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2	CPhi Frankfurt	TBD	Messe Frankfurt
3	CPhi Middle East & Africa	May 11-13, 2026	Riyadh, Saudi Arabia
4	CPhi China- Virtual CPhi	June 16-18, 2026	Shanghai New International Expo Center
5	CPhi Japan	Apr 21-23, 2026	Tokyo, Japan
6	CPhi Korea	Aug 25 - 27, 2026	COEX, Seoul, Korea
7	CPhi India	Nov 23-25, 2026	IICC, Yashobhoomi, Dwarka, Delhi

MECS (Coating Show)

1	Asia Pacific Coatings Show	Aug 26-28, 2026	Indonesia
2	Saudi Arabia Coatings Show	Jan 17-19, 2027	Dammam Saudi Arabia
3	Middle East Coatings Show	Apr 14-16, 2026	Dubai World Trade Centre
4	Coatings For Africa	June 24-26, 2026	Johannesburg, South Africa

DYE+CHEM

1	Dye+Chem Morocco International Expo	Nov 3-5, 2026	Morocco
2	51st Dye+Chem Sri Lanka International Expo	March 5-7, 2026	Colombo Sri Lanka
3	Dye+Chem Bangladesh International Expo	Sept 2-5, 2026	Bangladesh, Dhaka
4	50th Dye+Chem Brazil International Expo	TBD 2026	Brazil

Red Carpet Events

1	Bangladesh Int'l Dyes, Pigments and Chemicals Expo	TBD	
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Turkey (Arkim Group)

1	InterDye Textile Printing Eurasia	Nov 25-27, 2026	Istanbul, Turkey
2	Paint Istanbul TURKCOAT	June 17-19, 2026	Istanbul
3	Paint Expo Germany	Apr 14-17, 2026	Karlsruhe, Germany

Other Exhibitions

1	Paint India	Feb 19-21, 2026	Bombay Exhibition Centre, Mumbai
2	India Paint and Coating Expo	Apr, 13-15, 2026	Bangalore Exhibition Centre, India
3	CIPI	TBD	Mumbai, India
4	Chemspec Europe	May 6-7, 2026	Koelnmesse, Germany
5	ChemUK Expo	May 20-21, 2026	NEC, Birmingham, UK
6	American Coatings Show	May 5-7, 2026	Indianapolis
7	China Coat China	Nov 11-13, 2026	China Import & Export Complex, Guangzhou
8	Interdye China	Apr 15-17, 2026	Shanghai, China
9	Paint Expo Germany	Apr 14-17, 2026	Messe Karlsruhe Germany
10	India Chem	TBD 2026	Mumbai Exhibition Centre, India
11	Water Expo	2027	Pragati Maidan, New Delhi
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CHEMICAL MARKET

A MONTHLY MAGAZINE DEVOTED TO THE DYES, CHEMICALS, PHARMACEUTICALS, TRADE & INDUSTRY SINCE 1982

Navigating Uncertainty, Embracing Opportunity

As we approach the close of the financial year 2025–2026, the global chemical industry finds itself navigating a period of uncertainty, opportunity, and transformation. From geopolitical tensions affecting supply chains to India's steady economic momentum, the coming months will test how well companies adapt to a rapidly evolving marketplace.

One of the biggest concerns shaping global markets today is the uncertainty stemming from ongoing conflicts in the Middle East. For the chemical industry, this region is critically important because it plays a central role in global energy markets and petrochemical feedstocks. Any disruption to oil and gas supplies, shipping routes, or production infrastructure can quickly ripple across global chemical value chains. Freight rates, feedstock prices, and insurance costs often respond almost immediately to geopolitical instability.

For manufacturers and traders alike, the lesson is clear: resilience and diversification are no longer optional. Companies that actively monitor global developments, diversify sourcing, and maintain flexible supply chains will be far better positioned to weather disruptions than those relying on a single geography or supplier base.

Despite global uncertainty, India's growth story continues to stand out as a bright spot. India remains one of the fastest-growing major economies in the world, with strong domestic consumption, infrastructure expansion, and increasing manufacturing activity. The chemical sector is expected to play a major role in this growth trajectory. Government initiatives aimed at boosting domestic manufacturing, expanding industrial corridors, and improving logistics infrastructure are creating favorable conditions for the industry. India's specialty chemicals, agrochemicals,

and intermediates sectors are particularly well positioned to capture opportunities as global companies continue to diversify supply chains beyond traditional hubs. This "China+1" strategy has already opened doors for many Indian chemical manufacturers, and the trend is likely to accelerate further in the coming years.

In this environment, digital platforms are becoming essential tools for business growth. The traditional methods of networking and lead generation—trade shows, phone calls, and fragmented databases—are gradually being complemented by structured digital ecosystems. Platforms such as the Chemical Market Leads Platform are helping companies discover genuine opportunities, connect with verified buyers and suppliers, and respond to inquiries in a transparent and efficient way.

Companies that actively post their product offerings with proper technical documentation—such as specifications, SDS, and regulatory information—stand out in a crowded marketplace. Responding promptly to inquiries, maintaining an updated product portfolio, and building credibility through verified profiles can significantly increase visibility and lead conversion rates. In a competitive global market, digital presence is no longer optional—it is a strategic advantage.

Another initiative gaining traction within the Chemical Market ecosystem is the Content Distribution Partner Program. In today's information-driven economy, high-quality technical and market content plays a powerful role in shaping industry perception and brand credibility. Through this program, chemical companies, consultants, and service providers can distribute their insights, case studies, research articles, and announcements across

a targeted industry audience.

By sharing valuable knowledge rather than just promotional messages, companies can position themselves as thought leaders while building stronger relationships with customers and partners. For many organizations, this represents a powerful opportunity to amplify their voice within the industry.

As we approach March-end, businesses across India are also preparing to close their books for the financial year. The financial year-end is more than just an accounting milestone—it is also a time for reflection, planning, and strategic decision-making. Companies review their sales performance, evaluate supply chain efficiencies, reassess capital investments, and set targets for the year ahead.

Looking ahead to FY 2026–2027, the outlook for the Indian chemical industry remains encouraging. Continued investment in manufacturing capacity, increasing export opportunities, and growing domestic demand are expected to drive expansion across multiple segments. Specialty chemicals, green chemistry solutions, and performance materials are likely to see particularly strong growth as industries worldwide push toward sustainability and higher efficiency. Innovation, compliance, and digital transformation will be key differentiators for organizations seeking long-term success.

The chemical industry has always been one of resilience and reinvention. Those who adapt to changing global dynamics, embrace digital platforms, and invest in knowledge-sharing will be best positioned to thrive in the years ahead.

- Mr. Rajiv Parikh



CHENNAI PRICE TREND – 14.02.2026

Inorganic Chemicals	No/ of Units Per Pack	Price Rs.
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Alum- Ferric	50Kgs	22.00
Ammonium Bicarbonate	25Kgs	25.00
Ammonium Bi fluoride	50Kgs	178
[sugar-grade]	50Kgs	178.00
Ammonium Carbonate	50Kgs	100.00
Ammonium Chloride	50Kgs	25.00
Ammonium Nitrate	50Kgs	30.00
Ammonium Phosphate (Mono)	50Kgs	135.00
Ammonium Sulphate	50Kgs	22.00
Antimony Trioxide	50Kgs	9,000.00
Barium Chloride	50Kgs	58.00
Bleaching Powder (33% Cl)	25Kgs	15.00
Borax (Granular)	50Kgs	88.00
Boric Acid (Tech.)	50Kgs	145.00
Calcium Carbonate (Activate)	50Kgs	20.00
Calcium Carbonate (Precipitated)	50Kgs	19.00
Calcium Chloride Lump 70%	50Kgs	12.00
Calcium Chloride-Anhydrous	50Kgs	28.00
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Caustic Potash (Flakes)	50Kgs	89.00
Caustic Soda (Flakes)	50Kgs	45.00
Caustic Soda (Prills)	50Kgs	92.00
Chromic Acid Flakes	50Kgs	285.00
Chlorinated Xylene	25kgs	85.00
Copper Sulphate	50Kgs	308.00
Di ammonium Phosphate	50Kgs	34.00
Diocylmalite	180kgs	82.00
Ferric Chloride (Anhydrous)	50Kgs	32.00
Ferrous Sulphate – crystals	50Kgs	16.00
Hydrochloric Acid	Naked	6.00
Hydrogen Peroxide 50%	50Kgs	33.00
Hyflosupercell	22.7Kgs	138.00
Litharge	50Kgs	220.00
Lithopone B301(China)	25Kgs	124.00
Magnesium Carbonate (Indian)	50Kgs	125.00
Magnesium Sulphate	50Kgs	18.00
Mercury	34.5Kgs	24,800.00
Napthaline Balls	50Kgs	130.00
Nickel Chloride	25Kgs	580.00
Phosphoric Acid (85% Tech)	50Kgs	110.00
Potassium Carbonate (Powder)	25Kgs	115 .00

Inorganic Chemicals	No/ of Units Per Pack	Price Rs.
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Potassium Nitrate	50Kgs	115.00
Potassium Permanganate [Tech]	50Kgs	166.00
Potassium Permanganate [Pure]	50kgs.	185.00
Potassium Phosphate (Di)	50Kgs	158.00
S.L.E.S	50kgs	70.00
Soda Ash Light	50Kgs	26.00
Sodium Bicarbonate	50Kgs	28.00
Sodium Bichromate	50Kgs	160.00
Sodium Bisulphite	50Kgs	52.00
Sodium Chlorite 50% (India)	50Kgs	240.00
Sodium Chlorite 80% (India)	50Kgs	280.00
Sodium Cyanide	50Kgs	650.00
Sodium Fluoride	50Kgs	150.00
Sodium Formate	50Kgs	43.00
Sodium Hexameta Phosphate 68%	50Kgs	128.00
Sodium Hydrosulphite [China]	50Kgs	185.00
Sodium Metabisulphite	50Kgs	35.00
Sodium Nitrate	50Kgs	52.00
Sodium Nitrite (China)	50Kgs	60.00
Sodium Silicate	Naked	25.00
Sodium Sulphate (Anhydrous)	50Kgs	15.00
Sodium Sulphide 50-52% (Flakes)	50Kgs	58.00
Sodium Sulphide 58-60% (Flakes)	50Kgs	52.00
Sodium Sulphite 92%	50Kgs	50.00
Sodium Tri polyphosphate	50Kgs	95.00
Titanium Dioxide Anatase	25Kgs	215.00
Titanium Dioxide (Rutile - R-902)	25Kgs	245.00
Trisodium Phosphate	25Kgs	36.00
Zinc Chloride Powder (Tech.)	50Kgs	88.00
Zinc Oxide White Seal	50Kgs	240.00
Zinc Stearate [Pure]	25kgs	175.00
Zinc Sulphate (Tech.)	50Kgs	58.00

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Organic Chemicals	No/ of Units Per Pack	Price Rs.
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Cellosolve –Ethyl	195Kgs	138.00
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Citric Acid (Mono)	25Kgs	65.00
Cresote Oil	50Kgs	88.00
Cyclohexanone	190kgs	135.00
D D Turpentine	200Litrs	145.00
Diacetone Alcohol	195Kgs	120.00
Diethylene Glycol	230Kgs	67.00
Dimethyl Formamide	195kgs	80.00
Diocetyl Phthalate	200Kgs	122.00
Di-Pentene	200Litrs	125.00
EDTA Acid	25Kgs	198.00
EDTA Disodium	25Kgs	188.00
EDTA Tetrasodium	25Kgs	188.00
Ethyl Acetate	185Kgs	82.00
Ethylene Dichloride	200 Kgs	65.00
Ethylene Glycol-mono	230Kgs	65.00
Formaldehyde	65Kgs	26.00
Formic Acid	35Kgs	62.00
Glycerine - CP	250Kgs	118.00
Hexamine – Tech	50Kgs	105.00
n-Hexane	160Litrs	60.00
Hydroquinone (Imported)	25Kgs	580.00
Isopropyl Alcohol	160Kgs	120.00
Isopropyl Alcohol (Refill)	160Kgs	98.00
Maleic Anhydride	25kgs	105.00
Methyl Ethyl Ketone	166Kgs	112.00
Methyl Isobutyl Ketone	160Kgs	130.00
Methyl Isobutyl Ketone (Refill)	160Kgs	120.00

Ororganic Chemicals	No/ of Units Per Pack	Price Rs.
Methyl Isobutyl Ketone (Refill)	160Kgs	120.00
Methylene Dichloride	250Kgs	45.00
Methylene Dichloride (Refill)	250Kgs	40.00
Mineral Turpentine Oil	50kgs	92.00
Monochloro Phenol	50Kgs	120.00
Nitrobenzene	200Kgs	102.00
Octanol (2-ethylhexanol)	160Kgs	128.00
Oleic Acid	50 kg	128.00
Oxalic Acid (Punjab)	50Kgs	62.00
Paraffin Wax (White)	50Kgs	120.00
Para formaldehyde 91%	25Kgs	96.00
Perchloroethylene	320Kgs	89.00
Phenyl Liquid	230Kgs	105.00
Phthalic anhydride	25Kgs	105.00
Pine Oil 22%	200Litrs	155.00
Pine Oil 40%	200Litrs	190.00
Polyethelene Glycol 400	230Kgs	120.00
Polyethelene Glycol 600	230Kgs	155.00
Propylene Glycol	215Kgs	104.00
Poly Aluminium Chloride	25kgs	34.00
Red Lead	50kgs	220.00
Renine	180Kgs	72.00
Rosin	17Kgs	125.00
Sodium Acetate	50Kgs	38.00
Sodium Benzoate	50Kgs	108.00
Sorbitol	250Kgs	50.00
Stearic Acid (cosmetic)	50Kgs	150.00
Styrene Monomer	185Kgs	115.00
Terpineol Perfumery	25Litrs	230.00
Thiourea	25Kgs	175.00
Toluene	200Litrs	86.00
Trichloroethylene	280Kgs	90.00
Triethanolamine	210Kgs	110.00
Vinyl Acetate Monomer	185Kgs	110.00
Xylene Mixed		

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**Phone : +91-44-26611911/044- 26611912/ 044-26611913 E-mail : contact@cicchennai.com/
chemicalsindiacompany@gmail.com**

Web : www.chemicalsindiacompanychennai.com

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DCM Media Private Limited

513 Lotus Business Park, Off S. V. Road, Chincholi,
Ram Baug Lane, Malad West, Mumbai 400064
www.chemicalmarket.net
Email: info@chemicalmarket.net
Mob.#: 91-877-9830-330 / 91-981-9644-048

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Connecting the Chemical Industry Together!

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Last Modified: April 2022



BUY INQUIRIES

Product	Quantity	Grade
Cocodimethylamine Details : Need 5 Kg.paid sample Tamilnadu, India	500 Kg	Industrial
		CLICK HERE TO VIEW
Triphenyl Phosphine Details : We are having spent Triphenyl Phosphine 99% available in stock. Buyers can contact us. Hyderabad, India	80 Tonnes	Any
		CLICK HERE TO VIEW
Hydrobromic Acid 48% Details : We currently have a large stock of Hydrobromic Acid (HBr) 48% (Water White in colour) available. If you or your organization are in need of this product, we're offering it at highly competitive prices lower than current market rates. High-quality product. Bulk quantities ready for dispatch. Best pricing guaranteed. Hyderabad, India	400 Tonnes	Any
		CLICK HERE TO VIEW
(4-Methylphenyl) acetonitrile Details : Call Mumbai, Maharashtra, India	200 Kgs	Anatase
		CLICK HERE TO VIEW
TrilsoPropanolAmine Details : Please connect with me and reply to my inquiry asap Mumbai, Maharashtra, India	200 Kgs	Any
		CLICK HERE TO VIEW



BUY INQUIRIES

Product	Quantity	Grade
Mix Xylene isomer Details : We require 25 tons of Mix Xylene Isomer grade by 14.07.2025 Mumbai, Maharashtra, India	25 Tonnes	Technical
		CLICK HERE TO VIEW
Toluene Details : Need it to export to China on a repeat basis. Mumbai, Maharashtra, India	10 Kgs	VirginPure
		CLICK HERE TO VIEW
Styrene Details : We require 20 tons of Styrene at Chiplun by 4.7.2025. Mumbai, Maharashtra, India	20000 Kgs	Any
		CLICK HERE TO VIEW
Monoethanolamine Details : we require MonoethanolAmine 12 tons at Chiplun. It is requires in barrels as soon as possible. Chennai, Tamil Nadu, India	12000 Kgs	Industrial
		CLICK HERE TO VIEW
N-Ethyl-O-P-Toluene Sulfonamide Details : Used in manufacturing ink for batch coding machines. Quantity: 50 Kgs Urgent Requirement. Chennai, Tamil Nadu, India	50 Kgs	Any
		CLICK HERE TO VIEW



BUY INQUIRIES

Product	Quantity	Grade
Hydroxypropylcellulose (HPC) Details : HPC 25KG Ashland make only Bhiwandi Bhiwandi, Maharashtra, India	25 Kgs	Any
CLICK HERE TO VIEW		
Sodium Periodate Details : Urgent Requirement. Telangana, India	100 Kgs	Chemical
CLICK HERE TO VIEW		
n-Butyllithium solution 2.5 M in THF Details : Quantity: Minimum possible package ×1 Grade/ Document Required: COA (Certificate of Analysis) requested Poland	1 Pkt	Any
CLICK HERE TO VIEW		
Zinc Sulphate Details : Di ethylene Glycol Bhiwandi, Maharashtra, India	3000 Kgs	Industrial
CLICK HERE TO VIEW		
METHYL TRICHLOROSILANE Details : We Request You To Send The Quotation, Specification And Delivery Period As Early As Possible Mumbai, Maharashtra, India	200 Litres	VirginPure
CLICK HERE TO VIEW		



Jeonbuk National University Researchers Explore Metal Oxide Electrodes as a New Frontier in Electrochemical Microplastic Detection

JEONBUK-DO, South Korea, Feb. 19, 2026 /PRNewswire/ -- Microplastic (MP) pollution poses a major concern, especially in aquatic environments, necessitating efficient detection technologies to safeguard marine life as well as human health. However, conventional detection methods like Fourier transform infrared spectroscopy require complex equipment and are often time-consuming, limiting their applicability for real-time monitoring. In this regard, electrochemical sensing methods, specifically those based on metal oxide electrodes, are highly promising for quick and sensitive detection of MPs.

In a new study, a team of researchers led by Professor Sadia Ameen from the Department of Bio-Convergence Science, Jeonbuk National University, Republic of Korea, has systematically reviewed and summarized the paradigm shift in MP detection methods—from expensive and time-consuming spectroscopic analysis to rapid and economical electrochemical sensing using metal oxide electrodes. The study was made available online on December 2, 2025, and was published in Volume 49 of the journal *Trends in Environmental Analytical Chemistry* on March 1, 2026.

"Our study provides mechanistic insights that are often missing with a detailed explanation of how MPs interact with metal oxide electrode surfaces, including impedance changes and interaction-induced current transients," says Prof. Ameen.

Notably, metal oxide nanostructures, such as zinc oxide, titanium dioxide, and hydrophobic cerium dioxide (CeO_2) with their large surface area and excellent conductivity, enable direct, high-sensitivity detection of trace MPs even in complex environments like wastewater or marine ecosystems, providing a practical on-site monitoring system.

In addition, the detection performance of metal oxide-based sensors can be dramatically enhanced by controlling the morphology and surface chemistry of metal oxides. Moreover, specific morphologies, such as nanorods, nanowires, or porous structures, form 'hotspots' that increase sensitivity compared to simple spherical particles.

Furthermore, a material engineering approach, such as hydrophobic CeO_2 nanoparticles that attract hydrophobic plastic particles, can aid in effective detection of MPs by selectively targeting MPs like polyethylene or polypropylene amidst various environmental interferents.

Metal oxide-based electrochemical sensors can be deployed for on-site and real-time monitoring of MPs in rivers, lakes, and oceans. Their portability, rapid response, and low cost make them suitable for continuous environmental surveillance programs, overcoming limitations of laboratory-based spectroscopic techniques. Moreover, electrochemical sensing platforms based on metal oxides can be used for routine screening of drinking water supplies to

ensure compliance with safety standards, particularly for detecting trace-level MPs that escape conventional treatment methods. They can also be applied to detect MPs in seafood and processed food products, supporting food safety assessments and regulatory inspections.

Furthermore, due to their low management requirements, these systems are ideal for handheld or wearable sensing devices for field researchers and environmental inspectors conducting in situ analysis. Lastly, the sensors can aid in risk assessment of combined chemical-plastic exposure in environmental and biological samples, owing to their ability to detect hazardous pollutants adsorbed onto MPs.

"Metal oxide-based sensors will soon be integrated with the Internet of Things and artificial intelligence technologies. Over the next few years, the widespread adoption of this novel next-generation technology is expected to pave the way for improved public health protection, enhanced food safety and consumer confidence, acceleration of technological innovation and green industry growth, extensive interdisciplinary education and research, as well as global environmental resilience and climate adaptation," concludes Prof. Ameen.

Read the full report : <https://www.jbnu.ac.kr/en/index.do>

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India unveils first oil-free water-injected screw compressor with Pravriddhi support

Pravriddhi, the pan-India product accelerator run by the Foundation for Science Innovation and Development (FSID) at the Indian Institute of Science (IISc), has announced the commercial launch of India's first Oil-Free Water-Injected Screw Compressor, HYDRINO, developed and manufactured by Kirloskar Pneumatic Company Limited (KPCL).

The breakthrough technology was created indigenously with grant support from the Ministry of Heavy Industries and technical mentorship through the Pravriddhi programme.

"The commercial launch of the Oil-Free Water-Injected Screw Compressor marks a significant milestone for KPCL and for indigenous industrial

manufacturing in India.

"The technical mentorship and structured support under the Pravriddhi programme helped us accelerate development and validate the technology to global standards, enabling us to bring this advanced product to market," said Neeraj Asati, GM & Head - Hydrogen Business & Technology, KPCL.

HYDRINO is engineered to meet ISO 8573 Class 0 oil-free air standards, delivering contaminant-free compressed air for quality-critical sectors including pharmaceuticals, food and beverage processing, and electronics manufacturing.

By removing oil from the compression chamber and bearings and using water

for cooling, sealing, and lubrication, the compressor promises high reliability, energy efficiency, and continuous oil-free operation—all in a compact, low-noise design.

The launch highlights India's growing prowess in advanced industrial technology, reducing reliance on imports and boosting national manufacturing self-reliance.

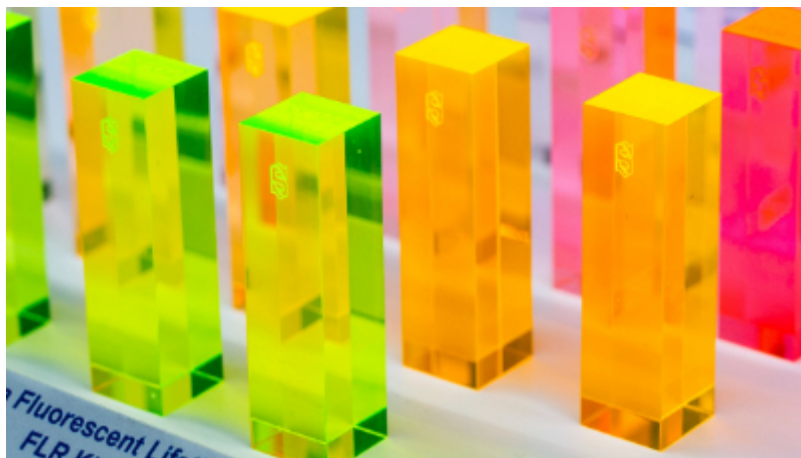
Read the full report : <https://www.indianchemicalnews.com/technology/india-unveils-first-oil-free-water-injected-screw-compressor-with-pravriddhi-support-29557>

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Chemistry in Pictures: Just your standard fluorescent obelisk

People who get scared off by technical terms miss a lot of neat stuff. For example, the phrase "analytical reference standards for fluorescence spectroscopy" might not leap off the page, but the materials described by that mouthful give an enchanting glow that draws eyes from across the room. The set shown were on display in the expo hall this week at Pittcon, an annual conference for analytical science and instrumentation, held this year in San Antonio, Texas. The blocks contain

precisely measured fluorescent dyes dispersed in polymethyl methacrylate,



for many years, analytical chemists use them to calibrate the lamps and detectors in fluorescence-based spectroscopy instruments.

Read the full report : <https://cen.acs.org/analytical-chemistry/Chemistry-Pictures-Just-standard-fluorescent/104/web/2026/03>

If you want your report abstract to be published please contact

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according to Starna Cells, the company that makes them. Because the optical properties of the standards are stable



EU ETS Reform: Can Europe Protect Industry Without Weakening Climate Goals?

Team Chemical Market

Introduction:

Europe's climate policy is entering a decisive phase. The European Union is tightening its emissions targets, and the pressure is mounting on energy-intensive industries- especially in chemicals. At the center of this debate is Germany's Environment Minister, who has urged the European Commission to consider extending free emission allowances for the chemical sector under the EU Emissions Trading System (EU ETS). His argument is rooted in economic reality: European chemical producers are facing high energy costs, strict environmental regulations, and intense global competition from the United States, China, and the Middle East. Now the question is, how can Europe remain a strong industrial hub while accelerating its transition to climate neutrality? Let's explore the news a bit more before we get to answer the question. Let's begin.

Free Emission Allowances and the Future of Europe's Chemical Sector – news in detail:

Germany's Environment Minister, Carsten Schneider, urged the European Commission to grant the chemical industry more free greenhouse gas emission allowances under the European Union Emissions Trading System (EU ETS) than originally planned. Now this is not an easy thing or change. He is stepping into a big debate in Europe- how to fight climate change while also protecting important industries and jobs. The EU ETS is Europe's main tool to reduce carbon



emissions. It works in a simple way. The EU sets a limit on how much carbon companies can release. The companies must have permits for every tonne of carbon dioxide they emit. These permits can be bought and sold between the companies. Every year, the total number of permits goes down. This means the pollution must slowly decrease over time. Since the idea pushes the companies to pay for the pollution or emissions, they have a strong reason to cut emissions and invest in cleaner technology.

The system is often seen as successful because it combines two things. First, it

guarantees that the total emissions fall because the limit gets smaller every year. Second, it gives the companies some flexibility. This means that if one company can reduce pollution cheaply, then it can sell extra permits. If another company finds it harder to cut emissions, it can buy permits instead.

The system also increases the costs for industries that use a lot of energy. Sectors like chemicals, steel and cement need huge amounts of gas and electricity to run their facilities. The chemical industry especially depends heavily on

Continued on page 39



CLARIANT ZEOLITES PARTNERS WITH VERTIMASS TO SCALE-UP INNOVATIVE CADO BIOFUELS TECHNOLOGY

- Clariant's zeolite expertise aims to accelerate commercialization of Vertimass's biobased alcohol to liquid fuel conversion technology
- Partnership targets scaling up zeolite catalysts for commercial biofuel production
- Collaboration combines Vertimass' innovative process with Clariant's 60+ years of zeolite development expertise

MUNICH, March 3, 2026 - Clariant, a sustainability-focused specialty chemical company, today announced a strategic collaboration with Vertimass LLC aiming to accelerate the development and commercialization of advanced zeolite catalysts for the catalytic conversion of biobased alcohols via Vertimass Consolidated Alcohols Deoxygenation and Oligomerization (CADO) process. The envisaged project combines Vertimass' novel technology with Clariant's six decades of expertise in zeolite catalyst development to advance sustainable processing.

Under the collaboration, Clariant intends to provide comprehensive technical support to scale Vertimass' technology to commercial production. This encompasses zeolite catalyst



development expertise, industrial scale-up guidance, catalyst sample provision for development and testing, detailed characterization services to evaluate catalyst properties and performance, and ongoing technical consultation from Clariant's zeolite experts.

"We are excited to collaborate with Vertimass on this innovative technology that represents a significant advancement in renewable fuel production," said Gene Mueller, Vice President and Head of Ethylene for Clariant Catalysts. "Vertimass' approach to converting renewable alcohols into biobased fuels has remarkable potential for commercial application and

environmental benefit. By combining their process innovation with our proven expertise in zeolite catalyst development and industrial scale-up, we are targeting to accelerate the path to commercialization."

Charles E. Wyman, President and CEO at Vertimass, added: "As innovators in sustainable fuel production technology, we are accelerating the path to commercially viable deployment of renewable fuels. Clariant's deep expertise in zeolite catalyst development and proven capabilities in commercial scale-up make them an exceptional partner, and we look forward to working closely with Clariant to deploy our CADO technology."

Vertimass' proprietary CADO technology enables the catalytic conversion of sustainable methanol,



ethanol, and other alcohols into liquid fuels that are compatible with existing vehicles and aircraft, representing a significant advancement in sustainable chemical processing with environmental benefits. Founded in 2013 and headquartered in Irvine, California, Vertimass focuses on developing and licensing breakthrough processes for renewable fuel production.

Building on an established relationship, this collaboration aims to optimize catalyst performance while enabling efficient scale-up to commercial production. Clariant brings proven expertise in customizing zeolite platforms and unique capabilities in rapidly scaling the catalyst for Vertimass' CADO technology to commercial production. The collaboration underscores Clariant's continued commitment to advancing zeolite catalyst innovation and enabling sustainable chemistry solutions for the global energy transition.

Source : Press Release

BIRLA CARBON SHOWCASES CUTTING-EDGE CARBON SOLUTIONS AT TIRE TECHNOLOGY EXPO 2026

Birla Carbon, a global leader in high-performance carbon materials, is set to make a strong impression at Tire Technology Expo 2026 in Hannover, Germany, from March 3–5.

The company will exhibit advanced carbon black and sustainable solutions designed to boost tire performance

while supporting the industry's shift toward sustainability.

“Birla Carbon brings a range of innovative carbon black solutions, backed by its decades of manufacturing leadership, at a time when the industry is focused on maximizing tire performance across diverse mobility requirements,” said John Davidson, Chief Sales, Marketing & Sustainability Officer, Birla Carbon.

“As mobility evolves toward electric and more energy-efficient platforms, carbon black is increasingly becoming a key performance enabler, directly influencing durability, rolling resistance, and lifecycle emissions.”

Davidson added, “Tire Technology Expo provides an impactful global platform to demonstrate how our advanced carbon material solutions are engineered for modern mobility and sustainability.”

At the expo, Birla Carbon will showcase its portfolio of carbon solutions engineered to enhance tire durability, improve fuel efficiency, and meet the demands of next-generation mobility, including electric vehicles. The company emphasizes that these innovations help tire manufacturers achieve performance gains without compromising environmental goals.

A key highlight will be Birla Carbon's robust supply capabilities across the EMEA region. With a strong local-to-

local manufacturing and distribution network, the company positions itself as a preferred partner for innovation, delivering faster collaboration, consistent quality, and supply resilience in a rapidly evolving market.

Sustainability will take center stage at the expo. Birla Carbon will share progress toward its net zero carbon emissions goal, including innovations like Continua Sustainable Carbonaceous Material (SCM).

Source : Press Release

LG CHEM TO UNVEIL INTEGRATED BATTERY SAFETY SOLUTION THAT DELAYS AND BLOCKS THERMAL RUNAWAY AT INTERBATTERY 2026

SEOUL, March 5, 2026 – LG Chem announced today that it will participate in InterBattery 2026, Korea's largest battery exhibition, set for March 11 to 13 at COEX in Seoul.

At the event, LG Chem will unveil an integrated battery safety solution designed to delay and block thermal runaway.

As electric vehicles (EVs) and energy storage systems (ESS) rapidly expand across everyday life and industrial applications, battery safety has emerged as a critical factor shaping market trust beyond technological performance.

In response to increasingly stringent global OEM regulations on thermal propagation, thermal runaway mitigation has become an essential



requirement in modern battery design.

At the exhibition, LG Chem will introduce its thermal-runaway-delaying Engineering Plastics(thermoplastics), which form a hard, dense protective barrier when exposed to flames. This transformation effectively slows both flame and pressure propagation, helping to prevent heat from spreading to adjacent cells and modules. The lightweight and highly processable material also enhances design flexibility in battery pack architecture.

Recognized for its differentiated safety performance, the technology received the InterBattery Award in the Reliability, Safety and Sustainability category, reflecting its strong alignment with tightening global thermal propagation standards.

“As batteries become more deeply embedded in our daily lives, safety and reliability are becoming core competitive advantages,” said Kim Dong-choon, CEO of LG Chem. “LG Chem will continue to strengthen its global market leadership through core materials competitiveness and technology-driven integrated solutions.”

LG Chem will also showcase Nexula®, an aerogel-based thermal barrier material. With its superior heat-insulation properties, the aerogel effectively blocks thermal diffusion not only between battery cells but also between modules and within battery packs. By combining thermal-runaway-delaying materials with aerogel insulation, LG Chem has established a dual-layer safety system that both delays and blocks heat propagation.

In addition, the company will present a broad range of adhesive solutions, including thermally conductive adhesives that rapidly dissipate heat while securely fixing cells, structural adhesives that firmly bond dissimilar

materials such as metals and plastics to enhance overall battery system reliability, and potting resins that protect batteries from external impact, moisture, and ignition risks.

Under the exhibition theme “Beyond EV, Creating Tomorrow,” LG Chem’s booth on the third floor of COEX will highlight advanced material solutions extending beyond electric vehicles to future industries such as Humanoid robots and Urban Air Mobility (UAM).

The display will also feature LG Chem’s comprehensive battery materials portfolio spanning the entire value chain, including cathode materials such as High-Ni, High-Voltage Mid-Ni, Lithium Iron Phosphate (LFP), and Lithium Manganese-Rich (LMR), as well as carbon nanotubes (CNTs), anode binders, and recycled materials—demonstrating the company’s integrated competitiveness across performance, safety, and sustainability.

Source : LG Chem

ARKEMA SHOWCASES INNOVATIVE MATERIALS AT INTERBATTERY 2026

Arkema, a global leader in specialty materials, will showcase its unique portfolio of solutions and innovations for electric vehicle (EV) and energy storage system (ESS) battery systems at Interbattery 2026, in Seoul, Korea. At the show, Arkema will highlight how innovation contributes to higher performance, safety, and sustainability in next generation batteries.

MEET OUR TEAM BOOTH C520

A Global Leader in Lfp Battery

Technology and Innovations

Arkema has established itself as the reference supplier for materials enabling the rapid expansion of LFP cathode technology. Since 2007, Kynar® HSV 900 has become the industry’s reference PVDF binder, powering more than 10 million EVs worldwide and countless Energy Storage Systems thanks to its proven reliability, processing robustness, and outstanding cycling performance. Building on this legacy, Arkema continues to expand its LFP technology platform with newly developed PVDF grades—Kynar® HSV 1200 and HSV 1400—engineered to deliver improved adhesion, lower binder loading, and higher active-material content for increased energy density. Complementing these PVDF innovations, recently introduced the Incellion™ family, which further strengthens Arkema’s leadership with solutions such as Incellion™ Pr 2510 for primer coatings and Incellion™ El 3020 for water-based Silicon anodes, enhancing adhesion, conductivity, durability, and processability for next-generation LFP cells.

Best-in-Class Battery Separator Coating, Proven Expertise and New Advanced Materials

Arkema also brings decades of separator coating expertise with its well-known Kynar Flex® PVDF portfolio, bringing mechanical integrity, electrolyte wettability, and outstanding thermal dimensional stability. Kynar Flex® LBG 2600 represents the latest evolution in this proven family, offering improved manufacturing efficiency allowing for lower temperature assembly. Building on this foundation, Arkema also introduced Incellion™ Sp 1252, an acrylic binder designed specifically for ceramic-coated separators. It provides exceptional mechanical strength, strong adhesion to polyolefin films, and excellent electrolyte wettability,



enabling separator designs that combine high safety margins with efficient ion transport

Next-Generation Solutions: Enabling Semi-Solid and Solid-State Batteries and Advanced Dry-Process Technologies

Arkema is also accelerating material innovation for the next wave of battery technologies, including all-solid-state and semi-solid batteries as well as advanced dry-electrode processes. For semi-solid and solid-state architectures, Arkema is developing new generations of binder materials tailored for solid electrolytes, interface stabilization, and high-voltage cathode compatibility—key enablers for safer, higher-energy battery designs. In parallel, Arkema's breakthroughs in dry-process-capable PVDF binders support cell manufacturers seeking to reduce energy consumption, eliminate solvent recovery steps, and lower production costs. Arkema has opened a state-of-the-art dry coating laboratory in France, reflecting Group's commitment to pioneering sustainable & advanced solutions for next generation battery technologies.

Electrical Insulation

Arkema provides advanced insulating materials that reinforce safety and reliability across battery systems. Zenimid™ polyimides deliver exceptional thermal resistance and dielectric strength supporting FPCB applications in battery management systems and busbars thermal runaway protection. Rilsan® PA11 also contributes to electrical protection by providing durable, lightweight solutions for busbar insulation. In addition, Sartomer® UV-curable resins and photoinitiators ensure high breakdown strength and volume resistivity for robust cell insulation.

Thermal Management

For effective system-level heat control, Rilsan® PA11 and Rilsamid® PA12 offer proven performance in cooling lines and connectors. Complementing these materials, Bostik delivers high-performance thermal interface materials that enhance heat dissipation at module and pack level while maintaining structural stability in demanding operating conditions.

Assembly : Bostik also provides a complete range of sealing and bonding technologies designed for efficient and reliable battery assembly. This includes debond-on-demand solutions such as Primer Prep DB for controlled disassembly, high-reliability gasketing sealants for housing and pack integration, and robust 2K MMA and 2K PU structural adhesives for cell-to-module and cell-to-pack assembly. These solutions support manufacturing efficiency and long-term battery performance

Source : Arkema

PRODUCING BATTERY-GRADE LITHIUM FROM INDUSTRIAL BRINE: WHITE SILVER LITHIUM PROJECT CLEARS KEY TECHNICAL MILESTONE

CANONSBURG, Pa., March 4, 2026 /PRNewswire/ -- Publication of an updated Technical Report Summary ("TRS") by Intrepid Potash, Inc. (NYSE: IPI) has confirmed the long-term viability of the White Silver Lithium Project, which will recover 5,000 tons per year of battery-grade lithium carbonate from an industrial brine by-

product stream at Intrepid's Potash facility in Wendover, Utah.

On completion, this will be the first project in the USA to deliver high-purity lithium at scale using by-product brine from an existing industrial process (potash).

While much of lithium used for battery production in the USA is extracted in Latin America and refined in East Asia, this project will pioneer a new, fully domestic source of battery raw materials for a new generation of electrification. This project is notable in combining the extraction of lithium chloride with on-site conversion (or refining) to battery-grade (>99.5%) lithium carbonate. Design, engineering and execution of the White Silver Lithium Project is taking place under a joint development agreement comprising Intrepid Potash, Aquatech and Adionics.

The project is being developed by White Silver LLC, a wholly owned subsidiary of Aquatech. Aquatech combines bespoke process development, modular system delivery, and lifecycle performance considerations to ensure project bankability and speed of execution. The modular and scalable nature of Aquatech's PEARL™ process technology platform underpins this effort by supporting capital efficiency and a long-term performance guarantee.

"This milestone reflects the strength of a developer-led approach that integrates resource understanding, process technology, and execution discipline," said Devesh Sharma, CEO at Aquatech. "By applying our PEARL™ technology platform and decades of experience delivering complex water and process projects, we are helping to shape a bankable pathway for domestic lithium production from industrial brine."

Source : Aquatech



**HYDRINITY
ACCELERATED SKIN
SCIENCE
ANNOUNCES
BREAKTHROUGH
CLINICAL RESULTS
DEMONSTRATING
THE FIRST
"HYDRATING
RETINOID" WITH
ZERO REPORTED
IRRITATION**

NASHVILLE, Tenn., Feb. 25, 2026 / PRNewswire/ -- HYDRINITY Accelerated Skin Science announced today the publication of a groundbreaking clinical study in the Journal of Cosmetic Dermatology demonstrating that its novel retinal encapsulated in biomimetic exosomes significantly improved the appearance of photodamaged skin, with no product-related irritation reported.

In a 12-week clinical study (HRET-1224), 20 women aged 35–65 with mild-to-moderate photodamage applied the HYDRINITY RetaXome™ Daily Retinal Hydrator nightly, showing progressive improvement at every evaluation point through week 12.

Erythema (Redness)

- Statistically significant reduction at every follow-up visit, with mean erythema improved by 68% at week 12 compared to baseline.

Skin Tone

- Noticeable evening of tone observed as early as week 2 and an overall improvement of 56% by week 12.



Skin Texture

- Progressive texture improvement throughout the study period and an overall 63% improvement from baseline by week 12.

Fine Lines and Wrinkles

- Statistically significant reduction at all follow-up visits, with a 36% improvement at week 12.

Participant Satisfaction

95% of participants were satisfied and would recommend the product, and no product-related adverse events were reported throughout the 12-week study.

"Retinal has long been recognized as one of the most effective ingredients for photoaged skin—but tolerability has remained its greatest limitation," said Dr. Michael Gold, MD, FAAD, lead investigator and board-certified dermatologist. "What's remarkable about this study is that we achieved the hallmark benefits of retinal—improved tone, smoother texture, reduced wrinkles—without the typical dryness flaking, or irritation. The biomimetic

exosome delivery system fundamentally changes the way we approach retinoid therapy."

HYDRINITY innovation is driven by an engineered biomimetic exosome platform that encapsulates retinal for precise, controlled release and enhanced penetration. Combined with the brand's proprietary Supercharged Hyaluronic Acid and plant-derived antioxidant and anti-inflammatory actives, the formulation enhances results while supporting skin barrier integrity, establishing a new class of performance-driven skincare.

"This study marks an important milestone in the HYDRINITY mission to fuse biotechnology with advanced skincare," said Keith O'Briant, CEO of HYDRINITY. "To have our research published in the Journal of Cosmetic Dermatology underscores the scientific rigor behind our formulations. We're proud to deliver a retinal that provides clinical-level results with unmatched comfort and skin compatibility."

Source : HYDRINITY Accelerated Skin Science

**NORTHWOODS
FAMILY DENTISTRY
FIRST IN AREA TO
OFFER
REVOLUTIONARY
PROCEDURE TO
TREAT TMJ PAIN**



PHILLIPS, Wis., Feb. 25, 2026 / PRNewswire/ -- Northwoods Dentistry in Phillips is redefining modern dental care as the first and only dentist in Wisconsin to offer Emface, an FDA-cleared, noninvasive, muscle activation technology designed to provide effective relief for patients experiencing TMJ pain and jaw tension. Emface represents a major advancement in how TMJ-related discomfort can be treated, without needles, surgery, or downtime.

The treatment uses gentle electrical pulses and soothing heat to improve blood flow, relax tense jaw muscles, and reduce TMJ-related discomfort. For aesthetics purposes, it strengthens facial muscles, smooths fine lines, and tightens skin, all in a quick, 20-minute non-painful session. Emface is particularly affective for lifting skin in the jowl area and upper eyelids. A series of four treatments is recommended for best results. When paired with EXION, another advanced skincare treatment offered by Northwoods Dentistry, the treatment further enhances results by stimulating the body's natural production of hyaluronic acid, promoting healthier, more hydrated skin.

With over 28 years of dental experience, Dr. Mike Murphy took over Northwoods Dentistry in 2011 with a vision of expanding access to high-quality care for the community. Since then, he has completed more than 1,000 hours of advanced continuing education, including over 300 hours focused specifically on dental implants. Dr. Murphy is a Diplomat of the International Congress of Oral Implantologists and a Fellow of the Academy of General Dentistry, distinctions that reflect his commitment to clinical excellence and the highest standards of patient care.

Northwoods Dentistry offers comprehensive dental care, including

general dentistry, cosmetic services such as orthodontics, veneers, and teeth whitening, as well as restorative treatments, including full-arch prostheses and dental implants. The practice also operates in five additional locations: Park Falls, Ladysmith, Medford, Rice Lake, and Woodruff.

To celebrate the launch of these new technologies, Northwoods Dentistry will host a complimentary launch party from 12:00–6:00 p.m. Thursday, Mar. 5, at their Phillips location at 605 Peterson Dr., Phillips, WI. Guests can learn about Emface and EXION, view live demonstrations of select treatments, enjoy refreshments and take advantage of discounted pricing. To RSVP, call 715-339-3021. For more information, visit www.northwoodsdentistry.com.

Source : Northwoods Dentistry

HEMPZ UNVEILS ITS MOST SIGNIFICANT REBRAND IN 25 YEARS, INTRODUCING A MODERN LOOK FOR THE NEXT GENERATION OF BEAUTY CONSUMERS

DALLAS, Feb. 25, 2026 / PRNewswire/ -- Hempz, the leader in 100% hemp seed oil-infused body care, today revealed a complete brand redesign — the most extensive update in its 25-year history. The refresh includes a new logo, elevated packaging, updated fragrance storytelling, and a modern visual identity aimed at today's ingredient-conscious, scent-driven beauty consumer.

The new design system puts Hempz's signature fragrances and long-lasting hydration at the forefront, pairing contemporary aesthetics with the same skin-nourishing hemp seed oil formulas beloved by millions. Every product remains vegan, cruelty-free, THC-free, CBD-free, petrolatum-free, mineral-oil free, paraben-free, gluten-free, and manufactured in the USA.

"For more than two decades, Hempz has stood for unforgettable scents and serious hydration," said Jennifer Weiderman, Chief Marketing Officer at Hempz. "As we enter our next chapter, we've modernized our look — not what our customers love. This redesign celebrates the iconic fragrances and results that have always set us apart, while positioning Hempz for the next generation of body care enthusiasts."

The refreshed packaging begins rolling out across best-selling collections, including Original, Triple Moisture, and Sweet Pineapple & Honey Melon, along with new launches such as Serene Waters with Magnesium and Juicy Peach Slices, available at retailers nationwide and on Hempz.com starting February 2026.

This evolution reflects Hempz's continued commitment to a sensorial body care experience driven by nature-powered ingredients, exclusive scent blends, and uncompromising hydration — now presented through a cohesive, elevated, modern brand identity.

Source : Hempz

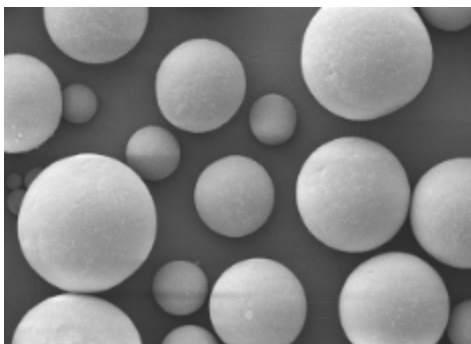


TORAY DEVELOPS SPHERICAL POLYAMIDE 12 PARTICLES FOR 3D PRINTERS – DELIVERING SUPERIOR SURFACE QUALITY AND HIGH IMPACT STRENGTH IN 3D-PRINTED PARTS –

Tokyo, Japan, February 25, 2026 — Toray Industries, Inc. announced today that it has developed Toraypearl™ polyamide (PA) 12, a truly spherical PA12 powder widely compatible with powder bed fusion (PBF)-type 3D printers (see note 1). Leveraging Toray's proprietary polymer particle engineering technology, the new material enables both excellent surface smoothness and high impact strength in 3D-printed parts.

PBF-type 3D printing is widely adopted in industrial applications due to its ability to efficiently create parts with high dimensional accuracy and mechanical strength. Conventional PA12 powders account for approximately 70% of feedstock in this polymer PBF market, owing to their good processability at relatively low temperatures.

However, conventional PA12 powders typically consist of irregularly shaped particles, which hinder uniform packing and result in parts with rough



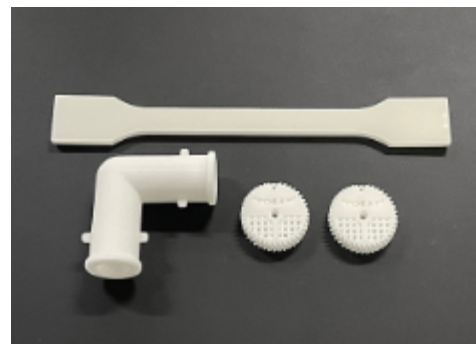
surfaces that require post-processing such as polishing. In addition, gaps between particles tend to generate internal micro-voids, leading to reduced density and preventing the material from fully exhibiting its inherent mechanical properties, including impact strength.

Toray overcame these challenges by drawing on its proprietary spherical particle technology, backed by years of polyamide polymerization and resin processing R&D, as well as its experience supplying Toraypearl™ PA6, a highly heat-resistant spherical PA6 particle, for such 3D-printing applications as automotive components, office chairs, and power tools.

By applying this spherical particle technology to PA12, Toray successfully developed Toraypearl™ PA12, a new material compatible with a wide range of PBF-type 3D printing. Compared with its conventional counterparts, the uniform spherical shape enables dense and homogeneous powder packing, resulting in:

- Significantly improved surface smoothness (approximately 2.5× improvement, surface roughness (note 2) $R_a \approx 7 \mu\text{m}$)
- Enhanced impact strength (more than 2× improvement, Charpy impact strength: 50 kJ/m²)

Toraypearl™ PA12 is expected to



contribute to higher-quality 3D-printed parts in applications requiring durability, airtightness, and mechanical reliability, thereby expanding its potential use in both prototypes and functional parts. Sample evaluations with selected customers have been underway since January 2026.

To date, Toray has steadily expanded its portfolio of resin materials for 3D printers, including the launch of “Toraymill™ PPS,” polyphenylene sulfide resin milled powder, in 2017 for applications such as electric vehicles and aerospace, and “Toraypearl™ PA6” in 2022.

With the addition of Toraypearl™ PA12, Toray further strengthens its lineup to meet the growing global demand for high-performance materials in the 3D printing market.

Guided by its corporate philosophy, “contributing to society through the creation of new value with innovative ideas, technologies and products,” Toray remains committed to delivering innovative materials that support industrial advancement and



sustainable growth.

Source : Toray

ALUJAIN CORPORATION AND BEAULIEU INTERNATIONAL GROUP ANNOUNCE STRATEGIC JOINT VENTURE TO LOCALLY PRODUCE SYNTHETIC FIBRES AND NON-WOVENS IN SAUDI ARABIA

Riyadh - Kingdom of Saudi Arabia / Belgium - February 26, 2026 - Alujain Corporation and Beaulieu International Group are pleased to announce the signing of a Memorandum of Understanding for an envisaged strategic joint venture in the Kingdom of Saudi Arabia. This represents a significant milestone in the Kingdom of Saudi Arabia's industrial development agenda. The partnership, subject to approval by authorities, brings together Alujain Corporation's established regional manufacturing platform with state-of-the-art polymers and Beaulieu's globally recognized expertise in synthetic fibres and non-wovens.

Expansion of local manufacturing in Yanbu

The joint venture will focus on expanding Alujain Corporation's existing GEONATPET activities in Yanbu.

Commenting on the envisaged partnership, Jean-Baptiste De Ruyck, CEO at Beaulieu, stated: "This strategic investment reflects Beaulieu's long-term commitment to expanding and strengthening our core capabilities while developing a truly global manufacturing platform. Through this joint venture with Alujain Corporation, we are pleased to bring our advanced technologies, operational expertise, and global market experience in synthetic fibres to the Kingdom of Saudi Arabia. By combining world-class manufacturing assets, best-in-class machinery, and highly skilled teams, we aim to deliver superior efficiency, enhanced reliability, and long-term value for our customers across the globe."

On top, the expanded global operational fibres footprint created through the joint venture, will further enhance supply chain resilience and delivery reliability for customers worldwide.

Mr. Khalid Al Dawood, CEO of Alujain, commented: "This partnership represents a significant milestone in Alujain Corporation's downstream growth strategy and our ambition to provide advanced geosynthetics solutions for major infrastructure projects. In collaboration with Beaulieu, we will accelerate the localization of advanced materials that are critical to infrastructure, construction, and environmental applications, while supporting the Kingdom to deliver its Vision 2030 ambitions and expanding the Kingdom's export capabilities to global markets."

The envisaged partnership reflects a shared commitment by Alujain Corporation and Beaulieu to advancing industrial localization, fostering technology transfer, and positioning the Kingdom of Saudi Arabia as a leading hub for synthetic fibres and non-woven manufacturing.

Source : Press Release

MESSER TO DEBUT A PROVEN TECHNOLOGY TO INCREASE NITRIC ACID PRODUCTION CAPACITY AT CRU NITROGEN+SYNGAS USA 2026

BRIDGEWATER, N.J., March 4, 2026 /PRNewswire/ -- Messer, the largest privately held industrial gas company in the world, will exhibit for the first time at the CRU Nitrogen+Syngas USA Expoconference, April 21-23, 2026, in Dallas, Texas. The company will debut its patent-pending Nitric Acid OXYBOOST technology, now proven at operating nitric acid production facilities.

Messer's OXYBOOST technology uses targeted oxygen enrichment to significantly increase nitric acid plant throughput, while helping reduce NOx emissions and Selective Catalytic Reduction (SCR) reagent use. The low-capital system can be retrofitted at existing nitric acid production facilities. OXYBOOST benefits include:

- Up to 10% or more increase in nitric acid production
- Up to \$100 per ton in net value on incremental production
- Up to 30% reduction in NOx emissions and SCR reagent use

"We consistently hear from customers that they're struggling to keep up with



rising market demand for nitric acid," said Lorenzo Rizzi, Director of Chemical and Energy Markets at Messer. "Our OXYBOOST technology gives producers



increase throughput from their existing assets, and we've proven its performance at nitric acid plants around the world."

Source : Messer North America, Inc.

a fast, practical way to

NEW PRODUCTS

ANOTHER ONE! REWIND IT 10 TEAMS UP WITH DJ KHALED TO INTRODUCE NEW BREAKTHROUGH SHAMPOO FORMULA DESIGNED TO ELIMINATE GREY HAIR AND BEARD & RESTORE NATURAL-LOOKING COLOR

Miami, Feb. 25, 2026 / PRNewswire/ -- Today, men's beard and hair dye brand Rewind It 10 announced it has partnered with global brand ambassador, DJ Khaled to introduce a new breakthrough shampoo formula designed to eliminate grey hair and beard and restore natural-looking color.

Rewind It 10 Men's Progressive Greyaway Shampoo launched with Grammy-winning hitmaker DJ Khaled,

who serves as the face of the black hair dye SKU following the success of his Beard Color promotion. The shampoo is now available for purchase at CVS and Rewindit10.com for \$14.99 and will be available on Amazon by early March and Sally Beauty nationwide Summer 2026.

The shampoo's formula is vegan, gluten-free, and ammonia-free and it was developed to cleanse while gradually blending natural dark color while reducing the appearance of grey hair and beard. With each wash, the formula progressively helps hair and beard tones look richer, refreshed and revitalized.

"I call this progressive – take your time and Rewind the time," Khaled said.

"I really believe this shampoo has the potential to disrupt the men's hair coloring market," said Rewind It 10 co-founder and Grammy-nominated artist Fat Joe. "There's no other product like this available with our powerful formula."

"DJ Khaled's Beard Color in Real Black remains our #1 best-selling SKU. His



constant support, his iconic presence, and his genuine love for the formula have made this partnership incredibly powerful for our brand," said co-founder Carolyn Aronson. "As we introduce our new Progressive Greyaway



Shampoo for Black Dye, there was truly no other choice to lead this launch. He uses it personally to maintain his color, and that authenticity makes this partnership powerful and real."

Formulated with Argan Oil, Chestnut Seed Extract, and Hydrolyzed Pea Protein, the shampoo enhances shine and bolsters overall conditioning, resulting in hair and beard that look healthier and more natural than with traditional hair dye products, which often stain hands and shower surfaces. The Progressive Greyaway Shampoo formula leaves no stains and no mess and requires no gloves to lather on, making it a true game-changer in the marketplace.

The product comes after co-founders Fat Joe, Carolyn Aronson and Jeff Aronson originally launched Rewind It 10 in late-2023 to serve men with diverse hair and beard care needs while pushing back against outdated perceptions of hair coloring.

Khaled has been a longtime celebrity ambassador of Rewind It 10, along with the likes of Travis Kelce, Tyson Beckford, Nicky Jam, Brody Jenner, N.O.R.E., Stephen "Wonderboy" Thompson, Jencarlos Canela, Kevin Creekman and Brendan Schaub.

Since hitting shelves at Sally Beauty in October of 2023 and at CVS in the fall of 2024, the brand has experienced rapid growth and has become a standout product.

Source : Rewind It 10

NOVA CHEMICALS LAUNCHES NEW RECYCLED POLYETHYLENE GRADES FOR NORTH AMERICA



NOVA Chemicals Corporation is ramping up its circular economy efforts with the commercialization of two new recycled polyethylene (rPE) grades—SYNDIGO rPE-IN3 and SYNDIGO rPE-IN4—for general purpose, non-food-grade applications across North America.

These additions expand the SYNDIGO portfolio, featuring resins made entirely from 100% post-consumer recycled (PCR) films.

Produced at SYNDIGO1, NOVA Chemicals' state-of-the-art mechanical recycling facility in Connersville, Indiana, the new recycled linear low-density polyethylene (rLLDPE/LDPE) grades are suitable for a wide range of applications, including can liners, protective packaging, carry-out bags, overwrap, shrink film, and heavy-duty sacks.

SYNDIGO rPE-IN3 is sourced from

recycled PE stretch films, while SYNDIGO rPE-IN4 comes from recycled mixed retail PE films collected from distribution centers and back-of-store sources.

"These new SYNDIGO grades have been testing tremendously with our customers over the last

several months, and we are excited to make them widely available in commercial quantities," said Alan

Schrob, Director of Mechanical Recycling at NOVA Chemicals.

"Our SYNDIGO1 facility shows that film to film recycling is very real, and we are thrilled to deliver against our customer's expectations around quality, consistency, and scale."

NOVA Chemicals' current SYNDIGO portfolio also includes a white rLLDPE resin for various film applications and a high-density polyethylene (rHDPE) resin suitable for both food and non-food contact. By late 2026, the company plans to introduce a 100% recycled LLDPE grade for food-contact applications, further enabling PCR content use in rigid and flexible packaging formats, including pouches, bottles, and films.

Source : Nova Chemicals



LUMMUS AND SUMITOMO CHEMICAL ANNOUNCE COMMERCIAL AVAILABILITY OF PMMA CHEMICAL RECYCLING TECHNOLOGY ADVANCED TECHNOLOGY ENABLES CLOSED LOOP PMMA AND LOWER EMISSIONS FOR PRODUCERS

HOUSTON, February 4, 2026 / TOKYO, February 5, 2026 – Lummus Technology and Sumitomo Chemical today announced the commercial availability of their highly-efficient Polymethyl Methacrylate Chemical Recycling (PMMA-CR) technology. This builds on the strategic partnership between Lummus and Sumitomo Chemical, first announced in May 2024, to co-develop and commercialize technologies that support circularity and carbon-neutral society across the petrochemical value chain.

“By uniting Lummus’ process expertise with Sumitomo Chemical’s

materials innovation, we’re delivering a scalable, economically viable PMMA recycling solution,” said Leon de Bruyn, president and chief executive officer, Lummus Technology. “This gives our customers a clear pathway to reduce waste, lower emissions and unlock new value from recycled materials—turning sustainability into a competitive advantage.”

“We are proud to deliver this innovative PMMA-CR technology to market together with our trusted partner, Lummus Technology,” said Seiji Takeuchi, Senior Managing Executive Officer, Sumitomo Chemical. “Through commercial licensing, we will contribute to the realization of a circular economy by enabling the recycling of PMMA.”

Since establishing the partnership in 2024, Lummus and Sumitomo Chemical advanced development and commercialization of the PMMA-CR technology, including successful validation at Sumitomo Chemical’s pilot plant in Japan. The technology recycles end-of-life PMMA back into high-purity methyl methacrylate (MMA) monomer. Its depolymerization system, developed by The Japan Steel Works, Ltd. and Sumitomo Chemical, produces recycled MMA that matches the quality of fossil-derived material. The process is

also expected to cut life-cycle greenhouse gas emissions by approximately 50%*, reducing plastic waste and reliance on fossil-based feedstocks.

Source : Sumitomo Chemical

TORAY DEVELOPS BIO-BASED POLYAMIDE 4 PRODUCTION TECHNOLOGY FOR COSMETICS MICROPARTICLE MARKET

Tokyo, Japan, February 24, 2026 – Toray Industries, Inc., announced today that it has developed a proprietary technology to produce bio-based 2-pyrrolidone, a raw material in its polyamide 4, which delivers excellent biodegradability (see note 1) in marine and other environments and helps address microplastic issues. The company will use this technology to verify the scale-up of bio-based polyamide 4, with a view to offering it by the fiscal year ending March 2029, mainly for microparticles in foundation, eyeshadow, and other cosmetics.

In recent years, ocean discharges of microplastics (note 2) from cosmetics and facial cleansers have become a key environmental issue, prompting various countries (note 3) to restrict their use. Toray set about developing and launching polyamide 4 in response to this situation.

The conventional feedstock for 2-



pyrrolidone, the raw material in polyamide 4, is petroleum-based. Toray embarked on R&D into synthesis approaches with sugars and other biomass sources, resulting in its bio-based version. The sizes and shapes of polyamide 4 microparticles from polymerizing and processing 2-pyrrolidone with this technique are comparable to those of conventional offerings. This bio-based feedstock conversion does not affect end products.

It is also worth noting that reactions are milder than those of regular petrochemical processes. Toray's breakthrough should help lower carbon dioxide emissions across the value chain, from raw materials through polyamide 4 microparticle production.

The applications of 2-pyrrolidone made with Toray's technology extend well beyond polyamide 4. It is also a feedstock for N-methylpyrrolidone, used extensively in manufacturing semiconductor materials and engineering plastics (note 4), and for N-vinylpyrrolidone (note 6), a monomer for high-performance polymers in pharmaceuticals and other applications. This opens the door to bio-based production across diverse materials supporting next-generation industries.

Toray is pushing ahead with initiatives to transition to a circular economy and conserve natural resources as part of its sustainability efforts. The company will accordingly keep pursuing R&D in keeping with its commitment to delivering new value and contributing to social progress.

Results from the Ministry of Environment-funded Projects to Promote the Construction of Decarbonized Circular Economy Systems (FY2023 and FY2024) contributed to Toray's technological breakthrough.

Source : Toray

AIR LIQUIDE AND HOLCIM SIGN AN AGREEMENT TO DECARBONIZE CEMENT PRODUCTION WITH A CARBON CAPTURE PROJECT IN BELGIUM

Air Liquide and Holcim reach a new stage in their collaboration with the signing of an agreement to develop a state-of-the-art carbon capture solution for Holcim's near-zero cement plant at Obourg in Belgium. Air Liquide has been pioneering industry decarbonization by developing carbon capture technologies and solutions enabling CCS (Carbon Capture and Storage). Today, this partnership demonstrates the Group's ability to innovate and provide efficient solutions at scale, adapted to the needs of its customers.

Under the agreement, Air Liquide will supply the necessary oxygen for Holcim's oxyfuel-ready clinker production line, as well as provide its innovative and proprietary Cryocap™ OXY technology to enable the capture of CO₂ emissions with high efficiency. The captured CO₂ is then intended to be transported via pipelines to a CO₂ Export Hub, such as Antwerp@C, for subsequent shipment to permanent offshore storage in the North Sea.

This new strategic agreement, which aims to transform the Obourg plant into a leading large-scale near-zero cement production facility is a significant milestone for the project. The Final Investment Decision (FID)

remains subject to additional effective partnerships across the value chain, as well as public sector support including for regulation of infrastructure and the provision of derisking mechanisms.

Aiming to capture 1.1 million tons of CO₂ per year, this collaboration is part of GO4ZERO, Holcim's investment program that will enable the company to achieve carbon neutrality in Belgium by the end of the decade. The initiative would significantly contribute to the European Union 2050 net zero target.

Émilie Mouren-Renouard, member of Air Liquide's Executive Committee, notably in charge of supervising operations in Europe, stated:

“The transition toward a low-carbon industry is a long-term endeavor that requires steady collaboration and public support in its initial phase. For many years, Air Liquide has been committed to decarbonize industrial sectors such as the cement industry, with the development of its visionary and advanced carbon capture technologies. Alongside our partner Holcim, we share the same ambition and this new milestone agreement for the pioneering GO4ZERO project is a powerful signal for Belgium's industrial decarbonization and energy transition.”

Source : Air Liquide



ARKEMA AT JEC WORLD 2026: LIGHTER, MORE EFFICIENT, AND SUSTAINABLE INNOVATIONS IN SPECIALTY MATERIALS

At JEC World 2026, Arkema will unveil a series of breakthrough innovations designed to address both industrial transformation and environmental transition challenges. A boat hull component and a speed board manufactured with Elium® resins will showcase significant progress in composite circularity, while Bostik will present a solution dedicated to vehicle recycling and repair. Arkema will also highlight its 100% biobased Rilsan® Polyamide 11 for composite applications; its UDX® tapes combining carbon fibers with biobased thermoplastic polymers in sports and hydrogen storage applications. With the proven performance of Kepstan® PEKK and the exceptional thermal stability of Zenimid™ polyimides, Arkema provides a comprehensive portfolio of high-value resins for future aerospace platforms.

Pioneering Circularity in Composites

Arkema's Elium® resins drive the circular economy by enabling composite recycling.

Taking this commitment further, Arkema will showcase an exclusive immersive experience highlighting Arkema's contribution in boat hull recycling. This breakthrough is made possible through strategic partnerships with Composite Recycling, Groupe

Beneteau, Veolia, Owens Corning, and Chomarat, transforming composite recycling into an industrial and economically viable reality.

A speed board designed to break records while embodying circularity!

The ZEPHIR project brings together major players: ALTEN, Arkema, Alpha Recyclage Composite, Evonik, the Clément Ader Institute, Neo Sailing Technologies and Zephir, around a common ambition: to push the limits of athletic performance while accelerating the emergence of truly circular composites. At the heart of this alliance, Arkema provides Elium® resin, the first recyclable thermoplastic liquid resin used in high-performance composite structures, paving the way for a new generation of infused parts combining speed, precision, and recyclability

Revolutionizing Disassembling in Industry and Mobility

Bostik promotes Primer Prep DB, a primer designed to tackle the challenges of vehicle repair and end-of-life recycling. Developed as part of an Open Innovation strategy, this thermal activation technology enables the bonds to break, allowing components to be disassembled without damaging surrounding materials

Pushing the Boundaries of High Performance and Sustainability

The 100% biobased Rilsan® Polyamide 11 used in the production of composites for transportation, sports, and consumer goods will be featured on the booth, along with high pressure hydrogen tank liners, illustrating the contribution of biobased materials to the hydrogen market.

Designed for applications in transportation, hydrogen storage,

sports, and leisure, UDX® unidirectional carbon fiber tapes are impregnated with high-performance bio-based PA11 & PPA thermoplastic polymers. Under the European Roadthrypp program, Arkema is partnering with Air Liquide and Covess to develop a new generation of type V high pressure vessels where polyamide 11 UDX® tapes are used to integrate the liner function in the composites structure. To demonstrate the potential of UDX® tapes, a section of a high-pressure hydrogen tank will be displayed at the booth.

Preparing the Next Generation of Airplanes Aerostructures

Kepstan® PEKK high-performance polymer delivers exceptional mechanical strength, chemical resistance, and fire performance, enabling next-generation thermoplastic composites for aerospace structures. Its semi-crystalline architecture ensures excellent performance at elevated service temperatures, while remaining fully weldable for high-rate production. As well as other parts for aerostructure, a composites profile made by Hutchinson with Hexcel HexPly®PEKK/34%/UD194/IM7 will be exhibited at the booth.

Zenimid™ Polyimide Films with Exceptional Properties

Zenimid™ polyimides, developed through PI Advanced Materials, offer a robust solution for composite technologies across aerospace, automotive, electronics, and industrial markets. Their core strengths include Ultra-wide thermal range: stable from nearly -270 °C to over 400 °C, exceptional dimensional control, flexibility, and durability even in extreme environments, high chemical and flame resistance, combined with



strong electrical insulation properties.

Source : Arkema

HUBERGROUP CHEMICALS LAUNCHES HIGH- REACTIVITY OLIGO- MER TO BOOST UV-CURING PERFORMANCE

Hubergroup Chemicals has introduced UHVPI-222200, an amine-modified polyether acrylate oligomer engineered to enhance curing speed, improve process efficiency, and deliver superior surface quality in next-generation UV-curing coatings. A standout feature of UHVPI-222200 is its exceptionally high reactivity—even at low addition levels. The performance boost enables faster curing, shorter production cycles, and lower energy consumption during UV-curing processes. At the same time, its low viscosity provides excellent flow behaviour and greater flexibility in formulation.

UHVPI-222200 acts as a highly efficient amine synergist for Norrish Type II photoinitiators, including benzophenone- and thioxanthone-based systems, while also supporting Type I photoinitiators, as per the speciality chemicals major. By accelerating surface radical formation, the oligomer significantly reduces oxygen inhibition an issue commonly encountered in thin films and pigmented systems. The result is a reliable surface cure with high gloss and an improved surface finish.

Thanks to its high reactivity and low viscosity, UHVPI-222200 can function

both as a synergist and as a reactive binder. In highly reactive, low-viscosity formulations such as UV varnishes and coating it can even serve as the primary—or sole—binder. This capability simplifies formulations, reduces monomer content, and supports stable processing.

With a TMPTA (Trimethylolpropane triacrylate) content of less than 0.1%, the product is particularly suited for low-migration applications. Typical end uses include industrial coatings, UV varnishes, wood coatings, and other energy-curable systems, as well as UV flexo inks and overprint varnishes (OPVs).

Key features of UHVPI-222200: Very high reactivity, even at low addition levels; Supports faster curing, shorter production cycles, and energy-efficient processing; Low viscosity and good pigment wetting; Reliable surface cure and high gloss; and effective reduction of oxygen inhibition in thin films.

Source : Indian Chemical News

DUPONT HONORED FOR TRANSFOR- MATIONAL INNOVATION IN INDUSTRIAL WATER REUSE

WILMINGTON, Del., March 11, 2026 — DuPont (NYSE: DD) today announced it has received a 2026 WateReuse Award for Excellence in the Transformational Innovation category for its FilmTec™ Fortilife™ XC160UHP elements. The reverse osmosis solution is designed to help industrial users advance wastewater treatment and reuse while enabling minimal- and zero-liquid-discharge (MLD/ZLD)

strategies. The FilmTec™ Fortilife™ XC160UHP, a reverse osmosis element designed to concentrate wastewater streams, enables a more efficient and sustainable approach to water reuse and wastewater treatment. With the ability to operate under ultra-high-pressure conditions, FilmTec™ Fortilife™ XC160UHP elements enable high water recovery to support industrial users facing stringent discharge regulations while reducing energy consumption, carbon emissions, and operational costs. “We’re honored that the FilmTec™ Fortilife™ XC160UHP element has been recognized for its ability to transform industrial wastewater treatment and reuse,” said Gary Gu, Global Technology Leader, DuPont Water Solutions. “By helping customers lower operating costs, reduce energy use, and strengthen sustainability performance, this innovation delivers meaningful value where it matters most.” This award builds on continued recognition for FilmTec™ Fortilife™ XC160UHP and its potential impact on industrial water reuse applications—with recent recognitions from the R&D100 and Edison Awards. The WateReuse Awards for Excellence program recognizes WateReuse members and their projects and partnerships that advance the adoption of water reuse through leadership in education, advocacy, technology, and water resource management. The award was presented at the 2026 WateReuse Symposium, held March 8–11, 2026, in Los Angeles, California. DuPont Water Solutions technologies are helping to purify more than 50 million gallons of water every minute in 112 countries around the world. DuPont offers market-leading technologies to address challenges faced by water treatment municipalities, seawater desalination plants, and industrial water users through a broad portfolio of membranes, resins, and complete systems.

Source : Dupont



Continued from page 24

natural resources and power for manufacturing end products such as plastics, fertilizers, and other consumer materials. Therefore, large plants such as steam crackers and ammonia units would consume massive amounts of energy every day.

In recent years, the energy prices in Europe have risen sharply due to supply problems and geopolitical tensions. This has made the production in Europe much more expensive compared to countries like the United States, China and Middle Eastern countries. These are the regions where energy is often cheaper, the carbon costs are added on top of high energy prices, and European chemical companies face strong pressure. Schneider's request aims to ease this pressure without weakening Europe's climate goals.

What lies behind the scenes?

Seeking more free emission allowances for the chemical industry not only means a minor technical tweak, but also brings in a question of how to balance ambitious climate goals with industrial competitiveness. This brings us to the heart of the debate, which is "Can Europe lead on climate while protecting its core industries?"

If chemical industries receive more free emission allowances, then it will reduce the carbon costs. Companies would need to buy fewer carbon permits from the market. Since the carbon prices in Europe can be high, this would directly reduce the operating expenses.

It will also impact the compliance costs, which means better margins, especially important during a period of weak demand, high energy prices, global oversupply in chemicals and so on. A

combination of all this will increase the cash flow.

Some of the European chemical plants are already closing or struggling with their operation. Extra free allowances could prevent further shutdown of plants, protect jobs, and avoid production shifting outside Europe. Therefore, it would give the industry breathing space.

European chemical producers are already operating in a highly competitive global market. There are several major industrial powers such as the United States, China and countries in the Middle East. Each of these regions has structural advantages, such as chemical production being cheaper in those regions compared to Europe. In the United States, the shale gas revolution has granted access to abundant and low-cost natural gas. Now, Natural gas is not only used as fuel but also as a key raw material for producing chemicals such as ethylene, ammonia and methanol. Since American producers can access gas at lower prices, their overall production costs are significantly lower. This gives them a strong pricing advantage in global markets.

China has a different kind of advantage. China has a massive chemical production capacity, which was built over the past two decades. These large-scale plants offer huge benefits to the country from economies of scale, which means the cost per unit decreases as the output increases. In addition to this, the chemical companies in China often receive strong state support, through financing, infrastructure, industrial policy incentives and so on. This support helps them expand their capacity throughout the season; even if the

market is experiencing downturns, it will not affect the Chinese chemical companies. As a result, the Chinese producers can offer products at very competitive prices in the global trade.

The Middle Eastern countries hold a strong position in chemicals due to their access to low-cost hydrocarbon resources. The countries in the region have abundant oil and gas reserves, thus they provide cheap feedstock for petrochemical production. Since the feedstock costs make up a large portion of the production costs, Middle Eastern countries can manufacture basic chemicals at much cheaper costs than European countries. Therefore, this structural cost difference makes it difficult for the European countries. There are additional charges for European chemical companies; these European countries have stricter environmental regulations, and the carbon pricing is under the EU's emissions trading systems. They must buy emission allowances for the carbon dioxide they release, and thus this adds up to the operating expenses. Now we understand that if these producers get more free emission allowances, it would cut down on the operating costs, and it would narrow down the cost gap between Europe and its global competitors. The lower compliance costs would ease financial pressure, especially during times of higher energy prices or weak demand.

The free allowances could reduce the pressure on the companies to relocate production outside European countries. If carbon costs become too high compared to other regions, then the companies may consider moving new investments or even existing production to countries with lower climate-related costs. This is called carbon leakage.



When carbon leakage happens, then Europe loses its jobs and industrial activity.

By offering temporary support through free allowances, Europe can help maintain its position as a global chemical hub. The approach can protect industrial capacity and supply chains while still keeping long-term climate goals intact. The support must be carefully designed to ensure that companies continue investing in cleaner technologies rather than delaying necessary environmental improvements.

Why is phasing out free allowances more important?

Europe is in a position to protect the jobs and industrial capacity while companies transition toward climate neutrality. The chemical sector employs hundreds of thousands of workers across Europe and supports many downstream industries such as automotive, construction, agriculture and consumer goods.

Schneider believes that a sudden or rigid withdrawal of free allowances could increase production costs sharply, especially if the global competitors do not face similar carbon constraints. In such situations, the companies might reduce output, delay investments, or shift production outside Europe. Extending free allocations, in his perspective, would provide stability and predictability during a complex

industrial transformation. The goal is not to weaken the climate policy, but to ensure that climate ambition doesn't unintentionally damage Europe's industrial base.

Criticism from environmental groups:

Germanwatch is a non-profit environmental and development organization based in Germany. They work to influence public policy on climate change, trade, and global justice. Germanwatch gathers data, produces research, and advocates for stronger climate policies at both national and EU levels. The group focuses on pushing for ambitious climate action, including faster emissions reductions, stricter carbon pricing and policies that help the countries transition to clean energy while supporting vulnerable communities.

Germanwatch argues that the EU ETS and its related policies should be designed to maximize the climate benefits and incentivize real emission reductions. Their goal should not prolong fossil-based production under generous cost exemptions. Their stance is based on a few core points. Germanwatch believes that if the companies continue to receive free emission permits for too long, then they may not feel strong enough financial pressure to invest in cleaner technologies. The organization says the companies should be exposed to the full carbon price sooner and that they have a

stronger incentive to reduce emissions rapidly.

Germanwatch points out that CBAM can replace the need for free allowances, making the industry face similar carbon costs as its foreign competitors. Rather than extending free allocations beyond 2039, Germanwatch has called for their faster phase-out and a stronger carbon price- together with the support for low-carbon industrial transformation.

They argue that keeping free allowances longer could weaken the urgency for clean investment and slow down the green transition.

Final takeaway:

The article points out a critical test of Europe's ability to align climate ambition with industrial strength. On one side lies the risk of carbon leakage and deindustrialization if companies face costs far higher than those of their global competitors. On the other side lies the risk of slowing the green transition if carbon pricing signals are weakened for too long. The solution does not lie in choosing between climate action and competitiveness, but in carefully designing policies that support both. Ultimately, Europe's success will depend on maintaining a strong emissions trading system while ensuring that its industries can survive and transform within it. The challenge is complex, but the objective is clear: protect jobs, prevent carbon leakage, and accelerate the path toward a climate-neutral future—without losing Europe's

Europe's Chemical Slowdown and India's \$25 Billion Opportunity

Vinodhini Harish

Introduction:

A recent update has shocked the industry. It is observed that the

about 5 million ton shutdown figure implies permanent or long-term closure of plants that are producing base chemicals such as ethylene, ammonia or methanol. This reduced investment signals that the companies were seeing

limited future profitability in Europe. Thus, the investors are looking for regions with cheaper energy and fewer regulatory constraints and drifting away from Europe. This could be a huge opportunity for other competing



nations, especially India. This would be reshaping the global chemical supply chains! Expanding the Indian chemical market and marking their footprint in the EU market is not a small thing! We have explored the news in detail. Let's begin.

The struggle of the EU chemical industry with energy costs and regulation: What is the news?

Europe's chemical industry is heavily disturbed due to energy costs and regulations. Investments in the industry are dropping off a cliff, and shutdowns reached over 5 million tons last year! The investors have no hope for the industry, thus they are leaving for better regions. The reason for all of the disturbance is regulations and energy costs. On the other hand, Europe is facing yet another massive import dependence. The European chemical sector is under extreme pressure due to soaring energy prices and strict regulatory frameworks. The chemical production is generally energy-intensive, and processes like stream cracking and ammonia synthesis are very costly. Consider electricity, natural gas price surging, especially after the Russia-Ukraine conflict, the gas supplies are generally disrupted, and European producers have lost their cost competitiveness.

At the same time, stringent environmental rules under the European Union increase compliance costs. Therefore, we understand why the European chemical industry is undergoing a structural decline rather than a temporary slowdown, which includes plant closures, shrinking output, investment withdrawal and so on.

The energy costs have affected the feedstocks, such as natural gas used for ammonia and methanol; meanwhile, the regulations have increased carbon pricing exposure under EU climate



policies. This combination has created a double burden- higher input costs and tighter operational rules. Thus, the producers are finding it difficult to maintain margins compared to the competitors in lower-cost regions.

The key regulatory schemes, namely, emissions trading schemes and environmental compliance requirements, are increasing the operational costs. Meanwhile, elevated power and gas prices are increasing the production expenses, squeezing the profit margins across the chemical value chain.

Another major strategic concern for Europe is that it lies in a situation where, if the domestic production declines, then the country must import more chemicals. Its import dependence can weaken supply security, especially for essential materials used in pharmaceuticals, automotive,

agriculture, and defence. Therefore, the country is dependent on external suppliers, which increases vulnerability to geopolitical risks, trade disputes, and price shocks. The declining domestic output is not only causing economic loss but also a strategic liability.

Rising energy costs and dependency of the chemical industry:

The gas and electricity prices are getting exceptionally higher, and energy-intensive industries like the chemical industry, steel and aluminum industries are having tougher times as energy constitutes a larger share of production costs. In those industries, the profit margins evaporate. But this is not the case with the service industries, such as heavy manufacturing industries, which can easily pass on the costs without losing competitiveness in the global markets. Especially chemical industry is having a deeper impact due to their



reliance on heat, steam and feedstock.

For example, consider ammonia production. Production of ammonia is directly dependent on natural gas. The growing gas price directly increases the costs, making European output less competitive compared to the producers in the gas-rich regions such as the US or the Middle East.

Environmental policies implemented by the European Union:

Europe has implemented environmental policies such as emissions trading systems, renewable energy mandates and strict reporting requirements. These policies were designed to reduce carbon emissions, which also adds to the financial and administrative burdens on the industries. Since the industries are already struggling with the energy costs, this burden is pulling them down.

Therefore, the experts have rightly identified the drawback here. The policymakers are prioritizing climate targets over industrial competitiveness. This framing implies imbalance, such as economic growth and global competitiveness are seen as secondary to emissions reduction. Therefore, the businesses argue that aggressive climate goals without transitional support risk pushing production abroad, resulting in carbon leakage.

The policymakers have also acknowledged that the aggressive emissions policies have led to unintended economic consequences. Thus, the rising industrial closures and declining output prompt reconsideration of how climate objectives align with economic resilience. The key is in balancing climate action with industrial competitiveness. Governments may seek incentives, subsidies or regulatory adjustments to protect domestic industry while maintaining environmental commitments.

Impact of CBAM:

The European Commission has introduced the Carbon Border Adjustment Mechanism (CBAM) to level the playing field. CBAM imposes carbon-related charges on imports from countries with weaker climate rules, aiming to prevent carbon leakage and protect EU producers from unfair competition.

CBAM is designed to protect EU manufacturers that had already paid for carbon emissions under the EU Emissions Trading System. The scheme charges the imported goods for their embedded carbon. This reduces the price advantage for the producers located in the countries with lax environmental standards. The scheme thus helps the sectors like cement, steel, fertilizers, aluminum, hydrogen, and certain chemicals remain competitive. Thus, CBAM prevents “carbon leakage,” especially for the companies that shift production outside Europe to avoid carbon costs.

Moreover, exporters to the EU, especially from countries like China, India and others with coal-heavy energy systems, are facing higher compliance costs. Thus they must measure, verify, and report carbon intensity.

Let's get deeper into the subject.

Under the Carbon Border Adjustment Mechanism, the imported goods must reflect the carbon cost that European producers already pay under the EU emissions trading systems. If the foreign chemical producer uses coal-based electricity, relies on inefficient and high-emission processes or has no domestic carbon pricing, then its product has higher embedded CO₂ emissions per ton. Thus, when the product enters the EU, the importer must buy CBAM certificates; the cost of those certificates is linked to the EU carbon price and the more carbon-intensive the product, the

higher the cost.

Therefore, a ton of ammonia produced using coal-based hydrogen will face higher CBAM charges than ammonia made using natural gas or green hydrogen. Thus, we understand that the difference in CBAM charges based on how ammonia is produced has direct structural consequences for the EU chemical industry. CBAM levels the carbon playing field — but it does not solve Europe's high energy price problem.

If natural gas and electricity remain structurally expensive in the EU:

- Even with CBAM, EU producers may struggle.
- U.S. gas-based producers could still remain competitive.

CBAM protects EU ammonia producers from high-carbon competition and encourages green investment; however, it also raises input costs for parts of the broader chemical value chain.

So its impact is protective at the top of the chain, but potentially inflationary further downstream.

China is a major competitor:

Chinese producers benefit from large-scale capacity, state support, and relatively lower energy costs. Thus, they can easily undercut European chemical prices worldwide. For instance, Monoethylene Glycol is a key input for polyester and packaging materials. Overcapacity in China means supply exceeds the demand, depressing global prices and so on. Therefore Europe producers with higher costs struggle to compete in such oversupplied markets.

Low-cost feedstock in the U.S.:

The policy developments under Donald Trump and Ursula Von der Leyen have



hugely helped the US. Abundant shale gas, lowering feedstock costs for petrochemicals and strengthening the export competitiveness are some of the aspects that are benefiting the U.S.

Why is the situation favouring India? How?

When one country loses competitiveness, others gain. India benefits from lower labour costs, comparatively cheaper utilities, and expanding chemical infrastructure. Indian firms are increasing export capacity while European output declines. Reliability also matters because EU buyers want a stable supply amid geopolitical uncertainty.

India is in 5th place in exporting to the EU. This shows there is a stable and established trade relationship. This reduces entry barriers. If EU domestic production declines, then Indian suppliers can expand volumes quickly.

India is the 7th largest chemical

producer in the world. Therefore, it is not a minor player at all. India has a strong scale credibility. The country is strong in specialty and basic chemicals. In addition to these, the country has lower labour costs, moderate energy, and economies of scale; the combination of all these brings in a pricing advantage to India. Thus, even 10% cost difference is decisive in commodity chemicals where margins are thin.

The Indian market size is standing at \$260 billion, and this indicates domestic demand plus export potential. Large domestic consumption ensures base load production stability.

As Europe contracts, global supply chains rebalance. India stands between high-cost Europe and politically complex China, positioning itself as a strategic alternative.

Final takeaway:

Europe is witnessing an industrial slowdown and is creating a significant

vacuum in the global chemical market. The production declines due to high energy prices, carbon costs, and regulatory pressures under the European Union framework. The supply gaps are emerging across several energy-intensive segments. When a major producing region contracts, the global buyers do not reduce consumption overnight. They look for alternative suppliers. The shift in the sourcing creates an opportunity for competitive manufacturing nations. India is now well-positioned with its relatively low labour costs, expanding industrial infrastructure, integrated chemical hubs, and supportive policies. In addition to all of these, PLI schemes provides structural advantage to India. If the trends persist, then it may go beyond temporary trade substitution. It could represent a deeper structural rebalancing of global supply chains. If the scenario persists, India could even develop itself as a central pillar in the next phase of global chemical manufacturing and trade realignment.

Bio-Based Chemicals in India: The Future of Green Manufacturing

Team Chemical Market

Introduction:

Bio-based chemicals come with a vast number of benefits that represents transformative shift. Especially in India, the growth and demand for bio-based chemicals is growing. India has pledged to achieve net-zero emissions by 2070, and the country has recognized that it is heavily dependent on fossil fuels. Therefore, they are looking for alternative options. Some of the major concerns across the country, such as fossil fuel depletion, environmental degradation, climate change and sustainability issues, are further driving

the industry in India. Observing the trends and evolution is critical for the chemical industry. Thus, we have covered the topic in detail. In this article, we have explored the challenges and risks that come with it, and we have also addressed critical points that industrialists and investors should take note of. Let's begin.

What are bio-based chemicals? Let's explore its production:

Bio-Based chemicals are industrial chemicals derived from renewable biological resources rather than fossil fuels. These chemicals are produced using feedstocks such as sugarcane,

corn starch, agricultural residues, forestry waste or other forms of biomass. They are part of the renewable carbon cycle, where plants absorb atmospheric carbon dioxide during growth and convert it into organic matter. This doesn't apply to the conventional petrochemicals.

The production of bio-based chemicals involves biological processes such as fermentation and enzymatic conversion. In the fermentation process, the microorganisms, such as bacteria, yeast, or fungi, metabolize sugars and convert them into valuable chemical intermediates. These enzymatic processes require specialized biological



catalysts to break down complex biomass into simpler compounds that can be transformed into industrial chemicals.

Some of the common bio-based chemicals include organic acids such as lactic acid, bio-based alcohols, renewable solvents, surfactants, and polymer intermediates. These chemicals are intensively used in packaging, automotive, textiles, pharmaceuticals, cosmetics and consumer goods. The growing interest in bio-based alternatives originates from the concerns over fossil fuel depletion, environmental degradation and climate change. Therefore, the global industries are rushing towards sustainability and carbon reduction goals. Thus, we understand why bio-based chemicals are viewed as substitutes for petrochemical products.

Why is India focusing on bio-based chemicals now more than ever?

India is focusing on global supply chain realignment, especially as it is diversifying their supply chains and actively looking for sustainable sourcing. There is a huge demand for low-carbon materials as well. The country has recognized that the production of bio-based chemicals and the development of this industry would help it position itself as a green manufacturing hub. Enable them to attract ESG-driven investments, compete with China and Western producers.

With the technological development, India has gained access to advanced fermentation technologies, engineered microbes, enzyme innovations, process



optimization and so on. On the other hand, they are striving to stand out in the market. Thus, the industrial experts suggest that the country should overcome serious challenges such as crop burning, industrial pollution, poor waste management, with the bio-based chemical production support systems such as waste utilization, lower toxic byproducts, cleaner industrial processes and so on.

India recognized bio-based chemicals as strategic priority for industrial growth:

There are myriad ecological advantages in utilizing bio-based chemicals. It is the reason why it is considered the critical component of sustainable industrial development. One of the most crucial

benefits is the reduced dependence on fossil fuels.

The reduction of greenhouse gas emissions is another critical advantage. Since biomass absorbs carbon dioxide during plant growth, the carbon embedded in the bio-based chemicals is part of a shorter and more balanced carbon cycle. Compared to petroleum-derived chemicals, the bio-based alternatives often demonstrate lower life-cycle emissions, especially when produced using an energy-efficient fermentation process.

The bio-based production methods also generate fewer hazardous byproducts. Therefore, the conventional petrochemical refining involves high temperatures, high pressures, and toxic



intermediates. Since the biological processes happen under milder conditions, they result in lower volumes of harmful waste, and this reduces environmental contamination and lowers the burden of hazardous waste disposal.

India is now aiming for sustainable industrial growth.

The government has placed bio-based chemicals and enzymes under the BioE3 policy framework implemented by the Department of Biotechnology. This policy emphasizes economic development through biotechnology, encouraging innovation in renewable chemical production.

Thus, the industry gets support from the “Council of Scientific and Industrial Research”. Institutions like them act as a bridge between laboratory science and industry; this translates biotechnology discoveries into scalable technologies, patents, and commercial products through structured research programs and institutional support mechanisms. Funds from them enable experimentation and proof-of-concept studies, while pilot bio-refineries validate scalability. The industry-academia collaboration ensures innovations that are commercially viable, technically feasible and are aligned with real market requirements.

The financial grants reduce early-stage risk, incubators nurture the startups, and technology startups, technology transfer frameworks facilitate licensing, ensure promising laboratory discoveries and so on. Green India Mission under the National Action Plan on Climate Change encourages afforestation, low-carbon growth, and sustainable practices, creating policy incentives that favour bio-based production systems over fossil-dependent industries. Zero Defect Zero Effect promotes high-quality manufacturing with reduced pollution, encouraging industries to

adopt cleaner processes, resource efficiency, and environmentally responsible production systems.

Challenges and risks:

No doubt the industry is showcasing a promising outlook, but there are a few challenges and risks, such as infrastructure gaps, financial risks, supply uncertainties, market resistance, and slow widespread industrial adoption. Like any other industry, the production costs determine market acceptance, and unless bio-based chemicals compete economically with petrochemicals, the industries may avoid transitioning despite the environmental advantages.

Fermentation facilities, bioreactors, enzyme development and biomass preprocessing systems require substantial capital investment. Unlike petrochemical industries that have some advantages, such as large-scale infrastructure, optimized refineries, and integrated supply chains, there are no such benefits for bio-based production systems that are still evolving.

The economies of scale are still developing, and the fermentation infrastructure requires development and investment as well. Therefore, bio-based chemicals need the backing of technological advancements and large-scale commercialization that could reduce costs; they have to go through the struggle of competing with cost-efficient petrochemical alternatives.

The success of bio-based chemical production depends on consistent and reliable biomass supply chains. The agricultural residues, sugarcane, corn or other organic materials must be available throughout the year; the biomass residue is not guaranteed, as they fluctuate due to seasonal variations. The climatic conditions and crop yield uncertainties. The competition between industrial biomass use and food

production, raising concerns about food security, and land use, efficient logistics, transportation, storage infrastructure and other essential aspects help in preventing feedstock degradation.

Therefore, without stable supply systems and sustainable sourcing strategies, scaling bio-based chemical production becomes economically and operationally challenging. Market adoption remains a critical hurdle for bio-based chemicals. There are many industries that are highly price sensitive, but they prioritize cost-efficiency over sustainability, unless regulations mandate change. If the bio-based alternatives are more expensive, then buyers would hesitate to switch from conventional petrochemicals; performance comparison is another concern.

Takeaway:

Bio-based chemicals are steadily gaining traction with the sustainable industrial development, especially in India. This recent news is blooming, and the experts are welcoming ecological benefits such as reduced fossil fuel dependence, lower greenhouse gas emissions, and minimized hazardous waste generation. They align closely with global climate commitments and circular economy principles. The government initiatives, such as the BioE3 policy, institutional support from research bodies, and programs promoting green manufacturing, have further strengthened the sector's foundation. The industry must overcome critical challenges as discussed in the article. India should focus on achieving economies of scale, investing in advanced fermentation technologies, strengthening biomass supply chains and other critical aspects to drive the market in the future. Along with all of these benefits, technological innovation and policy frameworks also help to develop the market.



How Upstream, Midstream, and Downstream Drive Modern Energy Systems

Vinodhini Harish

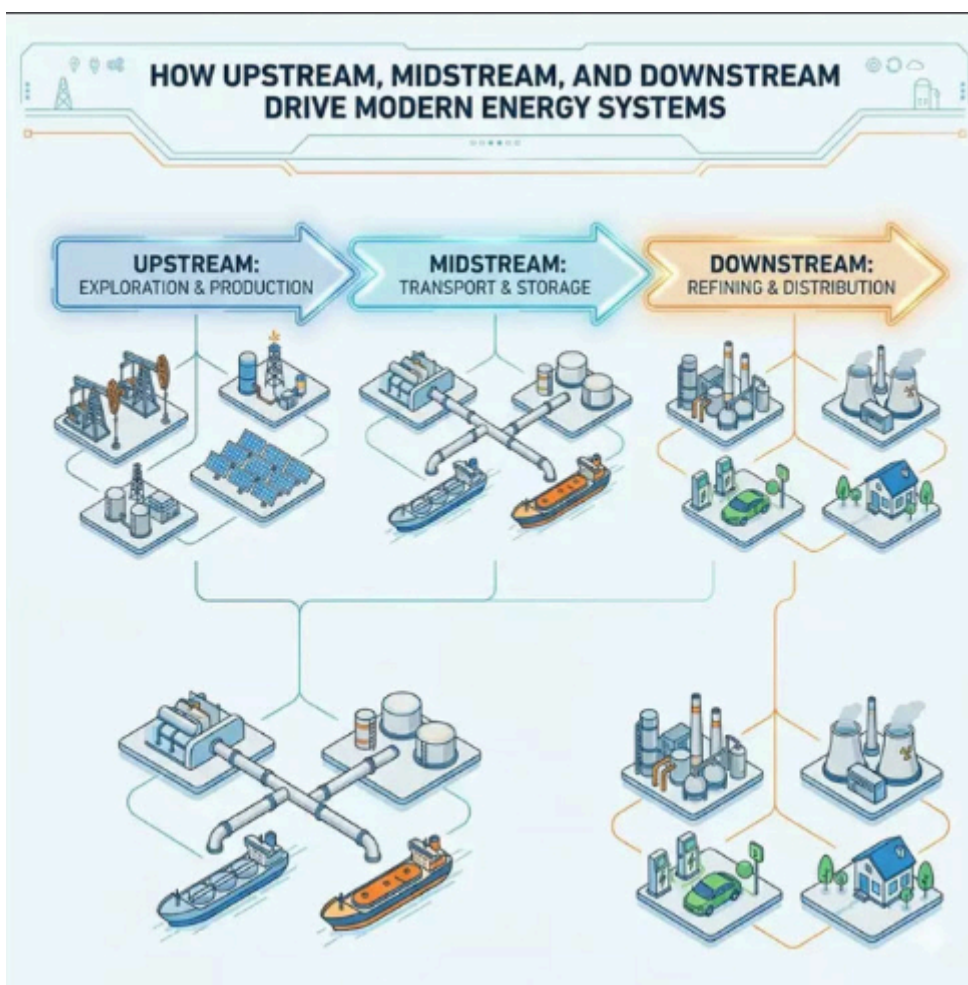
Introduction:

The oil and gas industry is vast, and it should be viewed as a complete value chain and not a single activity. The industry begins far below the earth's surface and ends with consumer-ready products, such as fuels and chemicals. In the industry, no specific activity is isolated; they are all interconnected, and each stage is dependent on the previous one. The focus is on the process understanding. "Raw hydrocarbons" refers to crude oil and natural gas in their natural state. Each stage involves discovery, extraction, transport, and transformation; all of these aspects cumulatively help us understand why oil and gas are central to modern economies and energy security. In this article, we have explored the trends, strategic shifts and aspects that are transforming upstream and midstream operations. The recent updates discussed in the article should be very useful to the investor or anyone who is interested to learn about the sectors. Let's begin.

How are upstream, midstream, and downstream processes in the chemical sector interconnected?

The three main industry segments are upstream, midstream and downstream. Each of the phase are distinct and carries out an essential function in delivering energy. Decisions made in one segment directly influence performance, costs, and efficiency in others. Therefore, understanding the linkages help in grasping how the oil and gas industry is operating as a whole.

The upstream sector – exploration and



production:

The upstream is the foundation of the industry, as it includes exploration and production; there would be no oil or gas for the rest of the system. The upstream sector is also known as Exploration and Production (E&P), which is the starting point of the oil and gas value chain. The upstream activities includes exploration of potential resources, drilling accesses them, and wellhead production controls the initial flow of hydrocarbons to the surface.

The exploration involves identifying potential oil and gas reserves using geological surveys, seismic imaging and

exploratory drilling. The companies analyze subsurface rock formations to determine the presence, size and quality of the hydrocarbon deposits. Once the hydrocarbons are discovered, the reservoir engineers study the pressure, permeability, porosity and fluid behaviour to estimate recoverable volumes and plan extraction methods. Drilling creates wells that connect the surface facilities to underground reservoirs. The process can occur onshore or offshore, they require advanced drilling technologies such as horizontal drilling and directional drilling.

After drilling, the wells are completed



using casing, cementing, and perforation techniques to ensure safe and efficient production. During the production, oil and gas flow to the surface, where the initial processing separates crude oil, natural gas, water and other impurities before transport.

Therefore, we understand that upstream operations is not just the drilling, it includes scientific surveys, engineering design, well completion, and initial treatment before hydrocarbons enter transport systems.

A wellhead is the critical surface installation placed at the top of a drilled well. Although the reservoir lies thousands of meters underground, all interaction with it is drilling, testing and production. This must pass through this single point. The wellhead anchors the casing strings that line the wellbore and provides structural integrity to the well.

There are quite a few changes in the upstream sector, which include moving away from a “drill-as-much-as-possible” mentality to capital discipline and efficiency. Lower exploratory spending has been observed. For instance, India drilled only 13 exploratory wells in 2024, the lowest in almost a decade. The companies prioritized value over volume. Thus, the country focuses on investments with quicker payback and lower risk.

Global investment data shows that the total upstream investment is projected to fall in 2025, with oil-focused spending declining more sharply than gas investment. Historically, the wild swings in oil and gas prices made upstream explorers over-expand during booms and retrench during downturns. The companies now plan more conservatively to protect the returns and ensure resilience through market cycles. The shareholders are increasingly demanding disciplined capital deployment rather than aggressive drilling that wastes the cash or destroys

shareholder value.

There are only fewer pure exploration wells and more focus on low-risk, high-impact opportunities or acquisitions of proven assets, thereby improving capital efficiency. We find that the industry is carrying out strategic exploration, where the country is investing in specific basins with good geological potential and commercial terms rather than broad, high-risk drilling campaigns.

Change of focus from brownfield expansion vs Greenfield discoveries:

The upstream projects are generally categorized as brownfield and greenfield projects. The brownfield projects are nothing but enhancing or expanding production from existing fields. The greenfield projects are the new discoveries in the previously underexplored areas.

Now we find this pattern of shift from greenfield exploration to brownfield investment. The greenfield exploration was driving growth previously, but now the countries are strategically shifting to brownfield investment as it is becoming more attractive. The brownfield exploration comes with lower technical risk; it often results in faster cash flow since production infrastructure is already in place. Moreover, Enhanced Oil Recovery and subsea tie-backs have extended the life of mature fields.

On the other hand, we find that the greenfield projects require larger initial investments and longer lead times, and they are more sensitive to price swings and geopolitical risks. In addition to all of these, they often occur in frontier areas with limited infrastructure.

Strategic shift towards gas over oil in the new projects:

The majority of the countries are strategically shifting from oil to gas as they have understood the value of

natural gas in the new upstream strategies and find them strengthening. Natural gas emits less CO₂ than oil when undergo combustion. Thus, the industry is making it a transition fuel as countries pursue lower emission targets.

The Liquefied Natural Gas demand continues to grow in Asia and Europe, thereby supporting the investments in gas fields and associated infrastructure. Gas' commercial outlook is strong even amid renewable energy growth. There are many operators that are rebalancing the upstream portfolios to increase gas exposure, which is because the gas projects often produce more stable cash flows. They have longer reserve life indexes. They align with the national energy security goals as well.

There are some African licensing rounds and projects that have strong gas components to support the local power markets and regional LNG exports. The global upstream spending projections show that the gas investment is rising even as total upstream spending declines.

Summary of trends observed in the upstream sector:

The trends highlight a fundamental shift in how upstream oil and gas activities are planned and executed. The launch of the new upstream licensing rounds across regions such as India, Africa, and the Middle East signals a renewed effort by governments to attract fresh capital, advanced technology, and international expertise. These licensing initiatives are not merely administrative exercises; they shape the future resource base of producing countries by opening access to new geological prospects and underexplored basins that will define long-term supply potential. The upstream industry is embracing a stronger focus on capital discipline.

The industry has moved away from aggressive drilling campaigns, and they



are aiming to achieve financial resilience and value creation. This shift has resulted in fewer high-risk, low probability exploration wells and a greater emphasis on carefully selected projects that offer clear commercial viability and faster returns. Therefore, the result is a measured and strategic approach to exploration and development.

The operators are rebalancing upstream portfolios to increase gas exposures as the gas projects often produce more stable cash flows. They have longer reserve life indexes, and they align with the national energy security goals.

Midstream operations: transportation, storage, processing, wholesale marketing

The key midstream operations like transportation, storage, processing and wholesale marketing are undergoing significant transformation due to increasing constraints related to infrastructure, gas expansion, digitalization, energy transition pressures, and capital discipline.

There is a continuous need to expand and modernize infrastructure to match production growth. There are a few regions, such as shale basins, where the upstream output has grown rapidly. The pipeline takeaway capacity has sometimes lagged behind production. When pipelines are insufficient, the producers are forced to rely on costlier alternatives such as rail or trucking, which reduces margins and increases logistical risk.

Therefore, the companies are prioritizing construction in high-growth basins.

They are prioritizing storage facilities that are getting expanded to manage supply fluctuations.

They are also focusing on export

terminals that are getting upgraded to handle higher crude and LNG volumes.

In addition to these, since the upstream operators increase gas-focused production, midstream companies must expand on the following:

- Gas gathering systems
- Processing plants
- Compression stations
- LNG liquefaction and export terminals.

Midstream operations involve transportation, storage, and processing in the oil and gas value chain. The upstream firms involve drilling and producing hydrocarbons. The midstream players generate revenue by charging fees for pipeline transportation, collecting tariffs for storage terminals, earning processing and fractionation margins and operating export terminals. The midstream revenues are often fee-based and less-exposed to commodity price volatility. Therefore, their earnings provide insight into every demand, stability and infrastructure utilization.

We can see the difference between the upstream oil producers and midstream firms. The midstream producers operate on long-term contracts, volume-based tariffs and take-or-pay agreements. These aspects make them relatively insulated from oil price swings. The crude prices fluctuate, and pipeline cash flows can remain steady. Therefore, the earnings from companies like Energy Transfer become a barometer of volume demand and not price volatility.

The midstream players are focusing on cautious capex in recent years, but the energy transfer recently announced a \$5.0-\$5.5 billion capital expenditure plan for 2026, which is larger than many expected. Higher capex signals confidence that long-term volume demand is expected to rise continuously, and this is important for investors who worry that midstream growth is

stagnating. Investors often fret when midstream firms cut back spending — but here, ET is increasing investment, suggesting management sees strong volume visibility and profitable opportunities even amidst ongoing macro uncertainty.

Final thoughts on midstream shift in strategy:

- Midstream cash flows are becoming more predictable and fee-driven
- Infrastructure assets are seen by some investors as yield alternatives to fixed income

Final takeaway:

The oil and gas industry must be recognized as an integrated value chain rather than isolated operational segments. From the upstream exploration and production to the midstream transportation and processing. The final downstream refining and chemical manufacturing each phase is structurally and economically interconnected. The decisions made at the exploration stage will influence pipeline utilization, refining margins, chemical feedstock availability, and ultimately the cost and reliability of energy for consumers. Some of the recent shifts toward capital discipline, brownfield optimization and gas-focused development demonstrate a more strategic and financially resilient upstream approach. These adjustments reflect an industry adapting to market volatility, energy transition pressures, and investors' expectations. Furthermore, the growing emphasis on natural gas, LNG infrastructure, and long-term contractual stability further reinforces how closely aligned the segments have become. The understanding of these linkages helps in the understanding of deep reservoirs to finished fuels and chemicals- powering economies, supporting industrial growth and contributing to global energy security.



Syensqo launches Rhodasurf® B7 UP, a natural and lower-carbon surfactant for liquid laundry care

Brussels, February 24, 2026 - Syensqo is expanding its laundry care solutions portfolio with Rhodasurf® B7 UP, a natural[1] laureth-7 surfactant enabling more sustainable liquid laundry detergents and hard surface care formulations. The product is manufactured at Syensqo's on-pipe ethoxylation facility[2] in Moerdijk, the Netherlands, which recently received ISCC PLUS mass-balance certification.

"Rhodasurf® B7 UP is a true drop-in replacement that helps laundry care brands scale sustainability without having to reformulate products or disrupt existing supply chains," said Benjamin Leleu, Syensqo Global Marketing Manager, Consumer Care. "It's a tangible example of how we are



expanding our UP Circular Solutions portfolio. We look forward to further growing this range to continue supporting our customers' sustainability ambitions."

Rhodasurf® B7 UP is produced using bio-circular, upcycled ethylene oxide feedstocks. It delivers the same specifications and functional

performance as conventional laureth-7 surfactants, providing robust detergency, wetting and solubilizing performance while reducing net CO2 footprint by more than 90% compared with standard petrochemical-based grades. Compatible with Ecocert and Ecolabel certifications, this new product helps fast-moving consumer goods companies and private label manufacturers respond to growing consumer demand for more natural, lower-carbon products. Rhodasurf® B7 UP is part of Syensqo's UP Circular Solutions range, a portfolio based on a circular mass-balance approach that integrates upcycled raw materials while preserving product performance.

Source : Press Release

Polyplastics Develops New PLASTRON(R) LFT Grades with Post-consumer Recycled Content

TOKYO, Feb. 25, 2026 /PRNewswire/ -- Polyplastics Co., Ltd., a global leader in engineering thermoplastics, has announced the development of new PLASTRON(R) long-fiber thermoplastic (LFT) grades made of post-consumer recycled (PCR) polypropylene (PP) content. The two new developmental grades, which deliver mechanical properties equivalent to virgin material products, are undergoing sample production and evaluation.

As part of Polyplastics' commitment to advancing sustainable material solutions, these new grades -- PLASTRON(R) RSG20011 and RSG20013 -- feature more than 30% PCR content combined with 30% to 40%

glass fiber reinforcement. The newly developed grades offer mechanical performance -- such as high rigidity and excellent impact strength -- equivalent to the company's commercial products made of virgin raw materials.

By utilizing PCR materials collected from the market, the newly developed grades contribute to reducing the product carbon footprint (PCF). Compared with products made from virgin raw materials, these grades achieve a reduction of more than 20% in carbon footprint. The PCF values shown above were calculated based on the GHG Protocol and ISO 14067, using operational data over a defined period along with reference values from reliable databases. These figures are not

guaranteed values.

Polyplastics will further expand its lineup of products that utilize recycled raw materials, as well as those incorporating environmentally friendly reinforcement materials such as cellulose fibers. Through these efforts, the company aims to meet an even broader range of application needs and contribute to a more sustainable future.

Polyplastics will further expand its product lineup to include products utilizing recycled materials and cellulose fibers. This will help reduce environmental impact and enhance the ability to meet customers' diverse needs.

Source : Polyplastics Co., Ltd.



Elcogen, JNK India partner to drive solid oxide technology in India

Elcogen, a European leader in solid oxide technology for green hydrogen and emission-free power, has signed a Memorandum of Understanding (MoU) with JNK India Limited to explore strategic collaboration opportunities.

This news comes on the heels of Anil Srikar Pavuluri's recent appointment as Elcogen's Business Development Director for India and APAC. Following a productive showing at India Energy Week 2026 in Goa—where Pavuluri and Mikael Jansen, Global Director of Business Development, met with major industry stakeholders—the company solidified its entry into the region. The highlight of the event was an MoU with JNK India Limited, marking Elcogen's first partnership with an Indian EPC provider and a significant milestone in its expansion into the Indian energy market.

Under the MoU, the companies will explore using Elcogen's proprietary solid oxide stacks and modules to recover and utilize waste heat. Focusing on hard-to-abate sectors like green ammonia, urea, and e-fuels, the partnership will also evaluate hybrid systems—combining alkaline and solid oxide technologies—to reduce the cost of green hydrogen

production.

"The global energy industry is being transformed by the growth of renewable energy, decarbonisation initiatives, and digital technologies. Green Hydrogen and low-carbon fuels are shaping the design and execution of future energy projects," said Mr. Dipak Bharuka, Whole Time Director and CEO of JNK India Ltd, adding, "As an Engineering, Procurement, and Construction collaborator, JNK India Limited helps customers adopt the most suitable solutions for their specific requirements. Our collaboration with Elcogen is strategic step towards strengthening the green energy ecosystem and supporting our customers achieve their energy transition goals. Through innovation and collaboration, JNK India Limited will continue to support the global transition towards a sustainable and low-carbon energy future."

The MoU supports Elcogen's efforts to establish a presence in the Indian market, working with JNK India Limited, a company with strong engineering, EPC, and industrial project delivery capabilities in energy and process industries. Through this collaboration, both companies aim to identify opportunities to develop

efficient and scalable solid oxide-based solutions that can contribute to India's clean energy transition.

"We are pleased to start this dialogue with JNK India Limited and explore how we can work together," said Elcogen CEO and Founder, Enn Öunpuu. "India's energy sector is moving quickly, and partnerships like this allow us to better understand local needs while sharing our experience in solid oxide technology. This MoU is an important first step, and we're looking forward to seeing how the collaboration develops."

Source :Indian Chemical News

FDI, Fragmentation, and Feedstock Risks: Decoding India's Chemical Sector Transformation

Vinodhini Harish

Introduction:

The Indian chemical industry is entering a defining phase marked by resilience, reform, and renewed global

relevance. among geopolitical shifts, supply chain disruptions and worldwide push for manufacturing diversification, India has strongly emerged as a strategic alternative in the global chemicals value chain. India was once known for bulk chemical production, but now the sector

is slowly evolving toward specialty, performance and value-added segments that command higher margins and stronger global integration. With the strategies, global corporations adopting China+1 sourcing strategies and diversification of supply chains, India



stands at a pivotal moment. We can expect that in the upcoming years, the advancement may redefine India's position from a regional manufacturing base to a global chemical powerhouse. In this article, we have explored the aspects that are contributing to the growth and the challenges the nation is still facing. Let's begin.

A deep dive into how India is growing in the chemical sector:

The Indian chemical sector is not growing at a slow pace; it is structurally shifting from primarily making basic or commodity chemicals to producing specialty chemicals, high-value chemicals and intermediates. The advent of favourable policies such as the Production-linked Incentive (PLI) scheme, development of PCPIRs (Petroleum, Chemicals & Petrochemical Investment Regions), and other incentives are aiming at strengthening the domestic manufacturing and export-ready capacity. The Indian companies and global players are expanding their facilities, forming partnerships and boosting their production capacities and technology adoption.

India's chemical industry is now valued at approximately \$220 billion that represents one of the largest segments of the country's industrial ecosystem. The valuation includes bulk chemicals, petrochemicals, specialty chemicals, agrochemicals, polymers, fertilizers, dyes and performance materials. The size of the market reflects scale and, more importantly, diversification. Unlike many emerging markets that depend heavily on a narrow chemical base, India's chemical landscape spans upstream petrochemicals to downstream specialty formulations. The integrated structure enhances resilience.

With rising consumption, robust export potential, and increasing demand from end-user industries like agriculture, pharmaceuticals, automotive and



construction, the chemical sector in India is becoming the cornerstone of India's industrial landscape. The chemical industry is now contributing about 7% to the national GDP and ranking among the six producers across the globe. Thus, experts say that the industry could reach the market size of \$300 billion by 2025.

The Indian chemical market is expected to grow with an annual growth rate of 8.1% from 2021 to 2030 and is expected to surpass the market size of \$383 billion by 2030. Major investments and capacity expansions are happening in the Indian chemicals and petrochemicals sector. The Indian government is anticipating \$87 billion in investments over the next decade, and these activities are pushing the annual consumption.

Among other sectors, specialty chemicals are emerging as a high-

growth segment and are expected to reach \$40 billion by 2023 and are expected to grow with a CAGR of 10-12%. Notable innovations and growth are observed in the specialty chemicals sector. On the other hand, agrochemicals are also witnessing promising growth with a CAGR of 8.3%, the sector gets support from the expansion of the agricultural sector and the demand for enhanced crop protection solutions. The Indian chemical companies are performing well collectively, with approximately 30,000 to 40,000 crore investment, prominent key players investing in the sectors and have announced their decisions and ongoing projects.

100% FDI under the automatic routes lowers the regulatory friction:

Foreign Direct Investment(FDI) can come to India through the automatic



route, which doesn't require government approval and the government route that requires prior approval from the concerned ministry. The Indian government allows 100% FDI under the automatic route for most of the segments of chemicals and petrochemicals. This means that a foreign company can invest fully or own 100%, there are no time-consuming approval processes, and there is no political screening delays except in restricted sub-sectors. The majority of the administrative decisions are delayed due to regulatory frictions, and this includes approval delays, bureaucratic uncertainty, policy ambiguity, and conditional clearances. Since the chemical sector is capital-intensive, the projects require long gestation periods, high sunk costs and complex environmental approvals; the regulatory clarity and procedural simplicity are crucial in shaping the investment decisions.

The framework helps with the capital inflow. On the other hand, the chemical plants are demanding large upfront capital investments, advanced process technologies, and long-term strategic commitment. The global investors, particularly multinational corporations, prefer policy stability, full ownership rights and ease of profit repatriation before committing to such large-scale projects. The allowance of 100% FDI through the automatic route has helped the country invite foreign companies to enter, operate, expand and exit with minimal interference.

The result?

About \$22 billion in cumulative FDI inflows into India's chemical sector over the decades reflected sustained interest rather than speculative short-term capital.

Such long-term investments demonstrate continuous reinvestment, enduring confidence across economic

cycles and political administrations. This cumulative investment data is crucial because it indicates policy continuity, consistent sectoral attractiveness and resilience through global turndowns.

These funds have primarily supported capacity expansion that includes greenfield plants, brownfield expansions and integrated petrochemical complexes. They have also financed technology upgrades such as cleaner production systems, energy-efficient operations, automations, digitalization and enhanced specialty chemical capabilities.

Meanwhile, the FDI has strengthened export-oriented units that were designed to meet international standards, integrate into multinational supply chains, and comply with regulatory frameworks in major markets like the EU, US, and Japan. This becomes especially crucial in India, which seeks to capture supply opportunities due to Europe's structural cost challenges and global diversification away from China.

Indian specialty chemicals are highly fragmented:

The Indian specialty chemicals sector is highly fragmented, with thousands of micro, small and mid-sized enterprises. These enterprises are operating under diverse product niches, and this entrepreneurial base drives flexibility, innovation and thus limits scale advantages in procurement. The smaller firms are facing constraints in capital access, technology adoption and compliance. Therefore, consolidation trends are emerging as larger players and private equity investors are seeking scalable platforms with export potential. Increased private equity participation is improving corporate governance, transparency, and operational efficiency, gradually transforming the sector into a more structured and globally competitive ecosystem.

Challenges:

Indian chemical sector continues to face challenges that comes due to the complex and inconsistent regulatory environment.

The primary concern is the overlap between central and state-level regulations. Environmental approvals, factory licensing, hazardous chemical handling permissions, labour laws and so on fall under different authorities, each operating with distinct procedures and timelines. This fragmentation creates a layered compliance structure where the companies must secure multiple clearances before commencing operations or expanding capacity.

The lack of coordination among agencies can lead to duplication of documentation, inconsistent interpretations of rules, and prolonged approval cycles.

Unlike the European Union's unified chemical regulatory regime under REACH (Registration, Evaluation, Authorization and Restriction of Chemicals), India does not yet have a fully integrated, single-window chemical compliance framework that harmonizes environmental, safety, and product regulations under one umbrella. The absence of such a centralized system means companies must navigate separate rules under pollution control boards, industrial safety authorities, and local administrations. This fragmented structure increases transaction costs, extends project timelines, and reduces the ease of doing business. Investors often factor regulatory predictability into risk assessment models, and procedural ambiguity can deter or delay capital commitments. For multinational chemical companies accustomed to standardized regulatory regimes, this complexity can appear as an operational hurdle.

Investors find India an attractive and



low-risk manufacturing destination:

The global investors are increasingly viewing India as an attractive, relatively low-risk manufacturing destination due to structural factors. India is offering a large domestic demand base, rising middle-class consumption and expanding agrochemical, pharmaceutical and automotive industries.

The presence of strong engineering and technical talents in the country makes it even more attractive compared to other emerging markets. India also benefits from stable democratic institutions, an independent judiciary, continuity in industrial policy and relatively stronger macroeconomic fundamentals. Moreover, the China+1 strategy and Europe's chemical cost pressures have enhanced India's strategic relevance. Investors today are not solely seeking low costs; they are actively pursuing geopolitical diversification and supply chain resilience.

The projected \$87 billion investment anticipated over the next decade in the chemicals and petrochemicals sector

highlights that the growth is not incidental; it reflects coordinated public and private sector commitments, multinational expansion plans and development of integrated petrochemical hubs.

Government policy frameworks, such as Petroleum, Chemicals and Petrochemical Investment Regions (PCPIRs), targeted incentives in select value chains, infrastructure-linked clusters, and port connectivity improvements, aim to work on scalability, integration, and efficiency. Integrated clusters reduce feedstock costs, logistics inefficiencies, and energy wastage, thereby improving global competitiveness.

An investment projection of this magnitude signals that chemical sector expansion is a national strategic priority. It represents long-term industrial planning, export alignment, job creation, and structural positioning within the global value chain. India's objective is not merely to expand commodity production but to increase its share in specialty chemicals, reduce import dependence, and move toward

higher-margin segments.

Takeaway: Indian chemical industry's growth is no longer linked with rising output figures; it is reflecting a deep structural transformation. Expanding domestic demand, accelerating capital investments, and policy-driven manufacturing incentives have collectively strengthened the sector's foundation. The transition from bulk chemicals to specialty and value-added products signals greater sophistication, improved margins and stronger integration into the global supply chain. There are some challenges too, ranging from regulatory complexity, infrastructure gaps and raw material volatility; nevertheless, the convergence of global supply chain diversification, government support and private sector investments positions India favourably for the next phase of industrial expansion. If this momentum continues, then 2026 could mark a structural inflection point—establishing India not just as a cost-effective alternative, but as a strategic global hub for innovation-driven and sustainable chemical manufacturing.

PPG, IPG and Whirlpool ignite laser revolution to slash energy use and turbocharge powder coatings

In a move poised to reshape industrial finishing, PPG Industries has teamed up with IPG Photonics, the global leader in fiber laser technology, and Whirlpool Corporation, a major home appliance manufacturer, to fast-track the large-scale commercialization of laser curing systems for powder coatings.

The partnership targets a powerful trifecta: cutting curing costs, slashing environmental impact, and dramatically increasing finishing line speeds.

At the center of the initiative is a

technology shift that could upend conventional processes. Instead of relying on heat-heavy thermal ovens, laser curing uses infrared light to trigger crosslinking — the chemical reaction that fuses powder particles into a tough, protective finish.

The result: cure times measured in minutes rather than the extended cycles required by traditional thermal systems, with greater efficiency than standard IR curing methods. Lower heat demand and faster throughput translate into significant energy savings and higher

productivity.

“This collaboration, which represents a significant advancement in the coatings industry, positions us at the leading edge of powder finishing, highlights the strength of our partnership driven customer approach and reinforces our commitment to outside-the-can capabilities that bring value beyond our coatings,” said David Bem, PPG senior vice president, science and technology and chief technology officer.

To back the push, PPG has installed a



state-of-the-art pilot finishing line featuring IPG's PhotoniCURE laser curing system at its powder manufacturing and technical facility in Strongsville, Ohio. A dedicated laboratory system has also been deployed at the PPG Coatings Innovation Center near Pittsburgh to accelerate research and feasibility testing.

Pilot trials are already underway with Whirlpool, evaluating multiple powder formulations cured using the PhotoniCURE system across a range of appliance components. The company says the process will soon be available to additional customers.



“Industrial manufacturing finishing processes are incredibly energy intensive, and we are excited to participate with PPG in the development of laser-curing capabilities,” said Scot Blommel, Whirlpool Corporation global sustainability senior

manager. “These trials will be critical in helping to determine how to best maximize this technology to reduce our environmental impact, enhance productivity and reduce our energy costs.”

For IPG, the coatings sector represents a major new frontier for laser technology

adoption.

“We anticipate demand for PhotoniCURE systems to take hold in the coatings industry as our joint value proposition with PPG is proven in volume manufacturing, aided by intensifying trends towards sustainable manufacturing practices,” said Mira Sahney, IPG global laser systems senior vice president. “Our collaboration with PPG and Whirlpool is a huge step towards advancing our pioneering solution.”

Source : Indian Chemical News

Simon India and IIT Bombay Partner to Accelerate Green Industrial Technologies

Team Chemical Market

Introduction:

India is taking a significant step toward strengthening its industrial future. Simon India Limited has partnered with the Indian Institute of Technology Bombay to co-develop green and low-carbon technologies. The signing of a formal Memorandum of Understanding (MoU) signals more than a symbolic

collaboration; it establishes a structured framework for long-term cooperation between industry and academia. The partnership represents a broader structural shift in India's industrial ecosystem, where engineering firms and premier research institutions are aligning to accelerate climate-focused innovation. As India advances on its decarbonization journey, such collaborations are critical. Thus, we have thoroughly explored the news and

compiled all the necessary information in this article. let's begin.

Simon India–IIT Bombay MoU Signals Shift Toward Climate-Ready Manufacturing

Simon India and IIT Bombay join up to develop green and low-carbon technologies. This strategic collaboration between the industry and academia indicates that there is a shift



towards sustainability-focused industrial development. India is on its decarbonization journey, and these partnerships are critical as the industrial players provide execution capacity, while the academic institutions provide innovation and research depth. Simon India Limited is positioned as an EPCM service provider. This means that the designs and execution of large industrial plants, especially in chemicals. Their involvement ensures that green technologies developed are technically feasible and commercially deployable.

Simon India and IIT Bombay have signed a formal Intent agreement, MoU. This is not a binding contract, but it establishes a collaboration structure for the team, defines scope, and direction. This also indicates long-term cooperation rather than a one-off research project. Indian Institute of Technology Bombay brings in scientific expertise.

Simon India Limited operates as an EPCM (Engineering, Procurement, Construction Management) service provider. This model is widely used in large industrial and chemical infrastructure projects. Under the EPCM structure, the company is responsible for engineering design, sourcing of equipment and materials, and managing the overall construction process, while the client retains ownership and direct contracting authority. This approach is getting more momentum in the chemical sector as it offers flexibility, cost transparency, and tighter technical control.

In practical terms, Simon India Limited translates conceptual or laboratory-scale technologies into full-scale industrial plants. In sectors such as specialty chemicals, petrochemicals, fertilizers, and sustainable process technologies, moving from pilot stage to commercial production involves intricate design calculations, process optimization, safety engineering, environmental

compliance, and equipment integration. As an EPCM partner, the company ensures green technologies. The technology is not just theoretically viable but technically executable at scale. This means the company bridges the gap between innovation and real-world industrial implementation. Since the majority of green technologies begin as laboratory concepts, the process might show some result at laboratories, but scaling the process to a full-sized chemical plant might bring up more complexities. Therefore EPCM partner takes the responsibility for translating these concepts into detailed engineering designs. This includes creating process flow diagrams, selecting corrosion-resistant materials, designing reactors and heat exchangers that maintain efficiency at high volumes, and integrating emission control systems that meet regulatory standards. They also ensure the plant layout supports safe operations and maintenance.

The firm's expertise in plant layout, material handling systems, utilities

integration, automation, and regulatory adherence reduces project risk. It also supports cost estimation, vendor coordination, timeline management, and commissioning support. This end-to-end involvement is crucial in chemical projects where delays or design flaws can significantly escalate capital expenditure.

Backing from the Adventz Group further strengthens Simon India Limited's positioning. Adventz Group, a diversified industrial conglomerate with interests in agrochemicals, engineering, and infrastructure, provides financial stability, industry networks, and strategic credibility. Such backing enhances the company's ability to undertake large capital-intensive projects and instills confidence among investors and technology developers.

Together, technical EPCM capability and strong industrial backing position Simon India Limited as a reliable bridge between innovation and industrial-scale



EVENTS AND CONFERENCES

CPHI JAPAN

Date : Apr, 21-23, 2026

City : East Halls 1, 2 & 3, Tokyo Big Sight, Tokyo, Japan

Country : Japan

Website : <https://www.cphi.com/japan/>

Description : CPHI creates connections and inspires partnerships across the global pharma community. We champion innovation at the heart of pharma at our in-person and online events, granting you access to endless opportunity. Our powerful digital solutions help you to stay connected with your industry at every step in your journey.

CPHI MIDDLE EAST & AFRICA

Date : Apr, 13-15, 2026

City : Bangalore International Exhibition Centre

Country : India

Website : <https://paintandcoatingexpo.com/>

Description : The Paint and Industry Expo in Bangalore, India from 13th to 15th April 2026, will be a three-day event that gathers industry professionals, service providers, machinery and equipment manufacturers, technology innovators, and related stakeholders. This unique platform will facilitate networking, knowledge sharing, and business opportunities in the Paint and Coating sector, ultimately benefiting all participants. The Paint and coating Expo is an event designed to stimulate investment in the Paint and Coating industry, fostering a platform for local and national investors and experts to share knowledge, exchange business ideas, and ultimately drive business growth. By bringing together industry stakeholders, the expo aims to promote trade, improve competitiveness, and increase the overall value of the Paint and coating sector. The right technology, practices and equipment play a very crucial role in getting the right output in the Paint And Coating industry. The choice of right equipment and right quality is very important to create the perfect ground for a very successful position in the Paint and Coating industry.

AMERICAN COATING SHOW

Date : May, 5-7, 2026

City : The Indiana Convention Center, 100 S. Capitol Ave., Indianapolis, IN 46225

Country : Indianapolis

Website : <https://american-coatings-show.com/>

Description : The 2026 American Coatings Show and Conference is the premier event for professionals across the paints and coatings value chain. As the largest coatings industry gathering in North America, ACS brings together thousands of attendees and hundreds of exhibitors for three high-impact days focused on innovation, sourcing, and technical excellence.



MIDDLE EAST COATINGS SHOW

Date : Apr 14-16, 2026

City : North Halls, Dubai Exhibition Centre (Dec), Expo City Dubai

Country : Dubai

Website : https://www.middleeastcoatingsshow.com/?utm_source=referral-traffic&utm_medium=ref-visit&utm_campaign=google.com

Description : The Middle East Coatings Show returns from 14-16 April 2026 at the Dubai Exhibition Centre (North Halls) in Expo City Dubai. With over 30 years of industry presence, it remains the only event in the Middle East and North Africa dedicated to the coatings industry and the largest gathering for professionals looking to connect, source products and explore the latest industry developments. Over three days, the event provides a focused platform for business, networking and product discovery. Hosted in a modern venue designed to maximise visibility and growth, it brings together manufacturers, raw material suppliers, distributors, buyers and technical experts to meet, share insights and build valuable business relationships.

PAINT EXPO GERMANY

Date : Apr 14-17, 2026

City : Messe Karlsruhe, Germany

Country : Germany

Website : <https://www.paintexpo.de/en/>

Description : PaintExpo takes place every other year in Karlsruhe as a showcase for innovations, applications, future technologies and trends covering all aspects of industrial coating. The trade fair spans the entire range of international products and services in the supply chain for industrial coating technology. The wide spectrum of products extends from spray guns, equipment and materials to automation technology. This globally unique get-together of companies from the industry is unparalleled worldwide, making it highly attractive for coating service providers and in-house coating companies from around the world.

CHEMSPEC EUROPE

Date : May 6-7, 2026

City : Koelnmesse, Germany

Country : Germany

Website : <https://www.chemspeceurope.com/>

Description : Chemspec Europe is the leading meeting point for the fine and speciality chemicals community. Across two days, chemical industry professionals from around the world come together to source bespoke solutions, discuss technical challenges, and explore the full spectrum of fine and speciality chemicals. With dedicated expertise, international reach and high-value networking, the event offers a powerful gateway to new suppliers, new partnerships and new opportunities.



commercialization in the chemical sector. Indian Institute of Technology Bombay brings deep scientific and research expertise into industrial collaborations. As one of India's premier engineering institutions, IIT Bombay has strong capabilities in chemical engineering, material science and energy systems. The term co-develop is particularly important in such partnerships. This goes beyond a traditional consultancy arrangement, where an academic institution consultancy arrangement.

Green technologies may replace fossil-based raw materials with renewable feedstocks like biomass or recycled inputs. In some cases, they incorporate carbon capture, utilization, or storage (CCUS) systems to trap carbon dioxide emissions and either reuse them in chemical processes or safely store them. Together, such solutions help industries transition toward more sustainable, low-carbon production models while remaining economically viable.

Key collaboration details:

Green Hydrogen and Green Ammonia: Green hydrogen is produced using renewable energy to electrolyze water, generating hydrogen without carbon emissions. It is considered a cornerstone for decarbonizing hard-to-abate sectors like steel, chemicals and heavy transport.

Green ammonia is produced by combining green hydrogen with nitrogen from the air. Ammonia plays a dual role. First, it is a critical input for fertilizers, making it essential for global food security. Second, it acts as an efficient hydrogen carrier. Hydrogen is difficult to store and transport due to its low density, but ammonia is easier to liquefy, store, and ship using existing infrastructure. It is also being explored as a low-carbon marine fuel for global shipping.

CCUS (Carbon Capture, Utilization

and Storage)

CCUS is particularly important for sectors such as cement, refineries, and chemicals, where emissions are not only from fuel combustion but also from inherent chemical reactions (process emissions). For example, cement production releases CO₂ during limestone calcination.

CCUS technologies capture CO₂ from flue gases before it enters the atmosphere. The captured carbon can either be:

- Stored underground (carbon storage), or
- Reused in industrial applications (carbon utilization), such as producing chemicals, synthetic fuels, or building materials.

Energy-Efficient, Low-Carbon Processes

Improving energy efficiency is often the fastest and most cost-effective way to cut emissions. Retrofitting existing plants — by upgrading heat exchangers, optimizing reactors, improving insulation, or integrating waste heat recovery systems — can significantly reduce fuel consumption and operating costs.

Digital monitoring, automation, and advanced catalysts also enhance process efficiency and reduce carbon intensity without building entirely new plants. **Rare Earth Recovery & Advanced Fertilizers**

Rare earth elements are critical for renewable energy technologies, electric vehicles, and electronics. Recovering them from industrial waste or secondary sources strengthens supply chain security and reduces import dependency.

Advanced fertilizers focus on improving

nutrient efficiency, reducing runoff, and lowering greenhouse gas emissions from agriculture. Innovations such as slow-release formulations and bio-enhanced nutrients support sustainable farming while maintaining crop productivity.

All of these approaches comprehensively help to move towards industrial decarbonization, resource efficiency, and long-term strategic resilience.

The partnership is becoming a broader national trend:

The partnership reflects a wider structural movement in the Indian industrial ecosystem. The private engineering firms are increasingly collaborating with premier institutions such as the Indian Institute of Technology Delhi and the Indian Institute of Science to accelerate applied research in sustainability. This model reflects global best practices seen in Germany, Japan, and South Korea, where there is close coordination between universities and industrial firms has driven technological leadership.

Operating under the EPCM (Engineering, Procurement, Construction Management) model, Simon India Limited plays a pivotal role in translating laboratory-scale innovations into full-scale industrial plants. In sectors such as specialty chemicals, fertilizers, and petrochemicals, scaling green technologies involves complex engineering, safety compliance, cost optimization, and infrastructure integration. With the financial backing of the Adventz Group, the company combines technical expertise with industrial credibility, positioning itself as a bridge between research innovation and commercially viable industrial deployment.

The strength of India lies in its scientific talent pool and in expanding the



industrial base. Therefore, the combination of both assets strategically positions the country as a clean manufacturing hub rather than merely a volume-driven exporter.

The shift is especially important in chemicals and process industries, where capital expenditure is high, and plant lifecycles extend decades. Building the green capabilities today determines competitive positioning for the next 30-40 years.

The active development of green process solutions has made the Indian sector respond to these pressures with strength rather than defensiveness. The export-oriented sectors, such as chemicals and fertilizers, failing to decarbonize result in Tariff disadvantages, restricted market access, high financing costs and reputational risks. These green process solutions are helping out the country.

Technology-led competitiveness means using advanced engineering, digital tools, and scientific innovation to produce more with less — less energy, less waste, less emissions.

For example:

- Advanced catalysts can reduce reaction temperatures and energy demand.

- Heat integration systems can recover waste heat and reuse it within the plant.
- Carbon capture technologies can convert waste CO₂ into value-added chemicals.
- Green ammonia systems can open export markets in the clean fuel trade.

These innovations improve operational efficiency while enhancing global market access. Multinational buyers increasingly require suppliers to disclose carbon footprints and sustainability metrics. Companies that fail to meet these standards risk losing export contracts.

By integrating research-backed green technologies with EPCM-scale execution capabilities, India can shift from being a low-cost producer to a high-efficiency, low-carbon producer.

Since Industrial emissions are rising alongside global output growth, the per capita emissions remain lower than those of many developed nations. It is observed that structural decarbonization requires process redesign, fuel substitution, electrification, carbon capture,

circular material flows and so on. The partnership addresses these elements holistically. Over time, these interventions significantly lower the carbon intensity and emissions per unit of GDP without compromising growth.

Takeaway:

The collaboration between Simon India Limited and IIT Bombay underscores a strategic evolution in India's approach to industrial development. The country is focusing on green hydrogen, green ammonia, CCUS, energy-efficient retrofits, rare earth recovery and advanced fertilizers, and this partnership has addressed the critical pillars of industrial decarbonization and resource security. These kinds of initiatives are not only environmentally necessary but economically strategic, especially as export markets increasingly demand low-carbon supply chains. For the export-oriented sectors like chemicals and fertilizers, failure to decarbonize could lead to several risks like high financing costs, reputational risks and so on. Therefore, the country should remain proactive in developing scalable green process solutions and strengthen its competitive position while reducing long-term carbon intensity.

Asahi Kasei Advance to showcase high-performance non-woven and fibers at Techtextil 2026

DUESSELDORF – March 4, 2026 – Asahi Kasei Advance will present its portfolio of high-performance nonwovens, flame-retardant fabrics, and advanced textile and fiber solutions designed for various industries during its first-ever exhibition at Techtextil 2026. Techtextil is the leading international trade show for technical textiles and nonwovens, taking place

from April 21-24, 2026, in Frankfurt, Germany. Asahi Kasei Advance will highlight 14 brands, with special focus on four key materials as its debut at the exhibition in Hall 12.1 at booth C35.

Advanced Flame Protection: LASTAN™

LASTAN™ is a non-mineral flame-retardant fabric made by air baking a special acrylic fiber at 200–300°C.

Featuring a limited oxygen index (LOI) of 47.5-50, it is characterized by high flame resistance and good electrical insulation, and a special coating process allows the material to disperse sparks generated during welding or cutting operations, thereby suppressing ignition. This allows the material to provide effective protection against flames and particle exposure from



venting gases. With these excellent characteristics, LASTAN™ has been used for many years as an optimal material for failure prevention and safety in various industries.

Durable and Recyclable 3D Spacer Fabric: Cubit™

The 3D warp knitted fabric Cubit™ is the ideal material for applications that require durability, breathability, ease of care, and enhanced support and comfort. With front and back surfaces made of PET, it is available in types using connecting threads made of PTT, PET or Nylon. The all PET monomaterial type provides an easy-to-recycle alternative to polyurethane foam in applications for the health care, furniture, or automotive industry.

Nonwovens for Hygiene and Cleaning Solutions: Bemliese™

Bemliese™ is a cellulose continuous filament nonwoven sheet made from cotton linter. It becomes especially soft after moistening and drapes well over any surface it contacts with less abrasion. Its exceptional moisture absorption and retention make it a suitable material for hygienic applications and cosmetic applications

like face and eye masks. In a dry state, Bemliese™ leaves virtually little lint, scratches, or chemical residues on the surfaces it contacts, making it a material suitable for cleaning equipment in industrial, laboratory, or medical environments where contamination must be minimized. TÜV AUSTRIA Belgium NV has certified the material's biodegradability in soil, water and marine environment, as well as for industrial and home composting.

Binder-Free Versatility: ELTAS™

ELTAS™ is a versatile spunbond nonwoven material available in various types made of polyamide, polyester, or polypropylene. All three materials feature binder-free webs and are available in ultra-thin low-weight grades. These spunbond binder free nonwoven fabrics feature filament evenness, air permeability, and edge fray resistance. ELTAS™ grades are used across a wide range of applications, including hygiene products, consumer and household items, automotive

components, filtration, agriculture, housing materials, and other applications such as tea bags, and cable wrapping solutions.

All four highlighted brands alongside



ten additional material solutions will be presented at the Asahi Kasei Advance booth C35 in Hall 12.1.

LASTAN™ and Cubit™ are trademarks of Asahi Kasei Advance Corporation. Bemliese™ is a trademark or registered trademark of Asahi Kasei Corporation. ELTAS™ is a trademark or registered trademark of Mitsui Chemicals Asahi Life Materials.

Source : Asahi Kasei

41st World Petrochemical Conference to Tackle Chemical Industry Challenges in an Era of Disruption

HOUSTON, March 5, 2026 / HPRNewswire/ -- Marking 41 years of shaping industry insight and convening the industry's top decision makers, the annual World Petrochemical Conference (WPC) by S&P Global returns to Houston and will take place March 23-27, 2026, at the downtown Marriott Marquis. At this premier gathering of over 400

leading companies in the global chemical industry - with 100 CEOs and over 1200 attendees representing over 50 different countries - notable thought leaders will converge to discuss the sector amid geopolitical challenges, navigating oversupply and shifting cost dynamics while discussing how the industry can position itself for what comes next.

Mark Eramo, Special Advisor, S&P Global, said, "We are proud to celebrate WPC's 41-year legacy as the industry's leading forum for chemical market intelligence and high-level industry dialogue, and this year's theme — 'Catalyzing the Transformation: Renewal for Chemicals in an Era of Disruption'—reflects the urgency of the



moment. The supply-driven downturn is accelerating shifts that require strategic recalibration beyond typical management of the cycle.

At WPC, we will explore several interconnected themes shaping our new reality, such as supply rationalization and potential intervention; a shifting crude-to-gas cost equation that challenges the competitiveness of gas-

based chemical producers; and a more pragmatic sustainability agenda supported by proven technology and real market demand. And, crucially, we will examine how to tackle a supply-driven downturn. Our distinguished speakers and experts will share candid perspectives, actionable intelligence, and

forward-looking insights to help companies make the right strategic choices in the years ahead. We hope you will join us in March for an energizing, high-impact forum focused on practical pathways to renewal—and we look forward to welcoming you."

Source : S&P Global Energy

LANXESS at the Tire Technology Expo: New high-performance additives for the tire industry

- Vulkanox 4060: a sustainable alternative to the antioxidant 6PPD
- Aflux SD improves silica dispersion in tire compounds
- Release agents reduce deposits in the production process
- Resorcinol-free coupling agent systems optimize the bonding of rubber and reinforcing materials
- Innovative, talc-free additives
- Tire Technology Expo 2026, March 3 – 5, Hannover, Hall 20, Booth 2050

Rubber chemicals from LANXESS enable tire manufacturers to make their production processes more stable and material-efficient, reduce their ecological footprint, and make modern tires even more efficient. Photo: LANXESS

LANXESS will present new high-performance additives for the tire industry at the Tire Technology Expo 2026 in Hannover. With these solutions, the specialty chemicals company is helping tire manufacturers to stabilize and improve the safety and material efficiency of their processes, reduce their ecological footprint, and enhance the efficiency of modern tires.

Sustainable alternative to 6PPD: Vulkanox 4060

Against the backdrop of stricter regulatory requirements for the antioxidant 6PPD – particularly in the US, but also within the framework of European legislation – LANXESS developed Vulkanox 4060 (N,N'-dicyclohexyl-1,4-phenylenediamine, CCPD) as an alternative with an optimized environmental profile. In tire compounds and finished tires, laboratory and application tests have demonstrated that the product provides comparable protection against oxidative

aging.

LANXESS is preparing to register the product in accordance with the European REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) regulation for volumes exceeding 1,000 tons. Commercial production is scheduled to begin in the middle of the year.

Aflux SD – efficient processing agent for silica dispersion

Aflux SD is a processing agent for silica that improves the flow behavior of compounds and the dispersion of fillers, especially when used with functionalized polymers. This additive is made from sustainable raw materials, is free of Substances of Very High Concern (SVHC), and significantly improves silica dispersion. Among other things, this reduces the Payne effect, i.e., the rolling resistance of tires, their wear resistance, and wet grip are improved.

Regulation as a driver of innovation

Talc is used in the rubber industry as



MUMBAI MARKET PRICE AS ON 10/03/2026

Name of Chemical	Current Price	Location
Acetic Acid-Imported Repack	60	Mumbai
Acetic Acid-Domestic Intact	70	Mumbai
Acetic Acid-Domestic Repack	60	Mumbai
Acetone-Imported Repack	125	Mumbai
Acetone-Domestic Intact	150	Mumbai
Acetone-Domestic Repack	125	Mumbai
Acetonitrile-Imported Intact	215	Mumbai
Acetonitrile-Domestic Intact	190	Mumbai
Acetonitrile-Domestic Repack	190	Mumbai
Acrylonitrile-Imported Intact	190	Mumbai
Acrylonitrile-Imported Repack	170	Mumbai
Aniline-Imported Intact	180	Mumbai
Aniline-Domestic Intact	190	Mumbai
Benzene-Domestic Repack	95	Mumbai
Cyclohexane-Imported Intact	150	Mumbai
Cyclohexane-Domestic Intact	120	Mumbai
Cyclohexane-Domestic Repack	100	Mumbai
Cyclohexanone-Imported Intact	150	Mumbai
Cyclohexanone-Imported Repack	140	Mumbai
Cyclohexanone-Domestic Intact	150	Mumbai
Cyclohexanone-Domestic Repack	137	Mumbai
C9 Solvent (99.99% purity)-Imported Repack	135	Mumbai
C9 Solvent (Arham Petrochem)-Imported Repack	134.75	Mumbai
Dibutyl Phthalate-Domestic Intact	140	Mumbai
Diocetyl Phthalate-Domestic Intact	160	Mumbai
Ethyl Acetate-Domestic Intact	87	Mumbai
Ethyl Acetate-Domestic Repack	82	Mumbai
Formaldehyde(37%)-Domestic Repack	24	Mumbai
Methanol-Imported Repack	50	Mumbai
Methyl Ethyl Ketone-Imported Intact	190	Mumbai
Methyl Ethyl Ketone-Imported Repack	170	Mumbai
Methyl Isobutyl Ketone-Imported Intact	160	Mumbai
Methyl Isobutyl Ketone-Imported Repack	135	Mumbai



Methyl Methacrylate-Imported Intact	181	Mumbai
Mixed Xylene-Imported Repack	105	Mumbai
Mixed Xylene-Domestic Repack	105	Mumbai
Monoethylene Glycol-Imported Repack	70	Mumbai
Monoethylene Glycol-Domestic Intact	75	Mumbai
Monoethylene Glycol-Domestic Repack	70	Mumbai
Iso propyl Alcohol-Imported Repack	125	Mumbai
Iso propyl Alcohol-Domestic Intact	150	Mumbai
Iso propyl Alcohol-Domestic Repack	125	Mumbai
nButanol-Imported Repack	115	Mumbai
nButanol-Domestic Intact	140	Mumbai
nButanol-Domestic Repack	115	Mumbai
Ortho Xylene-Imported Repack	115	Mumbai
Phenol-Imported Repack	125	Mumbai
Phenol-Domestic Intact	150	Mumbai
Phenol-Domestic Repack	125	Mumbai
Phthalic Anhydride-Imported Intact	115	Mumbai
Phthalic Anhydride-Domestic Intact	115	Mumbai
Styrene Monomer-Imported Repack	190	Mumbai
Toluene-Imported Repack	105	Mumbai
Toluene-Domestic Repack	105	Mumbai
Vinyl Acetate Monomer-Imported Repack	150	Mumbai

Note-Above prices have been collected from experts and experienced outsources of the industry. Kindly verify from your end as well.

INTERNATIONAL MARKET PRICES AS ON 10/03/2026

Product	Regions	Current prices
Feedstock Prices \$/unit		
Crude Oil (\$/barrel)	WTI CRUDE	88.67
	BRENT CRUDE	92.94
	MARS US	69.53
	OPEC BASKET	96.4
Natural Gas	New York	3.09
Gasoline	RBOB	2.71



Heating Oil	US	3.47
Ethanol	US	1.86
Naphtha	FOB US Gulf	711.6
	European	800
	CFR Far East Asia	1009
Propane	New York	0.77
Aromatics prices \$/MT		
Benzene	FOB Korea	1175
	CFR Japan	1170
Styrene	CFR Japan	1425
	CFR South East Asia	1210
	CFR China	1425
	FOB Korea	1435
Toluene	CFR China	1110
	CFR South East Asia	975
	FOB Korea	1115
	CFR Japan	1110
Iso-Mix Xylene	CFR South East Asia	950
	CFR Taiwan	945
	FOB Korea	1220
MEG	CFR China	575
	CFR South East Asia	570
Methanol	CFR China	333
	CFR Korea	392
	CFR South East Asia	405
	CFR Taiwan	357
Solvent-MX	CFR South East Asia	780
	FOB Korea	910
	CFR China	960
Ortho Xylene	CFR South East Asia	980
	FOB Korea	1045
	CFR China	950
Para Xylene	CFR South East Asia	1080
	FOB Korea	1320
	CFR Taiwan	1340



Propylene	FOB Japan	870
	FOB Korea	1105
	CFR China	1145
	CFR South East Asia	840
Ethylene	CFR North East Asia	945
	CFR South East Asia	915
	FOB Japan	850
	FOB Korea	855
EDC	CFR Far East Asia	240
	CFR South East Asia	245
Butadiene	CFR China	1795
	CFR South East Asia	1435
	FOB Korea	1775
Benzene	FOB Rotterdam	1120
Methanol	FOB Rotterdam	366
Ortho Xylene	FOB Rotterdam	1055
Para Xylene	FOB Rotterdam	1075
Solvent-MX	FOB Rotterdam	960
Styrene	FOB Rotterdam	1395
Toluene	FOB Rotterdam	1030
Benzene C/G	FOB US Gulf	371
Toluene C/G	FOB US Gulf	337
Styrene C/LB	FOB US Gulf	58.9
Para Xylene \$/MT	FOB US Gulf	1415
Mix Xylene C/G	FOB US Gulf	336
Methanol C/G	FOB US Gulf	106
Intermediates prices \$/MT		
Acrylonitrile	CFR Far East Asia	1095
	CFR South East Asia	1105
	CFR South Asia	1070
VCM	CFR Far East Asia	540
	CFR South East Asia	575
MTBE	FOB Singapore	1135
	FOB US Gulf C/G	265.6
Phenol	CFR China	840



	CFR South East Asia	900
	FOB US Gulf	896
	FOB Rotterdam	1111
Acetone	CFR China	570
	CFR South East Asia	675
	CFR Far East Asia	600
	FOB US Gulf	837
	FOB Rotterdam	884
Caprolactum	CFR Far East Asia	1340
	CFR South East Asia	1345
Caustic Soda	FOB North East Asia	340
	CFR South East Asia	415
Ethyl Acetate	FOB US Gulf	1290
	FOB Rotterdam	908
	FD North West Europe(Euro/mt)	870
Butyl Acetate	FOB US Gulf	1478
	FOB Rotterdam	1038
	FD North West Europe(Euro/mt)	980
MEK	FOB Rotterdam	1179
	FD North West Europe(Euro/mt)	1100
IPA	FOB US Gulf	1000
	FOB Rotterdam	908
	FD North West Europe(Euro/mt)	870
NBA	CFR China	750
	CFR South East Asia	825
	CFR Far East Asia	825
Octanol	CFR China	920
	CFR South East Asia	995
	CFR Far East Asia	975
DOP	CFR China	990
	CFR South East Asia	1070
	CFR Far East Asia	1060
Phthalic Anhydride	CFR China	845
	CFR South East Asia	975
	CFR Far East Asia	940



PTA	CFR Far East Asia	945
	CFR South East Asia	980
Acetic Acid	CFR Far East Asia	404
	CFR South East Asia	395
	CFR South Asia	367
	FOB China	315
VAM	CFR China	845
	CFR South East Asia	785
	CFR South Asia	900

Note- Last changed price means when it changed last whether its yesterday or 2 days ago or 5 days ago or depends on last changing.

Shipping term

Description

FOB Free on Board	The seller quotes a price including the cost of delivering goods to the nearest port. The buyer bears all the shipping expenses and is responsible to get the products from that port to its final destination. In simple terms, FOB price means the buyer has to bear the shipping costs completely. This is one of the most used shipping terms by international buyers and sellers.
EXW Ex-Works	The seller has no involvement with the transportation costs and risks. The buyer has to collect the goods from the seller's site and get them to the final destination. All the costs and risks are borne by the buyer. It is advisable that the buyer purchases insurance since the goods can get damaged in transit. EXW is ideal when the buyer and seller are in the same country or region.
CFR Cost and Freight	The seller pays the loading and freight costs from his premises up to the destination port. Then, the buyer has to arrange for the goods to be transported from the port to his premises. The seller is only responsible for the cost of shipping the products to the destination port. CFR is used for products transported by sea or inland waterways only. The seller does not bear the risk of loss or damage during transit.
CIF Cost, Insurance, and Freight	If the buyer opts for CIF price, the seller pays for the loading and freight costs right from his premises up to the destination port as well as insurance. In the case of damage or loss, the seller bears the risk completely. The buyer has to arrange for transportation of the goods from the port to his premises. CIF is a safer option than CFR since the goods are insured by the seller up to their arrival at the destination port.
DAP Delivered at Place	It was previously known as DDU, Delivery Duty Unpaid. In this case, the seller is responsible for getting the goods from his own factory up to the premises of the buyer. He also bears the risk in the case of loss or damage of the goods right until the products are delivered to the buyer. The buyer only has to pay the import duties or custom clearance charges.
DDP Delivery Duty Paid	The seller is responsible for shipping the goods from his factory to the destination address provided by the buyer, usually his factory or warehouse and is also liable for any damage or loss of goods during transit. The seller also takes care of the customs, VAT, or import duties levied on the products. The buyer only has to receive the products at the destination. In most cases, most sellers only offer DDP for small shipments.



	Free Delivered	Free Delivered North West Europe	Free Delivered North West Europe	Free Delivered North West Europe
FD North West Europe	Southeast Asia is composed of eleven countries: Brunei, Burma (Myanmar), Cambodia, Timor-Leste, Indonesia, Laos, Malaysia, the Philippines, Singapore, Thailand and Vietnam.	Far East Asia: The following countries are considered to be located in the Far East: China, Hong Kong, Macau, Japan, North Korea, South Korea, Mongolia, Siberia, Taiwan, Brunei, Cambodia, East Timor, Malaysia, Laos, Indonesia, Myanmar, Singapore, Philippines, Thailand, and Vietnam.	South Asia: The region consists of the countries of Afghanistan, Pakistan, India, Nepal, Bhutan, Bangladesh, the Maldives, and Sri Lanka	Northwestern Europe usually consists of the United Kingdom, the Republic of Ireland, Belgium, the Netherlands, Luxembourg, Northern France, Northern Germany, Denmark, Norway, Sweden, and Iceland.
Countries Groups				

Note- Last changed price means when it changed last whether its yesterday or 2 days ago or 5 days ago or depends on last changing.

OPENING PORTS PRICE (RS/KG) OF CHEMICALS AS ON 10/03/2026

USD Exchange Rate: 92.06 INR

Producers	Current Prices (INR/kg)	Prices in USD/mt Equivalent to INR/kg	Location
Acetic Acid	58	630.02	Ex-Kandla
Acetic Acid	58	630.02	Ex-Mumbai
Acetonitrile-imported intact	172	1868.35	Ex-Bhiwandi
Acetone	135	1466.43	Ex-Mumbai
Acrylic Acid	170-172	Not Available	Ex-Mumbai
Acrylonitrile	152	1651.10	Ex-Kandla
Adipic Acid	126.5	1374.10	Ex-Bhiwandi
Aniline Oil	170	1846.62	Ex-Kandla
Benzene	NA	Not Available	Ex-Vizaz
Butyl Acetate	NA	Not Available	Ex-Kandla
Butyl Acrylate Monomer	180	1955.25	Ex-Kandla
Butyl Glycol	NA	Not Available	Ex-Kandla
C9	118	1281.77	Ex-Kandla
C10	108	1173.15	Ex-Kandla
Caustic Soda Lye	NA	Not Available	Ex-Dahej
Chloroform	NA	Not Available	Ex-Dahej
Citric Acid-ANHYD	72	782.10	Ex-Bhiwandi
Citric Acid-Mono	67	727.79	Ex-Bhiwandi



Cyclohexane	95	1031.94	Ex-Hazira
Cyclohexanone	130	1412.12	Ex-Kandla
DMF	96	1042.80	Ex-Bhiwandi
DEG	70	760.37	Ex-Hazira
EDC	40	434.50	Ex-Kandla
Epoxy Resin	NA	Not Available	Ex-Nhava Sheva
Ethyl Acrylate	156	1694.55	Ex-Kandla
Formic Acid	NA	Not Available	Ex-Bhiwandi
Glycerine	140	1520.75	CIF Nhava Sheva
N-Heptane	186	2020.42	Ex-Bhiwandi
Hexane	125	1357.81	Ex-Kandla
Hydrogen Peroxide-50%	20	217.25	Ex-Bhiwandi
Isobutanol	101	1097.11	Ex-Kandla
IPA	144-145	Not Available	Ex-Kandla
IPA	145	1575.06	Ex-Mumbai
LAB	180	1955.25	Imported
Maleic Anhydride-Drum	NA	Not Available	Ex-Mumbai
MDC	35	380.19	Ex-Dahej
MEG	68-70	Not Available	Ex-Mumbai
MEK	145	1575.06	Ex-Kandla
Melamine	NA	Not Available	Imported
Methanol	43	467.09	Ex-Kandla
Methanol	43	467.09	Ex-Mumbai
MIBK	118	1281.77	Ex-Hazira
Mix Xylene-Solvent Grade	105	1140.56	Ex-Kandla
Mix Xylene-Solvent Grade	105	1140.56	Ex-Mumbai
MMA	195	2118.18	Ex-Hazira
N-Butanol	105	1140.56	Ex-Kandla
N-Propanol	97	1053.66	Ex-Kandla
NPAC	NA	Not Available	Ex-Kandla
Octanol	114	1238.32	Ex-Kandla
Ortho Xylene	NA	Not Available	Ex-Kandla
Phenol	120	1303.50	Ex-Kandla
Phenolic Resin	170	1846.62	Ex-Indore
Phthalic Anhydride	93	1010.21	Ex-Mumbai



Propylene Glycol	99	1075.39	Ex-Kandla
Sodium Nitrate (50Kg Bag)	61	662.61	Ex-Make-Lasons
Styrene Monomer	175-180	Not Available	Ex-Kandla
Styrene Monomer	175-180	Not Available	Ex-Mumbai
Sulphuric Acid	26.5	287.86	Ex-Vapi
Tio2 (Anatase Grade)	NA	Not Available	Ex-Bhiwandi
Tio2 (Rutile Grade)	NA	Not Available	Ex-Bhiwandi
Toluene	100-105	Not Available	Ex-Kandla
Toluene	100-105	Not Available	Ex-Mumbai
VAM	210-215	Not Available	Ex-Kandla
VAM	210-215	Not Available	Ex-Hazira

PRODUCER PRICES (RS/KG) OF CHEMICALS AS ON 11/03/2026

Producers	Current Price (INR/Kg)	Import parity Price in USD/MT	Location
Accord-Ethyl Acetate	70	760.37	Ex-Maharashtra
Arham Petrochem-C9	99.75	1083.53	Ex-Kandla
Arham Petrochem-C9	100.75	1094.39	Ex-Ahmedabad
Arham Petrochem-C10	105.5	1145.99	Ex-Kandla
Arham Petrochem-C10	105	1140.56	Ex-Ahmedabad
Arham Petrochem-C10 (Imported Repack)	111.75	1213.88	Ex-Bhiwandi
Arham Petrochem-MTO/White Spirit (KL)	59.65	647.95	Ex-Kandla
Arham Petrochem-MTO/White Spirit (KL)	60.65	658.81	Ex-Ahmedabad
Arham Petrochem-De-Aromatised D40	130	1412.12	Ex-Kandla
Arham Petrochem-De-Aromatised D40	131	1422.99	Ex-Ahmedabad
Arham Petrochem-De-Aromatised D60	139	1509.88	Ex-Kandla
Arham Petrochem-De-Aromatised D60	140	1520.75	Ex-Ahmedabad
Andhra Petrochemicals-Iso-Butanol	72	782.10	Ex-Vishakhapatnam
Andhra Petrochemicals-N-Butanol	78.75	855.42	Ex-Vishakhapatnam
Andhra Petrochemicals-Octanol	90.5	983.05	Ex-Vishakhapatnam
BASF-Adipic Acid	110	1194.87	Imported
BPCL-2-Ethyl Hexanol (B)	110.5	1200.30	Ex-Kochi
BPCL-2-Ethyl Hexanol (P)	121	1314.36	Ex-Kochi
BPCL-2-Ethyl Hexyl Acrylate (B)	138.5	1504.45	Ex-Kochi
BPCL-2-Ethyl Hexyl Acrylate (P)	148.5	1613.08	Ex-Kochi




BPCL-Acrylic Acid (B)	100	1086.25	Ex-Kochi
BPCL-Acrylic Acid (P)	109	1184.01	Ex-Kochi
BPCL-Benzene	74.5	809.25	Ex-Mumbai
BPCL-Butyl Acrylate (B)	118.5	1287.20	Ex-Kochi
BPCL-Butyl Acrylate (B)	117	1270.91	Ex-Kandla
BPCL-Butyl Acrylate (P)	128.5	1395.83	Ex-Kochi
BPCL-Hexane (KL)	80	869.00	Ex-Mumbai
BPCL-Hexane (MT)	120.48	1308.71	Ex-Mumbai
BPCL-Iso-Butanol (B)	98.5	1069.95	Ex-Kochi
BPCL-Iso-Butanol (P)	109.5	1189.44	Ex-Kochi
BPCL-MTO (KL)	89.6	973.28	Ex-Mumbai
BPCL-MTO (MT)	116.65	1267.11	Ex-Mumbai
BPCL-N-Butanol (B)	98.5	1069.95	Ex-Kochi
BPCL-N-Butanol (B)	99	1075.39	Ex-Kandla
BPCL-N-Butanol (P)	109.5	1189.44	Ex-Kochi
BPCL-Paraffin Wax	126	1368.67	Ex-Delhi
BPCL-Sulphur (Molten)	54.47	591.68	Ex-Mumbai
BPCL-Toluene	90	977.62	Ex-Mumbai
Deepak Phenolics-Acetone	90	977.62	Ex-Dahej Gujarat
Deepak Phenolics-IPA	105	1140.56	Ex-Dahej Gujarat
Deepak Phenolics-Phenol	NA	Not Available	Ex-Dahej Gujarat
GACL-Caustic Soda Lye	35	380.19	Ex-Dahej Gujarat
GACL-MDC	28	304.15	Ex-Bharuch Gujarat
GNFC-Acetic Acid	46	499.67	Ex-Bharuch Gujarat
GNFC-Aniline Oil	NA	Not Available	Ex-Bharuch Gujarat
GNFC-Ethyl Acetate	70	760.37	Ex-Bharuch Gujarat
GNFC-TDI Drum	215	2335.43	Ex-Bharuch Gujarat
Grasim-MDC	28	304.15	Ex-Gujarat
GSFC-Cyclohexane	76.5	830.98	Ex-Gujarat
HOCL-Acetone	142.5	1547.90	Ex-Kochi
HOCL-Phenol	149	1618.51	Ex-Kochi
HPCL-Hexane	111.44	1210.51	Ex-Mumbai
HPCL-MTO	109.19	1186.07	Ex-Mumbai
IOCL-Banzene	63	684.34	Ex-Vadodara Gujarat
IOCL-DEG	55.2	599.61	Ex-Odisha(Paradip)



IOCL-DEG	55.7	605.04	Ex-Panipat
IOCL-LAB	NA	Not Available	Ex-Gujarat
IOCL-MEG	68.3	741.91	Ex-Odisha(Paradip)
IOCL-MEG	69.9	759.29	Ex-Panipat
IOCL-PTA	112.8	1225.29	Ex-Panipat
IOCL-Paraffin Wax	125	1357.81	Ex-Delhi
Jubilant-Ethyl Acetate	70	760.37	Ex-Maharashtra
Laxmi-Ethyl Acetate	70	760.37	Ex-Maharashtra
Meghmani-Caustic Soda Lye	NA	Not Available	Ex-Bharuch Gujarat
Meghmani-MDC	NA	Not Available	Ex-Ankleshwar Gujarat
NIRMA-LAB	NA	Not Available	Ex-Vadodra
Reliance-Caustic Soda Lye	NA	Not Available	Ex-Gujarat
Reliance-DEG	68.4	742.99	Ex-Jamnagar
Reliance-LAB	NA	Not Available	Ex-Vadodra
Reliance-MEG	65.9	715.84	Ex-Jamnagar
Reliance-Mix Xylene	80	869.00	Ex-Jamnagar
Reliance-PTA	108.6	1179.67	Ex-Dahej Gujarat
Reliance-Toluene	83	901.59	Ex-Jamnagar
SI GROUP-Phthalic Anhydride	NA	Not Available	Ex-Navi Mumbai
TATA Chemicals-Soda Ash light	NA	Not Available	Ex-Bhiwandi


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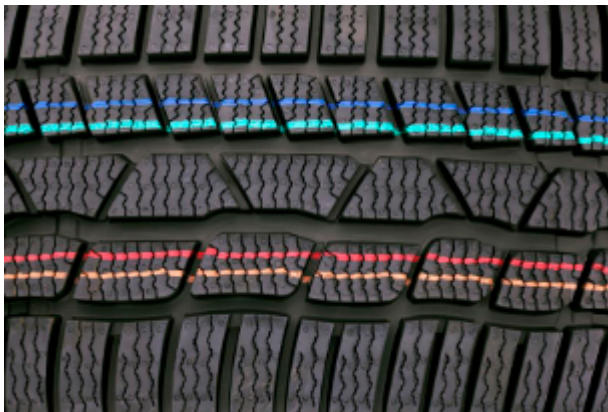
both a release agent and a filler. However, regulatory pressure on talc is increasing. The World Health Organization's International Agency for Research on Cancer (IARC) recently reclassified talc as "probably carcinogenic to humans" (category 2A).

Due to this classification, talc will be listed prominently in the digital product passport, in accordance with upcoming Ecodesign for Sustainable Product Regulation (ESPR) requirements. Consequently, interest in talc-free products is growing within the industry. As a logical consequence, LANXESS now offers the entire Rhenogran and Rhenoslab portfolio talc-free.

Cohedur RA is a safe alternative to resorcinol in coupling agent systems for textiles or steel cord. It contains no resorcinol, disperses easily, and prevents the blooming effects that typically occur with resorcinol-containing products.

Solutions for the production process

Rhenodiv BO-3900 Pearls Cool is a



mineral-free, cold-water-dispersible batch-off release agent that significantly reduces deposits on plant surfaces. Thanks to its pearl form, the product can be dosed reproducibly and processed completely dust-free. Additionally, Pearls Cool impresses with its sustainable, resource-saving formulation.

The filler-free interior spray solution Rhenodiv BP-338 ensures that the vulcanized tire can be cleanly and without defects removed from the bladder after vulcanization. Although the product is not chemically reactive, it achieves the release effect of reactive

systems. It requires significantly less material consumption than conventional solutions, and unlike traditional reactive systems, it does not release hydrogen during processing.

Portfolio for tire production

LANXESS is one of the world's leading providers of rubber additives and system solutions for the rubber processing industry. The product portfolio includes a wide range of additives specifically used in tire compounds. These include vulcanizing agents and rubber additives in pre-dispersed and other delivery forms, processing accelerators, anti-reversion agents, zinc oxide, antioxidants, and mastication agents. The range of release agents comprises granulated batch-off products, interior spray solutions for single and multiple mold release, and bladder coatings. Outside, finishing, and tire marking paints complete the portfolio.

Source : Lanxess

In HelloNation, Printing Expert Chris Murray Explains How Screen Printing Differs From Direct-to-Film Printing

HONESDALE, Pa., Feb. 25, 2026 / HPRNewswire/ -- The article compares both methods and explains how material, design, and order size affect the best choice.

What is the real difference between screen printing and direct-to-film printing? That question is answered in a HelloNation article featuring insights from Chris Murray of Platform Industries in Honesdale, Pennsylvania. The article outlines how each printing method works and when one might be

better than the other. Screen printing is described as a traditional process that uses stencils and layered ink applications, ideal for simple designs with limited colors. The article explains that each color in a screen print design needs a separate screen, making this method more efficient for high-volume orders with bold, graphic styles.

Direct-to-film (DTF) printing, by contrast, is a newer digital method. The article notes that DTF printing creates a full-color design on a film, applies an

adhesive powder, and then uses a heat press to transfer it to the garment. This method can capture photo-quality detail and does not require a separate setup for each color, making it a good fit for low-volume or highly detailed designs.

According to the HelloNation article, one of the main considerations between these techniques is fabric type. Screen printing works best on cotton or cotton-heavy blends, where the ink can soak into the fibers. It also performs well on darker garments using specialty inks. DTF printing, however, is more flexible



across fabric types, including cotton, polyester, nylon, and blends, because the film layer adheres to the surface rather than soaking in.

The article also breaks down the efficiency of each process. Once screens are prepared, screen printing becomes cost-effective for bulk orders. The upfront labor and setup time are higher, but the price per piece drops with larger quantities. DTF printing, which requires no screen preparation, is more suitable for one-off jobs or varied designs. The HelloNation article points out that this can benefit businesses needing limited runs of custom apparel.

Design complexity is another factor covered. The article explains that screen printing is reliable but limited in its ability to reproduce fine details, small text, or gradients. DTF

printing, being a digital process, can handle complex, high-resolution images with ease. This allows for greater creative flexibility in apparel, especially for logos or designs that require multiple colors and fine detail.

Durability is discussed as well. The HelloNation article states that both methods are durable when applied correctly. Screen printing, which embeds ink into the fabric, has a slightly longer lifespan on natural fibers. DTF transfers, while resilient, remain on the surface and may have a thicker or rubbery feel depending on the design.

Environmental impact is also considered. The article explains that screen printing involves water, chemical

cleaners, and screen maintenance, which can create more waste. DTF avoids these steps and may appeal to shops prioritizing speed and lower environmental impact, especially for smaller orders.

The article concludes that there is no one-size-fits-all answer. The right printing method depends on the specific needs of the customer. Design detail, order size, type of fabric, and intended use all matter. The article suggests that in Northeastern Pennsylvania, local organizations, schools, and businesses can benefit from understanding both methods to choose what works best for each situation.

How Is Screen Printing Different From Direct-to-Film Printing? Features insights from Chris Murray, Printing Expert of Honesdale, Pennsylvania, in HelloNation

Source : HelloNation

CHINAPLAS 2026: BASF collaborates with Niber Technologies on high-performance electrospun innovation based on Freeflex® TPU

- Outdoor jacket by Niber Technologies made with newly developed Freeflex®E 130 TPU based electrospun nano membrane
- Upcoming Bluesign® certification in tandem with evolving regulatory and sustainability requirements of the global apparel and textile industries
- BASF will also showcase melt spun innovation based on Freeflex® TPU at CHINAPLAS 2026

- BASF at CHINAPLAS 2026: Booth 7.2C41, National Exhibition & Convention Center, Shanghai, China

Shanghai, China - March 11, 2026 – At CHINAPLAS 2026, BASF will showcase an outdoor jacket produced in collaboration with Niber Technologies, Pte. Ltd. (Niber Technologies), a leading electrospinning specialist. The jacket incorporates the newly developed Freeflex®E 130, a thermoplastic polyurethane (TPU) based electrospun nano membrane.

“Through our collaboration with BASF, we were able to develop an ultralight and soft-touch comfort outdoor jacket offering excellent membrane uniformity with high Moisture Vapor Transmission Rate (MVTR) and increased membrane



application possibilities enabled by higher lamination temperature resistance. Made without the intentional use of Per- and Polyfluoroalkyl Substances (PFAS), the TPU-based membrane is a sustainable alternative to traditional ePTFE (Expanded Polytetrafluoroethylene),” said Jaehyung Park, CEO, Niber Technologies.

The outstanding performance characteristics were made possible by Freeflex’s ability to form 100-600 nanometer ultrafine fibers through electrospinning, creating a high surface-to-volume ratio and a highly porous morphology.

Alongside its electrospun innovations,



BASF will also showcase PP (Polypropylene)/PET (Polyethylene Terephthalate) sports apparel containing 15% Freeflex melt spun TPU fibers, delivering excellent wearing comfort, quick drying performance, as well as enhanced elasticity and durability for activewear. Freeflex melt spun fibers are REACH compliant and certified with the Oeko Tex® Eco Passport, meeting stringent safety and chemical transparency standards for textile applications.

The electrospun nanomembrane capability and melt spun fiber versatility of Freeflex empower producers to design

and develop the next generation of performance apparel. Additionally, Freeflex is advancing through Bluesign® certification and is set to be ready by 2026, meeting the growing regulatory and sustainability requirements of the global apparel and textile industries.

“With the addition of Bluesign® certification across Freeflex portfolio, BASF aims to drive sustainable transformation together with customers in apparel and textiles industries seeking high performance, compliant and environmentally conscious material solutions,” said Rohit Roop Ghosh, Vice President, Business Management TPU, Performance Materials Asia Pacific, BASF. “The initiative reinforces BASF’s commitment to cleaner materials, responsible production, and performance-driven textile innovation.”

Source : BASF

NEXTCHEM expands its advanced polymer’s portfolio with the NXPand™ suite and launches NX CONSER PolyFlex™ technology to support the production of the spandex fiber

- NEXTCHEM launches NX CONSER PolyFlex™, a sustainable technology solution for the production of PTMEG, an advanced polymer and the backbone of spandex fiber
- NX CONSER PolyFlex™ is part of the newly created NXPand™ suite, which marks NEXTCHEM’s entry

into technology solutions for the textile industry

Milan, 12 February 2026 – MAIRE (MAIRE.MI) announces that NEXTCHEM, through its subsidiary CONSER, the technology licensor for high-value chemical derivatives and biodegradable plastics, is reinforcing its portfolio with the introduction of the

new NX CONSER PolyFlex™ technology to produce polytetramethylene ether glycol (PTMEG), the key polymer composing the spandex fiber.

This technology is part of the newly created NXPand™ suite, that is marking NEXTCHEM’s strategic entry into sustainable solutions for the textile



industry. NX CONSER PolyFlex™ encompasses versatile solutions to produce PTMEG from both conventional and biological feedstock (i.e. bio-based tetrahydrofuran or THF). PTMEG is then used to manufacture a variety of elastomeric products, including spandex, known for its outstanding flexibility and thermal/mechanical resistance, making it essential for applications in high-growth markets such as sportswear, technical

apparel, and protective clothing.

The initiative builds on NEXTCHEM's collaboration with Shanghai Diyang Chemical Technology Co. Ltd, a Chinese company specialized in catalysts and fine chemicals. The agreement also includes solutions for special intermediates as well as industrial, pharmaceutical and cosmetical solvents.

Fabio Fritelli, Managing Director of

NEXTCHEM, commented: "NX CONSER PolyFlex™ represents a major step forward in expanding our sustainable technology portfolio. It reinforces our commitment to delivering innovative solutions that support the high-performance textile industry and unlock new opportunities for the group in fast-growing segments."

Source : Nextchem

ICC Outlook Conference 2026: Navigating geopolitics and boosting competitiveness to shape the future of chemical industry

The Indian Chemical Council (ICC) has successfully inaugurated the 19th Annual India Chemical Industry Outlook Conference & Exhibition, held from March 11–12, 2026, at the Grand Hyatt, Mumbai.

As India's premier dialogue platform for the chemical and petrochemical sectors, this year's conference focused on the theme "Shaping a Competitive and Resilient Chemical Industry for India," bringing together global industry leaders, policymakers, and innovators. The first day discussions centered on navigating global supply chain shifts, enhancing competitiveness, and driving sustainability within the Indian chemical industry.

The inaugural session of the conference witnessed addresses by global industry leaders such as, Marco Mensink, Director General, European Chemical Industry Council (CEFIC), Brussels, Belgium; Dr. Claus Rettig, Interim CFO, Evonik Industries AG & President Asia Pacific, Singapore; Sven Smit, Senior Partner, McKinsey & Company; Christian Guckel, Global Head of Verticals Chemicals & Energy, Siemens, Germany and Haryono Lim, President –

Mega Projects Asia, BASF, Guangdong, China.

In his address, Marco Mensink highlighted the increasing impact of geopolitical disruptions on the global chemical industry. Citing developments in Iran and tightening transport routes, he warned that potential disruptions to oil and gas supplies could severely affect energy prices, feedstock availability, and global trade flows in the coming weeks. Conversely, he noted that emerging policy frameworks and renewed momentum on international trade agreements—particularly closer engagement with India—signal a more industry-friendly approach.

In his keynote address, Dr. Claus Rettig, President of Asia Pacific at Evonik and Member of the Executive Board of Evonik Industries AG, highlighted how multinational corporations (MNCs) are enhancing business agility to maintain competitiveness amid evolving geopolitical, trade, and regulatory landscapes.

Dr. Rettig emphasized that MNCs are actively recalibrating strategies, shifting from just-in-time logistics to

regionalized "local-for-local" configurations to navigate tariff volatilities and geopolitical tensions. He underlined that free trade agreements (FTAs) are critical to industrial competitiveness, allowing world-scale chemical plants to access multiple markets.

Sven Smit, spoke on "Future of the Global Chemicals Industry in the Light of Macroeconomic Headwinds", examining structural challenges, capital allocation, and long-term demand outlook. He emphasized that businesses are navigating a period marked by energy transitions, supply-chain reconfiguration, and technological disruption and companies will need to invest in innovation, diversify supply chains, and build greater operational resilience to remain competitive in an increasingly fragmented global landscape. He also pointed that these shifts present significant opportunities for emerging economies such as India, which can play a larger role in global manufacturing, innovation, and supply chains.

Christian Guckel



deliberated on “Building Global Competitiveness in Chemicals Industry amid Geopolitical Shifts”, highlighting how digitalisation, artificial intelligence (AI), and global collaboration will shape the future competitiveness of the chemical industry. He emphasised that trade agreements alone will not guarantee success; companies must invest in innovation, advanced technologies, and data-driven optimisation to remain competitive.

Haryono Lim, President – Mega Projects Asia, BASF, Guangdong, China, in his Keynote Address offered perspectives on large-scale project development and

Asia’s evolving manufacturing ecosystem. He highlighted BASF’s strategic expansion in Asia through the development of its new integrated chemical production site in China, one of its largest investments, in the company’s history. The speaker also emphasised the importance of collaboration with government and regional stakeholders in transforming the site from undeveloped land into a major chemical manufacturing hub serving one of China’s most dynamic economic regions.

The opening remarks of the conference were delivered by Kamal P. Nanavaty, Chairman, Conference & Exhibition Expert Committee, ICC & President – Strategy Development, Reliance Industries Ltd, who set the context for discussions at a time of rapid transformation in global supply chains and trade dynamics.

Ramya Bharathram, President, ICC & MD & CFO, Thirumalai Chemicals Ltd, while delivering the welcome address, shared her perspectives on the Indian chemicals industry, highlighting its

growth trajectory, resilience, and emerging global opportunities. Samir Somaiya, Vice President, ICC & CMD, Godavari Biorefineries Ltd, delivered the Concluding Remarks and Vote of Thanks for the Inaugural Session, noting valuable points delivered by each speaker.

A key highlight of the Inaugural Session was the launch of the Whitepaper titled “From challenges to possibilities: Leading India’s chemicals industry through global headwinds” by McKinsey & Co.

Over the course of two days, the conference will witness global industry leaders and thought leaders and thought leaders alongside policymakers, deliberate on navigating geopolitical shifts, macroeconomic headwinds, and strategies for building global competitiveness, while also identifying pathways for India to strengthen its position in the global chemical value chain.

Source : Indian Chemical News

Clariant successfully demonstrates advanced Pyrolysis Oil upgrading technology for circular plastics with Borealis and SINTEF

- Clariant’s HDMax™ catalyst successfully achieves complete conversion of plastic waste-derived pyoil to cracker-grade feedstock at pilot facility in collaboration with Borealis, meeting all quality specifications in a key test
- Proven collaboration model combining Clariant’s specialty catalyst expertise, Borealis’ polyolefin production knowledge, and SINTEF’s research capabilities demonstrates viable closed-loop

pathway for converting plastic waste back into high-quality virgin polyolefin feedstock

- By completing the entire hydrotreating process in one reactor rather than the multiple units used in alternative approaches, this solution cuts capital requirements and operational complexity substantially

specialty chemical company, today announced the successful completion of a collaborative pilot-scale project with Borealis, a leading provider of advanced and circular polyolefin solutions, and SINTEF, one of Europe’s largest independent research organizations. The partnership successfully demonstrated Clariant’s pyrolysis oil (pyoil) upgrading technology, marking a significant milestone in advancing circular economy solutions for the plastics industry.

MUNICH, March 12, 2026 - Clariant, a sustainability-focused



Breakthrough in Plastic Waste Recycling

The collaboration centered on upgrading pyoil derived from plastic waste to steam cracker-compatible feedstock that fully meets cracker-grade quality specifications. Using Clariant's proprietary HDMax catalysts, the pilot-scale testing conducted at SINTEF's research facility in Norway delivered excellent results, successfully transforming plastic waste-derived pyoil into high-quality feedstock suitable for virgin polyolefin production.

The HDMax catalyst achieved full conversion across all critical parameters: complete saturation of dienes without gum formation — a crucial requirement for downstream processing — along with complete conversion of contaminants like oxygenates, nitrogenates, and halogenides. All product quality specifications were met, validating the technology's readiness for industrial application.

"This successful collaboration proves that closed-loop plastic recycling can work effectively on an industrial scale," said Gene Mueller, VP and Head of Ethylene at Clariant Catalysts. "Our HDMax catalyst technology enables

plastic waste to be converted back into feedstock that meets the stringent quality requirements of steam crackers, creating a true circular pathway for plastics."

Industry-Leading Efficiency Through Single-Step Processing

A key differentiator of Clariant's HDMax technology is its ability to achieve all required specifications in a single multi-layer hydrotreating reactor, compared to alternative technologies that require three to four reactors. This streamlined process significantly reduces capital investment, operational complexity, and energy consumption. Additionally, the technology enables subsequent hydrocracking to produce naphtha-like hydrocarbon fractions, further enhancing process efficiency and product flexibility.

The three-party partnership leveraged the unique strengths of each organization:

- Clariant provided a tailored catalyst design and commercial samples of its specialized catalysts: HDMax catalyst for pyoil upgrading and HYDEX™ for hydrocracking.
- Borealis defined the required target

quality of the pyoil and contributed industry expertise as a leading European polyolefin producer offering chemically recycled polyolefin solutions under the Borcycle™ C portfolio.

- SINTEF conducted comprehensive pilot-scale testing and validation at their state-of-the-art research facility in Norway

Advancing the Circular Economy

The successful demonstration validates a proven pathway for reintegrating recycled plastic-derived materials into industrial production of high-quality materials. By converting plastic waste back into high-quality feedstock, this technology supports the transition to a more circular economy where plastic materials can be recycled without compromising on quality. This pilot-scale validation demonstrates how strategic collaboration accelerates innovative circular plastics solutions. The partners' combined expertise in specialty chemicals, research capabilities, and industrial production knowledge has created a foundation for further development and potential commercial implementation.

Source : Press Release

PPG unveils fast-curing, low-VOC waterborne primer for structural steel

Global paints and coatings leader PPG Industries has launched a new generation of waterborne shop primers designed to protect structural steel while accelerating production for fabricators.

The company announced the debut of PPG Aquacron Waterborne Shop Primers, a coating engineered for structural steel components that combines rapid curing, a smoother finish and low volatile organic compounds (VOCs). The new

technology is designed to perform across a wide range of climates—an advantage that sets it apart from existing waterborne primers.

Applied in factories, the primers protect steel beams, purlins, joists and framing from flash rust and corrosion that often develop at job sites, particularly when materials are stored outdoors. The coating forms a water-resistant layer that reduces the need for sandblasting

and surface preparation before top-coat application and installation, helping manufacturers cut time, labor and costs.

"Developing a lower-VOC, faster-drying formulation with a smoother finish and adaptable across environmental conditions is a benchmark achievement in waterborne primers," said Brian Smith, PPG business manager, liquid coatings, Industrial Coatings.



Traditional waterborne primers can take 12 to 24 hours to fully cure and are susceptible to surface defects. By contrast, Aquacron WSP primers cure in about two minutes under standard heat while delivering a smoother finish—giving high-volume steel fabricators the ability to increase throughput and reduce the floor space required for

drying and curing before shipping.

The primers also produce VOC emissions comparable to standard residential-grade paints and maintain stability under varying temperature and humidity conditions. These characteristics help fabricators meet tightening emissions regulations while

simplifying sourcing by eliminating the need for climate-specific primers.

The launch underscores PPG's ongoing push to develop coatings that improve durability, performance and operational efficiency while reducing environmental impact.

Source : Indina Chemical News

Evonik Catalysts introduces next generation chloride adsorbent Chlorocel™ 909

- Chlorocel™ 909 is a mixed metal oxide (MMO) adsorbent designed for catalytic reformer applications
- 15% higher chloride loading capacity than existing MMO alternatives
- Chlorocel™ 909 becomes Evonik Catalysts' fourth addition to its chloride adsorbent portfolio, offering refiners even greater flexibility

Essen, Germany: Evonik Catalysts has launched its latest high performance chloride adsorbent, Chlorocel™ 909, confirming the company's commitment to continued investment in its existing Chlorocel™ product portfolio. This next generation of chloride adsorbent utilizes Evonik's new proprietary blend of mixed metal oxides (MMO) to increase chloride loading by more than 15% versus industry alternatives, while minimizing green oil formation and unwanted side reactions.

Essen, Germany: Evonik Catalysts has launched its latest high performance chloride adsorbent, Chlorocel™ 909, confirming the company's commitment to continued investment in its existing Chlorocel™ product portfolio. This next generation of chloride adsorbent utilizes Evonik's new proprietary blend of mixed metal oxides (MMO) to increase chloride loading by more than 15% versus industry alternatives, while minimizing green oil formation and unwanted side reactions. Chlorocel™ 909 has been designed to remove inorganic

chlorides from catalytic reformer chloride guard beds in vapor or liquid phase applications. Its extrudate design improves particle strength while maintaining equivalent pressure drop. This allows for longer cycle length to reduce downtime, a higher equilibrium volumetric loading capacity, and a shorter mass transfer zone. "Chlorocel™ 909 doubles the service life when compared to alumina products, and its reduced reload frequency means that less waste is generated over time – reducing maintenance time and disposal costs," said Todd Burkes, Technical Marketing Manager for Adsorbent and Alumina Catalysts, Evonik Catalysts. "Chlorocel™ 909 was created to complement Evonik's existing chloride adsorbents, including our alumina-based Chlorocel™ 901, to offer refiners even greater flexibility."

"With Chlorocel™ 909, we're giving refiners a next generation solution that supports longer cycles, lower waste, and greater operational resilience," said Alexander Weber, Head of Evonik's Catalysts Business Line. "As regulatory and efficiency demands increase, advanced MMO adsorbents like Chlorocel™ 909 are becoming essential for future ready refinery operations."

Optimized for adsorbent density, strength, and pressure drop with extrudate-shaped particles, Chlorocel™ 909 joins Evonik Catalysts' broader chloride adsorbent range: Chlorocel™ 901 (alumina-based), Chlorocel™ 905

(zeolite-based), and Chlorocel™ RCL (single metal oxide). The Chlorocel™ portfolio offers flexibility to refiners who are dependent on technology, operational needs, and changing regional regulations.

Evonik: Leading beyond chemistry

Evonik goes beyond the boundaries of chemistry with its combination of innovative strength and leading technological expertise. The global chemical company, headquartered in Essen, Germany, is active in more than 100 countries and generated sales of €14.1 billion and earnings (adjusted EBITDA) of €1.9 billion in 2025. The common motivation of the approximately 31,000 employees: to provide customers with a decisive competitive advantage with tailor-made products and solutions as a superforce for industry, thereby improving people's lives. In all markets. Every day.

About Custom Solutions

The Custom Solutions segment focuses on innovation-driven, tailor-made solutions for customers in specific growth markets. These solutions include additives for coatings, adhesives and sealants, polyurethane foams and lubricants, catalysts, and ingredients for the cosmetics, cleaning and pharmaceutical industries. In 2025, the segment generated sales of €5.5 billion with around 9,500 employees.

Source : Evonik



CHEMICAL MARKET

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- Feature Your Products/Tech.
- No Fake Enquiries
- Post Multiple Buy Enquiries Broadcasted to Suppliers
- Global Reach / Targeted Audience (80,000+ Organic Reach)
- Monthly & Weekly Product Marketing via Email
- Complimentary Magazine Subscription
- Discounted Magazine Ad



www.chemicalmarket.net



info@chemicalmarket.net



+91 937-2434-490 / +91 877-9830-330

