# Methodology and specifications guide

Asia-Pacific petrochemicals

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INTRODUCTION

Platts methodologies are designed to produce price assessments that are representative of market value, and of the particular markets to which they relate. Methodology documents describe the specifications for various products reflected by Platts assessments, the processes and standards Platts adheres to in collecting data, and the methods by which Platts arrives at final assessment values for publication.

Platts discloses publicly the days of publication for its price assessments, and the times during each trading day in which Platts considers transactions in determining its assessments levels. This schedule of publication is available on Platts website, at the following link: http://www.platts.com/HolidayHome.

The dates of publication and the assessment periods are subject to change in the event of outside circumstances that affect Platts ability to adhere to its normal publication schedule. Such circumstances include network outages, power failures, acts of terrorism and other situations that result in an interruption in Platts operations at one or more of its worldwide offices. In the event that any such circumstance occurs, Platts will endeavor, whenever feasible, to communicate publicly any changes to its publication schedule and assessment periods, with as much advance notice as possible.

Platts methodologies have evolved to reflect changing market conditions through time, and will continue to evolve as markets change. A revision history, a cumulative summary of changes to this and previous updates, is included at the end of the methodology. Methodology is reviewed regularly to ensure it reflects current market reality. Such reviews are carried out by Platts reporters and their managers, supplemented and supported by price methodology specialists who operate separately from the reporting teams. Platts follows a clearly defined process for public consultation on material changes to its methodologies. This process is based on full transparency and communication with industry stakeholders aimed at gaining market acceptance for any proposed introduction or changes to methodology. For more information on the review and approval procedures, please visit: https://www.spglobal.com/platts/en/our-methodology/methodology-review-change.

All Platts methodologies reflect Platts commitment to maintaining best practices in price reporting.

How this methodology statement is organized

This description of methodology for assessments is divided into seven major parts (I-VII) that parallel the entire process of producing the end-of-day price values.

- Part I describes what goes into Platts assessments, including details on what data market participants are expected to submit, the process for submitting data and criteria for timeliness of market data submissions, as well as the editorial collection of input data from market sources.
- Part II describes any security and confidentiality practices that Platts uses in handling and treating data, including the separation between Platts price reporting and its news reporting.
- Part III is a detailed account of how Platts collects bids, offers, trades and other market data, and what Platts does with the data to formulate its assessments. It includes descriptions of the methods that Platts uses for reviewing data, and the methods used to convert raw data into assessments. This also includes the procedures used to identify anomalous data. This section describes how and when judgment is applied in this process, the basis upon which transaction data may be excluded from a price assessment, and the relative importance assigned to each criterion used in forming the price assessment. This section describes the minimum amount of transaction data required for a particular price assessment to be published. This is based on reported transactions and other market information. Finally, this section describes how Platts addresses assessment periods where one or more reporting entities submit market data that constitute a significant proportion of the total data upon which the assessment is based.
- Part IV explains the process for verifying that published prices comply with Platts standards.
- Part V lays out the verification and correction process for revising published prices and the criteria Platts uses to determine when it publishes a correction.
- Part VI explains how users of Platts assessments can contact Platts for clarification of data that has been published, or to share a complaint. It also describes how to find out more about Platts complaint policies.
- Part VII is a list of detailed specifications for the trading locations and products for which Platts publishes assessments for a particular commodity. This section describes why specific units of measurement are used, and what conversion factors are used to move between units of measurement, where relevant.

PART I: INPUT DATA

Platts objective is to ensure that input data that editors use as the basis for their price assessments is of the highest quality. Ensuring that data used in Platts assessments is of high quality is crucial to maintaining the integrity of Platts various price assessment processes.

Platts encourages entities that submit any input data for consideration in its assessment processes to submit all market data that they have which may be relevant to the assessment being made. Platts aim is to determine the full circumstances surrounding all reported transactional data, including details of quality, specifications, order sizes, dimensions, lead times and any locational and loading/delivery information. Platts uses that
information to determine a typical and repeatable market level for the commodity being assessed.

**Reporting data to Platts**

Platts assesses a variety of different markets and commodities. In some of these Platts receives information from back office functions. However, in many markets back office functions are not best placed to communicate relevant market data to Platts editors, and in these instances Platts has processes in place to ensure that data is corroborated either through reviews of entities participating in its process, or through source validation and publication of information.

As part of its standard editorial practise, Platts routinely reviews the companies participating in its price assessment processes. These reviews ensure the suitability of data and information that are used to formulate Platts end-of-day price assessments. These reviews are conducted on a regular basis, and may take into consideration an array of issues including, but not limited to, adherence to editorial guidelines, operational and logistical issues, as well as counterparty acceptance. Further details concerning Platts MOC Participation Guidelines can be found online at [https://www.platts.com/market-on-close](https://www.platts.com/market-on-close).

The reviews are not designed to impede a company's ability to bilaterally engage in market transactions; the objective at all times is to ensure the integrity of published price assessments. Platts may consider verifiable data reported and published through the day as provided for publication by individual sources, through established editorial methods.

Platts has developed guidelines for Management of Sources that address source identification, source evaluation, source development, using source information and source dependency. Individual sources are verified as per Platts Source Management Guidelines.

Platts considers several criteria as whether to use source information. These criteria include:

- Company reputation
- Source position within a company
- Source understanding and knowledge of the market in question
- Ability of source to provide relevant, valuable information
- Ability of Platts to verify information with other sources
- Source credibility

**What to report**

Platts encourages all market participants to submit all data that may be relevant to Platts assessments, including but not limited to:

- Firm bids that are open to the marketplace as a whole, with standard terms
- Firm offers that are open to the marketplace as a whole, with standard terms
- Expressions of interest to trade with published bids and offers, with standard terms
- Confirmed trades
- Indicative values, clearly described as such
- Reported transactional activity heard across the market, clearly described as such
- Other data that may be relevant to Platts assessments

**How to report**

Platts accepts any reasonable method of delivery/communication for information provided for publication in real-time, including for bids, offers and transactions. Platts editors typically communicate with market participants through phone, eWindow (if relevant) and/or online instant messaging systems.

Platts tries to accommodate the communication needs of its customers and will endeavor to open any additional communication channels required. Other means of communication, such as emails during the assessment process, are acceptable but are considered to be atypical. If a market participant chooses to communicate with Platts editorial using such atypical means, this needs to be highlighted well ahead of the assessment process.

The following reporting methods are accepted by Platts editorial staff:

- Commonly used Instant Messaging software
- eWindow
- Telephone
- Email

Reporters covering the markets in Asia and the Middle East are contactable from around 09:30 to around 18:30 Singapore time, those covering Europe and Africa from around 09:30 to around 18:30 London time, and those covering the Americas from around 08:30 to around 17:30 Houston time.

**MOC data publishing principles**

The Platts Market on Close (MOC) assessment process establishes core standards for how data is collected and published, how data is prioritized by value, and ultimately how data is analyzed in the course of completing Platts assessments.
Transparency underpins Platts data publishing processes. Under Platts MOC guidelines for collecting and publishing data, Platts publishes market information including but not limited to firm bids and offers, expressions of interest to trade and confirmed trades that are received from market participants throughout the day.

This information is published in real-time, as it is received, on Platts information services. Platts publishes all information received so that it can be fully tested by the market at large. Information collected and published includes the identities of buyers and sellers, confirmed prices, volumes, location, and stated trading terms.

Platts assessments are designed to reflect repeatable market value at the close of the assessment process. Platts tracks market price evolution during the entire day, and publishes a wide range of data relating to market value as it does so. All data that has been published through the day is analyzed during the assessment process. Towards the close of the day, Platts focuses its assessment process to publish named firm bids and offers, expressions of interest to trade and confirmed trades, with all relevant details. This transparent data is prioritized in the assessment process, because it is available to the entire market for testing.

In order to ensure that all firm bids and firm offers that still stand at the close of the assessment process have been fully tested in the market at large, Platts has established clearly defined time cut-offs that apply when publishing firm bids and firm offers in the MOC process. Time cut-offs for the submission and subsequent publication of new bids and offers are applied so that MOC participants cannot bid or offer late in the process, and to ensure that every bid and offer published by Platts is logistically executable.

Bids and offers published by Platts are considered to be firm until Platts is informed otherwise, or until the close of the assessment process for the day, whichever comes first. Platts expects all participants in the MOC process to be contactable at all times.

Platts will consider all firm bids and offers as open to the market at large and executable unless informed otherwise by the counterparty submitting the market information. If no communication is made to Platts to withdraw or change the parameters of the bid or offer it is assumed that it is available to the marketplace. Platts seeks verification of any transaction originating from a bid or offer submitted for inclusion in the Platts MOC process.

Input data may also include fully and partially confirmed bids, offers and trades, notional trading values and other market information as provided for publication by individual sources, through established editorial methods.

Market reporters endeavor to verify all market information they receive, including by testing it within the market through the publishing process. Trades reported as executed are verified as being executed and Platts ensures that any firm bids/offers reported are available to the market as a whole.

Platts uses various techniques to confirm the quality of data it receives, including cross checks with counterparties as well as requests for supporting documentation. Platts eliminates data in the price assessment process that cannot be verified in the market to the extent deemed appropriate.

All Platts market reporters are trained to analyze the data they receive and to question sources to establish the fullest set of information possible around price data. Reporters are trained to seek a wide variety of information to test reported transnational activity, including the specific price agreed, the counterparty to the trade, the point of origin and destination for delivery of the commodity, the size of the transaction, any physical quality commitments agreed as part of the trade, the terms and conditions of a trade and when a trade was agreed.

Platts publishes the most relevant information collected that meets its methodological standards, typically through real-time information services and with as much transparency as possible in order to test information within the market.

MOC data submission process
Platts has specific guidelines around data submissions to ensure high quality of information in the assessment process. This includes detailed guidelines on timings for submissions, which can be found in the specific guide for each commodity process. The purpose of the time cut-offs is primarily to ensure logistical executability and standards of incrementability and repeatability to ensure an orderly assessment process. As such, they may be changed at short notice if evolving market conditions require.

To ensure proper dissemination of market information, new bids and offers for publication by Platts must be received by Platts no later than stated cut-off periods.

In order to ensure that all published data is fully tested in the market, Platts has established guidelines around how quickly bids and offers may be improved when they have been published, and by what amount. These incrementability guidelines define the quantum and speed at which bids and offers may typically be improved in the MOC assessment process. Incrementability does not apply to bids and offers that are moving away from market value, though Platts analyzes bids and offers that are moved lower, and higher, respectively, to ensure reasonability.

Platts may notify the market of any adjustment to the standard increments in the event of market volatility or a disruptive event. A market participant can withdraw a bid or offer from Platts MOC process at any time, so long as no other potential trading counterparty has indicated that it has interest to buy or sell into the bid/offer.

Platts expects that market participants bidding and offering in the MOC process should perform on their bid/offers with the first company of record to express interest to Platts for publication during the MOC process. In the event of a dispute on the timing, Platts will review its records and determine which company communicated to Platts first its intention to execute on a bid/
offer displayed on the Platts systems. Platts prioritizes data on the basis of timeliness. This sequence is critical for an orderly assessment process.

Platts editorial guidelines governing its assessment process require it must consider only those transactions, bids or offers where market participants perform under typical contractual terms. Platts accepts that individual companies may have trading limits with counterparties and that national legislation may prevent companies from dealing in materials of certain origins. Such counterparty issues are dealt with on a case-by-case basis.

All bids and offers are firm from the moment of submission.

Submissions of bids, offers or transactions should not be considered as received by Platts unless acknowledged as received by Platts. For communication initiated by phone Platts will consider the time when the trader actually communicated the bid/offer or transaction. Acknowledgment may take the form of “yes,” “OK,” “y,” “k,” or any other reasonable forms, including by sending back the published information. Platts recognizes the time of receiving a message of a company’s intent to buy/sell, as opposed to the time a message was sent by the trading party.

Bids and offers submitted on time but in an incomplete form, where the terms are only clarified after the cut-off deadline, will not be used in the assessment process.

As a general recommendation Platts advises market participants not to wait for the last possible minute before the cut-off deadlines for bids and offers, as the communication may not be completed on time.

A buyer or seller can communicate with Platts directly to express buying or selling interest. Platts may also take into consideration bids and offers made via a broker, provided the buyer or seller have communicated to Platts that they have authorized the broker to speak on their behalf.

Platts only considers for publication and assessment transactional interest that is expressed by participants for bids or offers that have already been published by Platts. Interest in bids or offers at prices that have not been published, and therefore may not be fully available for testing in the marketplace as a whole, may be disregarded. Should a buyer lower its bid or a seller increase its offer, an expression to trade at a previously published level will not be considered.

Platts editorial processes require full clarity when communicating bids/offers and intentions to trade. When expressing an intention to hit a bid or lift an offer in the MOC processes, any message should typically include the specific price of the trade and the name of the counterparty. Information may not be published if it is not sufficiently clear when communicated to Platts.

Following any trade, an intention to rebid or reoffer must be received by Platts as soon as is possible and within a reasonable time frame, as per incrementability guidelines.

Unless sellers/buyers expressly inform Platts of their continued interest to buy/sell after a deal, Platts will presume the original buyers or sellers are not there for additional volume.

A rebid or reoffer must match the initial position’s parameters, with the exception of price. A rebid or reoffer can be made at the same level or inferior to the traded price. For example Company B hits Company A’s bid for $100/mt during the MOC. Company A can rebid at $100/mt or below this level. If the MOC process for the market includes a “freeze” period at the close of the process, bids and offers may only be repeated at the last published price.

When there are multiple bids or offers at the same level, the first participant to reach that level should be the first to be traded. Subsequent deals will go to the second, third and fourth participant at the same level. When a participant is traded, any repeat of their bid/offer will move to the back of the bid/offer queue.

Platts will consider the first participant to express their interest in a bid or offer to be the counterparty for the subsequent trade. Platts will monitor time stamps in the event of a dispute to determine who the first buyer or seller was. In the event of a bid or offer being repeated, the queue of participants expressing interest in that position will be reset. Platts will not consider any interest expressed in a rebid or reoffer before the position is published to be executable during the MOC assessment process.

After a bid or offer is published, only price can be changed, while in certain markets volume may be adjusted to be multiples of a minimum volume. The quality or loading/delivery timing cannot be changed. Buyers or sellers can withdraw bids/offers at any time, provided no prior interest to transact has been expressed by any potential counterparty. If a participant trades another position during the MOC assessment process, they must communicate to Platts if they wish to withdraw their existing position following the trade. Otherwise, it is assumed the participant’s own position remains active.

All participants that have reported bids and offers for publishing in the Platts process are expected to promptly report any transactions stemming from available bids or offers reported to Platts as part of the MOC assessment process.

Platts synchronizes its computer clocks every day precisely, and will compare the time of any submitted bid, offer or transactional interest against this synchronized time. Please note that Platts applies the timing deadlines strictly.

For the purposes of clock synchronization, market participants may find the following internet link to be helpful: www.time.gov. This link offers an atomic clock reading for US time zones.

In markets where Platts eWindow is in operation, the eWindow clock will be used to determine the correct sequence of events when a bid or offer is amended, withdrawn, or traded by an interested counterparty. Bids or offers submitted by phone, or any other medium, such as instant messaging software, shall be...
clocked at the time the bid, offer or trade indication is actually transmitted through the Platts eWindow system. As per Platts methodology, buyers or sellers can withdraw bids/offers at any time when communicating through eWindow, provided no prior interest to transact has been expressed by any potential counterparty. All bids and offers are firm from the moment submitted into Platts eWindow to the moment they are traded, the window period closes or the bid/offer is withdrawn from the system by the trader or a Platts editor.

Platts is an information company and it aims to publish any credible bid or offer reported to it. Platts makes no commitment to publish every bid or offer submitted to it, however. For instance, frivolous bids and offers may not be published.

Terms of trade such as quality, delivery port, timing of delivery/loading and price are fully up to the company submitting the bid or offer.

Platts cannot make any guarantee in advance about how and whether market information received and published but not fully adhering to its defined methodology will be incorporated in its final assessments.

**Atypical bids, offers, trades**

Platts may publish bids, offers and trades with atypical pricing terms, including benchmark bases and timing. Market information with atypical pricing inherently differs in value from the typical and commonly observable information in the market.

Bids and offers which are deemed as atypical, relative to the market may not be fully taken into consideration for the assessment process. In the absence of an associated, liquid derivative instrument atypical pricing bases may be difficult or impossible to evaluate on an outright price equivalent.

Such bids/offers or transactions would be at best indicators of an overall market condition but they would not be seen as exact indicators of market price.

Any unusual condition or request regarding a commodity should be specified at the moment the initial bid or offer is made. Any unusual request that surfaces at the time a counterparty is ready to trade and that impedes the normal flow of a transaction could be seen as an impediment to trade.

Information reported by market participants that may have legal implications, including but not limited to potential libel, will not be published.

Market participants are encouraged to inform Platts when they cannot trade with another typical market participant due to performance, credit or legal issues before the cut off deadlines for initial bids and offers. Platts may ask market participants to provide supporting documentation to ensure the integrity of its assessment process.

**Law**

Contracts using English law are considered standard in the assessment process.

**Embargoed products**

Laws stating that nationals from specific countries may not buy products from embargoed countries may prevent market participants from lawfully executing transactions. A seller therefore may not assume that a buyer has the obligation to buy embargoed materials. Under Platts Market on Close assessment guidelines, commodities supplied from countries or entities that are subject to trading embargoes and sanctions recognized under international law should not be delivered against transactions concluded during the Platts MOC assessment processes. Bids and offers that contain statements surrounding delivery of embargoed materials will be considered by Platts for publication, and if published after review may be subject to normalization in value.

**Late performance**

Platts is aware that physical conditions regarding logistics which are beyond the control of the seller or buyer may result in lateness, quality issues or conditions seen as a deviation from the original wording in the contract, for example late delivery/loading, which are beyond the control of the seller or buyer may result in late performance and/or quality issues.

These deviations will be seen in the larger context of physical trading, and should not be seen as an indication of Platts condoning lateness.

Platts will review patterns of logistical performance, as adjustments due to late performance and/or quality issues should be extraordinary and not recurring events.

Participants who are intending to sell should not offer when there is a known and distinct possibility that loading/delivery may be delayed. If congestion or delays prevent performance under the contractual terms, the seller should make reasonable and timely efforts to supply from an alternative source, or the seller should engage in other measures to alleviate the buyer’s exposure.

Equally, a buyer should not over-commit and then aggregate nominations in a way that makes it logistically impossible for the seller to perform.

Platts will take appropriate steps to ensure the integrity of its assessments if issues of non-performance should arise.

In summary, performance is paramount and all bids and offers must be firm and transactions should be performable within the contractual parameters.

Platts only recognizes bids, offers and transactions where no party claims a right to unilaterally cancel a transaction. If a transaction becomes difficult the party causing the issue must seek resolution including alternative loadings, qualities, dates or book outs.

**Compensation**

Platts publishes bids, offers and transactions on the basis that participants will fulfill the full value of the physical contract.

A party deemed to have underperformed or not performed under the original contract is expected to compensate the affected party.
In almost all circumstances, the compensation is not, and should not be due to a flat price change, but should include parameters such as backwardation, logistics, and the inconvenience for the buyer in the case of a seller not performing, or contango, logistics and the inconvenience for the seller in the case of a buyer not performing. Compensation should not include consequential costs.

Such adjustments should be fair and in line with market practice, and should be reciprocal in the event that the inverse situation occurs in the future.

Compensation is subject to editorial review to ensure market practices and overall fairness in the transaction have been followed. Platts review may include an analysis of reasonable compensation. Platts views compensation as a part of full performance due under the parameters of a trade reported in the assessment process.

**Force majeure**

Force majeure is part of trading and may be invoked under very special circumstances. Platts editors will monitor the application of it to ensure that force majeure is not invoked frivolously.

**Booking out trades**

Booking out trades done during the Platts Market On Close assessment process is acceptable under exceptional circumstances. A stressed party may request to book out a trade, but its counterpart is under no obligation to accept such request.

In those exceptional cases where both counterparties agree to book out a trade, Platts expects the original spirit of the contract to be fulfilled where the non-performing party offers to buy/sell back the position and compensates the affected party.

In almost all circumstances, the adjustment is not and should not be due to a flat price change, but should be to include parameters such as market structure, logistics and the inconvenience for the buyer or seller expecting a normal transaction. Such adjustments should be fair and in line with market practice, and should be reciprocal in the event that the inverse situation occurs in the future.

Furthermore, circle outs may occur when the original seller sells a parcel that is later sold into a third party that has a sale into the primary seller. Such “circle outs” are considered a normal part of trading as sometimes chains originate and finish at the same point.

Book outs and circle outs are subject to editorial review to ensure market practices and overall fairness in the transaction have been followed. Platts review may include proposals/arrangements to protect the integrity of its assessment process.

**Review of trades**

Platts may track all aspects of performance on trades reported during its MOC assessment process. Platts not only focuses on the performance of the transaction at the time of trade, but also on any significant issues stemming from such trades, including logistics and eventual delivery. Trades executed through the Platts Market On Close assessment process may be reviewed from time to time for performance completion. Platts therefore may request documentary material to determine performance and validity. Such material may include details of quality, location, vessel and laycan nominations. MOC trades may be subject to editorial review to ensure market practices and performance in the transaction have been followed.

A failure to meet Platts guidelines for participation and performance in the MOC may lead to an event driven review. Event driven reviews are designed to help ensure that transactional information and other data inputs used as the basis for Platts price assessments are representative of market value on an ongoing basis.

Post-deal tracking enables Platts to determine the actual performance of the participants in the trade and the validity of their inputs. Platts may publish confirmation of trade performance information.

**Specification**


**Testing of products**

Traded commodities are subject to standard testing techniques and protocols to determine contractual performance. Platts typically follows the standards already in place in the trading market, although it may monitor these to ensure that the standards are adequate.

**Implied guarantees in specifications**

Bids and offers submitted to Platts that include numerical specifications will be assumed to have a series of zeroes to the right of the decimal point or to the right of the last digit to the right of the decimal point.

As an example, a fuel oil cargo with a maximum guarantee of 0.1 Shell Hot Filtration will be considered as 0.1000 etc. If the specification guarantees are otherwise, the buyer or seller should specify it clearly to avoid potential disputes.

**Merchantability**

Platts only considers in its assessments commodities that are merchantable. Hence, buyers may assume that offers or transactions are for a commodity that is merchantable. Sellers must ensure their offers or transactions are for merchantable commodities.

**PART II: SECURITY AND CONFIDENTIALITY**

Data is stored in a secure network, in accordance with Platts policies and procedures. Platts assessments are produced in accordance with Platts Market On Close assessment methodology. This means that all data for use in Platts assessments may be published by Platts editorial staff while assessing the value of the markets.
PART III: DETERMINING ASSESSMENTS

The following section describes how Platts uses concluded and reported transactions, bids, offers and any other market information it has collected in the manner described in section one, to formulate its price assessments. Additionally, this section describes other information, including the normalization of market data, assumptions and extrapolations that are considered when making a final assessment.

MOC price assessment principles

Through the MOC assessment process, Platts considers market information gathered throughout the normal trading day, and publishes such information throughout the day. Platts analyzes all published information in determining its final published price assessments.

Platts seeks to establish and publish the value of markets that prevail at the close of the assessment process. Platts has aligned the timestamps reflected in its assessments with what typically is a period of high activity in the markets that Platts observes. Platts believes that aligning its price assessments to typical periods of greater market activity and liquidity provides a robust basis upon which to derive an assessment of market value. Timestamps for each assessment are included in the specifications guide for that assessment.

Platts has adopted the MOC methodology in order to provide complete clarity over the precise point in time reflected in its market assessments. Like the quality of a commodity, its delivery location, delivery dates, contract terms, and the volume to be supplied, the time of commercial activity is an important attribute considered in Platts price assessments. The time that a bid or offer is shown to the market, or a transaction concluded, is vitally important in understanding the market value of the respective commodity, in the same way that the quality of the commodity, where it will be delivered and when it will be delivered are important factors. By clearly reflecting value at a defined point in time Platts is able to properly reflect outright and spread value.

The clarity established by providing a well-defined timestamp is also important for understanding the relationships between the markets that Platts assesses. By ensuring that all assessments within a region reflect market value at the same moment in time, spreads that exist between commodities are also able to be fully and properly reflected. For example, comparing the value of a raw material to a processed commodity is possible when both values have been determined at the same moment in time. By contrast, comparing the price of raw material in the morning, to processed material in the afternoon, might deeply impair the relationship between the commodities – particularly when the respective market prices move independently during the intervening period.

By providing clear timestamps for assessments, the Platts MOC process is designed to provide assessments that properly reflect outright and spread value during times of high volatility equally well as in times of modest volatility.

MOC guidelines are designed to avoid distortion of the final price assessments by eliminating inputs that are not fully verifiable, and by disregarding one-offs or unrepeatable transactions, or those that may distort the true market level. Transactions between related parties are, for instance, not considered in the assessment process.

Deals done below the level of prevailing bids or above the level of prevailing offers (i.e., selling through the bid or buying through the offer) will not be reflected in Platts assessments. Platts will only publish expressions of interest to trade with the most competitive, tradeable bid or offer available.

Platts does not specify a minimum amount of transaction data, or a transaction data threshold, for the publication of its price assessments. Physical commodity markets vary in liquidity. Any particular market analyzed on its own will typically demonstrate rising and falling levels of transactional activity through time. Platts is committed to providing an assessment of value for every market that it covers, equally well in times of heightened or reduced liquidity.

Platts seeks to receive market information from as broad a cross section of the market as possible. If a very limited number of market-makers are active in the market, or if a limited number submit data that constitutes a significant proportion of the total data upon which the assessment is based, Platts will continue to seek fully transparent and verifiable data from the market at large and to apply Platts methodology principles of transparency and time sensitivity. Platts considers data for assessment of any market where a single company provides more than half of all available information to be one where such a company provides a significant proportion of data. For consideration in the MOC process such a company's bids or offers must be clearly available for execution by any other potential MOC trading counter party.

Normalization price adjustment techniques

Platts seeks to align the standard specifications for the markets it assesses and the timestamps reflected in its assessments with standard industry practice. However, physical commodity markets are generally heterogeneous in nature. Key attributes often vary from the base standard reflected in Platts assessments as material is supplied to market.

The quality, delivery location and other specific terms of trade may vary in the physical commodity markets assessed by Platts. This means that simple averages of trades may not produce a representative assessment value of a physically heterogeneous market.

Because of the complex nature of the physical markets, market data typically must be aligned with standard definitions to allow for a fully representative final published assessment. Platts aligns data collected through an analysis of the physical markets with
its standard assessment specifications through a process called normalization.

Normalization is an essential price adjustment technique used to align reported market information to the base standard reflected in Platts price assessments.

Platts establishes the level of normalization by surveying markets and observing the economic impact of variance from the base standard. This is done by analyzing freight rates (for locational differences), quality premiums (for quality differences), the movements of all markets through time (for time differences) and other premiums associated with the size of trades and delivery terms.

Normalization for time may be done by analyzing movement in a related market observed through time, and that movement may provide a basis by which to align market value of an earlier reported bid, offer or transaction to market value at the MOC close. The alignment for time is essential to ensure that Platts price assessments reflect the prevailing value of a market at the close of the MOC process.

Prioritizing data

Transparency underpins Platts assessment process, just as it does Platts data publishing processes. Platts assessment process considers firm bids, firm offers and arms-length transactions that are transparent and open to sufficient, credible counterparties. Bids, offers or transactions that are not transparent may not be considered in the assessment process; bids above transparent offers or offers below transparent bids are not considered in the assessment process. Platts considers changes to bids or offers when those changes are made transparently and in normal increments.

When determining a final market assessment, Platts gives the greatest priority to fully verifiable and transparent market information. A firm bid or offer that has been published by Platts in accord with its data publishing standards, as outlined in part 1 above, and which still stands open to the marketplace at the close of the assessment process, will establish clear parameters for Platts final published assessments. Platts will typically assess market value between the best firm bid and best firm offer open to the market at the close. This ensures that Platts assessments reflect the transactable value at the close.

Completed, transparent transactions that are fully published by Platts are important in helping establish where trading interest prevails in the market, and may help determine where, in a bid/offer spread, Platts may assess value for publication.

Firm bids and offers that are available to the entire market may take precedence over trades that have been concluded earlier in the assessment process when establishing the value of the market, particularly if bids are available at the close above previously traded levels, or offers are available to the market below previously traded levels. Value is a function of time.

Similarly, firm bids and offers that are available to the entire market may take precedence over transactional activity reported to Platts after completion.

The level of each bid or offer must stand firm in the marketplace long enough for any counterparty to transact; otherwise the bid or offer may be deemed non-executable. Platts may not consider bids, offers or transactions that are the result of market gapping. Gapping occurs when a bid and an offer are more than one increment apart and a trade occurs. Platts will analyse and evaluate such trades for their representative value. They may not be fully reflected in the final assessment.

Platts assessment guidelines are designed to avoid any distortion of the final price assessment and so inputs that are not verifiable and "one-off" or unrepeatable transactions may be disregarded from the price assessment process.

Single transactions may be a reflection of market value. However single transactions need to be measured against the broad span of similar transactions. If for instance a buyer decides to trade an offer but is unwilling to buy more material offered at the same level if the seller reoffers it would be determined that the buyer failed the repeatability test. Equally if the seller does not reoffer, the seller fails the repeatability test. As such the transaction may not be fully reflected in the price assessment.

Similarly, Platts may not publish bids or offers that are provided through untested price levels. When transactions are concluded at levels that have not been fully tested by the market because price changes have been non incremental, Platts may determine that actual market value is between the last incremental bid and the transaction at the gapped level.

When no bid, offer or transaction data exists, Platts may consider other verifiable data reported and published through the day, including fully and partially confirmed trades, notional trading values and other market information as provided for publication. Platts may observe direct market activity as well as the effect of movements in related markets through spread differentials or blending and shipping economics, for example.

Platts takes into account representative transactions executed at arms-length in the open market occurring during the trading day, up to the close, and additionally taking into account bid and offer information submitted during this period. Platts editors may require direct verification from the principals to a reported bid, offer or deal when communicated through a third party, including a broker.

Assessment Calculations

Units of measurement

Platts publishes its assessments reflecting the currencies and units of measurement in which the products typically trade.

Commodities are generally internationally traded in US dollars, and Platts assessments are typically published in that currency as a result. Certain markets, such as regional markets, trade...
Methodology and specifications guide | Asia-Pacific petrochemicals: April 2019

using local currency. Platts assesses the value of such markets as appropriate in local currency.

Commodities typically trade in volumetric or energy units, and Platts assessments for these markets reflect common practice in each market. The units and unit range considered for each individual Platts assessment of a physical market is described in the specification guide for each commodity.

In certain cases Platts converts its assessments to other currencies or units of measurement to allow for ease of comparison or analysis in regional markets. Such conversions are done using exchange rates published regionally. Conversion factors are described in the specifications guide for each commodity alongside individual assessment codes.

Use of judgment
Judgment guidelines promote consistency and transparency and are systematically applied by Platts. Where judgment is exercised, all information available is critically analyzed and synthesized. The various possibilities are critically analyzed and are systematically applied by Platts. Where judgment is subject to review by Platts editorial management for adherence to the standards published in Platts methodologies.

Platts reporters follow specific methodology when exercising judgment during their assessment process. Platts editors apply judgment when determining (1) whether information is suitable for publication, (2) when and how to normalize data and (3) where to assess final value. All such judgment is subject to review by Platts editorial management for adherence to the standards published in Platts methodologies.

Judgment may be applied when analyzing transactional data to determine if it meets Platts standards for publication; judgment may also be applied when normalizing values to reflect differences in time, location, and other trading terms when comparing transactional data to the base standard reflected in Platts assessments.

To ensure all assessments are as robust as possible, Platts editorial systems are backed by a strong corporate structure that includes managerial and compliance oversight.

An evaluation process is conducted before publication on every benchmark assessment by a competent peer or manager. The price assessments are reviewed and the exercise of judgment is further discussed and verified during this process. Finally, assessments that are used as benchmarks are supported by assessment rationales. These rationales explain the application of judgment and are published together with the relevant price assessment, offering full transparency to the market.

To ensure the consistent exercise of discretion, Platts ensures that reporters are trained and regularly assessed in their own and each other’s markets. Platts manages and maintains internal training guides for each of the different products assessed which aim to ensure Platts price assessments are produced consistently.

Every assessment of a benchmark, including the use of discretion, is reviewed and approved by a competent peer or manager prior to publication.

Reporters are trained to identify potentially anomalous data. Platts defines anomalous data as any information, including transactions, which is inconsistent with or deviates from our methodology or standard market conventions.

As a publisher owned by S&P Global, independence and impartiality are at the heart of what Platts does. Platts has no financial interest in the price of the products or commodities on which it reports. Platts aims to reflect where the actual market level is.

Platts focuses primarily on assessing the value of a commodity trading in the spot market. A spot price for a physical commodity is the value at which a standard, repeatable transaction for merchantable material takes place, or could take place, in the open market at arms’ length. Platts spot price assessments reflect this value at precisely the close of the assessment process.

Platts overall objective is to reflect the transactable value of the commodity assessed. In cases where the apparent value of the commodity includes extra optionalities, the intrinsic value of the commodity may be masked. In such cases, Platts reporters may use judgment to normalize bids, offers or transactions with such extraneous elements to the base market standard, or may exclude them altogether. Optionalities that may mask the value of the commodity include but are not limited to loading or delivery options held by the buyer or seller, size option tolerances exercisable by the buyer or seller, or quality specifications.

Outright, differential and spread prices
Platts assesses the outright value of a commodity, as well as differentials when it trades with reference to a benchmark. Platts analyzes all data collected and published by Platts throughout the day. Final assessments are above firm bids, and below firm offers, that stand at the close of the Market on Close assessment process. This is true for outright values and differentials.

Platts physical price assessments use a variety of inputs, including outright price bids/offers, floating price bids/offers, spread price bids/offers (including EFPS, EFSs etc.) and combinations of fixed and floating prices. Platts’ objective is to assess the prevailing tradable outright price of the commodity at the close of the market assessment period. In the event of an observed conflict between outright values and differentials or spreads, outright values prevail in Platts final published assessments.

Platts establishes the hedgable, outright value of floating and spread price indications by applying them to the observable, prevailing value of underlying relevant derivatives instruments. In the event of conflicts observed between the outright values derived from floating and spread prices with different underlying references, Platts takes into account considerations that include the relative liquidity of each relevant derivatives market, and the typicality of a given spread or floating price, when exercising judgement around whether to prioritize one particular floating price or spread over another.
Platts may publish bids, offers and trades with atypical pricing terms, including benchmark bases and timing. Market information with atypical pricing inherently differs in value from the typical and commonly observable information in the market.

Bids and offers which are deemed as atypical relative to the market may not be fully taken into consideration for the assessment process. In the absence of an associated, liquid derivative instrument atypical pricing bases may be difficult or impossible to evaluate on an outright price equivalent.

Such bids/offers or transactions would be at best indicators of an overall market condition but they would not be seen as exact indicators of market price.

**Timing**

Platts produces time-sensitive assessments that reflect the value of the markets it covers precisely at the close of the price assessment process in each region. By providing clear timestamps for every region the Platts assessment process is designed to provide price assessments that properly reflect outright and spread value.

As an example, gasoline has a value, naphtha has a value and the gasoline versus naphtha spread has a value, and all three match when measured at the same time. By contrast, a system of averages can lead to distortions in the gasoline versus naphtha spread if the distribution of deals done for gasoline and naphtha differs over the averaging period. Thus if gasoline trades actively at the beginning of the assessment period and naphtha trades actively at the end of the assessment period in a rising market, the assessed spread value resulting from an averaging process will not be reflective of actual market value. This distortion can arise even if the value of spread trades in their own right has remained constant. The MOC approach drastically reduces the possibility of such distortions.

Assessments reflect typical loading and delivery schedules for each market assessed. The standard loading and delivery periods are included in the individual specifications guide for each commodity.

**Market structure**

Market structure, such as backwardation and contango, is also factored into the Platts assessment process. If a company offers a parcel loading 15 days forward, the offer may provide market information for the Platts assessment for parcels loading 15 days forward. Platts would still need to assess days 16 through 30 (in a 15-30 day market) and publish an assessment that reflects market value 15-30 days forward ahead of the day of assessment.

**Outright and floating price information**

The three main factors used in the commodities markets for price determination are:

- **Outright price**
- **Differentials**
- **Derivatives**

These three factors — outright price, premiums and derivatives — converge in a spot price. Platts may use all three in its assessments.

**Outright price**

The ultimate question in the mind of an end-user, producer, trader or broker is price. Outright prices are the simple statement of a price at which something can be bought or sold, with the entire value stated — for example, an offer of a cargo of iron ore at $100/mt. Price in turn determines expense, processing margin, profit, loss, etc. The spot market trades actively on an outright price basis and a floating price basis. Platts takes both into account in its assessments. Platts will publish activity on both a fixed and floating basis.

**Differentials**

Many transactions are carried out in relation to a benchmark. In this case a differential, also known as a
premium/discount is generated. Differentials can arise if the quality, volumes or loading times for a given transaction differ from the benchmark. In addition, floating price transactions are done in relation to assessments that will be published in the future – for example, a bid for a cargo at $10/mt above the Platts assessment of that same commodity, as published immediately before, during and after delivery of the cargo. Premiums usually rise when the market’s backwardation steepens, and the steeper the curve, the greater the premium. In a contango situation, premiums have a tendency to turn into discounts.

**Derivatives:** Derivatives are a major determinant in price; they trade frequently and throughout the day. These markets are very reactive and may provide market participants with timely information on market conditions. They can react to arbitrage conditions or movements in overseas markets as well as local conditions. Derivatives may allow companies to adapt their price exposure because they enable market participants to transform floating prices to fixed or fixed to floating.

**PART IV: PLATT’S EDITORIAL STANDARDS**

All Platts employees must adhere to the S&P Global Code of Business Ethics (COBE), which has to be signed annually. The COBE reflects S&P Global’s commitment to integrity, honesty and acting in good faith in all its dealings.

In addition, Platts requires that all employees attest annually that they do not have any personal relationships or personal financial interests that may influence or be perceived to influence or interfere with their ability to perform their jobs in an objective, impartial and effective manner.

Market reporters and editors are mandated to ensure adherence to published methodologies as well as internal standards that require accurate records are kept in order to document their work.

Platts has a Compliance function that is independent of the editorial group. The Compliance team is responsible for ensuring the quality and adherence to Platts policies, standards, processes and procedures. The Compliance team conduct regular assessments of editorial operations, including checks for adherence to published methodologies.

S&P Global Platts appoints an independent, external auditor with appropriate experience and capability to review and report on its adherence to this stated methodology. The annual report is published online at [https://www.platts.com/regulatory-engagement](https://www.platts.com/regulatory-engagement).

**PART VI: REQUESTS FOR CLARIFICATIONS OF DATA AND COMPLAINTS**

Platts strives to provide critical information of the highest standards, to facilitate greater transparency and efficiency in physical commodity markets.

Platts customers raise questions about our methodologies and the approach we take in our price assessments, proposed methodology changes and other editorial decisions in relation to our price assessments. These interactions are strongly valued by Platts and we encourage dialog concerning any questions a customer or market stakeholder may have.

However, Platts recognizes that occasionally customers may not be satisfied with responses received or the services provided by Platts and wish to escalate matters. Full information about how to contact Platts to request clarification around an assessment, or make a complaint, is available on our website, at: [http://www.platts.com/ContactUs/Complaints](http://www.platts.com/ContactUs/Complaints).

Platts is committed to promptly correcting any material errors. When corrections are made, they are limited to corrections to data that was available when the assessment was calculated.
### PART VII: DEFINITIONS OF THE TRADING LOCATIONS FOR WHICH PLATTS PUBLISHES DAILY INDEXES OR ASSESSMENTS

The following specifications guide contains the primary specifications and methodologies for Platts petrochemical assessments throughout the Asia Pacific region. The various components of this guide are designed to give Platts subscribers as much information as possible about a wide range of methodology and specification issues.

This methodology is current at the time of publication. Platts may issue further updates and enhancements to this methodology and will announce these to subscribers through its usual publications of record. Such updates will be included in the next version of the methodology. Platts editorial staff and managers will usually be ready to provide guidance when assessment issues require clarification.

#### OLEFINS

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Olefin Specifications

**Olefins**

**Ethylene (C2)**

**Assessment window:** Daily assessments CFR Northeast Asia and CFR Southeast Asia, based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT). Weekly assessments FOB Korea, based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Fridays. Weekly averages of daily assessments CFR Northeast Asia and CFR Southeast Asia are published on Fridays.

**Timing:** Cargoes loaded (FOB) or delivered (CFR) 20-40 days forward from date of publication.

**Basis and locations:** FOB Korea: Daesan, Ulsan, Yeosu; CFR Southeast Asia: Indonesia (Merak), Philippines (Manila Bay anchorage, barge cost not included), Thailand (Map Ta Phut); Malaysia (Pasir Gudang, Kertih); CFR Northeast Asia: Korea (Daesan, Ulsan, Yeosu), Taiwan (Kaohsiung, Mailiao), Japan (Mizushima, Chiba, Tokuyama, Kashima, Ube, Oita, Yokkaichi, Kawasaki); China (Shanghai, Ningbo, Nantong)

**Cargo size:** 2,500-3,500 mt.

**Terms and conditions:** FOB Korea, CFR Northeast Asia and CFR Southeast Asia are assessed up to 30 days. For deals with usance of greater than 30 days, the value of the extra credit allowance will be factored out for price assessment.

**Quality specifications:** Minimum purity of 99.9%.

**Propylene (C3)**

**Assessment window:** Daily assessments FOB Korea and CFR China, based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT). Weekly assessments CFR Taiwan, CFR Southeast Asia and FOB Japan, based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Fridays. Weekly averages of daily assessments FOB Korea and CFR China are published on Fridays.

**Timing:** Cargoes loaded (FOB) or delivered (CFR) 20-40 days forward from date of publication. China domestic: 0-10 days from date of publication

**Basis and locations:** FOB Korea: Daesan, Onsan, Ulsan, Yeosu; CFR Taiwan: Kaohsiung, Keelung, Mailiao, Taichung; CFR
Southeast Asia: Indonesia (Merak, Batam, Surabaya), Philippines (Manila Bay anchorage, barge cost not included), Malaysia (Kertih, Kuantan, Pasir Gudang, Port Dickson), Singapore, Thailand (Bangkok, Sri Racha, Map Ta Phut); CFR China: Shanghai, Ningbo, Nantong; FOB Japan: Mizushima, Chiba, Tokuyama, Kashima, Ube, Oita, Yokkaichi, Kawasaki.

Cargo size: Standard pressurized cargoes of 1,500 mt. Larger refrigerated cargoes may be normalized to equivalent pressurized cargo prices. China domestic: 100-500 mt

Terms and conditions: FOB Korea, CFR Taiwan, CFR Southeast Asia and CFR China are assessed up to LC 30 days. For deals with usance of greater than 30 days, the value of the extra credit allowance will be factored out for price assessment. China domestic: Assessed at-sight basis with cash payment. Daily China domestic price in Yuan/mt is ex-tank basis inclusive of 16% value added tax.

Quality specifications: Polymer grade with minimum purity of 99.6%.

Butadiene (C4)

Assessment window: Daily assessments FOB Korea, CFR China, and CFR Northeast Asia are based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT). Weekly assessments CFR Taiwan and CFR Southeast Asia are based on the latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Fridays. Weekly averages of FOB Korea, CFR China and CFR Northeast Asia are published on Fridays.

Timing: Cargoes loaded (FOB) or delivered (CFR) 20-40 days forward from date of publication.

Basis and locations: FOB Korea and CFR Northeast Asia: Daesan, Ulsan, Yeosu; Japan (Mizushima, Chiba, Tokuyama, Kashima, Ube, Oita, Yokkaichi, Kawasaki); CFR Taiwan: Mailiao, Kaohsiung; CFR Southeast Asia: Indonesia (Merak); Thailand (Map Ta Phut, Rayong); Malaysia (Penang); CFR China: Nantong, Tianjin, Dalian, Shanghai, Ningbo, Guangzhou.


Terms and conditions: FOB Korea, CFR Taiwan, CFR Southeast Asia, CFR Northeast Asia and CFR China are assessed as of 90 days credit. For deals with usance greater or less than 90 days, the value of the credit will be factored out for price assessment. China domestic ex-tank assessments include 16% value added tax.

Quality specifications: Fiber grade with minimum purity of 99.8%.

Monoethylene Glycol (MEG)

Assessment window: Daily assessments CFR China and China domestic price, based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT). Weekly assessments CFR Southeast Asia, based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Fridays. Weekly average of daily CFR China assessments, published on Friday. Nominated contract prices basis CFR Asia are published on Friday.

Timing: CFR China, CFR Southeast Asia cargoes delivered 15-30 days forward from date of publication. China domestic cargoes to be loaded 0-10 days forward from date of publication.

Basis and locations: CFR Southeast Asia: Malaysia (Port Klang), Thailand (Map Ta Phut, Bangkok); CFR China: Taicang, Jiangyin, Nantong, Ningbo, Zhangjiagang; China domestic: Ex-tank Nantong, Taicang, Jiangyin, Zhangjiagang.

Cargo size: CFR China, CFR Southeast Asia: 1,000 mt. China Domestic: 50-100 mt. Terms and conditions: CFR Southeast Asia and CFR China are assessed as of 90 days credit. For deals with usance greater or less than 90 days, the value of the credit will be factored out for price assessment. China domestic ex-tank assessments include 16% value added tax.

Standard operation procedures: Market participants should specify for a half-month date range at the time of submitting a bid or offer for publication. The buyer is to declare delivery port 15 days prior to the first day of the delivery period. The seller is to nominate the vessel 10 days prior to the first day of the delivery laycan.

Quality specifications: Fiber grade with minimum purity of 99.8%.
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### Styrene Monomer

| FOB Korea Marker         | USD AAMF00 AA45603 AAMF000 | Spot | FOB | South Korea | 3rd & 4th half-month cycles. | 2,000 | 2,000 MT | 22.04 | 215 | 436   |
| FOB Korea W2             | USD AAMF01                  | Spot | FOB | Anytime during that half-month | 2,000 | 2,000 MT | 22.04 | 215 |       |
| FOB Korea W3             | USD AAMF02                  | Spot | FOB | Anytime during that half-month | 2,000 | 2,000 MT | 22.04 | 215 |       |
| FOB Korea W4             | USD AAMF03                  | Spot | FOB | Anytime during that half-month | 2,000 | 2,000 MT | 22.04 | 215 |       |
| FOB Korea W5             | USD AAMF04                  | Spot | FOB | Anytime during that half-month | 2,000 | 2,000 MT | 22.04 | 215 |       |
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### AROMATICS

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<th>DELIVERY PERIOD</th>
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### Methanol

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### Benzene

**Assessment window:** Daily assessments of FOB Korea, CFR China, FOB Southeast Asia and China domestic ex-tank prices, based on latest information sourced from the market up to close of the assessment window at 4:30 pm Singapore time (0830 GMT). Weekly assessments basis CFR Taiwan, up to close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Fridays. Weekly averages of daily assessments FOB Korea, CFR China, FOB Southeast Asia and China domestic ex-tank are published on Fridays.

**Timing:** Daily assessments FOB Korea evaluate cargoes for loading in second, third, fourth, fifth and sixth half-month laycans. We do not assess the prompt first-half laycan. Each half-month assessment laycan covers 13, 14, 15 or 16 days (if a 28, 29, 30 or 31-day month). Half-month laycans are rolled forward on the 1st and 16th day of each calendar month. For example, on March 1, the half-month laycans assessed would be H2 March, H1 April, H2 April, H1 May, and H2 May. The daily FOB Korea marker averages the third, fourth and fifth half-month forward assessments. Daily price differentials (premium/discount) basis FOB Southeast Asia relative to daily assessments FOB Korea are published for second, third and fourth loading half-month laycans. The daily marker FOB Southeast Asia is calculated using the FOB Korea marker plus averaged differentials to FOB Korea assessments for the respective third and fourth half-month laycans. Daily assessments CFR China evaluate cargoes for delivery in third, fourth, fifth and sixth half-month cycles. The daily CFR China marker averages the third and fourth half-month assessments (first and second half-month published assessment cycle). East China prompt domestic assessments cover parcels to be loaded up to 10 days forward from date of publication. East China Domestic Bai-M1 marker will reflect prices of cargoes in Yuan loaded within the current calendar month on the date of publication.
publication, East China Domestic M2 marker will reflect prices of cargoes in Yuan loaded within the second calendar month from date of publication. The daily East China marker averages the prompt, bal-M1 and M2 East China domestic assessments. The East China import parity equivalent is calculated by factoring in the prevailing value added tax rate, standard import duties, and the USD/Yuan central parity exchange rate. Weekly assessments basis CFR Taiwan evaluate cargoes delivered 20-40 days forward from date of publication.

**Basis and locations:** FOB Korea: Onsan, Ulsan, Yeosu loaded from big berths able to accommodate MR (Medium Range)-sized vessels. Platts will normalize bids/offers/trades which include Daesan/Incheon ports, CFR China: Caojing, Ningbo, Jiangyin, Changzhou. CFR Taiwan: Kachsiu, Keelung, Malliao; FOB Southeast Asia: Singapore, Thailand (Map Ta Phut), Malaysia (Pasir Gudang), Indonesia (Tuban), Domestic China: ex-tank Jiangyin and Changzhou. Producer contract price nominations and settlements CFR Asia are also published weekly.

**Cargo size:** 3,000 mt. Domestic China: 500-1,000 mt.

**Credit terms:** FOB Korea, FOB SEA, CFR Taiwan are assessed L/C at-sight basis. CFR China is assessed at L/C 90 days, China Domestic is assessed at-sight basis with cash payment. For deals with non-standard usance, the value of the extra credit allowance will be factored out for price assessment.

**Quality specifications:** Conforming to latest edition of international standard ASTM D-2359.

**Standard operational procedure (FOB Korea):** Buyer to declare half-month of loading by 10th of preceding month. Seller to declare load port 15 days prior to the first day of the declared half-month laycan. Buyer to declare 5-day loading laycan 10 days prior to the first day of the half-month laycan. Buyer to nominate vessel 10 days prior to the first day of the 5-day loading laycan. Buyer to open irrevocable L/C at sight 7 days prior to the first day of the laycan.

(Please also refer to Platts methodology documents; [http://www.platts.com/methodology-specifications/petrochemicals](http://www.platts.com/methodology-specifications/petrochemicals)).

### Benzene Paper Swaps

**Basis:** Platts assesses swaps for benzene FOB Korea.

**Volume:** The assessed trading volume is a standard 1,000 mt.

### Benzene Sinopec Listed Price

**Basis:** Platts publishes the industry-settled contract price of benzene in East China by China Petroleum & Chemical Corporation, or Sinopec.

### Toluene

**Assessment window:** Daily assessments FOB Korea L/C at sight and CFR China assessments corresponding to L/C 0-30 days and CFR China L/C 90 days and domestic China ex-tank based on latest information sourced from the market up to close of the assessment window at 4:30 pm Singapore time (0830 GMT). Weekly assessments FOB Southeast Asia, CFR Southeast Asia, CFR India and CFR Taiwan, up to close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Fridays, all corresponding to an L/C 30 days basis. Weekly averages of daily assessments FOB Korea L/C at sight and CFR China L/C 0-30 days and CFR China L/C 90 days are published on Fridays.

**Timing:** Daily assessments FOB Korea L/C at sight and CFR China L/C 0-30 days and CFR China L/C 90 days evaluate cargoes for loading in second, third, fourth, fifth and sixth half-month laycans. We do not assess the prompt first-half laycan. Each half-month assessment laycan covers 13, 14, 15 or 16 days (if a 28, 29, 30 or 31-day month). All half-month laycans are rolled forward on the 1st and 16th day of each calendar month. For example, on March 1, the half-month laycans assessed would be H2 March, H1 April, H2 April, H1 May, and H2 May. The daily FOB Korea marker averages the third and fourth half-month assessment ranges. The daily CFR China L/C 0-30 days and CFR China L/C 90 days averages the third and fourth half-month assessment ranges. Weekly assessments basis CFR Taiwan, CFR Southeast Asia and CFR India evaluate cargoes to be delivered 20-40 days forward from date of publication. Weekly assessments basis FOB Southeast Asia evaluate cargoes to be loaded 20-40 days forward from date of publication, China Domestic: Parcels to be loaded up to 10 days forward from date of publication.

**Basis and locations:** FOB Korea: Daesan, Ulsan, Yeosu; CFR China L/C 0-30 days and CFR China L/C 90 days: Dongguan, Jiangyin, Nanjing, Nansha, Ningbo, Shanghai, Zhangjiagang, Zhenjiang, CFR Taiwan: Kaohsiung, Keelung, Malliao; FOB Southeast Asia: Singapore, Malaysia (Pasir Gudang), Indonesia (Merak); CFR Southeast Asia: Malaysia (Port Klang), Indonesia (Merak, Surabaya), Philippines (Batangas); CFR India: Kalina, Mumbai and Vizag. China Domestic: Ex-tank Zhangjiagang.

**Cargo size:** FOB Korea, CFR Taiwan, CFR China L/C 0-30 days and CFR China L/C 90 days, CFR India: 2,000 mt; FOB SEA, CFR SEA: 2,000 mt. China Domestic: 50-100 mt. For lots larger than 100 mt, value will be normalized according to market fundamentals.

**Credit terms:** FOB Korea is assessed on an LC at-sight basis. CFR Taiwan, FOB SEA, CFR SEA, CFR India are assessed on L/C 0-30 days credit terms; CFR China L/C 0-30 days is assessed 0-30 days (assessments normalized to the mid-point of 0-30 days) and CFR China L/C 90 days is with 90 days credit; For deals with non-standard usance, the value of the extra credit allowance will be factored out for price assessment. China Domestic is assessed at-sight basis with cash payment.

**Terms and conditions:** Platts assesses toluene cargoes of open origin and may not consider for assessment bids basis FOB Korea which state Korean-origin restriction. Domestic China assessment is inclusive of 16% value added tax.

Standard operational procedure (FOB Korea): Buyer to declare half-month of loading by 10th of preceding month, Seller to declare load port 15 days prior to the first day of the declared half-month laycan. Buyer to declare 5-day loading laycan 10 days prior to the first day of the half-month laycan. Buyer to nominate vessel 10 days prior to the first day of the 5-day loading laycan. Buyer to open irrevocable L/C at sight 7 days prior to the first day of the laycan.

(Please also refer to Platts methodology documents: http://www.platts.com/methodology-specifications/petrochemicals).

Styrene Monomer (SM)

Assessment window: Daily assessments FOB Korea, CFR China, CFR Taiwan and China domestic ex-tank based on latest information sourced from the market up to close of the assessment window at 4:30 pm Singapore time (0830 GMT). Weekly assessments CFR Southeast Asia and CFR India up to close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Fridays. Weekly averages of daily assessments FOB Korea, CFR China and CFR Taiwan are published on Fridays.

Timing: Daily assessments FOB Korea evaluate cargoes for loading in second, third, fourth, fifth and sixth half-month laycans. We do not assess the prompt first-half laycan. Each half-month assessment laycan covers 13, 14, 15 or 16 days (if a 28, 29, 30 or 31-day month). All half-month laycans are rolled forward on the 1st and 16th day of each calendar month. For example, on March 1, 2017, the half-month laycans assessed would be H2 March, H1 April, H2 April, H1 May and H2 May. Daily assessments CFR China evaluate cargoes for delivery in second, third, fourth, fifth and sixth half-month laycans. Daily FOB Korea and CFR China markers average the second and third half-month assessment. Daily marker assessments CFR Taiwan are assessed 20-40 days forward. Weekly assessments basis CFR Southeast Asia and CFR India evaluate cargoes to be delivered 20-40 days forward from date of publication. East China prompt Domestic assessments cover parcels to be loaded up to 10 days forward from date of publication. East China Domestic Bai-M1 marker will reflect prices of cargoes in Yuan loaded within the current calendar month on the date of publication. East China Domestic M2 marker will reflect prices of cargoes in Yuan loaded within the second calendar month from date of publication.

Basis and locations: FOB Korea: Daesan, Ulsan, Yeosu; CFR China: Jiangyin, Nantong, Ningbo, Zhangjiagang; CFR Taiwan: Kaohsiung, Mailiao, Anping (in the absence of deals, CFR Taiwan would reflect price information, adjacent market activity reported to Platts throughout the day, and values for all reported trades normalized to reflect the prevailing value of the market at 4:30 pm Singapore time (0830 GMT), allowing for freight costs; CFR Southeast Asia: Map Ta Phut, Manila Bay (anchorage, barge cost not included); CFR India: Mumbai, Vizag; China Domestic: Ex-tank Zhangjiagang, Jiangyin and Changzhou.

Cargo size: CFR China: 2,000-3,000 mt. FOB Korea: 2,000 mt. China Domestic: 500-1000 mt.

Credit terms: FOB Korea is assessed L/C at-sight basis; CFR China is assessed at L/C 90 days; CFR Taiwan is assessed at L/C 30 days; CFR India and CFR SEA are assessed at L/C 30 days; China Domestic is assessed at-sight basis with cash payment. For deals with non-standard usance, the value of the extra credit allowance will be factored out for price assessment, based on prevailing interest rates calculated using the London Interbank Offered Rate (LIBOR) + 1.5%.

Terms and conditions: Platts assesses styrene monomer cargoes of open origin. Domestic China assessment is inclusive of prevailing value added tax rate.


Standard operational procedure (FOB Korea): Buyer to declare half-month of loading on the 15th calendar day of the month prior to the month of loading. If the 15th of the month falls on a weekend or a holiday, then the half-month declaration will occur on the nearest business day prior to that weekend or holiday. Seller to declare load port on the 16th of the month for H1 loading in the next month and on the last day of previous month for H2 loading. If the 16th of the month or the last day of the month falls on a weekend, load port declaration will be done on the nearest business day prior to the 16th or the last day of the month. Buyer and seller mutually agree narrowing to a feasible five-day maximum loading laycan. Buyer to nominate vessel 10 days maximum prior to the first day of the laycan.

Standard operational procedure (CFR China and CFR Taiwan): Buyer declares discharge port any time before opening letter of credit. Seller nominates the vessel 10 days prior to the first date of laycan.

(Please also refer to Platts methodology documents: http://www.platts.com/methodology-specifications/petrochemicals).

Isomer-Grade Mixed Xylenes (ISO-MX)

Assessment window: Daily assessments FOB Korea and CFR Taiwan, based on latest information sourced from the market up to close of the assessment window at 4:30 pm Singapore time (0830 GMT). Weekly averages of daily assessments FOB Korea and CFR Taiwan are published on Fridays.

Timing: Daily assessments FOB Korea evaluate cargoes for loading in second, third, fourth and fifth half-month laycans. We do not assess the prompt first-half laycan. Daily assessments CFR Taiwan evaluate cargoes for delivery in second, third, fourth and fifth half-month laycans. Each half-month assessment laycan covers 13, 14, 15 or 16 days (if a 28, 29, 30 or 31-day month). All half-month laycans are rolled forward on the 1st and 16th day of each calendar month. For example, on March 1, the half–month laycans assessed would be H2 March, H1 April, H2 April and H1
May The daily FOB Korea and CFR Taiwan markers average the respective third and fourth half-month assessment ranges.

**Basis and locations:** FOB Korea: Daesan, Ulsan, Yeosu, Incheon; CFR Taiwan: Kaohsiung, Keelung, Mailiao.

**Cargo size:** 3,000 mt.

**Credit terms:** FOB Korea is assessed at L/C 30 days; CFR Taiwan is assessed at L/C 30 days for Asia origin cargoes and L/C 60 days for deep-sea origin cargoes. For deals with non-standard usance, the value of the extra credit allowance will be factored out for price assessment.

**Quality specifications:** Conforming to latest edition of international standard ASTM D-844. Maximum bromine index of 20 parts per million (ppm), maximum ethylbenzene content of 18%, maximum non-aromatics content of 1%, minimum paraxylene content of 18% by wt.

**Standard operational procedure (FOB Korea):** Buyer to declare half-month of loading 15 days prior to the first day of the month. Seller to declare load port 15 days prior to the first day of the declared half-month laycan. Buyer to declare 5-day loading laycan 10 days prior to the first day of the half-month laycan. Buyer to nominate vessel 10 days prior to the first day of the 5-day loading laycan. Buyer to open irrevocable 30-day L/C 7 days prior to the first day of the laycan.

**Standard operational procedure (CFR Taiwan):** Seller declares half-month of delivery 15 days prior to the first day of the month. Buyer declares discharge port 15 days prior to the half-month delivery period. Seller nominates vessel 10 days prior to 1st day of the half-month of delivery. Buyer to open irrevocable L/C no later than 7 days prior to the payment date or first day of the laycan, whichever is earlier. (Please also refer to Platts methodology documents: http://www.platts.com/methodology-specifications/petrochemicals).

**Solvent-Grade Mixed Xylenes (SOL-MX)**

**Assessment window:** Weekly assessments FOB Korea, CFR Southeast Asia, CFR India and CFR China based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Fridays.

**Timing:** Weekly assessments FOB Korea evaluate cargoes to be loaded 20-40 days forward from date of publication. Weekly assessments CFR Southeast Asia, CFR India and CFR China evaluate cargoes to be delivered 20-40 days forward from date of publication.

**Basis and locations:** FOB Korea: Daesan, Ulsan, Yeosu; CFR Southeast Asia: Indonesia (Merak, Surabaya), Malaysia (Port Klang), Vietnam (Ho Chi Minh); CFR China: Zhangjiagang, Jiangyin and Changshu; CFR India: Kandla and Mumbai.

**Cargo size:** 1,000-2,000 mt.

**Terms and conditions:** FOB Korea is assessed on an L/C at sight basis. CFR Southeast Asia is assessed on a 30-day L/C basis. CFR China and CFR India is assessed on a 90-day L/C basis.

**Quality specifications:** Solvent-MX with maximum non-aromatics content of 4%, conforming to international standards and equivalence. Solvent-MX with a lower or higher non-aromatics content than 4% will be normalized back to such a value. (Please also refer to Platts methodology documents: http://www.platts.com/methodology-specifications/petrochemicals).

**Paraxylene (PX)**

**Assessment window:** Daily physical cargo assessments FOB Korea and CFR Taiwan/China based on latest information sourced from the market up to close of the assessment window at 4:30 pm Singapore time (0830 GMT). Weekly assessment CFR Southeast Asia up to close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Fridays. Weekly averages of daily assessments FOB Korea and CFR Taiwan/China are published on Fridays.

**Timing:** Daily assessments FOB Korea evaluate cargoes for loading in second, third, fourth, fifth and sixth half-month laycans. Daily assessments CFR Taiwan/China evaluate cargoes for delivery in second, third, fourth, fifth and sixth half-month laycans. Platts does not assess the prompt first-half laycan for either marker. Each half-month assessment laycan covers 13,14,15 or 16 days (if a 28, 29, 30 or 31-day month). All half-month laycans are rolled forward on the 1st and 16th day of each calendar month. For example, on August 1, the half-month laycans assessed would be H2 August, H1 September, H2 September, H1 October and H2 October. The daily FOB Korea and CFR Taiwan/China markers average the means of the assessed low-high ranges for fourth, fifth and sixth half-month laycan. Weekly assessment CFR Southeast Asia evaluates cargoes to be delivered 20-40 days forward from date of publication.

**Basis and locations:** FOB Korea (Ulsan, Onsan, Daesan, Yeosu); CFR Taiwan/ China (standard Taiwan ports, Ningbo, Dalian); CFR Southeast Asia: Indonesia (Merak, Jakarta), Malaysia (Kuantan), Thailand (Map Ta Phut). The monthly Asian contract price (ACP) settlements and producers’ contract price nominations CFR Asia are also published weekly. When there is no monthly settlement of the ACP, the published value will reflect ‘NA’.

**Cargo size:** 5,000 mt.

**Credit terms:** Terms of payment should reflect standard credit terms as per market practice, as agreed between counterparties.

**Terms and conditions:** Platts assesses bids on CFR Taiwan/ China basis with standard ports of destination at buyer’s option; and offers only at buyer’s option of port location. Platts may not consider for assessment purposes offers and bids of restrictive optionality. This includes, but is not limited to, single

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port destination offers, or bids for delivery into ports/terminals which cannot physically receive vessels above 10,000 dwt. For any-month bids or offers on CFR basis, seller’s optionality over half-month timing is assumed. Platts assesses cargoes of any and all origins in its Asian PX assessments. Country specific bids or trades that do not conform to the norms of trading may be normalized for assessment or may not be considered for publication.

**Quality specifications**: Platts assessment specifications for Asian paraxylene reflect a minimum purity of 99.7%, conforming to international standards and equivalence.

**Standard operational procedure (CFR Taiwan/China)**: On the 15th calendar day of the month prior to the month of delivery, the seller declares half-month of delivery and the buyer declares discharge port. Seller nominates vessel at least 10 days prior to first day of the half month of delivery. Letter of credit or usual payment terms and standards to apply.

**Standard operational procedure (FOB Korea)**: On the 15th calendar day of the month prior to the month of loading, the buyer declares the half-month of loading, and the seller declares the port of loading. Buyer to nominate vessel at least 10 days prior to the first day of the half-month laycan. Buyer to declare 5-day loading laycan 10 days prior to the first day of the half-month laycan. Letter of credit or usual payment terms and standards to apply.

(Please also refer to Platts methodology documents: http://www.platts.com/methodology-specifications/petrochemicals).

**Orthoxylene (OX)**

**Assessment window**: Weekly assessments FOB Korea, CFR Southeast Asia and CFR China based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Fridays.

**Timing**: Weekly assessments FOB Korea evaluate cargoes to be loaded 20-40 days forward from date of publication. Weekly assessments CFR Southeast Asia and CFR China evaluate cargoes to be delivered 20-40 days forward from date of publication.

**Basis and locations**: FOB Korea: Ulsan, Yeosu; CFR Southeast Asia: Singapore, Indonesia, Thailand; CFR China: Zhangjiagang.

**Cargo size**: 2,000-3,000 mt.

**Credit terms**: FOB Korea and CFR Southeast Asia are assessed at 30 days L/C basis. For deals with usance of greater than 30 days, the value of the extra credit allowance will be factored out for price assessment. CFR China is assessed at 90 days L/C basis.

**Quality specifications**: Minimum purity of 98%; maximum non-aromatic content of 0.3%.

(Please also refer to Platts methodology documents: http://www.platts.com/methodology-specifications/petrochemicals).

**Methanol**

**Assessment window**: Daily physical cargo assessments CFR China, CFR Southeast Asia and domestic East China ex-tank assessments based on latest information sourced from the market up to close of the assessment window at 4:30 pm Singapore time (0830 GMT). Domestic East China assessment is inclusive of 16% value added tax plus 5.5% import duties. Weekly assessments basis CFR Korea and CFR Taiwan are based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Fridays. Weekly assessment basis CFR India is based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Wednesdays. Weekly averages of daily assessments CFR China, CFR SEA, and domestic East China ex-tank assessments are published on Fridays.

**Timing**: Daily assessments CFR China evaluate cargoes for delivery 20-50 days forward from date of publication, while CFR Southeast Asia, and weekly assessments CFR Korea, CFR Taiwan, and CFR India evaluate cargoes for delivery 20-40 days forward from date of publication. China domestic: parcels loaded 0-10 days forward from date of publication.

**Basis and locations**: CFR China: Nantong, Taicang, Jingyin, Zhangjiagang, Ningbo; CFR Korea: Ulsan, Yeosu, Pyeongtaek; CFR Taiwan: Mailiao, Kaohsiung, Taichung; CFR Southeast Asia: Indonesia (Jakarta, Merak, Surabaya); Malaysia (Port Klang, Kuantan, Kertih); Singapore; Thailand (Bangkok, Map Ta Phut); CFR India: Kandla, Mumbai, Mangalore, Cochin, China domestic: Ex-tank Nantong, Taicang, Jingyin, Zhangjiagang, Ningbo. Producer contract price nominations: CFR Asia are also published weekly.

**Cargo size**: CFR China: 5,000-10,000 mt; CFR Korea: 3,000-5,000 mt; CFR Taiwan, CFR Southeast Asia: 2,000-5,000 mt; and CFR India: 5,000-10,000 mt. China domestic: 200-500 mt.

**Credit terms**: CFR China assessed at LC 60-90 days credit term. CFR Southeast Asia assessed at LC 30 days credit term. CFR Korea, CFR Taiwan, and CFR India are assessed up to LC 30 days credit terms. China Domestic is assessed at Sight basis with cash payment. For deals with non-standard usance, the value of the extra credit allowance will be factored out for price assessment.

**Quality specifications**: CFR China, CFR Korea, CFR Taiwan, CFR Southeast Asia and CFR India: Minimum purity of 99.85%; maximum water content of 0.1% by total weight; maximum ethanol content of 50 parts per million (ppm). China domestic: Minimum purity of 99.85%; maximum water content of 0.1% by total weight, maximum ethanol content of 100 parts per million (ppm).

(Please also refer to Platts methodology documents: http://www.platts.com/methodology-specifications/petrochemicals).
Gasoline components

MTBE

**Assessment window:** Daily physical cargo assessments are based on the latest information from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT). Daily FOB Singapore assessments reflect “FOB Straits” bids, offers and transactions. For FOB Straits bids and offers, buyers and sellers should not state a specific loadpoint at the point of communication to Platts, and should proceed to nominate loading from one of the locations in Singapore and Malaysia that are already approved for the Platts Market On Close price assessment process. A weekly average of daily assessments FOB Singapore is published on Fridays. The MTBE Market-on-Close assessment process is facilitated through the eWindow technology. For further details please consult the Petrochemicals Timing and Increment Guidelines on www.platts.com.

**Timing:** Cargoes loaded 15-40 days forward from date of publication.

### Basis and locations:

- **FOB Straits.**

### Cargo size:

- 2,000 or 3,000 mt.

### Terms and conditions:

- Terms of payment should reflect standard credit terms as per market practice, as agreed between counterparties.

### Quality specifications:

- Minimum purity of 98%; maximum water content of 1,000 ppm; maximum methanol content of 1.5% by total weight. Maximum sulfur content of 50 ppm.

**MTBE FOB Singapore factor:** The “factor” expresses the ratio between daily MTBE assessments basis FOB Straits and 92 RON gasoline assessments FOB Straits. The factor calculation uses the mean of the low and high of Platts' MTBE and 92 RON cargo assessments respectively. For example, if 92 RON gasoline were assessed at $119.99-120.01/barrel and MTBE were assessed at $1,069-1,071/mt (equivalent to a mean of $126.63/barrel using a standard barrels-to-metric ton conversion rate of 8.45), then a factor of 1.055 would be published (to represent $126.63/barrel divided by $120/barrel). The factor is published daily to three decimal places. 92 RON gasoline and MTBE are assessed daily at 4:30 pm Singapore time (0830 GMT). 92 RON gasoline assessments reflect the value of cargoes loading 15-30 days ahead of publication.

**Standard operational procedure:** Sellers or buyers are to declare the 5-day date range at the time of submitting a bid or offer for publication. 10 days prior to loading, the seller must declare the terminal. 7 days prior to loading, the buyer must nominate the vessel and the buyer must narrow the loading window to 3 days, subject to loading terminal acceptance.

(Please also refer to Platts methodology documents: http://www.platts.com/methodology-specifications/petrochemicals).
## Polymers

### Polyethylene (PE)

<table>
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<tr>
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## POLYMERS

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### Polyvinyl Chloride (PVC)

| Suspension CFR India | USD | AAUWJ00 | AAUWJ03 | Spot | CFR | India | 15-30 days forward from date of publication | 100 | 500 | MT | 262 |
| Suspension CFR China | USD | PHA1X00 | PHABN03 | Spot | CFR | China | 15-30 days forward from date of publication | 100 | 500 | MT | 262 | 462 |
| Suspension CFR Southeast Asia | USD | PHAY00 | PHABD03 | Spot | CFR | Southeast Asia | 15-30 days forward from date of publication | 100 | 500 | MT | 262 | 462 |
| Ethylene-based China Domestic | CNY | AAUHK00 | AAUH03 | Spot | Ex-works | China | 15-30 days forward from date of publication | 100 | 500 | MT | 262 |

### Polystyrene (PS)

| PS G-P CFR China Weekly | USD | PHAIL00 | PHBBM03 | Spot | CFR | China | 15-30 days forward from date of publication | 100 | 500 | MT | 278 | 462 |
| PS G-P CFR SE Asia Weekly | USD | PHAI100 | PHBBL03 | Spot | CFR | Southeast Asia | 15-30 days forward from date of publication | 100 | 500 | MT | 278 | 462 |
| HIPS CFR China Weekly | USD | PHAI00 | PHBBR03 | Spot | CFR | China | 15-30 days forward from date of publication | 100 | 500 | MT | 278 | 462 |
| HIPS CFR SE Asia Weekly | USD | PHAI500 | PHBBQ03 | Spot | CFR | Southeast Asia | 15-30 days forward from date of publication | 100 | 500 | MT | 278 | 462 |
| EPS G-P FOB NE Asia Weekly | USD | AANEV00 | AANEV03 | Spot | FOB | Northeast Asia | 15-30 days forward from date of publication | 100 | 500 | MT | 278 | 462 |
| EPS F-R FOB NE Asia Weekly | USD | AANE600 | AANE603 | Spot | FOB | Northeast Asia | 15-30 days forward from date of publication | 100 | 500 | MT | 278 | 462 |

### Acrylonitrile Butadiene Styrene (ABS)

| ABS Inj CFR China Weekly | USD | PHAL00 | PHBB203 | Spot | CFR | China | 15-30 days forward from date of publication | 100 | 500 | MT | 286 | 462 |
| ABS Inj CFR SE Asia Weekly | USD | PHAL00 | PHBBD03 | Spot | CFR | Southeast Asia | 15-30 days forward from date of publication | 100 | 500 | MT | 286 | 462 |

### Polyethylene Terephthalate (PET)

| PET Bottle Grade FOB NE Asia Weekly | USD | AA59K00 | AA59K03 | Spot | FOB | Northeast Asia | Loading 15-30 days from date of publication | 100 | 500 | MT | 625 |
| PET Bottle Grade FOB SE Asia Weekly | USD | AA59L00 | AA59L03 | Spot | FOB | Southeast Asia | Loading 15-30 days from date of publication | 100 | 500 | MT | 625 |

### Styrene Butadiene Rubber (SBR)

| ESBR 1502 CFR NE Asia | USD | AA5Z904 | AA5Z903 | n/a | Spot | Northeast Asia | 30-60 days forward from date of publication | 16 | 20 | MT | 702 | 704 |
| ESBR 1502 CFR SE Asia | USD | AA5Z904 | AA5Z903 | n/a | Spot | Southeast Asia | 30-60 days forward from date of publication | 16 | 20 | MT | 702 | 704 |
Polymers

Polyethylenes (PE)

Assessment window: Daily assessments of HDPE film grade, LDPE and LLDDPE CFR Far East Asia based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT). Weekly averages of daily assessments film grade HDPE, LDPE and LLDDPE CFR Far East Asia are published on Wednesdays. Weekly assessments for all grades CFR Far East Asia; CFR Southeast Asia, CFR South Asia and domestic China ex-works (in Yuan/mt) based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Wednesdays. Daily Middle East netbacks for LDPE, LLDDPE and HDPE are calculated as Platts CFR Far East Asia assessments minus prevailing container freight rate from Al Jubail to Shanghai. This freight rate is updated weekly.

Timing: Cargoes delivered 15-30 days forward from date of publication.

Basis and locations: China main ports Shanghai, Ningbo, Xiamen, Shenzhen, Huangpu, Guangzhou, Xingang, Qingdao, Shantou and Tianjin; CFR Southeast Asia: Indonesia (Jakarta, Surabaya), Singapore, Philippines (Manila Bay), Malaysia (Port Klang), Thailand (Map Ta Phut, Laem Chabang), Vietnam (Ho Chi Minh); CFR South Asia: India (Kolkata, Chennai, Mumbai, Nhava Sheva), Pakistan (Karachi); East China domestic ex-works: Shanghai, Zhejiang and Jiangsu; FOB Middle East: Al Jubail (freight netback from Shanghai)

Cargo size: 100-500 mt.

Terms and conditions: CFR Far East Asia, CFR South Asia are assessed up to LC 30 days. The metallocene C6 LLDDPE grade is assessed at L/C 30-90 days credit terms. China Domestic is assessed at-sight basis with cash payment. For deals with usance of greater than 30 days, the value of the extra credit allowance will be factored out for price assessment.

Quality specifications:

Low Density Polyethylene: Melt flow index of 0.3-4.0.

Linear Low Density Polyethylene: CFR FEA, CFR SEA.; CFR South Asia: butene grade with melt flow index of 1.0-2.0.

High Density Polyethylene: Injection, blow-moulding, film and yarn grades.

Injection grade: Melt flow index of 2.0-25.0, with the majority of business focused on crate grade material with melt flow index of 5.0-11.0.

Blow moulding: Medium molecular weight with melt flow index of 0.2-0.35.

Film grade: High and medium molecular weight material with melt flow index of 0.07-0.18.

Yarn grade: Melt flow index of 0.7-1.1.

Metallocene C6 LLDDPE : 1-Hexene comonomer with a density of 918-940 kg/m3 with a melt flow index between 1.0-4.5.

Polypropylene (PP)

Assessment window: Daily assessments CFR Far East Asia raffia/injection grade and domestic China ex-works (in Yuan/mt) information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT). Weekly averages of daily assessments PP Injection CFR Far East Asia and PP Raffia CFR Far East Asia are published on Wednesdays. Weekly assessments CFR South Asia based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Wednesdays. China domestic raffia in Yuan/mt is ex-works basis inclusive of the 16% value added tax and 6.5% import duties. Daily Middle East netback are calculated as $0.50/mt. CFR Far East Asia assessments minus prevailing container freight rate from Al Jubail to Shanghai. This freight rate is updated weekly.

Timing: Cargoes delivered 20-45 days forward from date of publication.

Basis and locations: CFR Far East Asia; China main ports (Shanghai, Shenzhen, Ningbo, Shantou, Hong Kong); CFR Southeast Asia; Indonesia (Jakarta, Surabaya), Singapore, Philippines (Manila Bay), Malaysia (Port Klang), Thailand (Bangkok, Laem Chabang, Map Ta Phut), Vietnam (Ho Chi Minh); CFR South Asia; India (Kolkata, Chennai, Mumbai, Nhava Sheva), Pakistan (Karachi); China domestic: Ex-works Huangpu, Jilong, Ningbo, Qingdao, Shanghai, Tianjin, Xiamen, Xingang; FOB Middle East: Al Jubail (freight netback from Shanghai).

Cargo size: 100-500 mt.

Terms and conditions: CFR Far East Asia, CFR Southeast Asia, CFR South Asia are assessed up to LC 30 days. China Domestic is assessed at-sight basis with cash payment. For deals with usance of greater than 30 days, the value of the extra credit allowance will be factored out for price assessment

Quality specifications: Raffia (also known as flat yarn) with melt flow index of 2.0-4.5; homopolymer injection with melt flow index of 11-20; and inflatable film (IPP); biaxially oriented film (BOPP); and block copolymer with melt flow index of 6-20.

Polyvinyl Chloride (PVC)

Assessment window: Weekly assessments CFR China, CFR Southeast Asia and CFR India based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Wednesdays. Weekly China domestic assessments for ethylene and carbide
based ex-works PVC based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Wednesdays. Weekly PVC Middle East netbacks are calculated as Platts CFR China assessments minus prevailing container freight rate from Al Jubail to Shanghai. This freight rate is updated weekly.

**Timing:** Cargoes delivered 15-30 days forward from date of publication.

**Basis and locations:** CFR China: Shanghai, Dalian, Nanjing, Shantou, Guangzhou, Shenzhen, Nantong, Ningbo, Jiangyin, Zuhai, Zhenjiang, Zhangjiagang, Hong Kong; CFR Southeast Asia: Indonesia, Singapore, Philippines, Malaysia, Thailand, Vietnam; CFR India: Nhava Sheva, Kolkata, Chennai, Mumbai; Domestic China: Shanghai, Zhejiang, Jiangsu, Shandong, Hebei, Tianjin, Guangdong, Fujian.

**Cargo size:** 100-500 mt.

**Terms and conditions:** CFR China and CFR Southeast Asia are assessed up to LC 30 days. For deals with usance of greater than 30 days, the value of the extra credit allowance will be factored out for price assessment. Domestic China is assessed at sight basis with cash payment.

**Quality specifications:** Suspension grade with K value of 66-68 (SG 5).

**Acrylonitrile Butadiene Styrene (ABS)**

**Assessment window:** Weekly assessments CFR China and CFR Southeast Asia based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Wednesdays.

**Timing:** Cargoes delivered 15-30 days forward from date of publication.

**Basis and locations:** CFR China: Shanghai, Dalian, Nanjing, Shantou, Guangzhou, Shenzhen, Nantong, Ningbo, Jiangyin, Zuhai, Zhenjiang, Zhangjiagang, Hong Kong; CFR Southeast Asia: Indonesia (Jakarta, Belawan deli), Singapore, Philippines (Manila Bay), Malaysia (Port Klang), Thailand (Bangkok), Vietnam (Ho Chi Minh).

**Cargo size:** 100-500 mt.

**Terms and conditions:** CFR China and CFR Southeast Asia are assessed up to LC 30 days. For deals with usance of greater than 30 days, the value of the extra credit allowance will be factored out for price assessment.

**Quality specifications:** General-purpose polystyrene (GPPS) grade with melt flow index of 8.0-12.0; high impact polystyrene (HIPS) grade with melt flow index of 3.0-8.0. EPS (expandable polystyrene) general grade and fire retardant grade with a bead size of 0.5-1.3 mm and a density of 10-20 grams per liter (g/l).

**Polystyrene (PS)**

**Assessment window:** Weekly assessments CFR China and CFR Southeast Asia based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Wednesdays. For Expandable polystyrene, weekly assessment FOB Northeast Asia based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Wednesdays.

**Timing:** Cargoes delivered 15-30 days forward from date of publication.

**Basis and locations:** CFR China: Shanghai, Dalian, Nanjing, Shantou, Guangzhou, Shenzhen, Nantong, Ningbo, Jiangyin, Zuhai, Zhenjiang, Zhangjiagang, Hong Kong; CFR Southeast Asia: Indonesia (Jakarta, Belawan deli), Singapore, Philippines (Manila Bay), Malaysia (Port Klang), Thailand (Bangkok), Vietnam (Ho Chi Minh).

**Cargo size:** 100-500 mt.

**Terms and conditions:** CFR China and CFR Southeast Asia are assessed up to L/C 30 days. For deals with usance of greater than 30 days, the value of the extra credit allowance will be factored out for price assessment.

**Quality specifications:** Injection grade with melt flow index of 10-40.

**Polyethylene Terephthalate (PET)**

**Assessment window:** Assessments are based on the latest information sourced from the market up to the close of the assessment window at 4.30pm Singapore time (0830 GMT) on Wednesday.

**Timing:** Loading 15-30 days from date of publication.

**Basis and Locations:** FOB Northeast Asia: South Korea (Ulsan, Yeosu), China (Jiangyin, Dalian, Zhangzhou, Ningbo, Shanghai), Taiwan (Mailiao, Taoyuan); FOB Southeast Asia: Thailand (Rayong), Malaysia (Port Klang), Indonesia (Cilegon, West Java).

**Standard cargo size:** 100-500 mt.

**Credit terms:** FOB Northeast Asia and FOB Southeast Asia are assessed up to 30 days. For deals with usance of greater than 30 days, the value of the extra credit allowance will be factored out for price assessment.

**Quality Specifications:** Bottle-grade PET, Minimum intrinsic viscosity of 0.76.

**Styrene Butadiene Rubber (SBR)**

**Assessment window:** Weekly assessments CFR Northeast Asia and CFR Southeast Asia based on latest information sourced from the market up to the close of the assessment window at
4:30 pm Singapore time (0830 GMT) on Fridays.

**Timing:** Cargoes delivered 30-60 days forward from date of publication.

**Basis and locations:** CFR Northeast Asia: (Shanghai, Nanjing, Nantong, Qingdao, Tianjin, Guangzhou); South Korea (Busan, Kwangyang, Incheon, Ulsan, Yeosu); CFR Southeast Asia: Singapore, Thailand (Bangkok).

**Cargo size:** Base package of synthetic rubber is 16-20 mt depending on manufacturer.

**Terms and conditions:** CFR Northeast Asia and CFR Southeast Asia are assessed up to 30 days. For deals with usance of greater than 30 days, the value of the extra credit allowance will be factored out for price assessment.

**Quality specifications:** Non-oil extended emulsion SBR (ESBR1502). Mooney viscosity ML 1-4 (100 degrees Celsius (ASTM D 1646) 52 MU), Bound Styrene (ASTM D 5775) 23.5% wt, Organic Acid (ASTM D 5774) 6% wt, Soap (ASTM D 5774) 0.5% wt maximum, Volatile Matter(ASTM D 5668) 0.75% wt maximum, Ash (ASTM D 5667) 0.5% wt maximum.

**Middle East Polymer Netbacks**

Platts publishes Middle East polymer netbacks on a weekly basis for the following resins: LDPE, LLDPE, film-grade HDPE, homopolymer injection grade PP, and PVC. The netbacks for PVC are calculated using CFR China, whilst PP and PE are calculated using Platts CFR Far East Asia assessments, minus the prevailing container freight rate from Al Jubail to Shanghai for a standard 20-foot and 40-foot container. The freight rate is updated weekly. For product specifications and assessment standards, please refer to the Asia polymers section of the Asian Methodology Guide.

For freight methodology, please refer to the shipping methodology document.
### INTERMEDIATES

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<th>LOCATION</th>
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<td>460</td>
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<td>AAUN03</td>
<td>Spot FOB</td>
<td>China</td>
<td>15-30 days forward from date of publication</td>
<td>1000</td>
<td>2000</td>
<td>MT</td>
<td>22.04/174,458</td>
<td>460</td>
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</table>
Intermediates

Normal Butyl Alcohol (NBA)

Assessment window: Weekly assessments CFR China and CFR Southeast Asia based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Thursdays.

Timing: Cargoes delivered 10-30 days forward from date of publication.

Basis and locations: CFR China: Zhangjiagang, Lanshan, Ningbo, Zhenjiang, Zhuhai; CFR Southeast Asia: Indonesia (Merak), Singapore (Jurong Island), Thailand (Map Ta Phut), Vietnam (Ho Chi Minh).

Cargo size: 1,000 mt.

Terms and conditions: CFR China and CFR Southeast Asia are assessed at 90 days. For deals with usance of greater or less than 90 days, the value of the credit will be factored out for price assessment.

Quality specifications: Minimum purity of 99.5%; maximum water content of 0.05%; maximum free water content of 0.05%; maximum colour of 25 Hazen.

2-Ethyl Hexanol (2-EH)

Assessment window: Weekly assessments CFR China and CFR Southeast Asia based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Thursdays.

Timing: Cargoes delivered 10-30 days forward from date of publication.

Basis and locations: CFR China: Shanghai, Huangpu, Ningbo; Shantou, Ningbo, Wenzhou, Tianjin; CFR Southeast Asia: Indonesia (Jakarta), Malaysia (Pasir Gudang, Port Klang), Philippines (Manila), Thailand (Bangkok, Laem Chabang), Vietnam (Ho Chi Minh).

Cargo size: 500-1,000 mt for CFR China; 100-500 mt for CFR SEA.

Terms and conditions: CFR China and CFR Southeast Asia are assessed at 90 days. For deals with usance of greater or less than 90 days, the value of the credit will be factored out for price assessment.

Quality specifications: Minimum purity of 99.5%; maximum water content of 0.05%; maximum free water content of 0.05%; maximum colour of 25 Hazen.

Phthalic Anhydride (PA)

Assessment window: Weekly assessments CFR China and CFR Southeast Asia based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Thursdays.

Timing: Cargoes delivered 10-30 days forward from date of publication.

Basis and Locations: CFR China: Shanghai, Huangpu, Ningbo;
CFR Southeast Asia: Indonesia (Jakarta, Surabaya) Singapore (Jurong Island), Vietnam (Ho Chi Minh); Thailand (Bangkok), Malaysia (Pasir Gudang, Port Klang, Penang), Philippines (Manila).

Cargo size: 500-1,000 mt for CFR China; 100-200 mt for CFR SEA.

Terms and conditions: CFR China and CFR Southeast Asia are assessed at 90 days. For deals with usance of greater or less than 90 days, the value of the credit will be factored out for price assessment.

Quality specifications: Flake grade with minimum purity of 99.5%.

Caprolactam (CPL)

Assessment window: Weekly assessments CFR Far East Asia and CFR Southeast Asia based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Thursdays.

Timing: Cargoes delivered 15-30 days forward from date of publication.

Basis and locations: CFR Far East Asia: China (Ningbo, Lianyungang, Shanghai, Lianshan, Qinhuangdao) Taiwan (Kaohsiung); CFR Southeast Asia: Indonesia (Jakarta), Thailand (Map Ta Phut, Bangkok); CFR South Asia: India (Kandla, Mundra, Mumbai, Cochin).

Cargo size: 1,000-2,000 mt for CFR FEA and SEA, 2,000-3,000 mt for CFR South Asia.

Terms and conditions: CFR Far East Asia, CFR Southeast Asia, and CFR South Asia are assessed up to 30 days. For deals with usance of greater than 30 days, the value of the extra credit allowance will be factored out for price assessment.

Quality specifications: Flake grade with maximum water content of 100 ppm.

Acrylonitrile (ACN)

Assessment window: Weekly assessments CFR Far East Asia, CFR Southeast Asia, and CFR South Asia based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Tuesdays.

Timing: Cargoes delivered up to 30 days forward from date of publication.

Basis and locations: CFR Far East Asia: China (Ningbo, Lianyungang, Shanghai, Lianshan, Qinhuangdao) Taiwan (Kaohsiung); CFR Southeast Asia: Indonesia (Jakarta), Thailand (Map Ta Phut, Bangkok); CFR South Asia: India (Kandla, Mundra, Mumbai, Cochin).

Cargo size: 1,000-2,000 mt for CFR FEA and SEA, 2,000-3,000 mt for CFR South Asia.

Terms and conditions: CFR Far East Asia, CFR Southeast Asia, and CFR South Asia are assessed up to 30 days. For deals with usance of greater than 30 days, the value of the extra credit allowance will be factored out for price assessment.

Quality specifications: Minimum purity of 99.9%.

Purified Terephthalic Acid (PTA)

Assessment window: Daily assessments CFR China and ex-warehouse Chinese domestic assessments based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Fridays.

Timing: Cargoes delivered 15-30 days forward from date of publication. China Domestic cargoes are assessed 10 days forward from date of publication.

Basis and locations: CFR China: Ningbo, Zhangjiajang, Shanghai; CFR Southeast Asia: Indonesia (Merak, Jakarta), Malaysia (Port Klang), Thailand (Laem Chabang), Vietnam (Ho Chi Minh); CFR India: Mumbai.

Cargo size: 1,000 mt for CFR China; 500-2,000 mt for CFR SEA, 1,000-3,000 mt for CFR India, 100-500 mt for domestic China ex-warehouse.

Terms and conditions: CFR China, CFR Southeast Asia and CFR India are assessed at 90 days. For deals with usance of greater or less than 90 days, the value of the credit will be factored out for price assessment. China Domestic is assessed at-sight basis with cash payment. China domestic assessments include 16% value added tax.

Quality specifications: Minimum purity of 95%.

Ethylene Dichloride (EDC)

Assessment window: Weekly assessments CFR Far East Asia and CFR Southeast Asia based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Thursdays.

Timing: Cargoes delivered 20-40 days forward from date of publication.

Basis and locations: CFR Far East Asia: Korea (Daesan, Ulsan, Yeosu); Taiwan (Kaohsiung, Mailiao); Japan (Mizushima, Chiba, Tokuyama, Kashima, Ube, Oita, Yokkaichi, Kawasaki); China (Shanghai, Dalian, Nanjing, Shantou, Guangzhou, Shenzhen, Nantong, Ningbo, Tianjin); CFR Southeast Asia: Indonesia
(Merak), the Philippines (Manila Bay anchorage, barge cost not included), Malaysia (Kertih), Thailand (Map Ta Phut).

**Cargo size:** 3,000-5,000 mt.

**Terms and conditions:** CFR Far East Asia and CFR Southeast Asia are assessed up to 30 days. For deals with usance of greater than 30 days, the value of the extra credit allowance will be factored out for price assessment.

**Quality specifications:** Minimum purity of 99%.

**Vinyl Chloride Monomer (VCM)**

**Assessment window:** Weekly assessments CFR Far East Asia and CFR Southeast Asia based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Thursdays.

**Timing:** Cargoes delivered 15-30 days forward from date of publication.

**Basis and locations:** CFR Far East Asia: Korea (Daesan, Ulsan, Yeosu); Taiwan (Kaohsiung, Mailiao); Japan (Mizushima, Chiba, Tokuyama, Kashima, Ube, Oita, Yokkaichi, Kavisaki); China (Shanghai, Dalian, Nanjing, Shantou, Guangzhou, Shenzhen, Nantong, Ningbo, Tianjin); CFR Southeast Asia: Indonesia (Merak), the Philippines (Manila Bay anchorage, barge cost not included), Malaysia (Kertih), Thailand (Map Ta Phut).

**Cargo size:** 2,000-6,000 mt.

**Terms and conditions:** CFR Far East Asia and CFR Southeast Asia are assessed up to 30 days. For deals with usance of greater than 30 days, the value of the extra credit allowance will be factored out for price assessment.

**Quality specifications:** Minimum purity of 99%.

**Acetic Acid (AA)**

**Assessment window:** Weekly assessments CFR Far East Asia, CFR Southeast Asia, CFR South Asia, FOB China and domestic China ex-tank based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Thursdays.

**Timing:** CFR Far East Asia, CFR Southeast Asia and CFR South Asia evaluate cargoes delivered 15-30 days forward from date of publication. FOB China evaluates cargoes loaded 15-30 days forward from date of publication. China domestic: parcels loaded 0-15 days from date of publication.

**Basis and locations:** CFR Far East Asia: Taiwan (Kaohsiung, Mailiao, Taichung), South Korea (Ulsan); CFR Southeast Asia: Indonesia (Jakarta), Thailand (Bangkok); CFR South Asia: India (Kandla, Mumbai); Domestic China: Ex-tank Jiangyin, Zhangjiagang.

**Cargo size:** 1,000-2,000 mt for CFR China and CFR S Asia; 500-1,000 mt for CFR SEA; 200-500 mt for domestic China.

**Terms and conditions:** CFR China, CFR Southeast Asia, and CFR South Asia are assessed up to 30 days. For domestic east Asia, the loading period used for the assessments will be up to 10 days from the date of publication. The domestic price will be assessed on an at-sight basis with cash payment. For deals with usance of greater than 30 days the value of the extra credit allowance will be factored out for price assessment.

**Quality specifications:** Minimum purity of 99%.

**Vinyl Acetate Monomer (VAM)**

**Assessment window:** Weekly assessments CFR China, CFR Southeast Asia, CFR South Asia and domestic China ex-tank based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Thursdays.

**Timing:** Cargoes delivered 15-30 days forward from date of publication for CFR assessments, and up to 10 days for domestic China.

**Basis and locations:** CFR China: Ningbo, Jiangyin, Nantong, Shanghai, Zhangjiagang; CFR Southeast Asia: Indonesia (Jakarta), Thailand (Bangkok); CFR South Asia: India (Kandla, Mumbai); Domestic China: Ex-tank Jiangyin, Zhangjiagang.

**Cargo size:** 1,000-2,000 mt for CFR China and CFR S Asia; 500-1,000 mt for CFR SEA; 200-500 mt for domestic China.

**Terms and conditions:** CFR China, CFR Southeast Asia, and CFR South Asia are assessed up to 30 days. For domestic east China, the loading period used for the assessments will be up to 10 days from the date of publication. The domestic price will be assessed on an at-sight basis with cash payment. For deals with usance of greater than 30 days the value of the extra credit allowance will be factored out for price assessment.

**Quality specifications:** Minimum purity of 99%.
**SOLVENTS**

### Phenol

**Assessment window:** Weekly assessments CFR China, CFR India and CFR Southeast Asia based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Tuesday.

**Timing:** Cargoes delivered 20-40 days forward from date of publication for CFR China and CFR SEA; cargoes delivered 15-30 days forward from date of publication for CFR India.

**Basis and locations:** CFR China: Ningbo, Shanghai, Zhangjiagang, Huangpu, Dalian; CFR Southeast Asia: Singapore, Thailand (Map Ta Phut); Indonesia (Merak, Gresik), Malaysia (Pasir Gudang, Bintulu); CFR India: JNPT, Kandla, Hazira and Vizag.

**Cargo size:** 1,000-3,000 mt for CFR China; 500-1,000 mt for CFR SEA; 500-2,000 mt for CFR India

**Terms and conditions:** CFR China and CFR Southeast Asia are assessed at L/C 90 days. For deals with usance of greater or less than 90 days, the value of the credit will be factored out for price assessment. CFR India payment terms are by letter of credit 30-90 days, with applicable anti-dumping duty, or ADD, normalized according to Platts standards.

**Quality specifications:** ASTM 2439-96

### Acetone

**Assessment window:** Weekly assessments CFR China, CFR India and CFR Southeast Asia based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Tuesday.

**Timing:** Cargoes delivered 20-40 days forward from date of publication for CFR China and CFR SEA; cargoes delivered 15-30 days forward from date of publication for CFR India.

**Basis and locations:** CFR China: Ningbo, Shanghai, Zhangjiagang, Huangpu, Dalian; CFR Southeast Asia: Singapore, Thailand (Map Ta Phut); Indonesia (Merak, Gresik), Malaysia (Pasir Gudang, Bintulu); CFR India: Mumbai, Kandla, Hazira and Vizag.

**Cargo size:** 1,000-3,000 mt for CFR China; 500-1,000 mt for CFR SEA; 500-1,000 mt for CFR India

**Terms and conditions:** CFR China and CFR Southeast Asia are assessed at L/C 90 days. For deals with usance of greater or less than 90 days, the value of the credit will be factored out for price assessment. CFR India payment terms are by letter of credit 30-90 days, with applicable anti-dumping duty, or ADD, normalized according to Platts standards.

**Quality specifications:** ASTM D329.

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**Solvents**

**Phenol**

### Acetone
CHLOR-ALKALI

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<th>Assessment</th>
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<th>CONTRACT BASIS</th>
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**Chlor-alkali**

**Caustic Soda**

Assessment window: Weekly assessments FOB Northeast Asia, CFR Southeast Asia, and domestic China are based on latest information sourced from the market up to the close of the assessment window at 4:30 pm Singapore time (0830 GMT) on Tuesdays.

Timing: FOB Northeast Asia cargoes loaded 20-40 days forward from date of publication. CFR Southeast Asia cargoes delivered 20-40 days forward from date of publication.

Basis and locations: FOB Northeast Asia: South Korea (Daesan, Ulsan, Yeosu), Taiwan (Kachsiung, Mailiao), Japan (Mizushima, Chiba, Tokuyama, Kashima, Ube, Oita, Yokkaichi, Kawasaki), and China (Shanghai, Dalian, Nanjing, Shantou, Guangzhou, Shenzhen, Nantong, Tianjin, Ningbo). CFR Southeast Asia: Indonesia (Merak), Philippines (Manila), Thailand (Map Ta Phut) and Malaysia (Kertih). Domestic China: Ex-works East China.

Cargo size: 2,000-6,000 mt for FOB NEA and CFR SEA; 100-500 mt for domestic China.

Terms and conditions: FOB Northeast Asia and CFR Southeast Asia are assessed up to L/C 30 days. For deals with usance of greater than 30 days, the value of extra credit allowance will be factored out for price assessment. Domestic China: L/C at sight.

Quality specifications: Assessments typically are for caustic soda solution 50% commercial grade (membrane or diaphragm) for FOB NEA and CFR SEA; caustic soda solution 32% for domestic China.
Liquid (easy) chemicals, gas chemicals, polymers freight


Platts global petrochemical indices

Indices: Platts publishes on a daily basis the following petrochemical indices, which are based on the assessments indicated in parentheses. The indices appear in Platts Petrochemical Alert (PCA) page 900.

- Global Ethylene (CFR NE Asia, FD NWE, FD USG)
- Global Propylene (FOB Korea, FD NWE, FD USG)
- Global Benzene (FOB Korea, CIF ARA, FOB USG)
- Global Toluene (FOB Korea, FOB Rotterdam, FOB USG)
- Global Paraxylene (FOB Korea, FOB Rotterdam, and FOB US Gulf)
- Global Low density polyethylene (CFR N Asia, FD NWE, FAS Houston)
- Global Polypropylene homopolymer (CFR N Asia, FD NWE, FAS Houston)
- Global Petrochemical Index (PGPI) (1)

Weighted averages for each index above by region are as follows:

- Global Ethylene (CFR NE Asia, FD NWE, FD USG), 0.48 Asia, 0.24 for US and 0.28 for Europe.
- Global Propylene (FOB Korea, FD NWE, FD USG), 0.63 Asia, 0.19 for US and 0.17 for Europe.
- Global Benzene (FOB Korea, CIF ARA, FOB USG), 0.67 Asia, 0.13 for US and 0.19 for Europe.
- Global Toluene (FOB Korea, FOB Rotterdam, FOB USG), 0.49 Asia, 0.30 for US and 0.21 for Europe.
- Global Paraxylene (FOB Korea, FOB Rotterdam, and FOB US Gulf), 0.85 Asia, 0.09 for US and 0.06 for Europe.
- Global Low density polyethylene (CFR N Asia, FD NWE, FAS Houston), 0.37 Asia, 0.19 for US and 0.44 for Europe.
- Global Polypropylene homopolymer (CFR N Asia, FD NWE, FAS Houston), 0.64 Asia, 0.14 for US and 0.22 for Europe.

The distribution reflects the relative sizes of the regional markets based on production capacity, as of 2015.

(1) The Platts Global Petrochemical Index (PGPI) is calculated based on the individual global product indices with the following weight distribution: 0.32 ethylene, 0.24 propylene, 0.11 benzene, 0.05 toluene, 0.10 paraxylene, 0.05 LDPE, and 0.14 PP.

Units: USD/mt.
Appendix I

Typical aromatics operations

These practices represent a guideline, but are not Platts specifications. Platts assesses typical practice in each market.

Terms and conditions FOB Korea:

1) Buyer to declare the half month loading by 10th of the preceding month (for benzene and toluene).

Buyer to declare the half month loading by 15 days prior to the first day of the month (for styrene, isomer-MX).

Buyer declares the half-month of loading on the 15th calendar day of the month prior to the month of loading (PX).

Seller declares the port of loading on the 15th calendar day of the month prior to the month of loading (PX).

3) Buyer to declare 5-day loading laycan 10 days prior to the first day of the half-month laycan (for benzene, toluene, styrene, isomer-MX and paraxylene).

4) Buyer to nominate vessel 10 days prior to the first day of the 5-day loading laycan (for benzene, toluene, styrene, isomer-MX and paraxylene).

5) Buyer to open irrevocable L/C at sight 7 days prior to the first day of the laycan (for benzene, toluene, styrene, isomer-MX).

Terms and conditions CFR China/Taiwan:

Seller to declare the half month of delivery by 15 days prior to the first day of the month (for benzene, toluene, styrene, isomer-MX).

Seller declares half-month of delivery on the 15th calendar day of the month prior to the month of delivery (PX).

Buyer declares discharge port on the 15th calendar day of the month prior to the month of delivery (PX).

2) Buyer to declare discharge port 15 days prior to the half-month delivery period or 15 days prior to the first day of the laycan.

3) Seller to nominate vessel 10 days prior to 1st day of the half-month of delivery or 10 days prior to the first day of the laycan.
Methodology and specifications guide  Asia-Pacific petrochemicals: April 2019

REVISION HISTORY


March 2019: [Annual Review] Platts completed an annual read-through of the methodology guide, making general typographical changes.

December 2018: Platts changes CFR China methanol delivery laycan to 20-50 days forward from 20-40 days forward.

December 2018: Platts assesses Asia Benzene Domestic East China marker, Domestic East China Import Parity marker, Sinopac Listed Price.


December 2018: Platts moves Asian chemicals freight methodology and tables to Freight methodology and specifications guide.

October 2018: Platts updates MTBE FOB factor to MTBE FOB Singapore factor.

October 2018: Platts updates cargo size for Styrene Monomer CFR China assessment, from 2,000 mt to 2,000-3,000 mt.

October 2018: Platts launches CFR India assessment for solvent-MX, and revises quality specifications for solvent-MX.

October 2018: Platts changes the methanol CFR India MOC process from Fridays to Wednesdays.


August 2018: Platts updates Chinese VAT from 17% to 16% across all Petchems products with a domestic Chinese assessment.

August 2018: Platts launches domestic east China and Shandong China daily propylene assessments.

August 2018: Platts updates solvent mixed xylenes CFR China ports.

June 2018: Platts assesses domestic East China benzene cargoes for prompt, Mo01 and Mo02 laycans.


May 2018: Platts to independently assess CFR Taiwan styrene monomer.


April 2018: [Annual Review] Added revised parts I-VI. General typographical changes, deletions of repeated text. Removed language related to normalization already included in parts I-VI. Platts revises the weekly Wednesday domestic China PP Raffia assessments to daily assessments on February 1, 2018. Platts adds an extra forward half-month marker laycan to the FOB Korea benzene assessment from January 15, 2018. Platts adds load points in the MTBE FOB Singapore marker to reflect the same loading ports for the Asian Gasoline FOB Straits methodology from January 5, 2018.

January 2018: Platts moves the three half-month marker laycans in the FOB Korea and CFR Taiwan/China paraxylene assessments forward by a half-month, simultaneously removing the prompt half-month laycan from the marker, from January 2, 2018.


October 2017: Platts adds an extra half-month laycan to the Asian paraxylene FOB Korea and CFR Taiwan/China assessments.

August 2017: Updated Asian PX terms and conditions to reflect clarification note that Platts reflects the delivery of PX of any origin in line with market conventions. In addition Platts may not publish indications to trade which are dealing with restrictive conditions particularly for delivery into ports, terminals which cannot receive vessels above 10,000 dwt. Following market feedback, S&P Global Platts has revised the Styrene Monomer standard operational procedures for FOB Korea, CFR China and CFR Taiwan assessments, effective August 17.

July 2017: Platts clarifies that Taiwan and China remain basis locations for the PX CFR Taiwan/China marker.

June 2017: Updated Asian PX terms and conditions to reflect the clarification note that Platts assesses open origin cargoes, and that country-specific bids, offers or trades may be normalised or excluded from the assessment.

half-month laycans have also been clarified and updated. In addition, both easy liquid and gas chemical freight assessment methodologies were added.

**September 2016:** Platts have updated the methodology guide to enhance the clarity and usefulness of all guides, and to introduce greater consistency of layout and structure across all published methodology guides. The guide was also updated to add Asia Toluene CFR China new laycans launch and marker calculation update, Asia Styrene Monomer additional laycans for FOB Korea and CFR China, launch of new CFR India Phenol and CFR India Acetone assessments and PX New Freight assessment.

**March 2016:** Platts have updated the methodology guide to include the updated methodologies for the Global Petrochemical Indices.

**March 2016:** This methodology guide was updated to add a third half-month marker laycan to its daily Asian paraxylene assessments for FOB Korea and CFR Tai-wan/China.

**January 2016:** This methodology guide was updated to remove the Natural Rubber Index, and to include new CFR China assessment for Benzene.

**November 2015:** This methodology guide was updated to amend the timing policies and cargo size for MTBE assessment, and clarification to the specifications of MTBE assessed.

**October 2015:** This methodology guide was updated for clarification and to include new metallocene grade assessments for LLDPE.

**February 2015:** Updates L/C terms for CFR India PTA assessment from 30 days to 90 days.

**August 2014:** Platts revamped all Petrochemical Methodology And Specifications Guides, including its Asia-Pacific Petrochemical guide, in August 2014. This revamp was completed to enhance the clarity and usefulness of all guides, and to introduce greater consistency of layout and structure across all published methodology guides. Methodologies for market coverage were not changed through this revamp, unless specifically noted in the methodology guide itself.