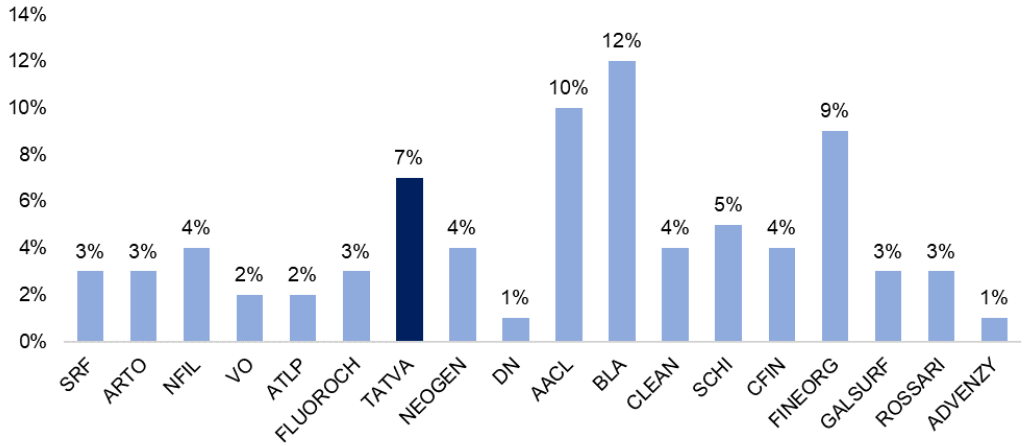
Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 46: Dahej facility capacity & utilization



Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 47: Managerial remuneration as % PBT at ~7% higher than sector average



Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 48: Shareholding pattern as on Dec'21

Source:Company, Nirmal Bang Institutional Equities Research

Exhibit 49: Top public shareholders (as on Dec'21)

Particulars	% holding
SBI Magnum Midcap fund	2.25%
Mirae Asset Hybrid-Equity fund	1.57%
Axis Mutual Fund	1.34%
Abu Dhabi Investment fund	1.31%
Nippon Life India Trustee	1.28%

Source: BSE, Nirmal Bang Institutional Equities Research

Financials

Exhibit 50: Income statement

Y/E March (Rsm)	FY20	FY21	FY22E	FY23E	FY24E
Net Sales	**2,632**	**3,004**	**4,505**	**5,482**	**7,374**
Growth YoY%	*27.6*	*14.1*	*50.0*	*21.7*	*34.5*
COGS	1,328	1,494	2,141	2,605	3,434
Gross margin %	***49.6***	***50.3***	***52.5***	***52.5***	***53.4***
Staff costs	205	241	307	373	489
Other expenses	550	611	974	1,111	1,451
EBITDA	**550**	**657**	**1,082**	**1,393**	**2,001**
Growth YoY%	*61.1*	*19.6*	*64.7*	*28.7*	*43.7*
EBITDA margin %	***20.9***	***21.9***	***24.0***	***25.4***	***27.1***
Depreciation	48	67	85	119	230
EBIT	502	590	998	1,274	1,771
Interest	39	42	58	65	68
Other income	14	59	143	176	236
PBT (bei)	476	607	1,083	1,385	1,940
PBT	476	607	1,083	1,385	1,940
ETR	20.6	13.9	9.8	14.0	13.7
PAT	378	523	977	1,191	1,675
Adj PAT	**378**	**523**	**977**	**1,191**	**1,675**
Growth YoY%	***89.1***	***38.3***	***86.9***	***22.0***	***40.6***

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 51: Cash flow

Y/E March (Rsm)	FY20	FY21	FY22E	FY23E	FY24E
PBT	**476**	**607**	**1,083**	**1,385**	**1,940**
Depreciation	48	67	85	119	230
Interest	39	44	58	65	68
Other adjustments	-1	1	-143	-176	-236
Change in Working capital	-226	-378	-383	-238	-475
Tax paid	-57	-74	-98	-99	-179
Operating cash flow	**253**	**243**	**593**	**961**	**1,261**
Capex	-482	-210	-1,000	-1,200	-1,200
Free cash flow	**-229**	**33**	**-407**	**-239**	**61**
Other investing activities	10	80	143	320	412
Investing cash flow	**-402**	**-210**	**-857**	**-1,024**	**-964**
Issuance of share capital					
Movement of Debt	345	130	76	80	70
Dividend paid (incl DDT)	-	-40	-	-	-
Other financing activities	-35	-43	-58	-65	-68
Financing cash flow	**100**	**-88**	**2,272**	**-65**	**2**
Net change in cash flow	**-49**	**-55**	**2,009**	**-128**	**300**
Opening C&CE	157	108	53	2,062	1,935
Closing C&CE	108	53	2,062	1,935	2,234

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 52: Balance sheet

Y/E March (Rsm)	FY20	FY21	FY22E	FY23E	FY24E
Share Capital	80	201	222	222	222
Reserves & Surplus	1,097	1,459	4,665	5,856	7,530
Net worth	**1,177**	**1,660**	**4,886**	**6,077**	**7,752**
Long term debt	387	268	348	348	418
Short term debt	405	493	493	493	493
Total debt	**792**	**761**	**841**	**841**	**910**
Other non-current liabilities	49	41	41	41	41
Total Equity & Liabilities	**2,018**	**2,461**	**5,768**	**6,959**	**8,703**
Gross block	1,225	1,382	2,382	3,582	4,782
Accumulated depreciation	113	178	263	382	612
Net Block	**1,112**	**1,204**	**2,120**	**3,200**	**4,170**
CWIP	49	98	98	98	98
Intangible and others	-	-	-	-	-
Other non-current assets	2	3	3	3	3
Investments	-	-	-	-	-
Trade receivables	496	907	1,124	1,323	1,723
Inventories	636	720	1,034	1,216	1,574
Cash & Cash equivalents	108	53	2,062	1,935	2,234
Other current assets	87	161	161	161	161
Total current assets	**1,327**	**1,843**	**4,382**	**4,635**	**5,692**
Trade payables	316	475	582	737	1,031
Other current liabilities	155	212	253	241	229
Total current liabilities	**472**	**687**	**835**	**978**	**1,261**
Total Assets	**2,018**	**2,461**	**5,768**	**6,959**	**8,703**

Source: Company, Nirmal Bang Institutional Equities Research

Exhibit 53: Key ratios

Y/E March (Rsm)	FY20	FY21	FY22E	FY23E	FY24E
Per share (Rs)					
Adj EPS	18.8	26.0	44.1	53.7	75.6
Book value	53.1	74.9	220.4	274.2	349.7
Valuation (x)					
P/Sales	19.4	17.0	11.3	9.3	6.9
EV/sales	19.6	17.2	11.0	9.1	6.7
EV/EBITDA	94.0	78.7	46.0	35.8	24.8
P/E	122.3	88.4	52.2	42.8	30.4
P/BV	43.3	30.7	10.4	8.4	6.6
Return ratios (%)					
RoCE	28.8	26.9	24.5	20.1	22.7
RoE	38.3	36.8	29.8	21.7	24.2
Profitability ratios (%)					
Gross margin	49.6	50.3	52.5	52.5	53.4
EBITDA margin	20.9	21.9	24.0	25.4	27.1
PAT margin	14.3	17.1	21.0	21.0	22.0
Liquidity ratios (%)					
Current ratio	1.5	1.6	3.3	3.2	3.2
Quick ratio	0.8	1.0	2.5	2.3	2.3
Solvency ratio (%)					
Debt to Equity ratio	0.7	0.5	0.2	0.1	0.1
Turnover ratios					
Fixed asset turnover ratio (x)	2.7	2.3	2.4	1.8	1.8
Debtor days	63	85	82	81	75
Inventory days	69	82	71	75	69
Creditor days	37	48	43	44	44
Net Working capital days	94	120	111	112	101

Source: Company, Nirmal Bang Institutional Equities Research

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ACCUMULATE -5% to15%

SELL < -5%

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