STYRENE

Styrene is mainly used in the manufacture of homopolymers and copolymers. Its predominant use is in polystyrene (PS), which is produced in general purpose (GPPS), high impact (HIPS) and expandable polystyrene (EPS) grades. Other major consumers of styrene include the production of acrylonitrile-butadiene-styrene (ABS) and styrene-acrylonitrile polymer resins (SAN), and styrene-butadiene rubber (SBR).

Unsaturated polyester resins, protective coatings (styrene-butadiene latex, alkyds), styrenated polyesters, rubber-modified polystyrene and other copolymer resins (styrene-divinylbenzene copolymers, acrylic ester-styrene, styrene-butadiene elastomers) account for the remainder.

There are a wide range of end uses for styrene's derivatives including packaging, construction materials, automotive parts including tyres, household goods, electrical appliances and electronic cases, and drinking cups and other food use items.

Styrene monomer is a highly flammable liquid when exposed to flames, sparks or heat. Tanks or other sealed containers of styrene may explode when subjected to external heat. Uncontrolled polymerisation of styrene may cause the liquid to boil and vapourise. Styrene irritates the eyes and respiratory system. Liquid styrene and concentrated styrene vapour can result in severe eye irritation while prolonged skin contact can cause blistering. Overall, the toxicity of styrene monomer is relatively low.

ICIS pricing quotes styrene in **Europe**, **Asia-Pacific** and the **US Gulf**.

Frequency:

- Aromatics Daily (Europe) and Styrene Daily (Asia) reports published on Mondays to Fridays
- Styrene weekly (Europe, Asia-Pacific and the US) reports published on Fridays
- Real time Price Alert Service (PAS) delivering market news and trends throughout the day

STYRENE (EUROPE)

Daily Price Assessments:

Styrene Spot Prices

- FOB RDAM current month (USD/MT & conversion to US CTS/LB)

Weekly Price Assessments:

Styrene Monthly Contract Prices

- FD BARGE NWE (EUR/MT & conversion to US CTS/LB)
- AVERAGE FD BARGE NWE (EUR/MT & conversion to US CTS/LB)
- FD TRUCK NWE (EUR/MT & conversion to US CTS/LB)
- FCA RDAM (EUR/MT & conversion to US CTS/LB)

Styrene Spot Prices

- FOB RDAM (*) current month (USD/MT & conversion to US CTS/LB)
- FOB RDAM (+) current month (USD/MT & conversion to US CTS/LB)
- FOB RDAM (#) current month (USD/MT & conversion to US CTS/LB)
- FOB RDAM (*) forward month (USD/MT & conversion to US CTS/LB)
- FOB RDAM (+) forward month (USD/MT & conversion to US CTS/LB)
- CIF RDAM (+) current month (USD/MT & conversion to US CTS/LB)
- FCA RDAM (TRUCKS) (EUR/MT & conversion to US CTS/LB)

Note: (*) = Price range at close of business Friday.
(+) = Price range for the week.
(#) = Bid/offer range for the week.

Styrene Feedstock Contract Prices

- BENZENE FOB NWE Monthly (EUR/MT & conversion to USD/GAL)
- ETHYL BENZENE FOB NWE (USD/MT & conversion to US CTS/LB)
- ETHYLENE FD NWE Quarterly (EUR/MT & conversion to US CTS/LB)

Styrene (ASIA-PACIFIC)

Daily Price Assessments:

Styrene Spot Prices

- FOB Korea (USD/MT & conversion to US CTS/LB)
- CFR China (USD/MT & conversion to US CTS/LB)
- EAST CHINA EX-TANK FORWARD (CNY/MT & conversion to US CTS/LB)

Weekly Price Assessments:

Styrene Monthly Contract Prices (Import)

- CFR N.E.ASIA (USD/MT & conversion to US CTS/LB)

Styrene Spot Prices

- FOB KOREA (*) (USD/MT & conversion to US CTS/LB)
- CFR N.E.ASIA (*) (USD/MT & conversion to US CTS/LB)
- CFR S.E.ASIA (*) (USD/MT & conversion to US CTS/LB)
- CFR CHINA (*) (USD/MT & conversion to US CTS/LB)
- EAST CHINA EX-TANK (*) (CNY/MT & conversion to US CTS/LB)
- EAST CHINA EX-TANK FORWARD (*)(CNY/MT & conversion to US CTS/LB)

Styrene Spot Prices

- FOB KOREA (+) (USD/MT & conversion to US CTS/LB)
- CFR N.E.ASIA (+) (USD/MT & conversion to US CTS/LB)
- CFR S.E.ASIA (+) (USD/MT & conversion to US CTS/LB)
- CFR CHINA (+) (USD/MT & conversion to US CTS/LB)
- EAST CHINA EX-TANK (+) (CNY/MT & conversion to US CTS/LB)
- EAST CHINA EX-TANK FORWARD (+)(CNY/MT & conversion to US CTS/LB)

Note: (*) = Price range at close of business Friday.
(+) = Price range for the week.

Styrene Feedstock Spot Prices

- ETHYLENE CFR N.E.ASIA (USD/MT)
- BENZENE CFR N.E.ASIA (USD/MT)

STYRENE (US GULF)

Weekly Price Assessments:

Styrene Monthly Contract Prices

- FOB USG (US CTS/LB & conversion to USD/MT)

Styrene Spot Prices

- FOB EXPORT(+) (US CTS/LB & conversion to USD/MT)
- FOB EXPORT (*) (US CTS/LB & conversion to USD/MT)

Note: (*) = Price range at close of business Friday.
(+) = Price range for the week.

Styrene Feedstock Prices

- ETHYLENE DEL Monthly Contract (US CTS/LB)
- BENZENE FOB Monthly Contract (USD/GAL)
- ETHYL BENZENE FOB USG (US CTS/LB)

General Information:

Assessment Window:

Weekly assessments are based on information supplied by market participants through the week to close of business on Fridays at 1700 hours in London and Houston (US central time), and 1730 hours in Singapore. Domestic eastern China ex-tank quotes are assessed up to 1600 hours Singapore time.

Daily assessments are based on information gathered throughout the day to close of business at 1700 hours in London and 1730 hours in Singapore.

Specification:

ICIS pricing quotes styrene in Europe conforming to ASTM D-2359/90. In Asia and the US, styrene quoted conforms to ASTM D-2827. In the domestic eastern China ex-tank market, styrene quoted based on GB 33541 specification.

Timing:

In Europe, cargoes loading in the current month and in the forward month of the date of publication. In the US, cargoes loading or delivered four-six weeks forward from the date of publication.

In Asia-Pacific, Asian cargoes loading or delivered two to six weeks forward from week of publication. Deep-sea cargoes include parcels from the US, Europe and the Middle East to arrive within six weeks from week of publication. For domestic eastern China ex-tank price quotations, cargoes are delivered within 10 days from week of publication. Meanwhile, for the domestic eastern China ex-tank forward prices quotations, cargoes are delivered 2-8 weeks from week of publication.

Terms:

Credit terms of up to 30 days.

In Asia, FOB Korea quotes carry credit terms up to 30 days. For CFR China quotes, a 90-day credit term applies. For CFR NE Asia and CFR SE Asia quotes, terms are normalised to a 90-day credit basis, in line with the key Chinese spot market. For eastern China ex-tank quotes, terms for parcels are on a cash basis. As for domestic Chinese forward cargoes, payment includes a 0-30% deposit paid upon deal done with the remainder paid in cash upon delivery of cargo.

CFR China quotes take into account information of cargoes moving into main ports of China. CFR NE Asia quotes reflects information of cargoes going into Taiwan, Korea and Japan. CFR SE Asia quotes include information of cargoes moving into Thailand, Indonesia, Malaysia and Singapore. Domestic eastern China ex-tank prices are based on information from Zhangjiagang, Jiangyin and Changzhou.

Standard cargo size:

In Europe, 1,000 tonnes for the bulk barge quotes (FOB and CIF). Trucks are of 20 tonnes to 25 tonnes. In Asia, cargoes are typically 2,000-3,000 tonnes. In domestic eastern China, assessments for spot market are based on parcels of 50-300 tonnes while assessments for forward market are based on 200-1,000 tonnes. In the US, spot prices are assessed for waterborne volumes of at least 1,000 tonnes.

Assessment Basis:

In Europe, where the weekly report includes the week’s spread, Friday close prices and a low bid / high offer range, these are quoted separately.

The bid/offer range for the week is shown in reports as {#} and is representative of the highest and lowest levels at which business has been talked for the week on a notional basis.

The price for the week is shown in reports as (+) and represents deals done. Deals done after the Friday close will be included in the following week's report. In the unusual

event that no deals are done, the (+) range will consist of the highest bid and lowest offer seen in the market that week.
The price at Friday close is shown as (*) and represents the bid/sell range at the Friday deadline at 1700 hours London time. In the absence of confirmed business, quoted spot prices may reflect discussion levels or the current levels of bids and offers.
The monthly contract price is quoted as soon as confirmation has been received from a representative number of arm's length contractual partners. The average FD Barge quote is the median average of all confirmed contracts publically settled that month.
The market commentary will normally cover details of contracts, negotiations, spot prices, production issues, relevant logistics, derivatives markets and energy prices.
The Aromatics Daily (Europe) report includes styrene spot transactions in USD/tonne on a FOB Amsterdam/Rotterdam/Antwerp basis. The price window reflects business for the current month, which will be abbreviated next to the quote (eg. JAN, FEB). The month will switch to the following month around mid-month, at that point when the majority of trade is being done for the following month. Prices are assessed based on information gathered throughout the day, including the day's bid-offer range and all deals done during the day, to close of business. On days with deals, the assessment will reflect deals alone. On days without deals, the assessment will reflect bids and offers alone and can only use the correlation between the current month and the forward month. On days with only one deal, the assessment will reflect that deal as well as bids and offers.
The ICIS Asia-Pacific styrene weekly prices are assessed both (*) at the end of the week up to Friday close, due to the volatile nature of the market, and (+) based on the whole week's deals and discussion levels.
The published ranges represent a combination of the following price indications: the deals concluded, bids and offers, buy and sell indications and notional discussions.
In the absence of deals, assessments based on bids and offers will be made to accurately reflect the levels at which business would probably have taken place during the week or at the Friday close of business. Factors affecting price movements, including the supply and demand situation, plant operating rates, feedstock and derivative markets, cargo movements, and general sentiment, will also be taken into account.
In the US, in the event that no trades were heard on Friday, price indications heard from mid-week will be included in the Friday price assessment. Notional adjustments will be made to accurately reflect the levels at which business would likely take place by the close of business on Friday. In Asia, price indications, notional or otherwise, from the afternoon of Friday and at the close of business only will be included in the final price assessment.
The contract price quote in the US styrene report is updated on a monthly basis upon verification of full settlement. The published values may be subjected to discounts and other formulated instruments utilised by individual parties in their respective negotiations. Market settlements are more accurately defined by the delta, or unit change detected from month to month.
All regional reports offer market commentary that includes details of traced transactions, news on the supply/demand balance, export/import information, contract price negotiations and general sentiment for price direction. Where applicable there is product information, comments on up and downstream market developments and general market intelligence.
The Styrene Daily (Asia) report covers spot deals on an FOB Korea and CFR China basis. The assessment takes into account deals, bids and offers and price ideas heard throughout the day.
ICIS&CBI pricing quotes styrene in China.

Frequency:
ICIS&CBI styrene weekly report published on Fridays

Styrene (ICIS&CBI)

Weekly Price Assessments:

Styrene Spot Prices

- CFR CHINA (*) (USD/MT)
- EAST CHINA(ZJG) EX-TANK (*)(CNY/MT)
- EAST CHINA(ZJG) EX-TANK FORWARD (*) (CNY/MT)
- SOUTH CHINA(GZ) DEL (*) (CNY/MT)
- CFR CHINA (*) (+) (USD/MT)
- EAST CHINA(ZJG) EX-TANK (+)(CNY/MT)
- EAST CHINA(ZJG) EX-TANK FORWARD (+) (CNY/MT)
- SOUTH CHINA(GZ) DEL (+) (CNY/MT)

NOTE: (*) Price range at close of business Friday
(+) Price range for the week

General Information:

Assessment Window:
Weekly assessments are based on information supplied by market participants through the week to close of business on Fridays at 1730 hours in Singapore and at 1530-1600 hours in Beijing for EAST CHINA quotes and 1400-1600 hours in Beijing for SOUTH and NORTH CHINA quotes.

Specification:
ICIS&CBI pricing quotes styrene in Europe conforming to ASTM D-2359/90. In Asia and the US, styrene quoted conforms to GB 33541, ASTM D-2827

Timing:
For Asia-Pacific cargoes loading/arriving to two to six weeks forward from the date of publication. US, Europe and Middle East cargoes are to arrive within six weeks from the date of publication. For China domestic prices (EAST CHINA (ZJG) EX-TANK and SOUTH CHINA (GZ) DEL) loading within 10 days forward from the date of publication. For the China domestic forward quotes (EAST CHINA (ZJG) EX-TANK FORWARD, the timing is 2-8 weeks from week of publication.

Terms:
For CFR China quotes, the standard 90-day credit term applies. For China domestic prices (EAST CHINA (ZJG) EX-TANK and SOUTH CHINA (GZ) DEL) quotes, the standard is prompt. As for the China domestic forward market (EAST CHINA (ZJG) EX-TANK FORWARD), the payment terms include a 0-30% deposit upon deal done and cash payment of remainder upon delivery of cargo.

Standard cargo size:
For CFR China cargoes are typically 2,000-3,000 tonnes. In China, 50-300 tonnes for the bulk barge quotes (EAST CHINA (ZJG) EX-TANK), 200-1,000 tonnes for bulk barge quotes (EAST CHINA (ZJG) EX-TANK FORWARD) and 50-100 tonnes for the bulk barge quotes (SOUTH CHINA (GZ) DEL).

Origins:
For CFR China quotes the origins for open. For China domestic prices (EAST CHINA (ZJG) EX-TANK and SOUTH CHINA (GZ) DEL) quotes the origins for domestic and import.

Locations:
For China domestic prices (EAST CHINA (ZJG) EX-TANK) quotes the location on ZHANGJIAGANG JIANGYIN CHANGZHOU and (SOUTH CHINA (GZ) DEL) quotes the location on GUANGZHOU. For CFR China mainly quotes the location on the ports

of Eastern China, which including of ZHANGJIAGANG JIANGYIN CHANGZHOU NANTONG NINGBO ZHENGJIANG etc.

Assessment Basis:

Domestic SM transactions are dispersed. CBI assesses EAST CHINA (ZJG) EX-TANK according to the trades done during 16:00-16:30 Beijing time and SOUTH CHINA (GZ) DEL prices at 14:00-16:00 Beijing time. ICIS&CBI assess CFR China prices (mainly quotes East China) are assessed according to the transactions done during the day to market close at 17:30. As long as there are no negotiations or transactions heard in the above periods of time, ICIS&CBI will take other negotiations or transactions for reference.

ICIS&CBI communicates with about 200 producers and end users to handle the whole market from every aspect to get fair and accurate prices.

As for the trading volume and market structure of the domestic styrene market, most transactions are done in 50-300 tonnes. Prices will be assessed according to these trades. EAST CHINA (ZJG) EX-TANK, SOUTH CHINA (GZ) DEL and CFR ChINA prices (East China) are assessed according to standard transactions and negotiations in the market. As for non-standard transactions and negotiations, CBI will convert the traded prices/talks with a proper rate or will not take it into account.

Ex-tank prices (Zhangjiagang), delivered prices (Guangzhou) and CFR prices (mainly quotes East China) are assessed according to traded prices, bids and offers in the market. In addition, ICIS&CBI will take other factors, such as supply-demand, feedstock, downstream and surrounding markets, into account.

As for ICIS&CBI pricing, the following will not be taken into account.

- Spot transactions between sellers and buyers in a regular contract
- Transactions done at a level which is higher than offers and lower than bids
- Transactions with high offers, low bids and complicated price terms

The Styrene Monomer weekly report includes both the week's spread and Friday close prices, and these are quoted separately. The price spread for the week is shown in reports as (+) and represents deals done. On the infrequent occasions when there are insufficient deals in the week to establish a representative weekly range and relying on deals alone does not reflect the market fairly and objectively for the week, ICIS&CBI pricing reserves the right to make an editorial judgment based on a combination of: the correlation between the current month and forward month; and bids and offers for that month. Deals done after the Friday close will be included in the following week's report. The price spread at Friday's close is shown as (*) and represents the bid/sell range at the Friday deadline at 1730 hours Singapore time and 1600-1630 Beijing time. In the absence of confirmed business, quoted spot prices may reflect discussion levels or the current levels of bids and offers. The monthly contract price is quoted as soon as confirmation has been received from a representative number of arm's length contractual partners. The market commentary will normally cover details of contracts, negotiations, spot prices, production issues, relevant logistics, derivatives markets and energy prices.