

A close-up photograph of a petri dish containing a yellow, translucent, granular substance, likely Argus C5 and Hydrocarbon Resins. The substance is composed of many small, irregular, translucent yellow particles. A blue banner with white text is overlaid on the top left of the image.

Argus C5 and Hydrocarbon Resins

Commodity Markets Intelligence

Consulting & Forecasts

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What's changed

- Piperylenes** • Demand is stronger in China with some increased demand into lower grade tackifiers due to consumption taxes on C5 raffinate and better demand from the epoxy curing agent market, with prices moving higher in March after more substantial gains in January. Supply from the balance of Asia-Pacific to the west remains weaker but adequate given demand. Imports to the US continue at reduced volumes and will likely drop further.
- DCPD** • Demand into UPR remains weaker globally exiting the winter months in the northern hemisphere. Global demand into HHCR remains decent. Prices in China were higher with feedstocks over the last month.
- Isoprene** • Demand into IR is improved in China. Spot pricing in China is slightly higher with crude C5 pricing. US consumers continue to see weaker demand but higher freight costs. Balance of Asia-Pacific production is weaker with IED's running at rates to match demand. US imports were weaker during January after a strong December.
- Butadiene** • Asia-Pacific spot pricing remains the highest globally on supply issues and was assessed on 22 March at \$1,525/t cfr NEA. The prevailing USGC monthly contract price for March is 41¢/lb (\$904/t), with early nominations for April at 50¢/lb. The European MCP is €940/t for April, up €70/t from March.
- C5 tackifiers** • Demand remains weaker in the west and with margins in China squeezed by higher pip feedstock costs. Export netbacks to the west remain under pressure from elevated container freight rates and may push export prices higher. Demand for road marking grades should start to improve exiting the winter season.
- C9 tackifiers** • Demand remains weak in China. Demand remains lacklustre overall elsewhere with some pockets of better. Margins for Asia-Pacific exports to the west remain under severe pressure with spot container freight costs, and export price increases seem likely. Operating rates in China remain low but are better elsewhere.
- HHCR** • Prices remain competitive on a relative basis to other tackifiers with aggressive export pricing from Asia-Pacific to the west. Price increases are likely necessary to help cover elevated freight costs. Capacity continues to grow in China with one train start-up this quarter after one last quarter with two more to follow in second quarter. Chinese production remains reduced to meet demand but with most plants in operation.
- Natural rubber** • TSR20 natural rubber (NR) futures on the SGX settled at \$1,719/t on 20 March, an increase of 6.1pc from 1 March. Prices have averaged \$1,627/t for month-to-date March, up 4.9pc from the February average of \$1,551/t.
- SIS** • Demand remains weaker globally. Producer operating rates remain generally weaker both in the west and the east. Chinese SIS producers continue to run reduced rates with no uptick in demand after the lunar new year. New capacity is online at Luhua in China, adding to the current surplus.
- SBS** • Demand remains weaker but with demand in the asphalt sector improving exiting the winter season. Price movements for feedstocks are higher in both Asia-Pacific and in the west. Chinese SBS prices are higher with feedstocks in March.

Outlook

Isoprene

- Supply remains structurally long on a global basis with new IED capacity in China and currently weaker demand for SIS. Average IED operating rates in China remain below full capacity. IED capacity will expand further in the 2024 – 2026 period with new China capacity.
- The US will need to continue to rely on IPM imports from Korea, Taiwan, China and Brazil to meet demand requirements, most of which are for SIS production. Europe will also import smaller volumes for SIS and butyl rubber.

DCPD

- The US will continue to rely on DCPD imports from Asia-Pacific and Brazil to meet demand requirements, most of which is for UPR production.
- Supply growth will come almost exclusively from China and appears adequate to meet demands for the foreseeable future. New IED projects that will produce additional DCPD in China include Luhua at Zhangzhou (now in operation), Fushun Yikesi at Panjin and Shenghong Jiangsu in 2024 and Esisco at Jieyang and Henghe/Sinopec Tianjin, both in the 2026 period.

Note to Subscribers

- Argus will attend the AFPM conference in San Antonio, TX (March 24-27) and the ASC Conference in Louisville, KY (April 15-17). Please feel free to reach out to arrange a face-to-face meeting if we have not yet scheduled a time to get together.

Executive Summary

Prices and Outlook

Price assessments

DCPD	Timing	Price \$/t
Bulk ex-works average	November	981
Ex-Asia spot	December	959
Ex-Asia spot	January	947
Ex-Asia spot	February	951
Ex-Asia spot	March	957

Isoprene	Timing	Price \$/t
Bulk ex-works average	November	1465
Ex-Asia spot	December	1483
Ex-Asia spot	January	1507
Ex-Asia spot	February	1532
Ex-Asia spot	March	1540

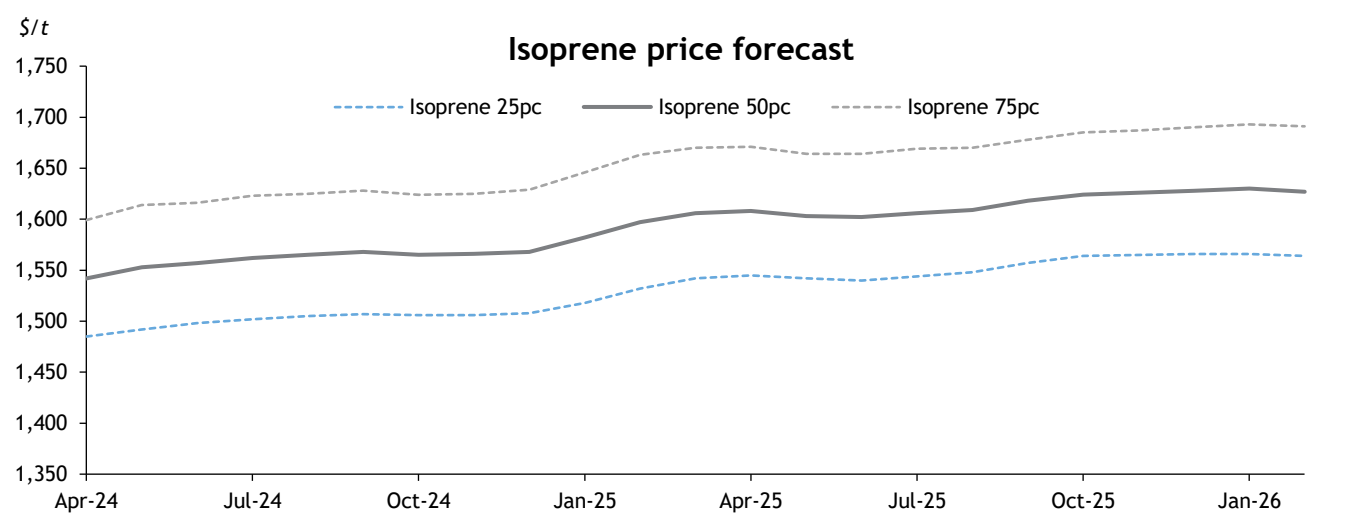
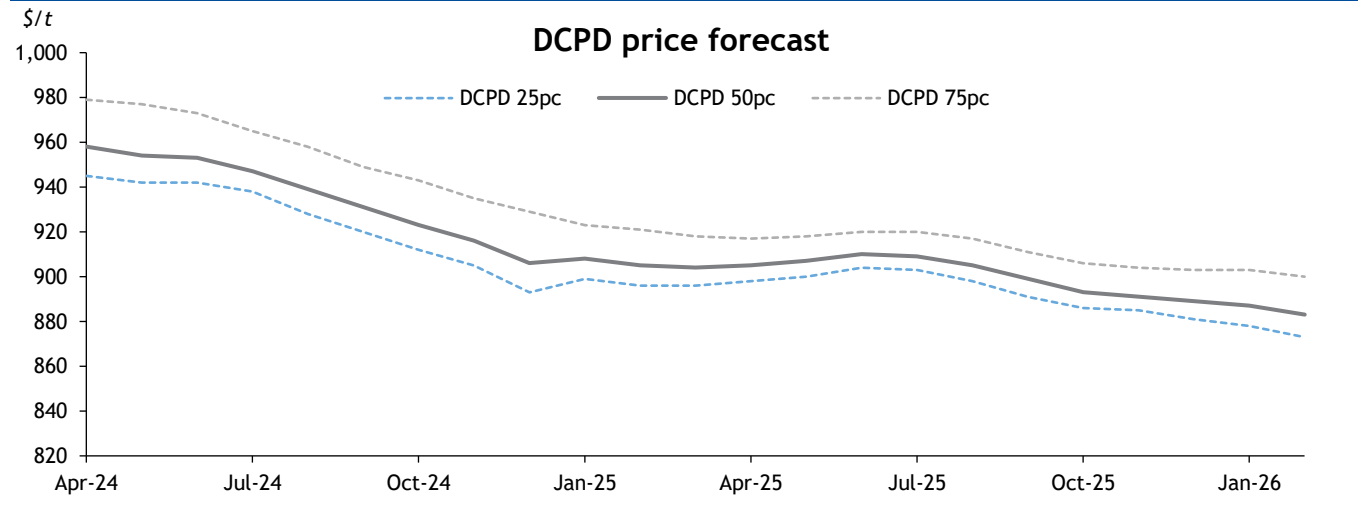
C5 Hydrocarbon Resin, delivered US \$/t				
Year	1Q	2Q	3Q	4Q
2022	1,999-2,719	2,028-2,756	2,058-2,741	1,911-2,528
2023	1,845-2,477	1,749 - 2,293	1,675-2,205	1,675-2,175

Data and Download

Click [here](#) to download 24 months of forecast data

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Price Forecast Graphs



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Monomers

Resin former supply

Supply

- Ethylene plants in all regions continue to operate at reduced but improving rates to meet polymers demand thus far in 2024.
- In China, Sinopec Jinshan continues to operate with only one (the larger) of the two IED trains with the upstream cracker outage still ongoing until likely April. Sinopec's Qilu crackers remain down after the fire and explosion at the larger of the two crackers during December and C5 and C9 consumers like Luhua and Qilong will likely have to manage without the Sinopec Qilu feedstock for a two-to-three-year period while the cracker is rebuilt. Crude C5's are available in the marketplace from producers including Sinopec Yanshan, but the economics of buying and trucking the material to the production facilities remains questionable over the longer term. Qilong will rely on their other C9 feedstock sources to support production.
- Other Asia-Pacific crackers are running at reduced rates with negative production economics for naphtha and to a lesser extent LPG cracking. In Korea, the YNCC No. 3 cracker unit remains down for cost control. Korean IED rates are improved this year over what we saw for much of last year. The Formosa No. 2 cracker remains down, with the downstream IED running reduced rates. The CPC No. 6 cracker in Taiwan was down for planned maintenance through early March but a fire at the complex during restart operations means the start-up timing is delayed. Cracker rates in Japan remain reduced with several turnarounds during March and April.
- Ethylene continues to be balanced in Europe with improved cracker operating rates. Suez Canal issues have presented an opportunity for increased cracker rates in Europe to supply downstream derivatives, at least in the short term. US resin former production remains slightly below typical with less than full operating rates on crackers and a predominantly ethane feed slate.

Demand

- Margins remain weaker for Chinese C5 processors, and with consumption taxes on C5 raffinate sales to the gasoline pool further clouding the issue for producers who cannot avoid it. Demand for pips remains stronger as consumers into C5 HCR's try to sort out the ramifications of the consumption tax on C5 raffinate. C5 monomer prices are higher since the beginning of the calendar year in China. Conversely, demand for C9 feedstock has been lower and prices weaker relatively in response to the consumption taxes on C9 solvent streams flowing to the fuels market.
- Resin formers continue to flow structurally to the US. Demand in early 2024 is a little lower with weaker imports for all three monomers being the result. Crude C5's continue to flow to the US from Europe from one producer with one arriving parcel in the first quarter noted.
- Monomer flows to Europe remain weaker, but with the occasional bulk isoprene parcel moving for SIS production, which has been sporadic, along with some volumes of DCPD and pips. Smaller isotainer isoprene flows to the Eurozone and Middle East continue in support of butyl rubber production.

Outlook

- The collection of consumption taxes for C5 raffinate and C9 solvent streams flowing to the China fuels market continues to impact the C5 and more so the C9 markets. Some C5 HCR producers continue to source higher quality feed streams in response while C9 solvent producers have in some instances reduced rates, shutdown or have been seeking price decreases for feedstock purchases. Larger C5 raffinate or C9 solvent producers are moving to sell their production back to integrated refiners like Sinopec or CNOOC to potentially avoid the taxes.
- Global resin former capacity will remain well above global feedstock demand for tackifiers and SIS for the balance of the decade.
- The US will continue to see structural imports of C5 monomers, but in reduced quantities until such time as we see a noticeable improvement in derivative demand. Pips balances in the US are in the process of changing with decreased domestic C5 HCR capacity.
- China should add three world scale ethylene plants this year: Tianjin Nangang (Sinopec/Ineos), Jincheng Petrochemical, and the Yulongdao cracker complex. The 2025-26 period will see the addition of several large IED units in China to coincide with new cracker start-ups.

Unit Watch

- Sinopec Yanshan** IED remains down due to weak economics.
- The smaller IED train at **Sinopec Shanghai** remains down for turnaround to coincide with the ongoing upstream cracker outage.
- Luhua** continues ramping up rates on the new IED unit at Zhangzhou with downstream consumers for pips, isoprene and DCPD all online at the site.
- Chinese IED's including **Derong** (one of two trains), **Jinhai** (two trains), **Sinopec SK Wuhan**, **Ecisco Huizhou**, **Henghe Nanjing**, **Fushun Yikesi**, **Sunion (Maoming and Zhanjiang)**, **Xinjiang Tianli**, and **Luhua (Zibo and Panjin)** are all online with average rates in the 75-80pc range. **Tianli** will take an IED outage in May.
- Lotte and YNCC** IED units are online. **Formosa** had been running reduced rates on the IED with the upstream cracker outage and weaker export demand.
- We expect new Chinese IED capacity online from **Shenghong** in Jiangsu province in Q3 of this year along with **Fushun Yikesi** at Panjin in the north.

Monomers

Piperylenes

Supply

- The implementation of the consumption tax on C5 raffinate volumes flowing to the gasoline pool via third party blenders continues to be of concern the market. We see some C5 HCR producers looking to use higher quality feedstock in the production of C5 resins in place of crude C5 streams. Pips production in China remains typical with all IED units except Sinopec Yanshan and the smaller Sinopec Shanghai train online.
- Pips production in Taiwan has been below normal with reduced rates/turnarounds at Formosa's crackers and reduced rates at the IED. Korean production volumes remain somewhat reduced but improved versus what was seen for much of 2023. Economics for cracking remain solidly negative for naphtha feed and somewhat less negative to mildly positive at times for LPG feedstocks, with a number of cracker operators in Korea and elsewhere increasing their use of LPG at the expense of naphtha resulting in less C5 monomer production, including pips.
- Pips production within Japan is reduced with lower cracker rates and by two cracker turnarounds during March and April.
- Crude C5 and in turn pips production in the US remains weaker than normal with US crackers running below maximum rates during March and with almost exclusively ethane feed.
- Crude C5 parcels containing piperylene continue to flow from Europe to the US from one producer with one first quarter arrival to the US noted.

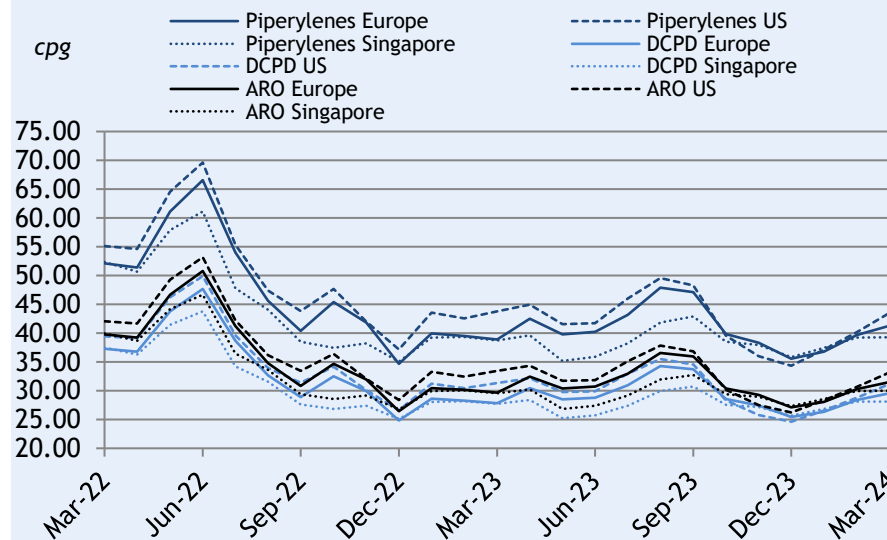
Demand

- Global demand for pips into C5 tackifiers remains lower approaching second quarter 2024 driven by the weaker tapes and labels markets.
- Overall demand for pips in China remains higher than late last year driven by some C5 resin producers opting for piperylene feedstock in place of crude C5 s under the emerging gasoline consumption tax regime on blending components. Curing agent demand for pips is also stronger, with increased use of epoxies in the production of wind turbine blades the driving force. Further price increases from producers are being strongly resisted by both the tackifier and curing agent consumers.
- Posted spot pricing this month in China is higher again in March with tighter balances and recently seen at 10,500-10,800 RmB/t (\$1,459/t - \$1,501/t) ex-plant depending on the region. Price increases during January were much stronger than those seen during February and March.
- Demand outside of China in Asia-Pacific has been generally weaker for pips into tackifiers including Thailand and Japan, with Taiwan and Korea the suppliers for most of this volume.
- Import flows of pips to the US during 2024 are expected to be weaker once again, given current demand and the announcement last month of the upcoming cessation of production at the Beaumont, Texas, C5 HCR plant that produces Wingtack® tackifiers. We expect some reshuffling of pips flows in the US depending on how other domestic C5 HCR producers react to the loss of Wingtack in the marketplace. Brazil and Korea have been the primary supplier of US pips imports.
- Outside of one C5 HCR producer in France with internal production and some smaller volumes flowing to the Netherlands, pips consumption in Europe should remain more minimal given the lower volume of actual C5 HCR production in the region.

Outlook

- Production growth will originate in China. Luhua Zhangzhou IED has been running since fourth quarter 2023. Several other IED projects including Fushun Yikesi at Panjin and Shenghong Jiangsu in 2024, Esisco at Jieyang City in 2026 and Henghe/Sinopec at Tianjin in 2026 will mean more capacity over the next several years.
- Globally, pips supply is expected to be more than adequate given weaker demand for C5 tackifiers until such time as the tapes and labels markets see a stronger rebound in demand. Increased demand for pips into epoxies within China has the potential to cause tighter supply/demand balances domestically.

Gasoline effects on resin formers



Monomers

DCPD

Supply

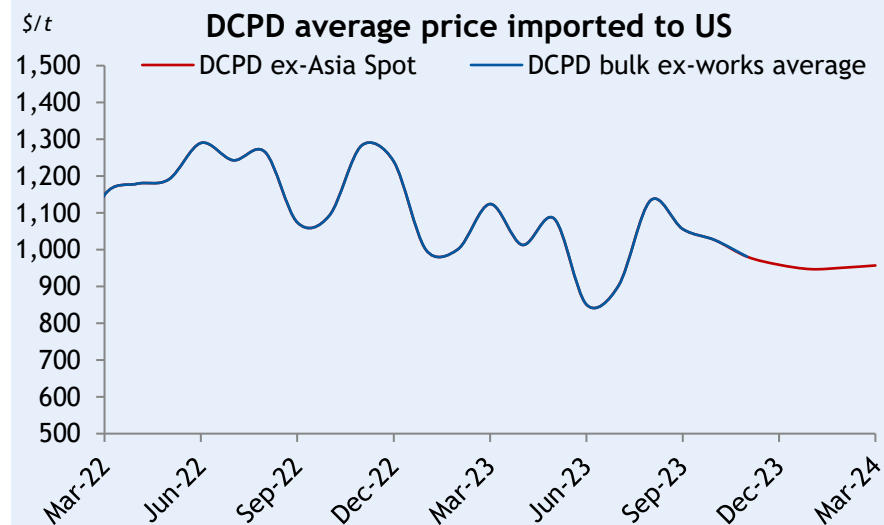
- Balances within China are slightly tighter with slightly improved UPR demand and some exports. Prices have moved higher once again during March with feedstock pricing and were seen recently at 7,650 RmB/t +/- (\$1,063/t +/-) ex-plant for 80-85pc grade material. Several producers had been accumulating their own production instead of selling in anticipation of starting up their own HHCR units. Henghe is operating the expanded HHCR line at Ningbo. Derong is once again seen as a seller in the DCPD market having moved their HHCR unit start-up back several months to May. Tianli has also backed up their new HHCR unit start-up until May.
- Korean DCPD production remains lower with cracker rate reductions and outages coupled with increased LPG cracking, but with Korean C5 processors running higher rates than seen for much of last year. Imports continue to be required to supplement domestic production for use in HHCR. Japan will also be seeing somewhat lower DCPD production with crackers reduced on rates with poor economics and two ongoing turnarounds during March and April.
- Production rates from Taiwan remain somewhat reduced with Formosa upstream outages and reduced IED rates. Taiwan exported 2,561t of DCPD in January according to GTT data, down slightly from 2,661t in December. For 2023, Taiwanese exports of DCPD were about 36pc below 2022 numbers at 25,500t. We expect DCPD exports from Taiwan to be stronger during the first quarter of 2024 based on tender volumes and market feedback.
- Weaker UPR demand in the construction and RV markets in the west means DCPD availability remains generally adequate to meet current demand and with producers capable of producing higher grades of DCPD also selling into the UPR market to move volumes.

Demand

- Overall demand in China has improved this month. UPR demand for DCPD is a bit better with increased operating rates and plant restarts after the lunar new year. Overall operating rates for UPR producers are now 35pc but with producers cautious of running much harder. HHCR demand for DCPD has been steadier, with new HHCR capacity online and due for start-up shortly. There has been some interest in exports within Asia-Pacific. An April turnaround at HHCR producer Shandong Ruisen means it should be out of the market end March to later April.
- Weaker HHCR production in Europe during 2023 and continuing into 2024 means more Chinese export HHCR volumes are finding their way to Europe, creating more long-term DCPD (and C9) demand in the China domestic market.
- US UPR market demand for DCPD remains weaker early in 2024 with higher interest rates and elevated inflation rates likely to continue well into 2024 but with construction season approaching when demand should improve from current levels. DCPD demand for HHCR in the US is stronger this month.
- January US imports of DCPD decreased to 1,881t from 2,381t in December. Benchmark DCPD prices were assessed at \$981/t for November bulk loadings to the US with March prices for loadings forecasted to be \$957/t ex-Asia with forecast crude and naphtha pricing coupled with weaker demand. US total imports of DCPD in 2023 tracked 22pc below 2022 levels at just 29,874t, including 6,858t from Europe.
- European domestic production of high purity DCPD will feed domestic consumers primarily for ENB in Belgium and cyclic olefinic copolymer (COC) production in Germany. DCPD exports from Taiwan to Europe remain lower than in 2022. Russian (Tartarstan) origin DCPD volumes continues to flow to India and Turkey having been displaced from the Eurozone. Taiwanese exports of DCPD to European countries tracked 45pc below 2022 levels at 8,696t for 2023.

Outlook

- Supply growth will come exclusively from China and appears sufficient to meet demands for the foreseeable future. HHCR demand for DCPD appears to be growing at a faster rate than UPR as of late with the likelihood that HHCR will be the larger demand heading into the future. Demand for higher purity DCPD is also likely to grow with COC applications.
- New IED projects that will produce additional DCPD in China include Luhua at Zhangzhou (running), Fushun Yikesi at Panjin and Shenghong Jiangsui n 2024, and Esisco at Jieyang City along with Henghe/Sinopec Tianjin in the 2026 period.



Monomers

Isoprene

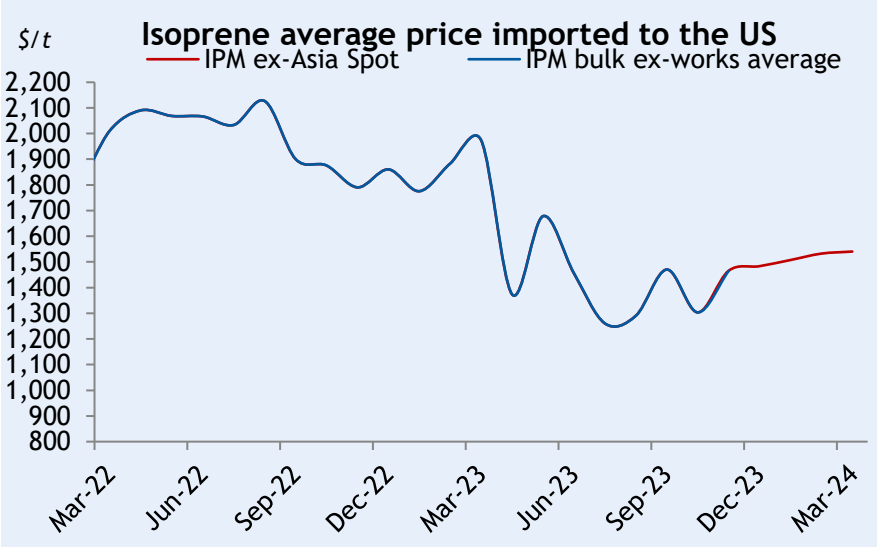
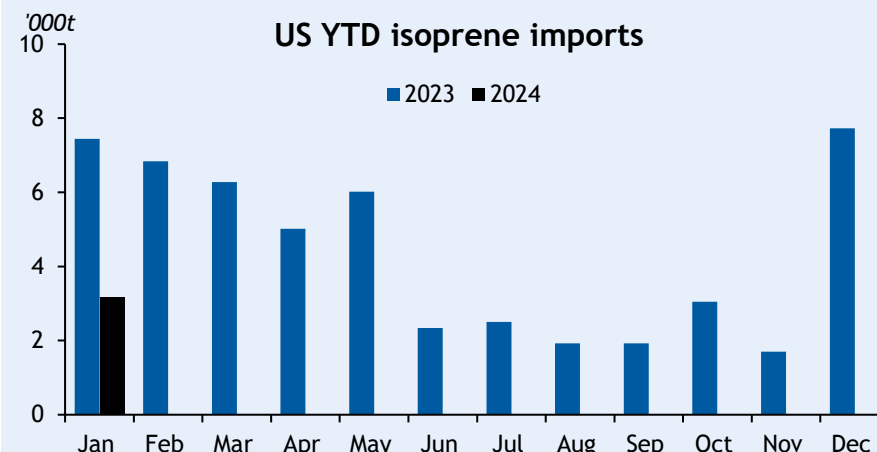
Supply

- Isoprene supplies in China remain adequate with all IED's except Sinopec Yanshan and Sinopec Shanghai (the smaller unit) currently online. Export demand for SIS remains tepid, and coupled with weaker domestic SIS demand means isoprene inventories are adequate. Domestic spot IPM prices in China were higher over the last month with naphtha and crude C5 pricing and were most recently seen at 9,200 RmB/t (\$1,278/t) ex-plant depending slightly on location.
- Isotainer shipments of isoprene to the west remain more expensive relative to shipment via chemical tanker and once again less attractive as a mode of supply where bulk storage is available.
- IPM export volumes from China to the US were much lower in 2023 than we saw for much of 2022. US imports of Chinese isoprene totaled just 3,521t in 2023. Total Chinese exports of isoprene for 2023 totaled 13,021t, 68pc below volumes for the previous year. Chinese exports of isoprene to the Eurozone were just 2,055t for 2023. Korean exports of IPM to the Eurozone were only 1,475t for 2023 and exports from Taiwan to the Eurozone during 2023 were just 2,807t.
- Korean isoprene production was reduced in 2023 through a combination of lower cracker rates, and low operating rates for isoprene extraction at domestic producers. Korean exports of isoprene have started strongly in 2024 however, with a total of 13,743t exported during January and February. Most of this volume (71pc) is destined for the US.
- Taiwan remains the second largest isoprene exporter in the region. Taiwan only exported 18,398t of isoprene during 2023, down from 31,722t during 2022. January shipments of isoprene were stronger at 3,363t, with most (95pc) headed to the US.
- US production of isoprene is slightly below what might be considered typical with crackers at less than maximum rates on ethane feed.

Demand

- SIS demand in the US and Europe remains weaker approaching the end of the first quarter in 2024. This in turn means weaker isoprene demand into the chain. Domestic demand in China also remains weaker into SIS. Isoprene demand into IR within China has improved, but with just two operational IR plants, SIS remains a larger isoprene consumer of domestic production.
- US isoprene production is primarily for internal use for either IR (Goodyear) or butyl rubber (ExxonMobil) production with occasional spot sales or purchases.
- Economics and demand for US SIS producers remains challenging during 2024. Imports of Chinese isoprene to the US were very low for 2023 relative to 2022 with the combination of weaker isoprene consumer demand into SIS and term contract commitments to other producers having left little room for cheaper spot purchases. We should see increased spot volumes arriving during 2024 from China depending on demand and individual consumer contracted volumes for isoprene.
- In January, imports of isoprene to the US dropped to 3,165t compared to December at 7,729t. Import volumes of isoprene remain primarily destined for SIS producers in the US. Benchmark isoprene prices were \$1,465/t ex-Asia for November bulk loadings to the US including volumes from Brazil and Korea, with March prices forecast to be \$1,540/t ex-Asia.
- Demand for isoprene in Europe remains weak with more minimal SIS production occurring there and with smaller volumes destined for butyl rubber production. The Eurozone has had no isoprene production for more than a decade.
- For 2023, Japanese imports of isoprene were just 8,384t, down from 25,617t during 2022. Weaker SIS and to a lesser extent IR demand is responsible for the drop in isoprene imports. January imports were just 496t.

Data



Monomers

Butadiene

Supply

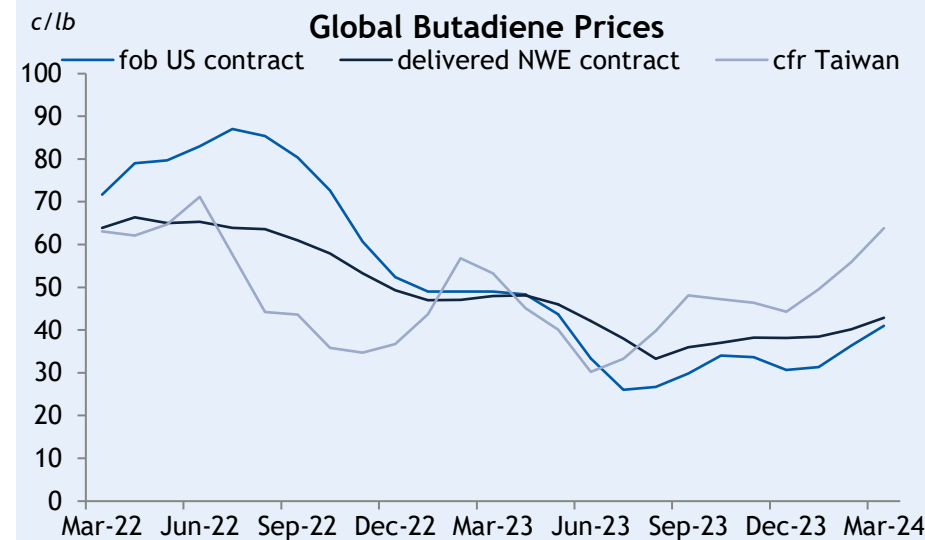
- US butadiene (BD) supply has tightened as three of the four major producers are enforcing sales controls for term volumes. Given these supply constraints, spot availability is restricted. March is the second consecutive month that these supplies have had allocations in place. It is still unclear if the supply side constraints will extend into April. A producer with a plant in Louisiana remains under force majeure despite expectations of a re-start earlier this month, some of its customers confirmed.
- The March *Argus* prevailing US BD contract price is 41¢/lb (\$904t). Early nominations for April are at 50¢/lb. The April European monthly contract price settlement is €940/t, up €70/t from March.
- Butadiene (BD) supply in Europe has eased somewhat in March, although domestic demand is still elevated. European crackers are running at higher rates compared to levels recorded in the fourth quarter of last year. However, cracker economics support a lighter LPG feed slate in lieu of naphtha, thereby fuelling tightness of supply in the crude C4 market.
- China continued to take advantage of the comparatively higher sea-borne prices and stepped in to plug supply shortfalls in South Korea, exporting at least another 4,000t of BD for April loading during the week ending 15 March.

Demand

- Spot BD prices were discussed at flat to a premium to the March *Argus* prevailing US BD contract price (CP) at 41¢/lb (\$904/t), but no firm deals were done for the week ending 15 March. With multiple buyers seeking out additional tons on tight supply, we increased the spot assessment to 41-44¢/lb.
- Demand from downstream derivative consumers has supported upward price momentum in Europe. A French BD consumer confirmed higher utilization this month, with estimates placed around 70pc for the coming months. Another derivative customer lifted its *force majeure* at its French production facility on 22 February. Domestic term volume nominations have been at or near maximum levels.
- Asia Pacific butadiene (BD) prices firmed during the week ending 22 March and reached a near 21-month high on the back of tight supply and were assessed at \$1,525/t cfr northeast Asia. Previous production hiccups in South Korea and Vietnam together with the delayed arrival of deep-sea deliveries had exacerbated the tightness in supply which may not ease until June.

Outlook

- Any new European exports are likely destined to Asia-Pacific as the global price leader but would not arrive until May/June.
- Once immediate demand is satisfied in Asia-Pacific, lower prices should emerge in the second half of 2024.



Monomers

Aromatic resin oil (ARO)

Supply

- Cracker margins within Asia-Pacific continue to remain in negative territory for naphtha feed but with LPG cracking more recently closer to breakeven or even temporarily positive during later first quarter of 2024. Cracker rates are slightly higher in Asia-Pacific but C9 ARO production is slightly weaker overall with more LPG cracking. The US continues to see a predominantly ethane based feedslate with cracking margins steadier over the last couple months with weaker feedstock pricing following weaker natural gas pricing. Europe continues to see improved operating rates on the back of Red Sea transit issues for ethylene derivative imports from Asia-Pacific.
- ARO supply for tackifier resin production is reduced with increased LPG cracking but remains generally adequate within most of Asia-Pacific, with weaker demand for C9 tackifiers in China and with C9 tackifier exports to the west continuing with very weak netbacks. Ongoing outages at two Japanese crackers will serve to limit some C9 feedstock production during March and April.
- C9 ARO supply for Taiwanese consumers remains constrained with the Formosa No. 2 cracker offline, CPC cracker No. 6 down for a planned outage which was extended by a fire at the facility (*see Industry News section*) which may delay restart timing, and from reduced production volumes from YNCC with the No. 3 cracker still offline for an extended period due to margin concerns.
- With the current sanctions on sales of Russian produced oil products to Europe, C9 feedstock supply for C9 tackifier production in Estonia remains reduced and the tackifier plant rates reduced to match feedstock availability. C9 ARO supplies remain adequate for the other remaining C9/HHCR producers in Europe.
- C9 ARO imports from both Asia-Pacific and Europe found their way into HHCR production on the US Gulf coast during 2023 at one of the large USGC HHCR producers, and we continue to see these import volumes during 2024.

Demand

- Many of the smaller C9 tackifier plants remain offline in China due to weaker demand and poor economics inclusive of consumption tax considerations on C9 solvent streams, reducing overall C9 ARO consumption.
- Prices for crude C9 feed streams in China moved higher with crude and naphtha pricing and are currently in the range of 5,050 RmB/t (\$702/t) ex-plant in the northeast to as high as 5,350 RmB/t (\$743/t) in the south.
- Navigating the implications of the consumption tax on C9 streams in China has C9 HCR producers, especially smaller ones looking closely at C9 ARO purchases. Many of the larger C9 ARO consumers appear to be selling the C9 solvent/raffinate streams back to larger government sponsored refiners to circumvent the potential tax issues.
- Naphtha pricing within Asia-Pacific is higher versus the end of last month and was assessed by *Argus* at \$713/t cfr Japan as of 22 March with petrochemical consumption remaining weaker for paraffinic grades.
- Spot northwest European naphtha pricing was higher over the last month and was assessed by *Argus* at \$713/t as of 21 March, with spot European gasoline prices also noticeably higher at \$862/t as of 21 March, so European formula based C9 ARO priced off gasoline should be moving slightly higher going forward.
- Current European demand levels for C9 ARO feed is keeping spot volumes available in the market to support some exports from the region.

Outlook

- Gasoline prices are trending higher as we approach the spring and summer driving seasons and lower gasoline vapor pressure requirements. This will drive pricing for C9 ARO higher in most instances.
- C9 ARO shipments to the US will continue, with some of the volume from Europe where volume is available, and movements are not directly impacted by ongoing Panama and/or Suez Canal issues.
- The relative strength of C9 feedstock pricing may continue to be pressured lower in China with the enforcement of consumption taxes on these streams which find their way to the gasoline and diesel pool.

News: Opec sticks to its guns on oil demand growth

Click [here](#) for the full article

Monomers

Ethylene production

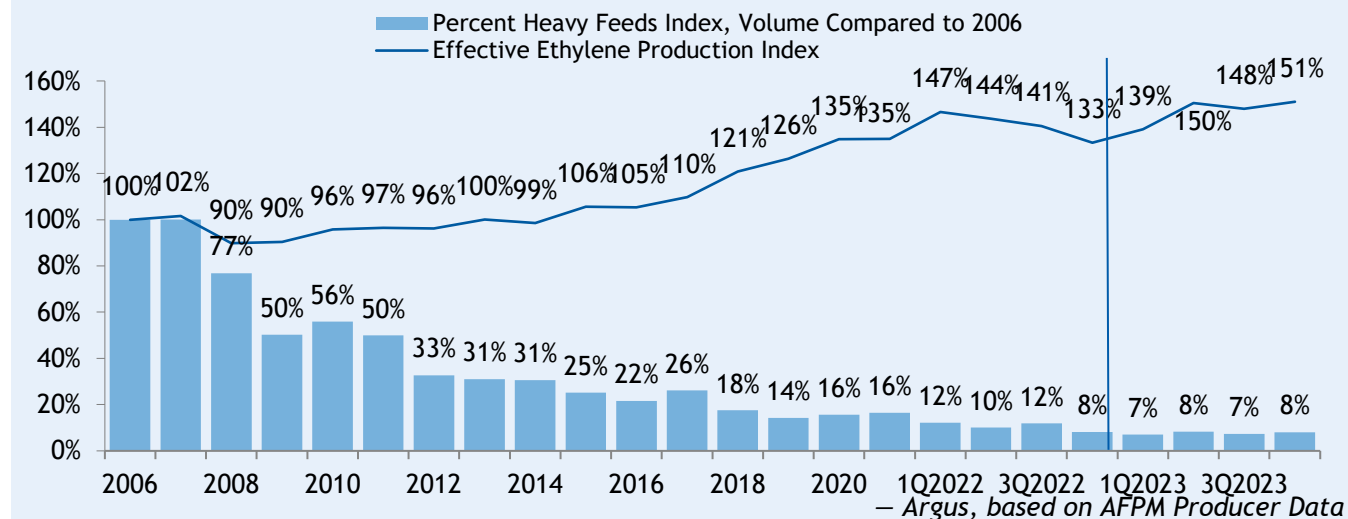
Supply

- Strong US ethane production from associated natural gas output will keep production costs low compared with other global regions, except the Middle East.
- In Europe, ethylene feedstock differentials remain under pressure from higher crude and feedstock prices despite significant contract price rises across the cracker product suite.
- South Korean producers increased their run rates in February as lower naphtha feedstock costs supported firmer margins. But naphtha prices are expected to rebound through May, and most steam crackers in South Korea with the flexibility to crack propane or butane have already switched to LPG feedstocks.

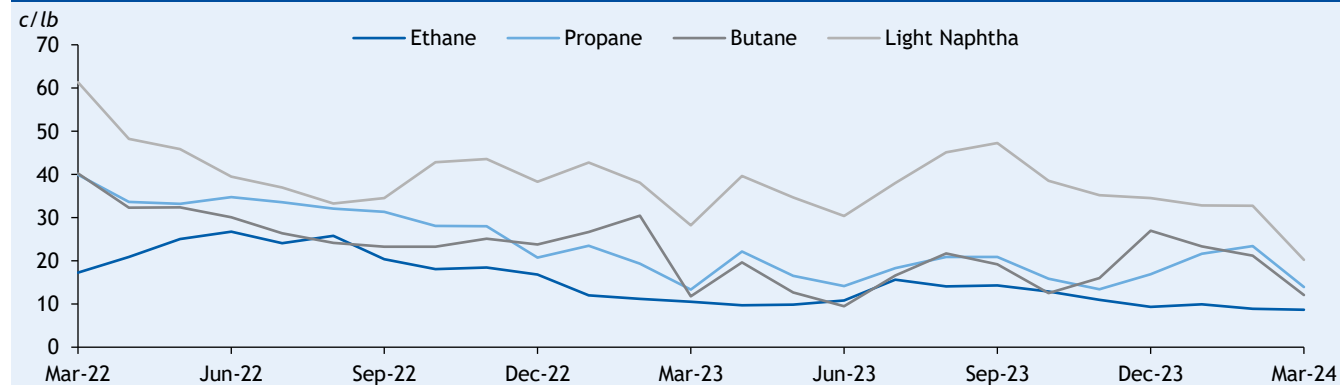
Demand

- Argus forecasts stronger ethylene demand for North America by later 2024. But operating rates will be managed to control inventories as the demand recovery is likely to be choppy.
- The European market is expected to remain weak while the economic outlook remains subdued and regional import pressures persist, but low stocks are likely to lead to periods of volatility. European producers will have a stronger cost position than in previous downturns, albeit with higher utility costs.
- China's consumer spending waned sharply after the long holiday period. Downstream consumers are under pressure from higher costs and weak margins, pushing them to cut rates as cost increases cannot be passed down the supply chain.

Liquid cracking



North America Ethylene Cash Cost



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Use the new [C5 and HCR Workspace](#) to stay updated on prices and relevant news stories

Tackifying Resins

C5 tackifiers

Supply

- C5 tackifier operations in China remain reduced to cover current demand. Chinese domestic prices for C5 adhesive grade tackifiers were seen most recently at 11,200 – 12,300 Rmb/t (\$1,556/t - \$1,709/t), up from last month. Feedstock piperylene costs increased significantly during January and are up further since then with stronger curing agent demand and some early fallout from consumption tax implementation on C5 raffinate, and as a result C5 HCR production margins are being squeezed despite the higher sales prices. Balances have moved slightly longer.
- Production volumes for C5 tackifiers in Japan remain more moderate as cracker rates remain reduced in Japan along with several cracker turnarounds and domestic C5 HCR demand remains tepid. Thailand and Korea continue exports of C5 tackifier to the west along with growing volumes of Chinese C5 HCR to all regions with stiff competition for market share. Pricing for all exports of HCR from Asia-Pacific to the west are being pressured higher by elevated container freight costs in addition to feedstock costs in China.
- Europe remains the recipient of aggressively priced tackifier imports from Asia-Pacific to the detriment of domestic and the US C5 HCR producers who regularly ship to Europe. Chinese exports to Europe continue to grow quickly, due to a combination of a structural shortness in European domestic supply, a lack of any protective tariffs, and the significant growth in Chinese productive capacity.
- US C5 HCR producers are seeing margins increasingly squeezed on any exports with direct competition from Asia-Pacific producers and the absence of protective tariffs for C5 HCR exports to other countries. We noted last month that Resin Solutions announced that it would be shutting down the Wingtack production facility at Beaumont, TX, less than a year after acquiring the asset from Cray Valley). This should present an opportunity for more domestic sales for the two remaining US C5 HCR producers as well as increased import volumes from Asia-Pacific exporters.

Demand

- Demand continues to be weaker during 2024. Producers and other sellers continue to be aggressive in trying to move volume, including structural exports from Asia-Pacific. Weaker demand in the tapes and labels space continues to weigh on C5 HCR consumption in all regions. Thus far, we have not seen any surge in demand post lunar new year in China.
- China gum rosin and derivative rosin esters have moved up in price since the beginning of the year but are still pricing out lower than domestic C5 adhesive grade HCR, which could limit some smaller demand for C5 HCR's. A number of market sources indicate that at least one domestic US C5 HCR producer is looking for a Q2 price increase.
- Road marking demand for C5 HCR remains weaker in China exiting the winter season but should start to improve. Prices for C5 HCR road marking grades in China are higher since the end of last month and most recently seen in the 9,600 – 11,000 Rmb/t (\$1,334/t - \$1,159) range ex-plant. Sales margins, like the adhesive grades of C5 HCR are being squeezed by higher feedstock pricing but weak demand has kept prices from moving further thus far.
- Thailand's C5 HCR exports remain at lower levels compared with previous years, with lack of export demand clearly limiting production. For 2023, export volumes were down 23pc relative to the same period of 2022, which was also a weak year for C5 HCR exports from Thailand. Thailand only exported 1,290t of C5 HCR in January, down 44pc from 2023.
- Spot container shipping costs for China, Korea, Japan, Taiwan and Thailand to the US and Europe remain elevated but weaker over the last month after a strong run-up in January, which is still hurting netbacks for Asia-Pacific tackifier volumes moving to the west. With noted transit issues for both the Panama and Suez canals, these rates are likely to remain elevated going forward, but do have some room to retreat further it appears as the market adjusts to increased transit times. With the elevated shipping costs, Asia-Pacific exporters of HCR will be forced to move export prices higher or see their margins move into negative territory.

Outlook

- Asia-Pacific C5 HCR volumes moving to Europe will only grow in the future with no new planned domestic production in Europe and an increased need for Asia-Pacific exports as European demand grows. US C5 HCR exports to Europe should decrease as US domestic demand increases and with less US C5 HCR capacity beginning later this year.
- Chinese C5 HCR production will continue to grow and further dominate the global market, including C5 HCR exports to Europe.
- All planned additions to C5 HCR capacity are in China. **Jinhai** is planning a new 35,000t C5 HCR line at Ningbo for 2025 start-up, adding to the existing 70,000t of C5 HCR capacity at the site. A new producer, **LangYing** at Chengdu in Sichuan province plans to start-up in 2025. **Ecisco** has also announced a new project at Jieyang City in Maoming province which will include C5 HCR production and now targets 2026 production for phase I of the project. **Henghe/Sinopec** also have new C5 HCR capacity planned for Tianjin in this same time frame.

Unit Watch

- **Zhejiang Derong** is operating on one C5 HCR line with the other idled.
- **Shanghai Jingsen** remains in an extended shutdown.
- **Shandong Ruisen** restarted the Puyang train end February.
- **Luhua Zibo, Luhua Wuhan, Luhua Zhangzhou, Sunion Maoming, Ningbo Jinhai**, (two trains), **Puyang Binder, Fushun Huaxing, Nanjing Yuangang, Daqing Huake, Anhui Tongxin, Ningbo Yonghua, Puyang Xinyu, Shandong Ruisen** (both trains), **Lanzhou Xinlan, Ecisco Huizhou, and Xinjiang Tianli** are all online but with average operating rates below full capacity.
- **Zibo Kaixin** remains offline with a restart unlikely.
- **Resin Solutions** will permanently shut down its Beaumont, TX facility in the US later this year.

Tackifying Resins

C9 aromatic tackifiers

Supply

- Operating rates for C9 HCR plants in China remain low in early 2024 with the large surplus of production capacity and weaker demand even after the lunar new year. More than 60pc of producers remain offline at the end of March. Consumption taxes on C9 solvent streams have smaller producers worried about their costs of production and in some cases hesitant to restart.
- C9 ARO feedstock supply for resin producers remains constrained in Taiwan with upstream CPC No. 6 and Formosa No. 2 crackers offline and reduced YNCC production but is generally adequate in the balance of the Asia-Pacific region including China. C9 HCR operating rates remain reduced in Taiwan with poor netback economics for C9 HCR exports to the west, with the higher freight rates we are currently experiencing further aggravating the situation.
- A shortage of crude C9 Feedstock supply to the C9 HCR plant in Estonia has meant reduced rates of operation for the plant until the sanctions on Russian feedstock are lifted or additional economically viable feedstock is sourced elsewhere. Export volumes of C9 HCR were just 996t for January. HCR export volumes from Estonia in 2023 were 16pc below those from a weak 2022. Other higher grade C9 ARO consumers in Europe remain adequately supplied.
- Europe remains the favored destination in the western world for many low-priced Chinese HCR exports looking to take market share away from domestic producers and fellow Asia-Pacific producers Korea and Taiwan. Despite the punitive tariffs in place, the US also continues to see steady HCR imports from China typically dominated by C9 HCR, but these volumes remain much smaller in comparison to exports from China to Europe. The cost to deliver exports from Asia-Pacific to the west has increased significantly since the beginning of the year with the increases in container freight costs, with domestic suppliers and others with inventory on hand in the west seeing increased buying interest for locally supplied volumes.

Demand

- C9 HCR demand in the west continues to see some reasonable demand into coatings and tires approaching the end of the first quarter. Netbacks are weak for C9 tackifier exports to the west from China or especially Taiwan, and elevated freight costs and shrinking margins should force exporters to increase pricing to the potential advantage of western domestic producers.
- Spot pricing for lighter colored thermal C9 HCR grades in China is slightly higher versus last month and is seen recently at 6,800-7,800 RmB/t (\$945/t - \$1084/t), with weaker demand into asphalt and plastic modification along with reduced production and very thin margins.
- Dark color thermal C9 HCR pricing in China is very slightly higher versus late last month and seen at 4,700 – 5,600 RmB/t (\$653/t - \$778/t).
- C9 HCR adhesive grade pricing in China is higher over the last month and was most seen recently at 9,300 – 10,000 RmB/t (\$1,292/t - \$1,390/t) with a significant amount of production capacity for all C9 HCR grades as noted remaining offline.
- For 2023, the US saw about 8,170t of C9 HCR imports from China out of a total Chinese HCR import volume of 12,933t, representing 63pc of Chinese HCR imports to the US. In January, C9 HCR imports of 653t from China made up 47pc of Chinese HCR imports.

Outlook

- We expect further rationalization of Chinese C9 HCR capacity going forward given the large surplus of capacity, including many smaller, older plants. This is happening only slowly thus far.
- The USTR has not specified a date by which it will conclude the four-year review or implement any resulting modifications to the Section 301 tariff actions on Chinese exports to the US. The tariffs preferentially push more Chinese HCR exports including C9's to regions other than the US. It is unlikely the tariffs will be addressed further until after the US Presidential election in November.

Unit Watch

- **Fushun Kelong** and **Tianjin Jinye** both returned to service after turnarounds earlier this month, both producing thermal grades of C9 HCR.
- Units online: **Shandong Qilong (all three lines), Guangdong Xin Huayue, Fushun Qilong, Henghe (all lines), Daqing Huake, Zibo Zhengde, Linzi Xinzheng, and Dongfeng Hongye.**
- Units Offline: **Luhua Wuhan, Lanzhou Huifeng, Beiing Xinlan, Gaocheng Hongda, Shandong Wudi Tongye, Tangshan Kerun, Fushun Huaxing, Anhui Dingcheng, Qingdao Eastsun, Shandong Kete, Shandong Landun, Shandong Kerong, Anhui Tongxin, Xinjiang Tianli and Inner Mongolia Zhoujin Huixin.**

Tackifying Resins

HHCR (waterwhite) tackifiers

Supply

- WW HCR production rates in China are reduced but remain stronger than other HCR producers. Shandong Ruisen will take an outage in April. Production rates are reduced at several producers in the west, but we could see these rates increase with the elevated container freight costs for Asia-Pacific exporters to the west necessitating higher sales prices for Asia-Pacific export sales. Market sources indicate one US HHCR producer will be on sales allocation until potentially mid-year after an upstream cracker outage at the production site in Jan/Feb.
- Margins for domestic HHCR producers in the US remain stronger than for competing imports given elevated container freight costs from China/Korea to the US and NWE.
- Europe continues to see greatly reduced levels of domestic HHCR production. We expect some ongoing rationalization to eventually be officially announced for France with the reality of higher operating costs and serious Chinese competition for domestic producers. The ability to supply molten grades of HHCR (and other HCRs) to larger regional customers continues to be an advantage for HCR producers in the west.
- Korean HHCR facilities will need to continue to export nearly all their production which is being marketed more aggressively to the west with increased Asia-Pacific competition from the Chinese producers. Taiwan HHCR production remains constrained with more expensive freight costs to the west relative to their Korean and Chinese export competition, negatively impacting margins. Japanese exports of HCR's continue to track lower with most exports occurring to within the Asia-Pacific region. Margins on all these exports are at risk with the noted elevated costs to ship HHCR to western markets.

Demand

- HHCR demand, like the other tackifiers, has been slower to recover after the lunar new year holiday in China. Demand remains more stable in the west with HHCR balances in the US appearing to be a little tighter at present given what appears to be reduced first quarter production from one US Gulf Coast producer.
- Current spot pricing for HHCR in China is slightly higher month to date and seen in the 11,500 – 11,700 RmB/t (\$1,598/t- \$1,625/t) range and close to on par with that of adhesive grade C5 tackifier pricing in the domestic market. Buyers remain resistant to any price increases given a lack of strength in downstream demand.
- HHCR pricing at a reduced (or in some cases slightly negative) premium to better quality C5 HCR is anticipated to continue in some instances until HHCR demand comes much closer to the available productive capacity, perhaps later in the decade. Several market sources indicate that at least one domestic US HHCR producer is looking for a Q2 price increase.
- EU import volumes from China remain significantly higher than US imports from China given the larger supply/demand imbalance in the region and the protective US tariffs in place for Chinese HCR imports. For 2023, European imports of HCR from China tracked about 26pc above 2022 levels at 88,054t, while Korean exports arriving in Europe, which will be predominantly HHCR, tracked 15pc below 2022 levels at 71,128t.
- Chinese exports of HCR continue to grow as capacity increases outpace increases in domestic demand. For 2023, China exported 400,368t of HCR, up from 335,977t for 2022. Chinese exports of HCR totaled 75,838 through February, tracking 7.7pc above the same period of 2023. Chinese HCR exports to the US remain weighted toward C9 HCR rather than HHCR as noted with total HCR import volumes of just 12,933t for 2023, and of this 8.7pc was HHCR.

Outlook

- China continues to add HHCR capacity while units are shutdown elsewhere.
- **Xinjiang Tianli** at Dushanzi City is expected to start-up new HHCR capacity during May. **Derong** at Zhoushan is also expected to start-up new HHCR capacity in May. **Henghe** at Ningbo has started up new DCPD based WW capacity at Ningbo, with the balance of the refurbished/expanded lines likely restarting very late this year. **LangYing** is expected to start-up new HHCR capacity at Chengdu in Sichuan Province during 2025.
- **Henghe/Sinopec** at Tianjin should add additional HHCR capacity in 2026.
- The planned 2024-2026 start-ups in China will add significant amounts of HHCR capacity into a market that is already seeing much weaker operating rates and margins than several years ago.
- European HHCR capacity is expected to shrink further with a shutdown of capacity in France. This would leave Synthomer and Rain Carbon as the only two remaining HHCR producers in Europe.

Unit Watch

- **Synthomer Nanjing, Lanzhou Huifeng, Luhua Tianjin** (two lines), **Luhua Zhangzhou, Jinhai** (two lines), **Zibo Kaixin, Shandong Ruisen**, and **Xiamen Zhongyi (Ecogreen)** are all operating.
- **Henghe** continues to operate the C5 and newer C9 HHCR lines along with the newly refurbished line at Plant A.
- **Shandong Ruisen** will take a planned outage in April.
- **Luhua Wuhan** restarted after being offline since earlier January.
- The new **Arakawa** C9 HHCR line in Japan continues operation.
- **Shandong Qilong, Taixing Tianma** and **Xinjiang Liming Xintong** remain in extended shutdown having never operated commercially.

Tackifying Resins

Rosin

Supply

- China's main tapping season concluded in December. The pine oleoresin harvest in Yunnan is ongoing, but tapping is limited and more minimal volume is being supplied. Supply of pine oleoresin within China will be limited until the start of the new tapping season in the June time frame. Rainy weather and cold temperatures are slowing preparations for the next tapping season.
- Gum rosin prices were mostly stable in the first half of March. Gum rosin ester pricing in China is slightly lower in March, with 8 March *Argus* assessments of \$1,460/t for gum rosin glycerol ester and \$1,488/t for gum rosin pentaerythritol ester, both ex-works in drums with buyers working off higher inventories.
- For 2023, Chinese gum rosin imports totalled 119,512t, up 65pc from the same period of 2022. Indonesia and Vietnam made up most of the imports. Chinese imports of gum rosin YTD through February were 17,943t and showed a YOY increase from 2023 of 70pc. Average pricing for Chinese imports during February was just \$1,040/t.
- Oleoresin supply in the 2023-2024 tapping season in Brazil is lower following poor tapping economics last year, which led smaller and less competitive tappers to abandon the market. Tapping activity is firm nonetheless, with more oleoresin expected to be offered in the peak second quarter of the year. Some smaller gum rosin producers are struggling to sell product into the export market due to increased raw material costs and as a result are diverting some sales to the domestic market.

Demand

- WW grade *Pinus massoniana* gum rosin was heard trading 1H March around Yn11,000/t exw Guangxi in China. Imported gum rosin has more limited impact on *Pinus massoniana* pricing which tends to be produced by a few large producers in China. WW grade *Pinus elliotti* was heard trading at Yn8,600/t exw Guangxi with some import competition. *Pinus massoniana* gum rosin prices have averaged \$1,600/t fob thus far for March. February monthly average CGR market prices for *Pinus massoniana* averaged \$1,574/t fob, up \$40/t from January.
- Brazilian oleoresin prices have increased over the last several months as large buyers bid higher to secure material amidst more limited supply in the key producing states Sao Paolo and Rio Grande do Sul. Increasing pine oleoresin prices have allowed for healthier producer margins but some market participants remain concerned about the slow recovery of downstream sectors in Europe which may have buyers pushing back and delaying purchases. Brazilian gum rosin export prices are higher for mid-March with higher feedstock costs and improved US demand for imports. *Argus* last assessed *Pinus elliotti* gum rosin 15 March at \$1,050/t fob Brazil in drums.
- Demand for Brazilian and Argentine gum rosin into Europe is stable in mid-March with some smaller sellers struggling with export sales due to increased production costs.
- Prices for US CTO domestic and export derivatives have trended lower since the beginning of 2023, with less demand into the gum rosin, rosin ester and biofuels markets. European demand for US CTO is limited with sluggish demand for TOR. *Argus* assessed spot US CTO pricing 15 March at \$882/t southeast US port fob in drums for smaller spot volumes. With weaker overall demand including into biofuels and less fractionation capacity online in the US, CTO balances remain long.
- For January 2024, US export volumes for CTO were 25,325t, up 88pc from the same period in 2023 and up 25pc from December. Weaker demand into domestic CTO processing as 2023 progressed made volume available for exports, most of which headed to Sweden and Finland during the fourth quarter and again during first quarter. Demand for TOR and derivatives into adhesive markets has been stable to soft.

Outlook

- Supply of pine oleoresin in the Chinese market will be limited until the start of the new 2024 tapping season, which should begin May/June of this year. Pricing could move higher yet on oleoresin and gum rosin as stocks are drawn down and pricing on competing HCRs remains higher approaching the end of the first quarter.
- European downstream demand for gum rosin has been weak and the demand outlook for early 2024 remains bearish.
- Lower oleoresin production volumes from Brazil in the current harvest season are evident due to what was a weak market during 2023 and several suppliers exiting the market.
- Rosin ester producers in China continue to look to gum rosin imports as a cheaper alternative to domestic gum rosin for feedstock requirements.



Tackifying Resins

Natural terpene-derived resins

Supply

- Supply of feedstock oleoresin in China is diminished with the end of the main tapping season and buyers expect higher prices heading into the next tapping season at midyear. As such, suppliers of gum turpentine have been reluctant to sell until they see pricing moving higher.
- Gum turpentine pricing saw early March offers at Yn16,500/t exw Guangxi for *Pinus massoniana*, and at Yn16,500/t for super grade *Pinus elliotti*, exw Guangxi. Pricing was up noticeably over the last several weeks.
- Brazil is the largest gum turpentine exporter to China YTD for 2024 as it was during 2023. Smaller import volumes from Vietnam and Indonesia are also noted.
- Brazilian gum turpentine stocks are thin with lower gum rosin processing rates. Brazilian gum turpentine exports to the US trended higher at 2023 year end and this is expected to continue in 2024. Brazilian exports of gum turpentine were higher in February than January with India, the US, Japan and Mexico the key recipients.
- Average orange juice sales decreased 14.1pc year-over-year by late-February, according to the most recent data released by the Florida Department of Citrus in the US. The reduction in orange juice sales can mean less domestic d-limonene availability for the US.

Demand

- China's gum turpentine market has seen higher pricing since the lunar new year holiday as buyers restocked ahead of potential future price increases. Some sellers continue to hold stocks awaiting higher prices in the coming months given the end of tapping season.
- *Pinus massoniana* gum turpentine prices in China averaged \$2,095/t fob in February, up \$2/t from January, extending the recent upward price trend. March fob prices are currently averaging \$2,240/t, higher once again.
- Chinese imports of gum turpentine were 11,252t for 2023 and were 329pc higher than the same period in 2022, driven by the lower price of import volumes. YTD through February imports were 1,053t, down 9.5pc from the same period in 2023. Average pricing for February imports was \$1,730/t, well below domestic price levels.
- Brazilian gum turpentine overall demand is stable to firm during mid-March, with tighter availability pushing prices higher. *Argus* assessed Brazilian *pinus elliotti* gum turpentine on 15 March at \$1,900/t fob in drums, up \$150/t from mid-February.
- Demand for Brazilian gum turpentine in India is stable to softer, with increased freight rates and delayed isotank deliveries tempering buyers enthusiasm. Demand into Japan was also noted as softer with some buyers having purchased first quarter requirements earlier.

Outlook

- Gum turpentine derivatives processors in China continue only buying in smaller volumes as the economic outlook remains unclear. Brazil will continue as a leading supplier of gum turpentine volumes to China during 2024.
- Brazilian gum turpentine exports to the US are also likely to be higher in 2024, with very modest volumes having moved in 2023.
- d-limonene pricing is expected to remain at more elevated levels to α and β -pinene and sold primarily to into the F&F markets.



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Polymers

Natural rubber (NR)

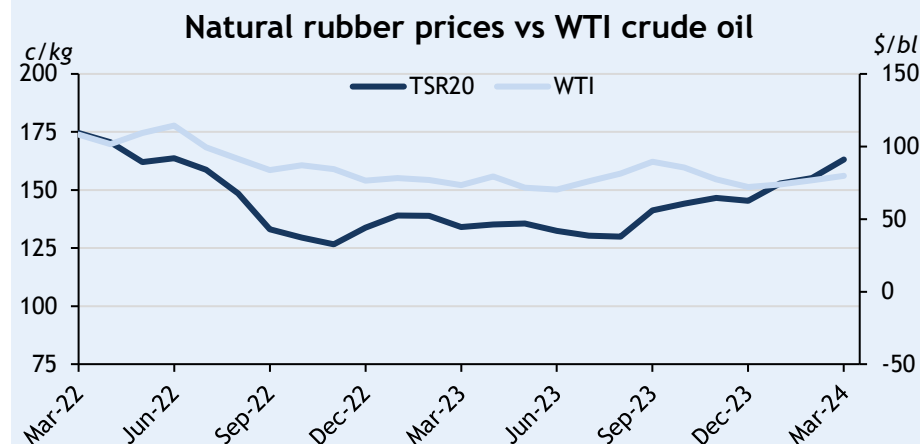
Supply

- TSR20 natural rubber (NR) futures on the SGX settled at \$1,719/t on 20 March, an increase of 6.1pc from 1 March. Prices have averaged \$1,627/t for month-to-date March, up 4.9pc from the February average of \$1,551/t.
- The Association of Natural Rubber Production Countries (ANRPC) announced that tight supply of rubber has driven up positive sentiment with the world rubber market this year. Part of these supply concerns stem from unfavorable climatic conditions.

Demand

- THE ANRPC recorded daily prices on 7 March, with the average February rubber price for Bangkok RSS-3 and Bangkok TSR-20 up by 12.8pc and 6.2pc from January, respectively. Kottayam RSS-4 grew by 3.6pc, followed by Kuala Lumpur SMR-20 at 1.9pc. Global consumption and production of natural rubber from January-February were up year-over-year.
- China is seeing stronger NR demand with increased production rates for tires. IR pricing jumped dramatically last week in China. IR can be used as an NR substitute or upgrade in some instances in tire production.

Outlook



News: Tire maker Goodyear to close plant in Malaysia

Click [here](#) for the full article

Polymers

Polyisoprene (IR)

Supply

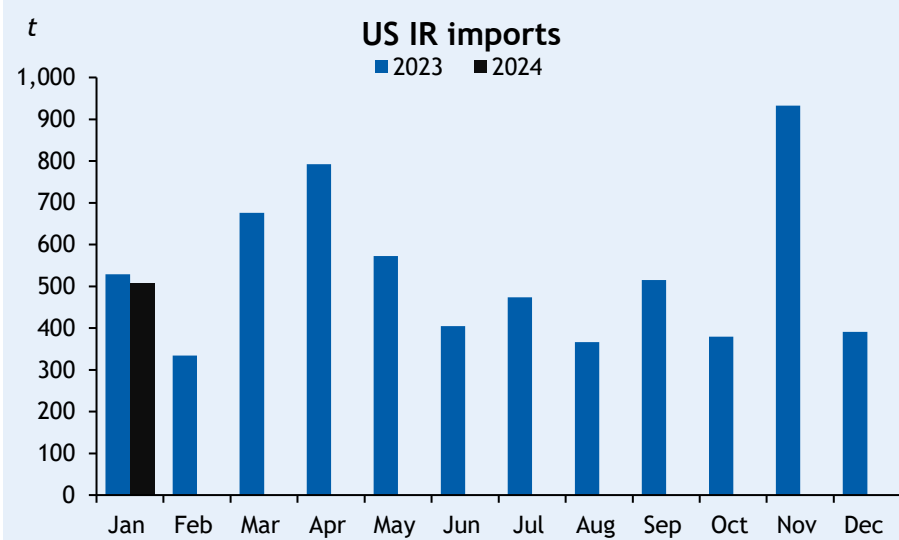
- Feedstock isoprene remains readily available for both IR production given current demand for SIS thus far in 2024 and increasing global isoprene production capacity. Isoprene monomer prices are slightly firmer with stronger crude oil and in China, with crude C5 pricing.
- US exports of IR totalled 2,254t for January and were 9.3pc higher relative to the same period in 2023, with slightly weaker overall IR demand. US exports of commodity grade IR in January totalled 2,148t, up 31pc from the previous month.
- US import volumes of IR were just 507t in January and with imports very weak for the entire previous year (see accompanying graphic), continuing a trend seen beginning in June 2022 and a function of very minimal Russian IR exports to the US. US imports of IR in 2023 totalled just 6,366t. Japan remains the largest supplier of IR to the US, although January saw Russian imports exceeding those from Japan.
- Average pricing for US IR imports from Japan was \$3,467/t in January and for Russian imports average pricing was just \$1,412/t.
- Chinese domestic supply of IR remains structurally low, with just two plants (Fushun Yikesi and Xinjiang Tianli) in operation.

Demand

- The fourth quarter of 2023 saw a generally weaker replacement tire market but with several producers including Continental seeing improved volumes. The US Tire Manufacturers Association (USTMA) is predicting record shipments of 335.7mn units in 2024, slightly eclipsing the most recent record set in 2021 (see the *Industry News* section for detail).
- Demand for higher grades of IR used in medical applications remains closer to pre-Covid 19 demand levels. Japanese exports of IR, much of can be used in these applications, tracked 14pc below 2022 during 2023 but were stronger at 2,738t for January.
- Chinese demand for IR is stronger in early 2024 with higher NR pricing, improved demand into tires, and an upcoming May outage at the Tianli IR plant in Xinjiang province. IR pricing in China increased by 2,000 RmB/t over the last week to 14,500 RmB/t.
- Russian origin landed IR exports (based on GTT mirrored data from receiving countries) totalled only 144,055t for 2023, down 37pc from 2022. European imports of Russian origin IR were down 63pc for 2023 versus 2022 at only 38,483t, with much of this volume as of late landing in the Baltic states or Poland. We expect further decreases of these imports during the second quarter.
- China, and to a lesser extent Poland and Turkey remain the key outlets YTD for Russian produced IR. Russian produced IR has made up 91pc of China's 11,700t of IR imports YTD through February, with volumes also up 91pc over the same period of 2023. Chinese imports of IR from Russia increased by 35pc in 2023 over 2022. Average pricing for Chinese IR imports from Russia was just \$1,460/t for February as Russia continues to price exports to Asia-Pacific very aggressively to move volume.

Outlook

- Substitution of Russian IR by natural rubber at western tire manufacturers should be almost complete as we head toward the second quarter of 2024. We see this primarily within the Eurozone where sanctions on imports of Russian IR to the EU become fully effective in 2H 2024.
- Russian IR exports to China remain more elevated as part of overall increased trade with China and as Russia struggles to find new homes for its IR production outside of Europe. Russian IR volumes continue to be offered at aggressive prices to China and other Asia-Pacific countries to incentivize additional demand. Operating rates for IR producers in China are expected to remain weaker in the medium to longer term with the competitively priced Russian IR imports.



Supply

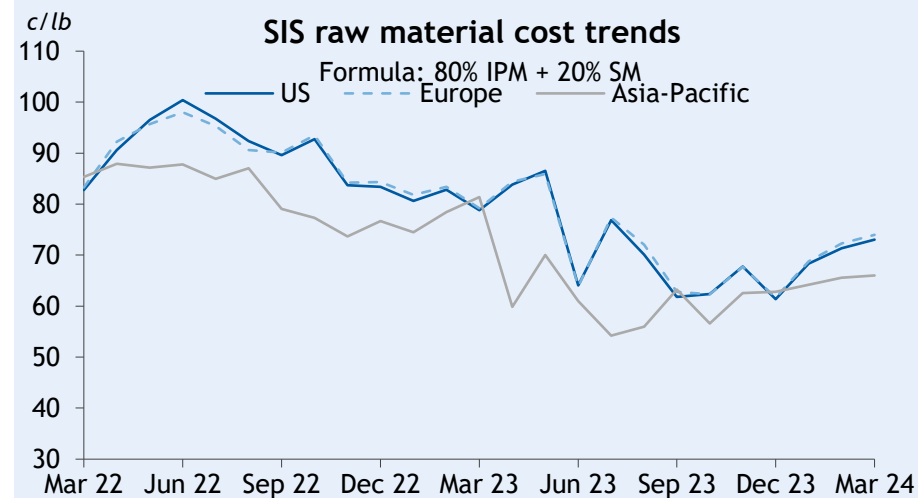
- SM feedstock pricing has retreated slightly lower this month in the US and Europe. US spot pricing was \$1,485/t fob USGC on 21 March. European spot pricing was at \$1,530/t fob ARA for 21 March. Asia-Pacific values are closer to flat since this time last month but remain the weakest globally at \$1103/t cfr east China as of 22 March.
- Overall rates for SIS producers in China are slightly improved after the holiday period but with domestic demand less than stellar and tepid export demand but with all plants online. Operating plants include Zibo Luhua, Ningbo Jinhai (two trains), Sinopec Baling (two trains on SIS), TSRC, Shandong Jusheng and Sunion (one line).
- The Luhua SIS/SBS swing line at Zhangzhou has commenced start-up operations, which will shortly add to the capacity totals.
- Operating rates at US domestic SIS producers remain reduced overall with demand in the west slightly improved but weaker overall. Isoprene supplies remain readily available, with imports reduced to match the weaker demand. Rates for western producers could increase somewhat if SIS import volumes drop because of logistics constraints and costs.
- Production of SIS in Europe remains reduced with very little isoprene imported to the region to facilitate production during later 2023.
- SIS exports from China, Taiwan and Japan to Europe and to a much lesser extent the US continue. Margins on these SIS exports to the west are weaker, especially given US import tariffs for Chinese producers. The higher container freight rates that we have seen since early January are keeping margins weak on these exports and may generate price increases from exporters to the west, which would probably come at the expense of market share in a well supplied market.

Demand

- SIS global demand remains weaker as we move closer to the second quarter of 2024.
- Weaker SIS demand into the tapes and labels markets remains a key driver for the globally weaker demand. It is likely to take several years to return to peak demand levels seen during the 2021-22 period when package and freight movements were at historically high levels in the midst of the Covid-19 pandemic.
- Domestic ex-plant spot pricing for SIS in China is up this month with slightly stronger isoprene pricing and was seen most recently at 13,500 RMB/t (\$1,876/t +/-) for ex-plant east China.
- Spot container freight rates remain much higher than earlier December and are noted most recently in the range of \$5,875/FEU for main port Asia to the USEC, with prices to the USWC closer to \$4,244/FEU according to the most recent Freightos weekly data. Delays and higher costs for traversing the Panama canal remain a concern with some relief expected during the second quarter. The Panama Canal Authority hopes to increase daily transits in May once the rainy season starts (see the *Industry News* section for more detail). Spot main port Asia to northwest Europe container rates also remain strongly elevated but off the recent peaks on pricing and moving lower and are seen near \$3,871/FEU. Transiting the Red Sea remains a significant issue with ongoing Houthi attacks on vessels. Larger container vessel line owners continue rerouting most traffic around South Africa instead of transiting the Suez, increasing both transit times and costs.

Outlook

- Overall operating rates are expected to remain lower for producers entering the second quarter of 2024 awaiting stronger demand from the tape and label markets. Chinese demand for SIS after the start of the lunar new year has not seen a dramatic uptick thus far.
- New SIS/SBS/SEBS capacity from Luhua at Zhangzhou is in the start-up process and later in the second quarter should see new SIS/SEPS capacity from the Baling/Shanghai Petrochemical JV. Jinhai is also expected to start-up a fourth SBC line dedicated to SIS before year-end 2024.
- Economics for US SIS producers shipping for sale in Europe will continue to be challenging due to both the lack of tariffs on Chinese SIS exports to Europe and the strong isoprene feedstock cost position for Chinese producers. Higher costs associated with shipping containers from Asia-Pacific to Europe and the Americas should help the competitiveness of US SIS producers in the western markets.



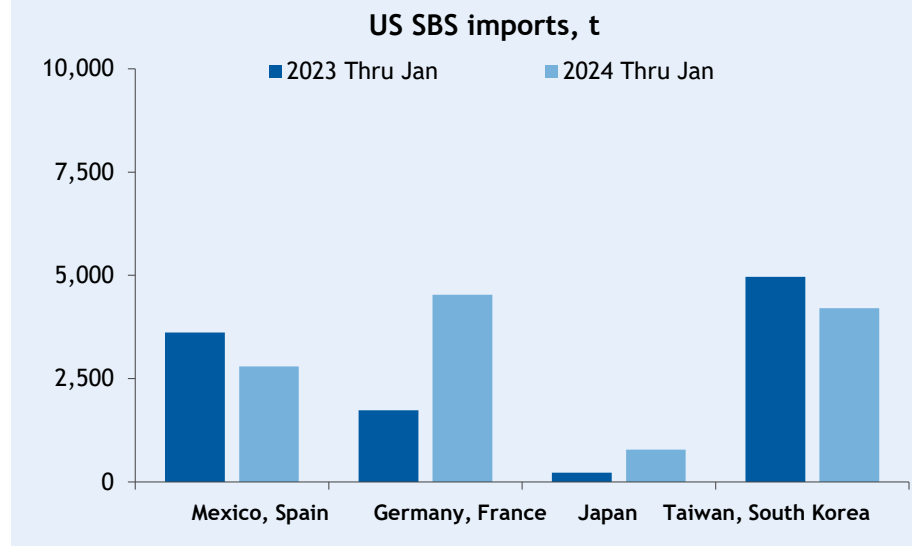
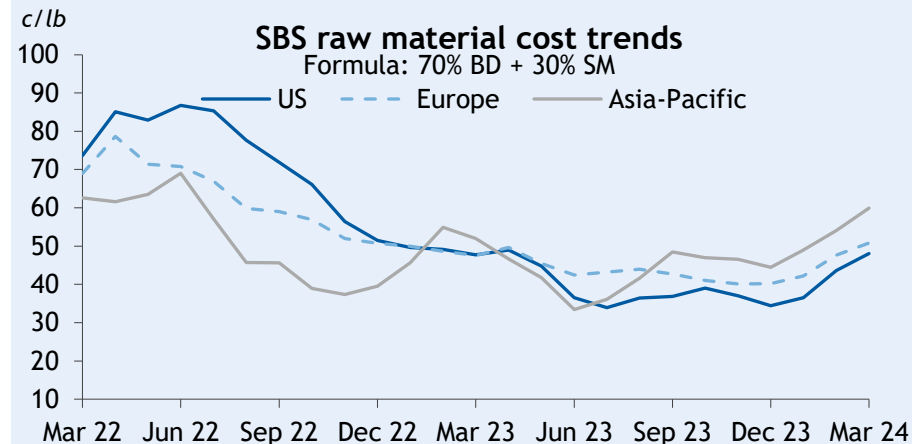
Supply

- SBS feedstock costs are higher in Asia-Pacific during March with BD pricing up once again but with styrene pricing closer to flat from the previous month. Feedstock pricing is higher in the west as well with BD contract pricing in the US and Europe having both moved higher again for March and with further increases for April.
- In China, SBS operating rates remain on the lower side (50pc) but are improved from the lunar new year period. The startup of the Luhua SIS/SBS/SEBS facility at Zhangzhou is in progress as noted which will add to the excess of SBS (and SIS) capacity in China.
- Domestic SBS producers in the west have been operating at generally lower rates against weaker demand during the winter and will continue to face a challenge from aggressively priced imports from Asia-Pacific. The higher container freight rates from the east to the west should be beneficial to domestic producers, especially if we see export price increases from Asia-Pacific producers to help cover the increased freight costs and keep decreasing margins in check.
- Russian SBS plants have been operating at reduced rates as the Russia-Ukraine conflict continues and European buyers minimize purchases from Russia. European imports of Russian SBS dropped by 49pc for 2023 versus 2022, with nearly all this volume initially flowing through Poland. European imports of Russian SBS for January were 30pc below 2023 volumes.

Demand

- SBS consumption remains weaker in China for the footwear sector but demand for both footwear and asphalt modification is starting to improve as we approach the spring season. Recent domestic spot pricing was higher versus last month with stronger BD pricing and seen recently at 13,100-13,150 RmB/t (\$1,820/t - \$1,827/t) ex-plant for south and east China, respectively.
- January US SBS imports were 65pc higher from December at 12,521t. Imports were 21pc lower for all of 2023 than during 2022. Imports from South Korea and Taiwan tracked well below 2022 levels and accounted for much of the drop in volume for 2023.
- The average value of SBS imports to the US in January was \$2,050/t, with prices during the second half of 2023 somewhat rangebound after more noticeable drops during the first half of last year.
- The US construction sector should start to see improved demand exiting the winter season, with stronger demand for imports to support what is should be improving domestic production.
- European demand should improve exiting winter like the US, with European SBS exports to the US and other destinations continuing in significant volumes while receiving slightly higher volumes from Asia-Pacific and other locations outside the EU. Imports of SBS from outside the Eurozone dropped by almost 32pc for 2023 versus 2022 with what was weaker demand.

Outlook



Supply

- US emulsion styrene butadiene rubber (eSBR) 1502 and 1712 March pricing has increased to \$1,764/t and \$1,761/t, respectively, up \$124/t and \$123/t respectively from February.
- European eSBR 1502 pricing increased to \$1,864/t and eSBR 1712 pricing rose to \$1789/t for February.
- Both Chinese and South Korean SBR and PBR operating rates are hovering between 50-70pc. SBR operating rates in Thailand are above 90pc as synthetic rubber sales prices in the region are partly linked to feedstock BD costs.

Outlook

- SBR supply remains adequate to meet demand, with market participants waiting to see how energy prices will shift over the winter, particularly in Europe as passing price increases to SBR consumers remains difficult.
- SBR demand in Asia-Pacific remains weaker during early 2024, with margins depressed and producers' resistant to further feedstock cost increases which they have difficulty passing through the chain.

Demand

- Asia-Pacific synthetic rubber producers pushed through more price hikes during March in another attempt to pass through feedstock butadiene costs that have increased dramatically over the past few months. Price increases relate much more to feedstock costs than any noted strong uptick in demand.
- *Argus* price assessments for eSBR 1502 increased to \$1,825/t for cfr Asia as of 22 March. eSBR1702 pricing was also assessed higher at \$1,725/t.
- Chinese synthetic rubber makers are still in negotiations to sell feedstock BD either in the domestic or export market given that operating rate cuts are now expected to be extended into April.

News: Asia synthetic rubbers: China players cut production

Click [here](#) for the full article

Polymers

Unsaturated polyester resins (UPR)

Supply

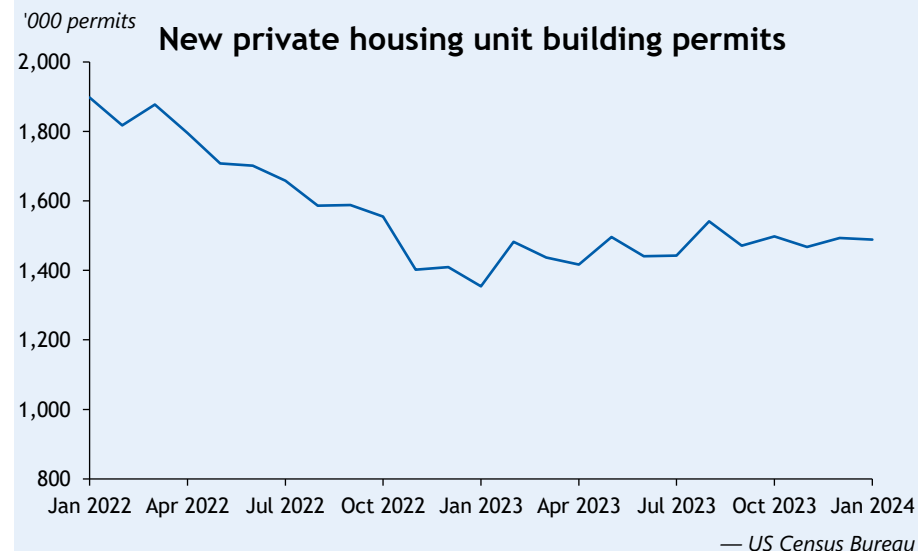
- UPR production rates have improved to 35pc in China from lower rates over the lunar new year period with several plant restarts and rate increases in anticipation of further improvements in demand. Producers remain cautious however given the financial constraints within the construction sector.
- Spot SM feedstock prices in the US were seen recently at \$1,485/t, Europe at \$1,530/t and Asia-Pacific at \$1,103/t cfr east China, flat to slightly higher than this time last month with European pricing clearly the strongest globally.
- DCPD feedstock supply for UPR purposes in the US remains generally adequate with reduced import demand noted during 2023 and early in 2024. We continue to see reduced production and exports from Asia-Pacific facilities.
- Domestic UPR spot pricing in China is stronger thus far this month with higher feedstock costs and was most recently seen in the 8,500 – 8,900 RmB/t range (\$1,181/t - \$1,237/t) with prices on the lower end of the range in east China and the higher end in southern China. Maleic anhydride price increases have many UPR producers more focused on phthalic based grades of UPR.

Demand

- UPR demand into the construction sector is improving in China exiting the winter season and we would expect the same to occur going forward in the west.
- The US Census Bureau and US Department of Housing and Urban Development latest release showed January new building permits for privately owned housing units were at 1.49mn. This is 0.3pc below the revised December rate but it is a 10pc increase compared to January 2023.
- Higher interest rates are likely to continue through this year and continue to limit demand for purchases of larger discretionary items such as housing, RV's and automobiles. Core inflation remaining stubbornly high means any relief in interest rates is likely to be slower coming.
- The US Fed held interest rates steady once again during the most recent open market meeting of 20 March (*see the Industry News section for more detail*). Most market watchers are now anticipating the first drop in interest rates in June with the balance of the drop coming during the second half of the year. The Fed signalled that three interest rate drops was still in its current plan.

Outlook

- Preliminary February figures from the US National Association of Home Builders Housing Market Index show home builder confidence increasing 3 points to 51 compared to 48 in February; signalling a slightly more positive sentiment.
- In January, the China National Bureau of Statistics (NBS) reported real estate investment statistics for the whole of 2023. China's national investment in real estate development was down 9.6pc year-on-year. In December, the real estate development climate index, often referred to as "China's real estate climate index" was 93.36.
- The US trade representative's four-year review process for the Section 301 tariffs on Chinese imports to the US continues. As we speculated in the last issue, with a federal election in November, we are unlikely to see any further announcements until after the Presidential election in the fall



Polymers

PE, PP and EVA

PE

- Finished goods imports such as PE film and sheet are a challenge as domestic US producers are already finding it difficult to compete with prime resin.
- In Europe producers are increasing margins and prices in the short term.
- The turnaround season in China and southeast Asia, which takes place mainly in the second quarter, will tighten supply for a limited time.

PP

- As the impact of the Red Sea disruption becomes normalised, imports will rise and demand for local European supply will ease.
- China will build 20mn t/yr of new PP capacity over the next three years. PP capacity expansions in northeast Asia are projected to peak this year.

EVA

- Baofeng's new 250,000 t/yr LDPE/EVA unit in China was put into operation after the lunar new year holiday. Chinese domestic EVA producers were operating at 93pc this week, up by 6pc from the previous week. Sinopec Yangzi's 100,000 t/yr EVA unit was shut down from 2 March. Lianhong Xinke's 150,000t/yr EVA unit was shut down from 11 March. Sailboat's 100,000 t/yr EVA unit was shut down last week. All three plants have since restarted.
- Downstream PV film orders remained firm in Asia-Pacific but other traditional downstream sectors mostly held steady.
- US exports of EVA for Jan 2024 were 18,604t, up 29pc from the same period in 2023. On a month-to-month basis, January exports were down 7.8pc from December. China (38pc) and Mexico (19pc) were the largest recipients of US EVA exports in January.
- EVA exports from Canada were 10,444t for Jan 2024, up 60pc from the same period last year. The US (63pc) and China (25pc) remain the primary recipients of these volumes.

- Current Asia-Pacific polymer prices have held steady owing to a rebound in downstream operating rates and higher feedstock costs after the lunar new year holidays.
- As the logistical impact of the Red Sea disruption becomes normalised, European demand will ease and producers will lose margin gains made this quarter.

- Asia-Pacific PP demand remains steady, although higher feedstock costs are limiting buying activity to immediate requirements, with little inventory build from converters. Exports remain largely inactive owing to high costs.
- PP capacity additions are continuing, and global balances will take longer to improve. European producers will continue to export co-polymer grades but be vulnerable to homopolymer imports..

- The Chinese ethylene vinyl acetate (EVA) market weakened this week for foaming prices amid ample supply and lukewarm sentiment. Firm demand from the photovoltaic (PV) sector drove prices for PV grades higher.
- Domestic EVA producers in China increased ex-works offers for the PV grade by Yn200/t to Yn12,200-13,000/t. Spot prices for foaming grades declined by Yn350/t to Yn10,700-11,800/t because of ample inventory.
- The cfr market remained stable because of limited fresh offers. Spot foaming grades traded at \$1,250-1,350/t cfr northeast Asia, unchanged from last week. PV grade trades traded at \$1,350-1,400/t cfr northeast Asia, also unchanged from last week.
- EVA imports to China YTD through February were 198,448t, down by 6.9pc from the previous year. China imported 1,392,183t of EVA in 2023, up 16pc YOY.

Polymers

PE, PP and EVA outlook

PE

- Global PE capacity will rebalance in the second half of the 10-year forecast period, allowing European producers to structurally increase margins.
- US producers are continuing to press for better margins, saying some of the biggest buyers are still paying prices that are too close to export levels given the continued strength in the export market. However, buyers have said demand is not strong enough to support an additional increase, particularly with new capacity now running well, and with feedstock costs still at low levels.

PP

- US PGP prices remain elevated due to overlapping turnarounds at two propane dehydrogenation (PDH) units. Some market participants have speculated that with prices so high, participants may opt to step out of the market until April.
- Jinneng Chemical commenced a 1½-month turnaround at its 450,000 t/yr PP unit on 8 March. Jiutai also shut its 320,000 t/yr PP unit for one month of maintenance from 15 March. Ningbo Fuji plans to conduct a month-long turnaround at its 400,000 t/yr phase two unit from mid-March. Shenhua also plans to have maintenance at its 300,000 t/yr PP unit from the end of March to the end of May.

EVA

- EVA capacity growth remains concentrated in China. Capacity could surge to 6.6mn t/yr by the end of 2026 with current projects underway.
- Demand for the higher VA content grades used in photovoltaics is driving much of the import EVA volume for China.
- Sizable EVA imports to China will likely continue for the next several years until higher VA content production catches up with domestic demand, at which point China could become a net exporter depending on the grade of EVA.

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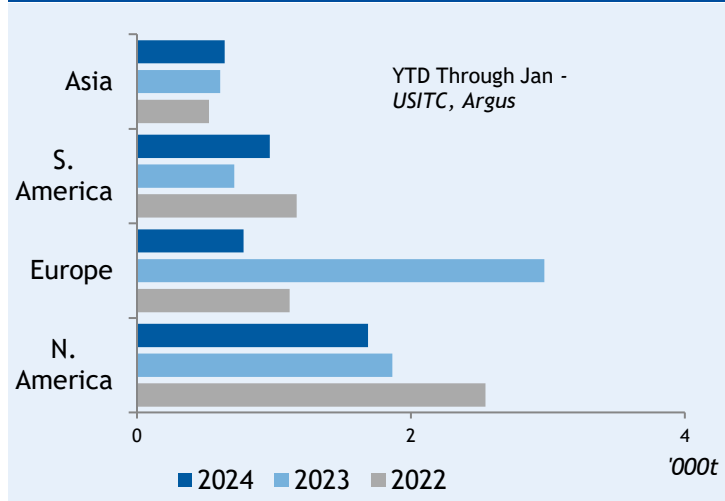
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C5 and HCR Trade Data

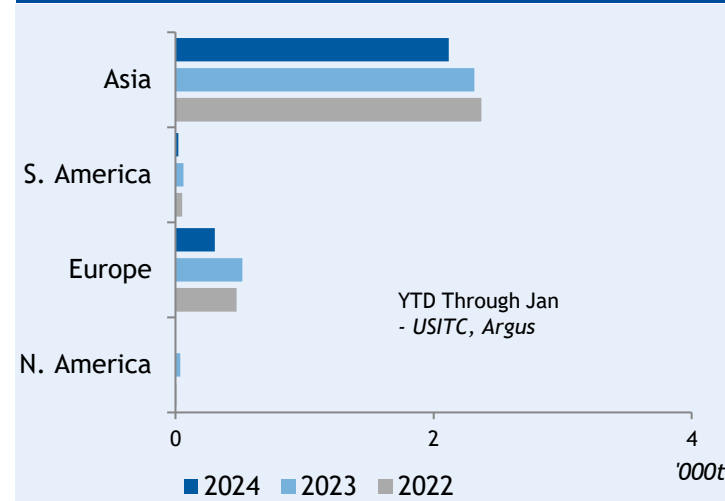
US exports and imports

US Hydrocarbon Resin Exports

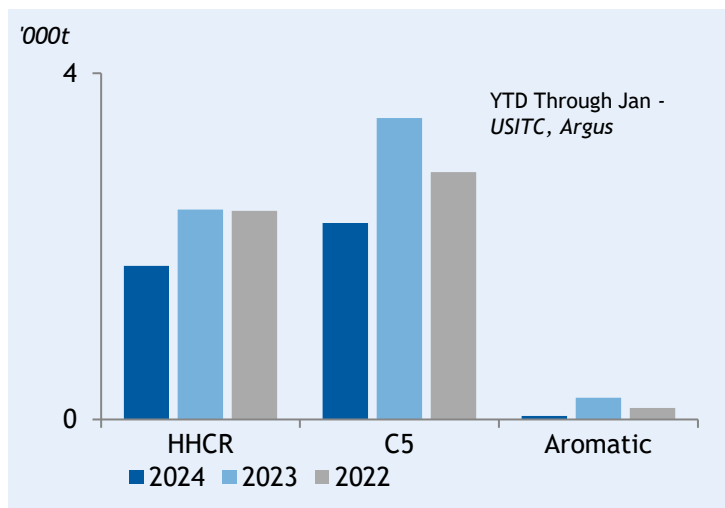


- US export volumes of hydrocarbon tackifying resins for January increased to 4,082t from 3,880t in December. Compared to January 2023, export volumes were 34pc lower.

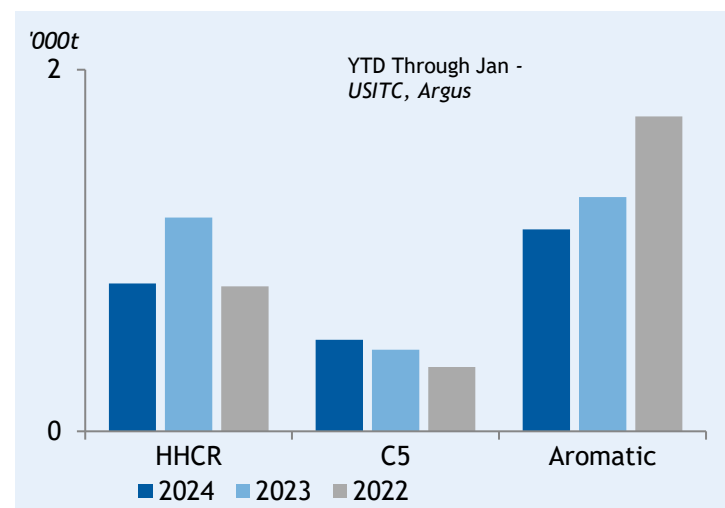
US Hydrocarbon Resin Imports



- US import volumes of hydrocarbon tackifying resins for January decreased from December, from 2,566t to 2,442t. Compared to January 2023, volumes decreased by 17pc.



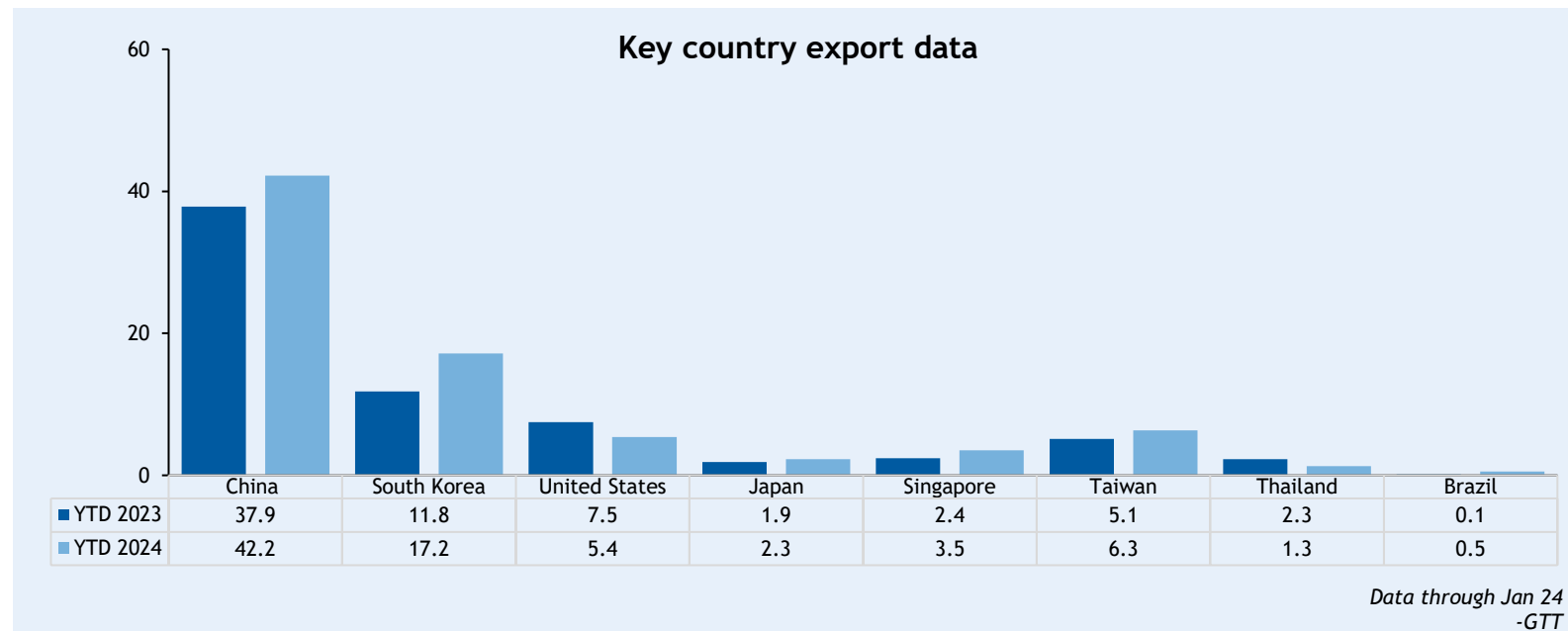
- C5 resins accounted for the largest share of US export orders in January, totalling 55.7pc.
- Hydrogenated and C9 resins accounted for 43.4pc and 0.9pc, respectively.



- C9 resins accounted for the largest share of HCR imports in the January time frame, totalling 45.7pc.
- Hydrogenated and C5 resins accounted for 33.5pc and 20.8pc, respectively.

C5 and HCR Trade Data

Key country and regional trade data



- Through January 2024, overall key country exports year-to-date increased by 14.1pc compared to 2023, higher by roughly 9,700t for the same period.
- The top three exporting countries 2024 YTD are China, South Korea and Taiwan. South Korea saw the largest year-on-year rise in export volumes, up by 46pc from the same period in 2023.
- Taiwan, China, Singapore, Japan and Brazil saw exports increase (23pc, 11pc, 45pc, 20pc and 294pc respectively) year-on-year for export volumes from the same period last year.
- Exports from the US and Thailand experienced a decrease of 28pc and 44pc, respectively, year-over-year.



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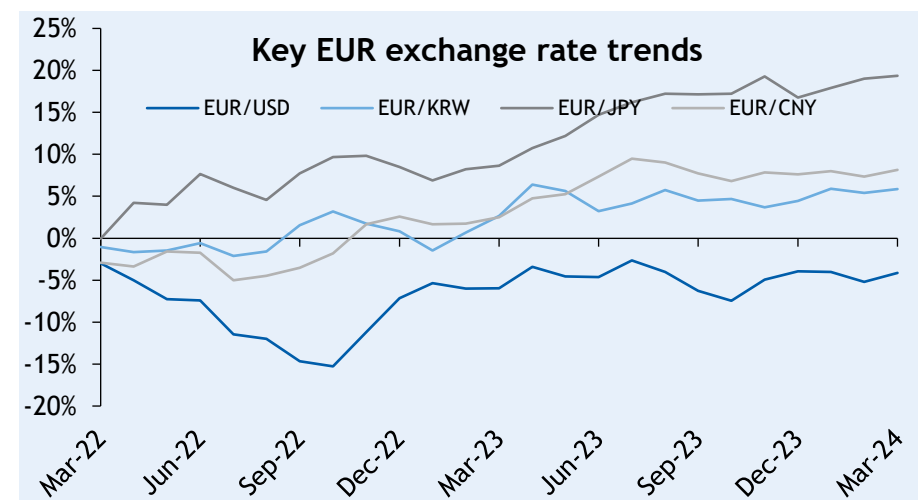
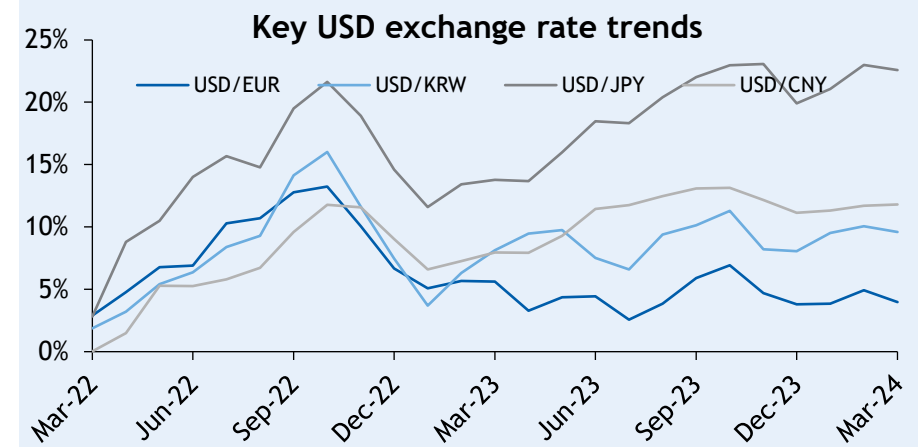
Economic and Energy Insight

Economic insight

Macroeconomics

- The US added a more-than-expected 275,000 nonfarm jobs in February, but those larger gains were offset by sharp revisions for the prior two months. Job gains in February, which topped analysts' estimates of about 200,000 for the month, followed downward revisions of 167,000 jobs for the prior two months, leaving January gains at 229,000 and December's at 290,000, the Bureau of Labor Statistics reported. Gains over the 12 months through January averaged 230,000.
- US headline inflation ticked higher in February, suggesting inflation pressures remain in the pipeline as the economy continues to surprise to the upside. The consumer price index (CPI) rose by 3.2pc in February from a year earlier, the Bureau of Labor Statistics said on 12 March. That was higher than the median analyst forecast for a 3.1pc gain, which would have matched the 3.1pc annual pace in January.
- The European Central Bank (ECB) has reduced its inflation projections — mainly reflecting a lower contribution from energy prices — to 2.3pc for 2024 from 2.7pc previously, and to 2pc in 2025 from 2.1pc. Its projection of 1.9pc in 2026 remains unchanged. The ECB has also revised down its economic growth projection for the eurozone this year to just 0.6pc — from 0.8pc in December — with economic activity expected to remain subdued in the near term. It expects the economy to pick up after that and to grow by 1.5pc in 2025 and 1.6pc in 2026, supported initially by consumption and later also by investment.
- China has set this year's economic growth target at 5pc, lower than the 5.2pc achieved in 2023, in the face of "slow consumption" and local government debt. The country is forecasting a national budget deficit at 4.06 trillion yuan (\$564bn), or 3pc of gross domestic product (GDP), Chinese premier Li Qiang announced at the annual week-long parliamentary meetings that began on 4 March in Beijing. This is Yn180bn higher than the budget target at the beginning of last year, excluding the special bonds issued late in 2023.
- Japan's economy managed to avoid a recession in last year's final quarter, supported by increased spending on facilities and equipment by the country's private-sector firms.

Exchange rates



Chemicals

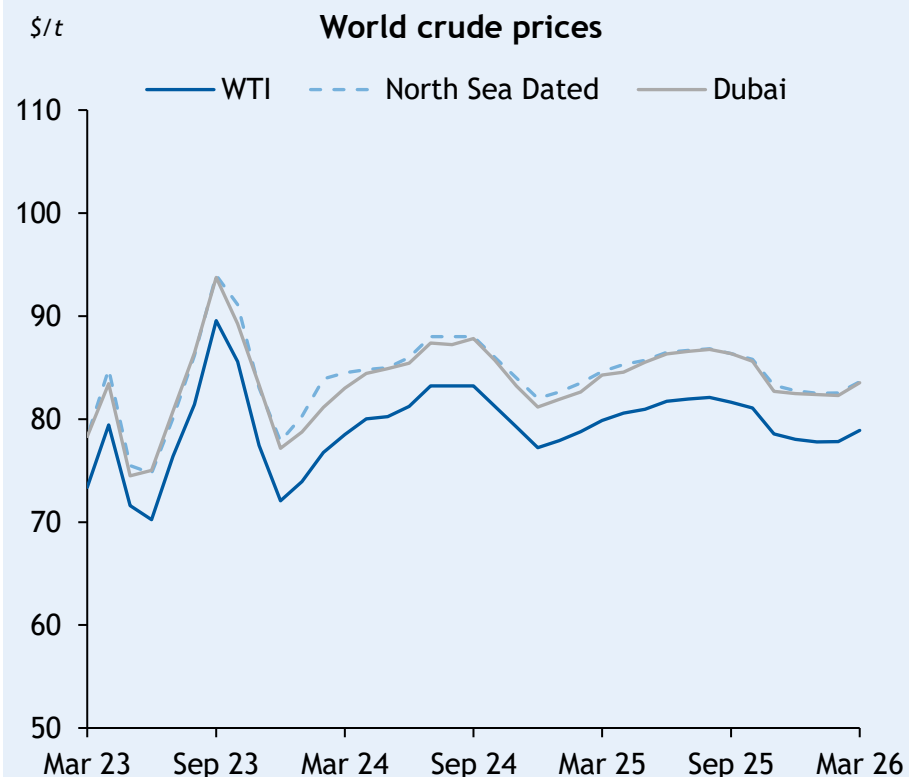
Economic and Energy Insight

Crude and refined products outlook energy insight

Crude

- The *Argus Consulting* crude price forecast saw a small upward revision for March-April to average \$84.60/bl.
- Although some level of Opec+ output cuts will be required over the rest of the year, they will not have to be as extensive as those in the current quarter. This reinforces our expectation that crude prices will firm through the remainder of 2024.
- A heavy refinery maintenance season has tightened global naphtha and gasoline supplies, supporting prices. As refinery maintenance winds down, supply will rise and cracks will continue to fall, at least before summer demand kicks in, even if the disruption in the Red Sea persists.
- US LPG prices are adjusting downwards as the market continues to recover from the recent winter storm, while European and Asia-Pacific prices are rangebound as firmer petrochemical demand balances strong supply availability and weak heating demand.

Prices



Economic and Energy Insight

Crude and refined products outlook energy insight

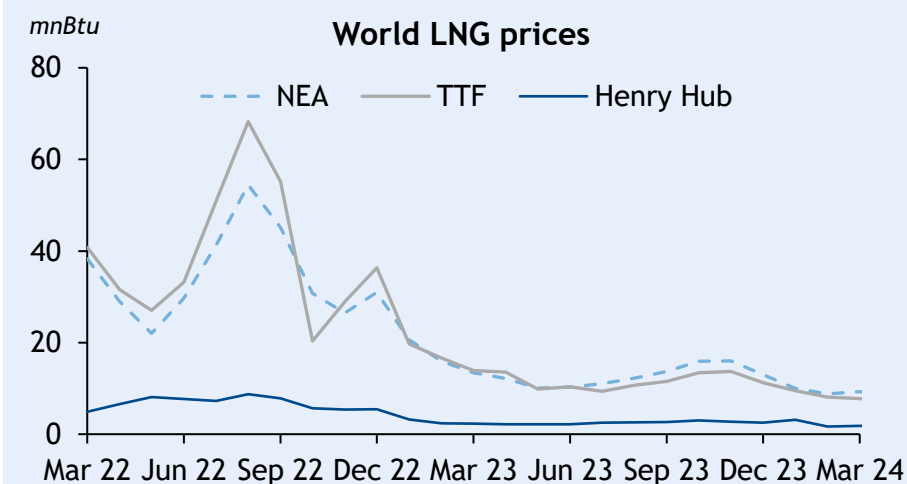
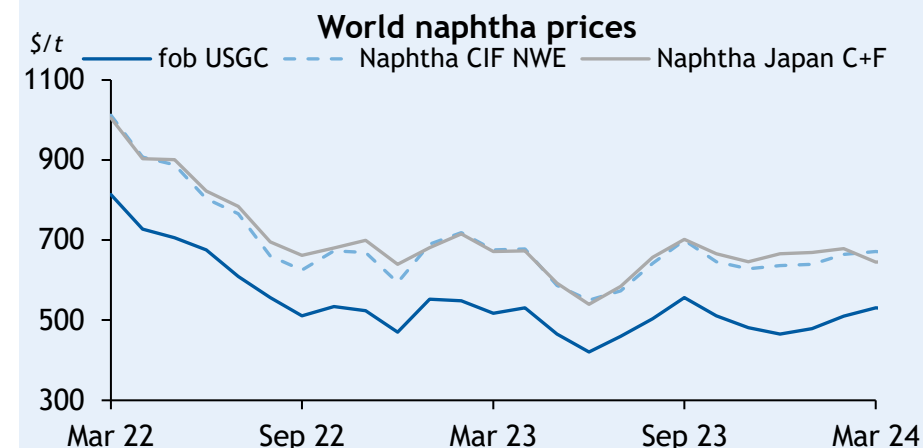
Naphtha

- Naphtha prices in Europe are supported by firm demand from petrochemicals, bolstered by the delay of polymer imports to Europe through the Suez Canal and stronger steam cracker margins in Asia. Gasoline blending demand has also risen in the US and India, further supporting prices.
- Gasoline prices are unseasonably strong in all regions, with cracks averaging \$16.60/bl to benchmark crude. Octane prices are expected to be above 2015-19 norms, although not at the elevated levels of 2022-23.

Natural gas

- Europe is on course to end winter with similar gas storage levels to last year. There are signs of a partial recovery in demand from the industrial sector. Less LNG supply will be available to Europe than previously expected. Prices may favor deferring gas production or prioritizing oil production.
- Natural gas output from the Permian basin, a prolific oil- and gas-bearing formation in west Texas and southeastern New Mexico, rose in February as temperatures moderated, according to the US Energy Information Administration. Gross gas output hit 24.9 Bcf/d (705mn m³/d), up by 2pc from January and 14pc higher than a year earlier. Most gas production from the Permian comes from oil wells. Permian gas output dipped in January as cold weather shuttered some output.

Prices



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Argus C5 and Hydrocarbon Resins

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