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ARGUS TOLUENE AND XYLENES DAILY

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The most up-to-date Argus Toluene and Xylenes Daily Price Publication Methodology is available on www.argusmedia.com

Methodology overview

Methodology rationale

Argus strives to construct methodologies that reflect the way the market trades. Argus aims to produce price assessments which are reliable and representative indicators of commodity market values and are free from distortion. As a result, the specific currencies, volume units, locations and other particulars of an assessment are determined by industry conventions.

In the toluene and xylenes markets, Argus publishes physical market prices in the open market as laid out in the specifications and methodology guide. Argus uses the trading period deemed by Argus to be most appropriate, in consultation with industry, to capture market liquidity.

In order to be included in the assessment process, deals must meet the minimum volume, delivery, timing and specification requirements in our methodology. In illiquid markets, and in other cases where deemed appropriate, Argus assesses the range within which product could have traded by applying a strict process outlined later in this methodology.

Survey process

Argus price assessments are informed by information received from a wide cross section of market participants, including producers, consumers and intermediaries. Argus reporters engage with the industry by proactively polling participants for market data. Argus will contact and accept market data from all credible market sources including front and back office of market participants and brokers. Argus will also receive market data from electronic trading platforms, Argus Open Markets™ (AOM™) and directly from the back offices of market participants. Argus will accept market data by telephone, instant messenger, email, AOM or other means.

Argus encourages all sources of market data to submit all market data to which they are a party that falls within the Argus stated methodological criteria for the relevant assessment. Argus encourages all sources of market data to submit transaction data from back office functions.

Throughout all markets, Argus is constantly seeking to increase the number of companies willing to provide market data. Reporters are mentored and held accountable for expanding their pool of contacts. The number of entities providing market data can vary significantly from day to day based on market conditions.

For certain price assessments identified by local management, if more than 50pc of the market data involved in arriving at a price assessment is sourced from a single party the supervising editor will engage in an analysis of the market data with the primary reporter to ensure that the quality and integrity of the assessment has not been affected.

Market data usage

In each market, Argus uses the methodological approach deemed to be the most reliable and representative for that market. Argus will utilise various types of market data in its methodologies, to include:

- Transactions
- Bids and offers
- Other market information, to include spread values between grades, locations, timings, and many other data.

In many markets, the relevant methodology will assign a relatively higher importance to transactions over bids and offers, and a relatively higher importance to bids and offers over other market information. Certain markets however will exist for which such a hierarchy would produce unreliable and non-representative price assessments, and so the methodology must assign a different relative importance in order to ensure the quality and integrity of the price assessment. And even in markets for which the hierarchy normally applies, certain market situations will at times emerge for which the strict hierarchy would produce non-representative prices, requiring Argus to adapt in order to publish representative prices.

Verification of transaction data

Reporters carefully analyse all data submitted to the price assessment process. These data include transactions, bids, offers, volumes, counterparties, specifications and any other information that contributes materially to the determination of price. This high level of care described applies regardless of the methodology employed. Specific to transactions, bids, and offers, reporters seek to verify the price, the volume, the specifications, location basis, and counterparty. In some transactional average methodologies, reporters also examine the full array of transactions to match counterparties and arrive at a list of unique transactions. In some transactional average methodologies, full details of the transactions verified are published electronically and are accessible by subscribers. The deals are also published in the daily report.

Several tests are applied by reporters in all markets to transactional data to determine if it should be subjected to further scrutiny. If a transaction has been identified as failing such a test, it will receive further scrutiny. For assessments used to settle derivatives and for many other assessments, Argus has established internal procedures that involve escalation of inquiry within the source's company and escalating review within Argus management. Should this process determine that a transaction should be excluded from the price assessment process, the supervising editor will initiate approval and, if necessary, documentation procedures.

Primary tests applied by reporters

- Transactions not transacted at arm's length, including deals between related parties or affiliates.
- Transaction prices that deviate significantly from the mean of all transactions submitted for that day.
- Transaction prices that fall outside of the generally observed lows and highs that operated throughout the trading day.
- Transactions that are suspected to be a leg of another transaction or in some way contingent on an unknown transaction.
- Single deal volumes that significantly exceed the typical transaction volume for that market.
- Transaction details that are identified by other market participants as being for any reason potentially anomalous and perceived by Argus to be as such.

- Transaction details that are reported by one counterparty differently than the other counterparty.
- Any transaction details that appear to the reporter to be illogical or to stray from the norms of trading behaviour. This could include but is not limited to divergent specifications, unusual delivery location and counterparties not typically seen.
- Transactions that involve the same counterparties, the same price and delivery dates are checked to see that they are separate deals and not one deal duplicated in Argus records.

Secondary tests applied by editors for transactions identified for further scrutiny

Transaction tests

- The impact of linkage of the deal to possible other transactions such as contingent legs, exchanges, options, swaps, or other derivative instruments. This will include a review of transactions in markets that the reporter may not be covering.
- The nature of disagreement between counterparties on transactional details.
- The possibility that a deal is directly linked to an offsetting transaction that is not publicly known, for example a “wash trade” which has the purpose of influencing the published price.
- The impact of non-market factors on price or volume, including distressed delivery, credit issues, scheduling issues, demurrage, or containment.

Source tests

- The credibility of the explanation provided for the outlying nature of the transaction.
- The track record of the source. Sources will be deemed more credible if they
 - Regularly provide transaction data with few errors.
 - Provide data by Argus' established deadline.
 - Quickly respond to queries from Argus reporters.
 - Have staff designated to respond to such queries.
- How close the information receipt is to the deadline for information, and the impact of that proximity on the validation process.

Assessment guidelines

When insufficient, inadequate, or no transaction information exists, or when Argus concludes that a transaction based methodology will not produce representative prices, Argus reporters will make an assessment of market value by applying intelligent judgement based on a broad array of factual market information. Reporters must use a high degree of care in gathering and validating all market data used in determining price assessments, a degree of care equal to that applying to gathering and validating transactions. The information used to form an assessment could include deals done, bids, offers, tenders, spread trades, exchange trades, fundamental supply and demand information and other inputs.

The assessment process employing judgement is rigorous, replicable, and uses widely accepted valuation metrics. These valuation metrics mirror the process used by physical commodity traders

to internally assess value prior to entering the market with a bid or offer. Applying these valuation metrics along with sound judgement significantly narrows the band within which a commodity can be assessed, and greatly increases the accuracy and consistency of the price series. The application of judgement is conducted jointly with the supervising editor, in order to be sure that guidelines below are being followed. Valuation metrics include the following:

Relative value transactions

Frequently transactions occur which instead of being an outright purchase or sale of a single commodity, are instead exchanges of commodities. Such transactions allow reporters to value less liquid markets against more liquid ones and establish a strong basis for the exercise of judgment.

- Exchange one commodity for a different commodity in the same market at a negotiated value.
- Exchange delivery dates for the same commodity at a negotiated value.
- Exchange a commodity in one location for the same commodity at another location at a negotiated value.

Bids and offers

If a sufficient number of bids and offers populate the market, then in most cases the highest bid and the lowest offer can be assumed to define the boundaries between which a deal could be transacted.

Comparative metrics

The relative values between compared commodities are readily discussed in the market and can be discovered through dialogue with market participants. These discussions are the precursor to negotiation and conclusion of transactions.

- Comparison to the same commodity in another market centre.
- Comparison to a more actively traded but slightly different specification commodity in the same market centre.
- Comparison to the same commodity traded for a different delivery timing.
- Comparison to the commodity's primary feedstock or primary derived product(s).
- Comparison to trade in the same commodity but in a different modality (as in barge versus oceangoing vessel) or in a different total volume (as in full cargo load versus partial cargo load).

Volume minimums and transaction data thresholds

Argus typically does not establish thresholds strictly on the basis of a count of transactions, as this could lead to unreliable and non-representative assessments and because of the varying transportation infrastructure found in all commodity markets. Instead, minimum volumes are typically established which may apply to each transaction accepted, to the aggregate of transactions, to transactions which set a low or high assessment or to other volumetrically relevant parameters.

For price assessments used to settle derivatives, Argus will seek to establish minimum transaction data thresholds and when no such

threshold can be established Argus will explain the reasons. These thresholds will often reflect the minimum volumes necessary to produce a transaction-based methodology, but may also establish minimum deal parameters for use by a methodology that is based primarily on judgement.

Should no transaction threshold exist, or should submitted data fall below this methodology's stated transaction data threshold for any reason, Argus will follow the procedures outlined elsewhere in this document regarding the exercise of judgement in the price assessment process.

Transparency

Argus values transparency in energy markets. As a result, where available, we publish lists of deals in our reports that include price, basis, counterparty and volume information. The deal tables allow subscribers to cross check and verify the deals against the prices. Argus feels transparency and openness is vital to developing confidence in the price assessment process.

Swaps and forwards markets

Argus publishes forward assessments for numerous markets. These include forward market contracts that can allow physical delivery and swaps contracts that swap a fixed price for the average of a floating published price. Argus looks at forward swaps to inform physical assessments but places primary emphasis on the physical markets.

Publications and price data

Argus toluene and xylenes prices are published in the Argus Toluene and Xylenes report. Subsets of these prices appear in other Argus market reports and newsletters in various forms. The price data are available independent of the text-based report in electronic files that can feed into various databases. These price data are also supplied through various third-party data integrators. The Argus website also provides access to prices, reports and news with various web-based tools. All Argus prices are kept in a historical database and available for purchase. Contact your local Argus office for information.

A publication schedule is available at www.argusmedia.com

Corrections to assessments

Argus will on occasion publish corrections to price assessments after the publication date. We will correct errors that arise from clerical mistakes, calculation errors, or a misapplication of our stated methodology. Argus will not retroactively assess markets based on new information learned after the assessments are published. We make our best effort to assess markets based on the information we gather during the trading day assessed.

If transaction information is submitted in error, and the company submitting informs Argus of the error within 24 hours of the original submission, Argus will make best efforts to correct the price data. After 24 hours, Argus will review both the material effect that the correction will have on the price data and the amount of time that has elapsed from the date of the published price data before deciding whether to issue a correction. After 30 days, Argus is unlikely to

make a correction based on information submitted in error, and data submitters are not expected to file corrections to submitted data.

Ethics and compliance

Argus operates according to the best practices in the publishing field, and maintains thorough compliance procedures throughout the firm. We want to be seen as a preferred provider by our subscribers, who are held to equally high standards, while at the same time maintaining our editorial integrity and independence. Argus has a strict ethics policy that applies to all staff. The policy can be found on our website at www.argusmedia.com. Included in this policy are restrictions against staff trading in any energy commodity or energy related stocks, and guidelines for accepting gifts. Argus also has strict policies regarding central archiving of email and instant messenger communication, maintenance and archiving of notes, and archiving of spreadsheets and deal lists used in the price assessment process. Argus publishes prices that report and reflect prevailing levels for open-market arms length transactions (please see the [Argus Global Compliance Policy](#) for a detailed definition of arms length).

Consistency in the assessment process

Argus recognises the need to have judgement consistently applied by reporters covering separate markets, and by reporters replacing existing reporters in the assessment process. In order to ensure this consistency, Argus has developed a programme of training and oversight of reporters. This programme includes:

- A global price reporting manual describing among other things the guidelines for the exercise of judgement
- Cross-training of staff between markets to ensure proper holiday and sick leave backup. Editors that float between markets to monitor staff application of best practices
- Experienced editors overseeing reporting teams are involved in daily mentoring and assisting in the application of judgement for illiquid markets
- Editors are required to sign-off on all price assessments each day, thus ensuring the consistent application of judgement.

Review of methodology

The overriding objective of any methodology is to produce price assessments which are reliable and representative indicators of commodity market values and are free from distortion. As a result, Argus editors and reporters are regularly examining our methodologies and are in regular dialogue with the industry in order to ensure that the methodologies are representative of the market being assessed. This process is integral with reporting on a given market. In addition to this ongoing review of methodology, Argus conducts reviews of all of its methodologies and methodology documents on at least an annual basis.

Argus market report editors and management will periodically and as merited initiate reviews of market coverage based on a qualitative analysis that includes measurements of liquidity, visibility of market data, consistency of market data, quality of market data and industry usage of the assessments. Report editors will review:

- Appropriateness of the methodology of existing assessments
- Termination of existing assessments
- Initiation of new assessments.

The report editor will initiate an informal process to examine viability. This process includes:

- Informal discussions with market participants
- Informal discussions with other stakeholders
- Internal review of market data

Should changes, terminations, or initiations be merited, the report editor will submit an internal proposal to management for review and approval. Should changes or terminations of existing assessments be approved, then formal procedures for external consultation are begun.

Changes to methodology

Formal proposals to change methodologies typically emerge out of the ongoing process of internal and external review of the methodologies. Formal procedures for external consultation regarding material changes to existing methodologies will be initiated with an announcement of the proposed change published in the relevant Argus report. This announcement will include:

- Details on the proposed change and the rationale
- Method for submitting comments with a deadline for submissions
- For prices used in derivatives, notice that all formal comments will be published after the given consultation period unless submitter requests confidentiality.

Argus will provide sufficient opportunity for stakeholders to analyse and comment on changes, but will not allow the time needed to follow these procedures to create a situation wherein unrepresentative or false prices are published, markets are disrupted, or market participants are put at unnecessary risk. Argus will engage with industry throughout this process in order to gain acceptance of proposed changes to methodology. Argus cannot however guarantee universal acceptance and will act for the good order of the market and ensure the continued integrity of its price assessments as an overriding objective.

Following the consultation period, Argus management will commence an internal review and decide on the methodology change. This will be followed by an announcement of the decision, which will be published in the relevant Argus report and include a date for implementation. For prices used in derivatives, publication of stakeholders' formal comments that are not subject to confidentiality and Argus' response to those comments will also take place.

Toluene and xylenes market prices

Argus publishes prices that report and reflect prevailing levels for open-market arms length transactions. Price assessments include market information over the course of the entire trading day.

Various methodological approaches are employed in reporting toluene and xylenes markets to produce the most representative price assessments. These include volume-weighted averages of deals done, lows and highs of deals done, and other methods.

In illiquid markets, Argus assesses the range within which toluene and xylenes could have traded, based on bids and offers through the entire day, movements of similar or related grades, and extensive polling of market participants. Formula-priced deals and market fundamentals also inform assessments but a primary emphasis is placed on the physical markets.

To be included in the price formation process, deals must meet the strict delivery, timing, and specification requirements in the methodology, and must be executed at arms length between a willing buyer and seller.

Survey method and verification

Price assessments in the Argus Daily Toluene and Xylenes report rely on a wide variety of sources for information, including refiners, marketers, importers, traders and brokers.

Confidentiality

Argus asks for counterparties from contacts in order to confirm trades and to avoid double-counting in volume-weighted averages. But Argus does not publish counterparty names in the toluene or xylenes markets. Many companies have existing confidentiality agreements with counterparties and can only reveal trade information to Argus if confidentiality is maintained.

Definition of trading day

Argus defines the trading day by determining at what times the market can be said to contain a fair number of willing buyers and sellers. Outside of these time boundaries, markets are typically too illiquid to produce representative price indications and deals. These boundaries can vary in different markets, and are under continuous review to maintain the accuracy of the assessments. See the trading day definitions in specification sections below.

Toluene markets

US

Price assessments are for the current month (M) and the month following (M+1), and are the range of trade over the entire trading day. In the absence of validated transactions, assessments are of the range within which trade could have taken place.

Month-to-date (MTD) averages are calculated as the average of all assessments for the named month since the first business day of the named month.

US specifications

Location: US Gulf Coast (Corpus Christi to Lake Charles)
 Specification: ASTM D841 (Standard Specification for Nitration Grade Toluene)
 Minimum size: 10,000 bl or 1,383t
 Basis: fob or ddp
 Roll date: calendar month
 Trading day: 8:00am-5:30pm CT

Northwest Europe

Argus publishes assessments of nitration grade and TDI grade toluene in northwest Europe.

Price assessments are for the current month and are the low-high range of completed trades, or in illiquid markets the range within which trade could have occurred throughout the trading day.

If there are no deals or a single deal, Argus will calculate a low-high range based on an intelligent assessment of the market and publish the mean of that range.

Trades reported as differentials to European gasoline are converted to an outright price using an appropriate gasoline assessment for the day.

Prompt-month assessments roll off and the next month becomes prompt five working days before the end of the calendar month.

Argus publishes a 30-day average of the current month assessment based on 30 calendar days and a month-to-date average of the current month assessment based on the trading month.

Argus Toluene and Xylenes Daily includes the European monthly toluene contract price. See the [Argus Toluene, Xylenes and Isomers/PET methodology](#).

Northwest Europe specifications

Toluene nitration grade

Specification: ASTM D-841
 Location: ARA
 Timing: 5-30 days forward
 Volume: low and high minimum: 1,000t
 Basis: cif
 Roll date: five working days before the end of the month
 Trading day: 9:00am-6:00pm CET
 Units: \$/t

Toluene TDI grade

Specification: ASTM D-5606
 Location: northwest Europe
 Timing: 5-30 days forward
 Volume: 1,000-2,200t
 Basis: fob
 Roll date: five working days before the end of the month
 Trading day: 9:00am-6:00pm CET
 Units: \$/t

Asia-Pacific

fob South Korea, cfr China

Prompt and forward price ranges include deals, bids and offers that took place during the trading day. Where there are no deals done the range is of bids and offers closest to 5:00pm Singapore time. In the event there are no firm bids and offers, assessments are based on the result of a survey of market participants. Assessments also take into account other factors including the changes in crude and naphtha prices, paraxylene prices, the trend in other aromatics markets, demand and supply dynamics and plant operation status.

No netback calculations are used in assessing cfr China prices in the absence of trade and firm bids and offers.

Price assessments are published for half-month delivery periods, which roll on the 1st and 16th of the calendar month, or on the first business day thereafter should the 1st or 16th fall on a weekend or public holiday.

Fob South Korea price assessments are published for five forward half-month periods. Cfr China price assessments are published for four forward half-month periods.

In keeping with industry practice, half-month periods may also be referred to as specific 15-day periods. See the example below.

Marker prices

The Argus fob South Korea and Argus cfr China marker prices are the arithmetic average of the second and third forward half-month period price assessments published for each market that day.

Example

On Friday, 1 July, Argus will publish assessments for

- the second half of July (15-30 days forward)
- the first half of August (30-45 days forward)
- the second half of August (45-60 days forward)
- the first half of September (60-75 days forward)
- the second half of September (75-90 days forward, fob South Korea only)

The marker price is the arithmetic average of the published prices for the first half of August and the second half of August.

Monthly averages

Argus also publishes month-to-date (MTD) averages of the Argus fob South Korea and cfr China markers. These are calculated by calendar month in accordance with the way term contracts are settled in Asia.

East China and India domestic markets

Price assessments include deals, bids and offers that took place during the trading day.

China

Prices in Jiangsu province, the largest market in east China are the primary basis of the assessment. Assessments are published in yuan/t.

India

Ex-tank prices are assessed for cargoes sold from the western Indian ports of Kandla and Mumbai. Assessments are published in rupees/kg.

Asia-Pacific specifications

South Korea

Specification: ASTM D-841

Trade size: 2,000 or 3,000t only

Basis: fob

Trading day: 9:00am-5:00pm Singapore time

China

Specifications: ASTM D-841

Trade size: 2,000 or 3,000t only

Basis: cfr

Trading day: 9:00am-5:00pm Singapore time

Domestic China

Specifications: ASTM D-841

Trade size: 50-500t

Basis: ex-tank East China

Trading day: 9:00am-5:00pm Singapore time

Domestic India

Specifications: ASTM D-841

Minimum trade size: 50-500t

Basis: ex-tank Mumbai/Kandla

Trading day: 9:00am-5:00pm Singapore time

Mixed xylenes markets

US

Price assessments are for the current month and the month following (M, M+1), and reflect the range of trade over the entire trading day. In the absence of validated transactions, assessments are of the range within which trade could have taken place.

Month-to-date (MTD) averages are calculated as the average of all assessments for the named month since the first business day of the named month.

US specifications

Location: USGC (Corpus Christi to Lake Charles)

Specification: ASTM 5211 and ASTM D-843

Minimum size: 10,000 bl or 1,383t

Basis: fob or ddp

Roll date: calendar month

Trading day: 8:00am-5:30pm CT

Northwest Europe

Price assessments are for the current month and are the low-high range of completed trades, or in illiquid markets the range within which trade could have occurred throughout the trading day.

If there are no deals or a single deal, Argus will calculate a low-high range based on an intelligent assessment of the market and publish the mean of that range.

Trades reported as differentials to European gasoline are converted to an outright price using an appropriate gasoline assessment for the day.

Prompt month assessments roll off and the next month becomes prompt five working days before the end of the calendar month.

Argus publishes a 30-day average of the current month assessment based on 30 calendar days and a month-to-date average of the current month assessment based on the trading month.

Argus Toluene and Xylenes Daily includes the European monthly paraxylene contract price. See the [Argus Toluene, Xylenes and Isomers/PET methodology](#).

Northwest Europe specifications

Mixed Xylenes

Location: ARA

Timing: any dates, calendar month.

Specifications: ASTM D-843

Minimum trade size: 1,000 metric tonnes

Basis: fob

Roll date: five working days before the end of the month

Trading day: 9:00am-6:00pm CET

Asia-Pacific

Isomer xylene

Price ranges are published on a fob South Korea and cfr Taiwan basis and include deals, bids and offers that took place during the trading day. Where there are no deals done the range is of bids and offers closest to 5:00pm Singapore time.

In the event there are no firm bids and offers, assessments are based on the result of a survey of market participants. Assessments also take into account other factors including the changes in crude and naphtha prices, paraxylene prices, the trend in other aromatics markets, demand and supply dynamics and plant operation status.

The cfr Taiwan price assessment may also include a netback calculation based on estimated freight rates for cargoes loading from South Korea.

Prices are published for four half-month delivery periods, which roll on 1st and 16th of the calendar month, or on the first business day thereafter should the 1st or 16th fall on a weekend or public holiday.

In keeping with industry practice, half-month periods may also be referred to as specific 15-day periods. See the example below.

Marker prices:

The daily Argus fob South Korea and cfr Taiwan marker prices are the arithmetic average of the second and third forward half-month period price assessments published for each market that day.

Example:

On Friday, 1 July, Argus will publish price assessments for

- the second half of July (15-30 days forward)
- the first half of August (30-45 days forward)
- the second half of August (45-60 days forward)
- the first half of September (60-75 days forward)

The marker price is the arithmetic average of the published price for the first half of August and the second half of August.

Argus also publishes month-to-date (MTD) averages of its fob S Korea and cfr Taiwan markers.

Asia-Pacific specifications

Location: South Korea, Taiwan

Timing: 15-30, 30-45, 45-60, and 60-75 days forward

Specifications: ASTM D-843

Minimum trade size: 3,000-5,000 metric tonnes (5,000 tonnes open origin parcels)

Basis: fob, cfr

Trading day: 9:00am-5:00pm Singapore time

Paraxylene markets**US contract prices**

See the [Argus Toluene, Xylene, Isomers/PET methodology](#).

Northwest Europe

Price assessments are for the current month (M) and are the mean of the low and high of completed trades, or in illiquid markets the midpoint of a range within which trade could have occurred throughout the trading day.

If there are no deals or a single deal, Argus will calculate a low-high range based on an intelligent assessment of the market and publish the mean of that range.

Prompt month assessments roll off and the next month becomes prompt the first business day following the 19th of the month.

Argus publishes a 30-day average of the front month (M+1) contract. This average is based on 30 calendar days.

Argus also publishes a month-to-date average of the front month (M+1) contract. This average is based on the trading month.

Northwest Europe specifications**Paraxylene**

Location: ARA

Timing: Any dates, calendar month

Specifications: ASTM D-5136

Minimum trade size: 1,000 metric tonnes

Basis: fob

Roll date: First business day following 19th of month

Trading day: 9:00am-6:00pm CET

Asia-Pacific

Price ranges are published on a fob South Korea, cfr China and cfr Taiwan basis and include deals, bids and offers that took place during the trading day. Where there are no deals done the range is of bids and offers closest to 4:30pm Singapore time.

In the event there are no firm bids and offers, the fob South Korea price is assessed as a differential to the cfr Taiwan and cfr China price assessments.

Argus independently assesses the price of open-origin cargoes and the price of Asia-origin cargoes with a voyage time of no more than 15 days. The open-origin price forms the low end and the Asia-origin price forms the high end of the published range for each Asia-Pacific paraxylene price assessment.

Prices are published for six half-month delivery periods, which roll on the 1st and 16th of the calendar month, or on the first business day thereafter should the 1st or 16th fall on a weekend or public holiday.

Marker prices

The daily Argus fob South Korea, cfr China and cfr Taiwan marker prices are the arithmetic average of the second, third and fourth forward half-month period price assessments published for each market that day.

Example

On Friday, 1 July, Argus will publish price assessments for

- the second half of July
- the first half of August
- the second half of August
- the first half of September
- the second half of September
- the first half of October

The marker price is the arithmetic average of the published price for the first half of August, the second half of August and the first half of September.

Argus also publishes month-to-date (MTD) averages of its fob South Korea, cfr Taiwan and cfr China markers.

Intraday prices

Intraday price assessments are published on a cfr China and cfr Taiwan basis as the price prevailing in the market at 3:30pm Singapore time based on a survey of market participants.

Intraday price assessment are of the midpoint value of a range set by open-origin and Asia-origin product as described above.

Intraday price assessments are published electronically via Argus Direct and are available through Argus data feeds for six half-month delivery periods, which roll on the 1st and 16th of the calendar month, or on the first business day thereafter should the 1st or 16th fall on a weekend or public holiday.

Asia-Pacific specifications

Location: Taiwan

Minimum trade size: 5,000 metric tonnes only

Specification: ASTM 2360

Basis: cfr

Port basis: Kaohsiung, Mailliao, Taipei

Trading day: 4:00pm-4:30pm Singapore time

Intraday timestamp: 3:30pm Singapore time

Location: China

Minimum trade size: 5,000 metric tonnes only

Specification: ASTM 2360

Basis: cfr

Port basis: Ningbo, Jiangyin and/or Dalian,

Trading day: 4:00pm-4:30pm Singapore time

Intraday timestamp: 3:30pm Singapore time

Location: South Korea

Minimum trade size: 5,000 metric tonnes only

Specification: ASTM 2360

Basis: fob

Port basis: Ulsan, Daesan, Onsan, Yeosu, Incheon

Trading day: 4:00pm-4:30pm Singapore time

PTA markets

Spot markets

PTA (Domestic China)

Assessments include trades, bids and offers up to 5.00pm Singapore time.

- If multiple trades meeting the below specifications are reported, Argus will publish the lowest and highest trade price for that week.
- If no trades meeting the below specifications are reported, Argus will publish the highest bid and the lowest offer.

Specifications

Location: Domestic China

Timing: up to 14 days from the date of publication

Trade size: 1,000-2,000t

Specifications: 4-Carboxy Benzaldehyde max 25ppm; Para-Toluic Acid max 170ppm

Basis: delivered within Jiangsu and Zhejiang province

Trading week: Monday-Friday 9.00am-5.00pm Singapore time excluding public holidays

Blend values

US Conventional blend value (toluene and mixed xylene)

The conventional blend value is calculated based on the day's closing gasoline and butane assessments. For example, if the weekly report is published on 20 September, the closing prices from 19 September are used in the calculation. The following gasoline and butane price assessments are used:

- Gasoline 87 conv Colonial M pipe fob lowest RVP cycle
- Gasoline 93 conv Colonial V pipe fob lowest RVP cycle
- Butane Mt Belview Enterprise month

Prices are published in US cents per US gallon.

See the [Argus US Products methodology](#) and the [Argus NGL Americas methodology](#) for more detail.

US RBOB blend value (toluene and mixed xylene)

The conventional blend value is calculated based on the day's closing gasoline and butane assessments. For example, if the weekly report is published on 20 September, the closing prices from 19 September are used in the calculation. The following gasoline and butane price assessments are used:

- Gasoline reg RBOB Colonial F pipe fob cycle
- Gasoline prem RBOB Colonial H pipe fob cycle
- Butane Mt Belview Enterprise month

Prices are published in US cents per US gallon.

See the [Argus US Products methodology](#) and the [Argus NGL Americas methodology](#) for more detail.