



# Petrochemicals Assessment Methodology

Updated Jul 31 2015

**Modifications to wording in Assessment Methodology**

Some wording in our Assessment Methodology is modified. Further, the quantity for benzene on an FOB Korea basis had been omitted. In view of this, our Assessment Methodology is modified on Jul 31.

## **Relevance of Rim Assessment Methodology**

The purpose of all price assessments in reports issued by Rim Intelligence is to provide an indication to energy market players as to the levels at which transactions can take place so that trades can be done with high transparency and at reasonable prices. To achieve this purpose, we have set up “General Procedures for Price Assessment” as follows, and “Price Assessment Methodology” for each report. Detailed in the “General Procedures for Price Assessment” and “Price Assessment Methodology” for each report are processes and standards that we deem are necessary to achieve the above purpose. By following these processes and standards in making price assessments, we consider our Assessment Methodology to be appropriate.

## **Chapter 1: General Procedures for Price Assessment**

### **Article 1: Purpose of price assessment**

The purpose of all price assessments in our reports is to provide an indication to energy market players as to the levels at which transactions can take place so that trades can be done with high transparency and at reasonable prices.

### **Article 2: Conducting price assessment**

To achieve the purpose outlined in Article 1, we have set up the following guidelines in our “General Procedures for Price Assessment”, and “Price Assessment Methodology” for each report. We follow these guidelines in making price assessments.

- Trades considered for price assessment
- Assessment window
- Priority in price assessment
- Selection of players providing market information
- Method of information gathering
- System of review by supervisor
- Reliability and adequacy of market information
- Policy of maintaining consistency in price assessment
- Trades not considered for price assessment
- Process of regular reviews and amendments to Assessment Methodology
- Changes/Amendments to price assessments
- Quantity
- Reasons for using specific units for quantity (barrel etc.)

### **Article 3: Transactions considered for price assessment**

For each price index, our price assessment is based on quantities, delivery period and areas with the most liquidity. Further, details such as the value and quantity on which the assessment is based, market information which is used as a reference, and other platforms such as the Rim Trading Board and specific markets including trades carried out in Exchanges are included in the methodology of each report.

### **Article 4: Assessment window**

For each price index, the time window considered appropriate for our price assessment is that which is deemed to be the most convenient and effective during trading hours in Asia, including Japan.

### **Article 5: Priority in price assessment**

For each price index, among traded prices in transactions that take place between agreed parties or in other markets, bids and offers, the priority as to which price is considered first for assessment is determined and details are given in the methodology of each report.

**Article 6: Selection of players providing market information**

When selecting players to obtain information from, we take into account the quantity handled and the amount of influence on the market, without any bias towards buyers or sellers. We gather market information from many players including Majors, oil and gas producers, oil companies, traders, dealers and end-users. Each report team determines that there is no bias in the players it obtains information from in terms of area and the type of information they have. Should the player be deemed biased, the reporter and team leader may, after obtaining approval from the president, remove him from the list of players providing market information.

**Article 7: Method of information gathering**

Our reporters possess suitable quality and skill from a fair and neutral standpoint. Reporters carry out information gathering mainly by telephone but also by email and chat. To ensure the credibility of the player from whom information is gathered, the reporter will call the player's company directly to confirm that the player is indeed working for that company.

**Article 8: Role of Supervisor**

Two or more supervisors are assigned to each report. Before each report is issued, at least one of the supervisors checks if the price assessment and its basis are in line with the Assessment Methodology and to ensure that consistency is maintained. After the review is conducted, a proof of the review in the form of an email sent by the supervisor to each report team is kept in the folder of each team.

**Article 9: Selection of supervisor**

When assigning a supervisor other than the president, in principle, the supervisor is selected from outside the relevant report team and has knowledge and experience in the product and market for which price assessment is conducted. The selection of supervisors requires approval from the board of directors.

**Article 10: Maintaining quality of supervisor review**

For reports for which the supervisor is not the president, the president conducts spot checks to maintain the quality of the supervisor's review. After a spot check, a proof of the spot check in the form of a PDF document signed by the president will be kept in the president's folder.

**Article 11: Maintaining consistency in price assessment**

Besides reviews by supervisors, assessment simulation is conducted regularly to maintain consistency among reporters in price assessment.

**Article 12: Reliability and adequacy of market information**

Each reporter performing price assessment determines whether information obtained from market players is adequate, whether the trade was done by the parties involved, whether the information was suspicious by checking with the relevant parties and other multiple parties, with further investigation carried out if necessary. If a piece of information is found to be suspicious, additional information gathering will be carried out before making a judgment as to whether or not to remove the information for consideration for price assessment. Major issues are to be reported promptly to the supervisor and the president. Of these, important professional judgments will be recorded in each report team's information gathering memo, assessment process sheet etc. If it is necessary to check whether the information provided is suspicious, we may consider obtaining information from the back office.

For certain markets with low liquidity, market information for price assessment may be

obtained from a single source. Even in such a situation, we follow processes detailed in our Assessment Methodology to determine if such market information can be used for price assessment. We do not disregard the information in making price assessment merely because it is obtained from a single source.

Players giving market information are expected to provide all relevant information that meets the conditions for price assessment stated in our Assessment Methodology, which is published on our website.

**Article 13: Making our Assessment Methodology available**

The Assessment Methodology approved by the board of directors is published on our website, whereby external market players involved in trading, players providing market information and our subscribers can access.

**Article 14: Regular review of Assessment Methodology**

Our Assessment Methodology is reviewed at least once a year (during the board of directors' meeting held in October) or when substantial changes have taken place in the market. After each review, we may consider making amendments to our Assessment Methodology if deemed necessary. When reviewing our Assessment Methodology, we may consider views obtained from external market players and our subscribers.

**Article 15: Amendments to Assessment Methodology**

If amendments to our Assessment Methodology that affect the price assessment process are deemed necessary, discussions are conducted within each report team and amendments are submitted to the board of directors for approval. After the amendments are approved, a notice of the amendments and the effective date will be placed in our reports in principle one month before, but at least two weeks prior to the effective date.

After the amendments are approved, the Assessment Methodology with the amendments reflected has to be approved by the board of directors by the effective date.

When making amendments to our Assessment Methodology that affect the price assessment process, we accept inquiries regarding such amendments from external market players and our subscribers. These inquiries are, in principle, published in our reports or on our website, but if the party making the inquiries requests us not to do so, we may not disclose the details for confidentiality reasons.

For amendments to our Assessment Methodology that do not affect the price assessment process, after approval by the board of directors, the amendments will be announced in our reports and effected promptly.

**Article 16: Amendments/Changes to price assessment**

Price assessments in our reports will not be amended after they are published, except for typing and spelling mistakes.

## Chapter 2: Price Assessment Methodology for Petrochemicals Report

### Price Assessment Principle:

Rim understands that petrochemical markets are structured with three groups of business parties: Producers, Traders, Importers/Consumers.

Rim price assessments indicate the current range in which a standard spot transaction could take place on the day of publication.

Rim defines a standard spot market transaction as follows:

- producer sells to trader
- producer sells to importer/consumer
- producer sell to another producer
- trader sells to producer
- trader sells to importer/consumer
- trader sell to another trader
- importer/consumer sells to a producer
- importer/consumer sells to a trader
- importer/consumer sells to another importer/consumer

Rim understands values of commodities change even in the absence of deals. RIM defines prices as measures to indicate fluctuating values of commodities.

Rim understands values of commodities are determined by a variety of factors such as supply-demand fundamentals, production costs, conditions in other markets and players' speculation.

Priority for assessment is broadly in the following three categories:

- (1) Deal done prices
- (2) Firm bids and offers
- (3) Buying/selling indications

While we examine the appropriateness of (1), we also place emphasis on (2) and (3). To reflect the actual more realistically, deals done at prices considerably different from the buying and selling prices of the majority of market players may not be considered for assessment.

Rim understands values of commodities are determined by competition among sellers and competition among buyers. RIM considers higher bids to be closer to the current values than lower bids. RIM considers lower offers to be the closer to current values than higher offers.

As the price assessment reflects the actual market by indicating prices at which the majority of players can buy or sell, deals that are done at extremely high or extremely low prices, even if they are true, may not be considered for assessment if they are considerably different from the actual market.

Deals considered for price assessment is broadly divided into

- (1) Deals which are confirmed by both buyer and seller
- (2) Deals which are confirmed by either buyer or seller
- (3) Information obtained from several reliable sources.

While (1) is the most ideal, (2) and (3) are not uncommon in view of various constraints.

While Rim considers (1) for price assessment, (2) and (3) are also deemed to be useful information to be used as a reference. Further, when no deals or bids/offers are available, price assessment may be made based on changes in supply/demand, feedstock and derivative prices, and market environment that may affect prices.

### **Aromatics**

- Benzene: FOB Korea, FOB East Japan, FOB West Japan, CFR Japan
- Toluene: FOB Korea
- Isomer Mixed-Xylene: FOB Korea, CFR Taiwan
- Styrene Monomer: FOB Korea, CFR China
- Paraxylene: FOB Korea, CFR Northeast Asia

### **Olefins**

- Ethylene: CFR Northeast Asia, CFR Southeast Asia, FOB Korea
- Propylene: CFR Northeast Asia, CFR Southeast Asia, FOB Korea
- Butadiene: CFR Northeast Asia, CFR Southeast Asia, FOB Korea

### **Polymers**

- Low Density Polyethylene (LDPE) Film: CFR China, CFR Southeast Asia
- Linear Low Density Polyethylene (LLDPE) Film: CFR China, CFR Southeast Asia
- High Density Polyethylene (HDPE) Film: CFR China, CFR Southeast Asia
- High Density Polyethylene (HDPE) Yarn: CFR China, CFR Southeast Asia
- Polypropylene (PP) Homo – BOPP: CFR China, CFR Southeast Asia
- Polypropylene (PP) Homo – Yarn/INJ: CFR China, CFR Southeast Asia
- Polypropylene (PP) Block Co – INJ: CFR China, CFR Southeast Asia
- Poly Vinyl Chloride (PVC) - CMP (CIF China Main Port)
- PET Chip (Bottle Grade): FOB Northeast Asia

### **Intermediates**

- Phenol: CFR China
- Bisphenol – A: CFR China
- Ethylene Glycol: CFR China
- Ethylenedichloride: CFR China
- Vinylchloride Monomer: CFR China
- Acrylonitrile: CFR China
- Purified Terephthalic Acid (PTA): CFR China
- Caprolactum: CFR China

### **China Domestic Market**

- Propylene: East China & Shandong
- Polypropylene (PP) Homo – Yarn/INJ: East China
- Butadiene: East China
- Styrene Butadiene Rubber (SBR): East China
- Butadiene Rubber (BR): East China
- Styrene Monomer (SM): East China
- Expanded Polystyrene (EPS): East China
- Low Density Polyethylene (LDPE): East China
- Linear Low Density Polyethylene (LLDPE): East China
- High Density Polyethylene (HDPE) Film: East China
- High Density Polyethylene (HDPE) Yarn: East China
- Mono Ethyleneglycol (MEG): East China
- Purified Terephthalic Acid (PTA): East China

## **Aromatics Markets:**

### **Benzene:**

**Assessment Window:** Rim's assessment window for benzene closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for benzene are in US dollars (\$) for all markets. All units are metric ton (mt), which is the industry practice.

**Assessment Timing:** A month is divided into two periods:

- First-Half (H1): first 15 days of the month
- Second-Half (H2): all days after the 15<sup>th</sup> of the month

Assessment timing is divided into three periods.

During H1 of the month;

- **FOB Korea:** H1 and H2 of the following month and H1 of the month after the next
- **FOB East Japan:** H2 of the month, H1 and H2 of the following month
- **FOB West Japan:** H2 of the month, H1 and H2 of the following month
- **CFR Japan:** H2 of the month, H1 and H2 of the following month

During H2 of the month;

- **FOB Korea:** H2 of the following month, H1 and H2 of the month after the next
- **FOB East Japan:** H1, H2 of the following month and H1 of the month after the next
- **FOB West Japan:** H1, H2 of the following month and H1 of the month after the next
- **CFR Japan:** H1, H2 of the following month and H1 of the month after the next

**Rim Index:** the average of the second and third periods as indicated in the physical and forward price assessments.

*Note: the period changes on the 1<sup>st</sup> day and 16<sup>th</sup> day of the month. If the 1<sup>st</sup> or the 16<sup>th</sup> fall on a non-business day or holiday in Japan, the period change will take place the next business day.*

### **Standard Volume:**

- **FOB Korea:** 3,000mt
- **FOB East Japan, FOB West Japan and CFR Japan:** 1,000mt with smaller quantities also considered if deemed to fall within the market range.

**Quality Standard:** ASTM D-2359

### **Standard delivery points:**

- **FOB Korea:** main ports in South Korea that can handle 3,000mt cargoes
- **Japan:**
  - FOB East Japan:** Tokyo Bay
  - FOB West Japan:** locations on the Inland Sea of Japan
  - Other loading points considered in FOB Japan prices assessments are Kashima in Ibaraki prefecture, Sendai in Miyagi prefecture, Muroran in Hokkaido and Omuta in Fukuoka prefecture.
  - CFR Japan:** standard is Mizushima in Okayama prefecture, a port on the Inland Sea



of Japan.

**Toluene:**

**Assessment Window:** Rim's assessment window for toluene closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for toluene are in US dollars (\$) for all markets. All units are metric ton (mt), which is the industry practice.

**Assessment Timing:** A month is divided into two periods:

- First-Half (H1): first 15 days of the month
- Second-Half (H2): all days after the 15<sup>th</sup> of the month

Assessment timing is divided into three periods.

During H1 of the month;

- **FOB Korea:** H1, H2 of the following month and H1 of the month after the next

During H2 of the month;

- **FOB Korea:** H2 of the following month, H1 and H2 of the month after the next

**Rim Index:** the average of the second and third periods as indicated in the physical and forward price assessments.

*Note: the period changes on the 1<sup>st</sup> day and 16<sup>th</sup> day of the month. If the 1<sup>st</sup> or the 16<sup>th</sup> fall on a non-business day or holiday in Japan, the period change will take place the next business day.*

**Standard Volume:** 2,000mt

**Quality Standard:** ASTM D-841

**Standard delivery points:**

- **FOB Korea**

**Isomer Mixed Xylene:**

**Assessment Window:** Rim's assessment window for isomer mixed-xylene closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for isomer mixed-xylene are in US dollars (\$) for all markets. All units are metric ton (mt), which is the industry practice.

**Assessment Timing:** A month is divided into two periods:

- First-Half (H1): first 15 days of the month
- Second-Half (H2): all days after the 15<sup>th</sup> of the month

Assessment timing is divided into three periods.

During H1 of the month;

- **FOB Korea:** H1, H2 of the following month and H1 of the month after the next

- **CFR Taiwan:** H1, H2 of the following month and H1 of the month after the next

During H2 of the month;

- **FOB Korea:** H2 of the following month, H1 and H2 of the month after the next
- **CFR Taiwan:** H2 of the following month, H1 and H2 of the month after the next

**Rim Index:** the average of the second and third periods as indicated in the physical and forward price assessments.

*Note: the period changes on the 1<sup>st</sup> day and 16<sup>th</sup> day of the month. If the 1<sup>st</sup> or the 16<sup>th</sup> fall on a non-business day or holiday in Japan, the period change will take place the next business day.*

**Standard Volume:** 3,000mt

**Quality Standard:** ethyl benzene < 20%

**Standard delivery points:**

- **FOB Korea**
- **CFR Taiwan**

**Styrene Monomer:**

**Assessment Window:** Rim's assessment window for styrene monomer closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for styrene monomer are in US dollars (\$) for all markets. All units are metric ton (mt), which is the industry practice.

**Assessment Timing:** A month is divided into two periods:

- First-Half (H1): first 15 days of the month
- Second-Half (H2): all days after the 15<sup>th</sup> of the month

Assessment Periods: three periods of 15 days each (H1, H2...)

FOB Korea and CFR China Assessments:

- First-half (H1) assessments apply to H1 and H2 of the next month; H1 of the following month.
- Second-half (H2) assessments apply to H2 of the next month; H1 and H2 for the following month.

**Rim Index:** the average of the second and third periods as indicated in the physical and forward price assessments.

*Note: the period changes on the 1<sup>st</sup> day and 16<sup>th</sup> day of the month. If the 1<sup>st</sup> or the 16<sup>th</sup> fall on a non-business day or holiday in Japan, the period change will take place the next business day.*

**Standard Volume:**

- 2,000-3,000mt for FOB Korea & CFR China

**Quality Standard:** ASTM D-2827

**Standard delivery points:**

- **FOB Korea**
- **CFR China**

**Paraxylene**

**Assessment Window:** Rim's assessment window for paraxylene closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for paraxylene are in US dollars (\$) for all markets. All units are metric ton (mt), which is the industry practice.

**Assessment Timing:** A month is divided into two periods:

- **First-Half (H1):** first 15 days of the month
- **Second-Half (H2):** all days after the 15<sup>th</sup> of the month

Assessment timing is divided into three periods.

During H1 of the month;

- **FOB Korea:** H2 of the month, H1 and H2 of the following month
- **CFR Northeast Asia:** H2 of the month, H1 and H2 of the following month

During H2 of the month;

- **FOB Korea:** H1, H2 of the following month and H1 of the month after the next
- **CFR Northeast Asia:** H1, H2 of the following month and H1 of the month after the next

**Rim Index:** the average of the second and third periods as indicated in the physical and forward price assessments.

*Note: the period changes on the 1<sup>st</sup> day and 16<sup>th</sup> day of the month. If the 1<sup>st</sup> or the 16<sup>th</sup> fall on a non-business day or holiday in Japan, the period change will take place the next business day.*

**Standard Volume:** 5,000mt

**Quality Standard:** purity level  $\geq$  99.7%

**Standard delivery points:**

- **FOB Korea**
- **CFR Northeast Asia**

**Olefins Markets:**

**Ethylene:**

**Assessment Window:** Rim's assessment window for ethylene closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for ethylene are in US dollars (\$) for all markets. All units are metric ton (mt), which is the industry practice.

**Standard delivery points:**

- **CFR Northeast Asia**
- **CFR Southeast Asia**
- **FOB Korea**

**Standard Volume:**

- 3,000-3,500mt for material of Asian origin
- 3,000-5,000mt for material of Middle Eastern origin are also considered depending on circumstances while material that originates out of Iran is not always reflected in the assessment as market participants who can trade in Iranian cargoes are limited.

**Delivery Timing:** within two to six weeks of publication of Rim Petrochemicals report

**Quality Standard:** purity level  $\geq$  99.9%

**Propylene:**

**Assessment Window:** Rim's assessment window for propylene closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for propylene are in US dollars (\$) for all markets. All units are metric ton (mt), which is the industry practice.

**Standard delivery points:**

- **CFR Northeast Asia**
- **CFR Southeast Asia**
- **FOB Korea**

**Standard Volume:**

- 1,500-1,800mt cargoes with 3,000-9,000mt cargoes also considered for CFR Northeast Asia, CFR Southeast Asia and FOB Korea.

**Delivery Timing:** within two to six weeks of publication of Rim Petrochemicals report

**Quality Standard:** purity level  $\geq$  99.5%

**Butadiene:**

**Assessment Window:** Rim's assessment window for butadiene closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for butadiene are in US dollars (\$) for all markets. All units are metric ton (mt), which is the industry practice.

**Standard delivery points:**

- **CFR Northeast Asia**
- **CFR Southeast Asia**
- **FOB Korea**

**Standard Volume:**

- 1,000-5,000mt for CFR Northeast Asia, CFR Southeast Asia and FOB Korea.

**Delivery Timing:** within two to six weeks of publication of Rim Petrochemicals report

**Quality Standard:** purity level  $\geq 99.5\%$  and dimer content is  $\leq 1,000$  parts per million (ppm)

## **Polymer Markets:**

### **Polyethylene (PE) / Polypropylene (PP):**

**Assessment Window:** Rim's assessment window for PE and PP closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for PE and PP are in US dollars (\$) for all markets. All units are metric ton (mt), which is the industry practice.

### **Standard delivery points:**

- **CFR China**
- **CFR Southeast Asia**
- 

### **Product grade:**

CFR China and CFR Southeast Asia

- LDPE-Film, LLDPE-Film, HDPE-Film, HDPE-Yarn, PP(Homo)-Bopp, PP(Homo)-Yarn/INJ, PP(Block Co)-INJ

### **Standard Volume:**

- 100-1,000mt for taxable cargoes on a CFR China basis and a CFR Southeast Asia basis (tax-exempt LLDPE material for the CFR China market that originates out of Southeast Asia is also reflected in the assessment with all applicable taxes included).
- For CFR Southeast Asia, all PE and PP material that originates from member nations of the Association of South - East Asian Nations (ASEAN), except Vietnam, are also considered. These cargoes are tax-exempt.

### **Delivery Timing:**

- within two to four weeks of publication of Rim Petrochemicals report for CFR China and Southeast Asia

### **Polyvinyl chloride (PVC):**

**Assessment Window:** Rim's assessment window for PVC closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for PVC are in US dollars (\$) for all markets. All units are metric ton (mt), which is the industry practice.

### **Standard delivery points:**

- **CFR China**

### **Product grade:**

- Suspension grade

### **Standard Volume:**

- 100-1,000mt for cargoes out of Taiwan while cargoes originating from other countries are also reflected in the assessment

### **Delivery Timing:**

- within two to four weeks of publication of Rim Petrochemicals report for CFR China

**Polyethylene terephthalate (PET):**

**Assessment Window:** Rim's assessment window for PET closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for PET are in US dollars (\$). All units are metric ton (mt), which is the industry practice.

**Standard delivery points:**

- **FOB Northeast Asia**

**Standard Volume:**

- More than 500mt for FOB Northeast Asia, at sight Letter of Credit (L/C) or Telegraphic Transfer Remittance (T/T)

**Delivery Timing:**

- within 15 to 30 days of publication of Rim Petrochemicals report for FOB Southeast Asia

**Product grade:** Bottle grade

**Quality Standard:** Intrinsic viscosity (IV) =0.8

## **Intermediates Markets:**

### **Phenol (PH):**

**Assessment Window:** Rim's assessment window for PH closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for PH are in US dollars (\$) for all markets. All units are metric ton (mt), which is the industry practice.

### **Standard delivery points:**

- **CFR China**
- **CFR Taiwan**

### **Standard Volume:**

- 1,000mt of material for CFR China and CFR Taiwan
- Material with 5.5% tax reflects the assessment for CFR China while tax-exempt material of Southeast Asia origin are also considered after imposing 5.5% tax

**Delivery Timing:** within four to six weeks of publication of Rim Petrochemicals report

**Quality Standard:** purity level  $\geq$  99.0%

### **Bisphenol A (BPA):**

**Assessment Window:** Rim's assessment window for BPA closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for BPA are in US dollars (\$) for all markets. All units are metric ton (mt), which is the industry practice.

### **Standard delivery points:**

- **CFR China**

### **Standard Volume:**

- 500 – 1,000mt for material with 5.5% tax reflects the assessment while tax-exempt material of Southeast Asia origin are also considered after imposing 5.5% tax

**Delivery Timing:** within four to six weeks of publication of Rim Petrochemicals report

**Quality Standard:** polycarbonate-grade and epoxy resin-grade

### **Mono ethylene glycol (MEG):**

**Assessment Window:** Rim's assessment window for MEG closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for MEG are in US dollars (\$) for all markets. All units are metric ton (mt).

### **Standard delivery points:**

- **CFR China**



**Standard Volume:**

- 1,000-3,000mt for CFR China

**Delivery Timing:**

- within 20 to 40 days of publication of Rim Petrochemicals report for CFR China

**Product grade:** Resin grade

**Quality Standard:** purity level  $\geq$  99.8%

**Ethylene dichloride (EDC):**

**Assessment Window:** Rim's assessment window for EDC closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for EDC are in US dollars (\$) for all markets. All units are metric ton (mt), which is the industry practice.

**Standard delivery points:**

- CFR China

**Standard Volume:**

- 3,000-5,000mt for cargoes out of Asia while 5,000-10,000 metric tons cargoes that originate out of US also reflect in the assessment

**Delivery Timing:**

- within one month of publication of Rim Petrochemicals report for cargoes out of Asia while for cargoes out of US within one to two months

**Quality Standard:** purity level  $\geq$  99.0%

**Vinyl Chloride Monomer (VCM):**

**Assessment Window:** Rim's assessment window for VCM closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for VCM are in US dollars (\$) for all markets. All units are metric ton (mt), which is the industry practice.

**Standard delivery points:**

- CFR China

**Standard Volume:**

- 3,000-4,000mt

**Delivery Timing:**

- within 15 – 30 days of publication of Rim Petrochemicals report for CFR China

**Quality Standard:** purity level  $\geq$  99.0%

**Acrylonitrile (AN):**

**Assessment Window:** Rim's assessment window for AN closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for AN are in US dollars (\$) for all markets. All units are metric ton (mt), which is the industry practice.

**Standard delivery points:**

- **CFR China:** prices on an FOB Korea and CFR Taiwan basis are also considered as a reference.

**Standard Volume:**

- 500mt and above for material of Northeast Asia and Southeast Asia origin for CFR China while material that originates out of the West such as US, Mexico, Brazil, Belarus, Russia on a CFR China also reflected assessment as forward cargoes as time to deliver is longer than cargoes of Asia origin.
- Deals on cargoes from Northeast Asia, US or Europe done into India are not directly reflected in assessment as the port is different. Nevertheless, as such trades have some relation to those in China and Northeast, if no deals, bids or offers are heard on a CFR and Northeast Asia basis, they may be used as a reference.

**Delivery Timing:** within two to four weeks of publication of Rim Petrochemicals report

**Quality Standard:** purity level  $\geq$  99.85%

**Purified terephthalic acid (PTA):**

**Assessment Window:** Rim's assessment window for PTA closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for PTA are in US dollars (\$) for all markets. All units are metric ton (mt), which is the industry practice.

**Standard delivery points:**

- **CFR China**

**Standard Volume:**

- 1,000-3,000mt for CFR China

**Delivery Timing:**

- within one to four weeks of publication of Rim Petrochemicals report for CFR China

**Quality Standard:** purity level  $\geq$  99.0%

**Caprolactam (CPL):**

**Assessment Window:** Rim's assessment window for CPL closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for CPL are in US dollars (\$) for all markets. All units are metric ton (mt), which is the industry practice.

**Standard delivery points:**

- CFR China
- CFR Taiwan

**Product grade:**

- Both molten and flake material
- Moisture content limit: 100 parts per million (ppm)

**Standard Volume:**

- 500-1,000mt for both CFR China and Taiwan

**Delivery Timing:**

- within two to four weeks of publication of Rim Petrochemicals report

## **China Domestic Market:**

### **Propylene:**

**Assessment Window:** Rim's assessment window for propylene closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for propylene in China domestic markets are indicated in Yuan. All units are metric ton (mt), which is the industry practice.

### **Standard delivery points:**

- **China Domestic:** East China & Shandong markets

### **Standard Volume:**

- 50-500mt for China domestic, ex-tank on a cash on delivery (COD) basis

### **Delivery Timing:**

- within one week of publication of Rim Petrochemicals report

**Quality Standard:** purity level  $\geq$  99.5%

## **Polyethylene (PE) / Polypropylene (PP):**

**Assessment Window:** Rim's assessment window for PE and PP closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for PE and PP in China domestic markets are indicated in Yuan. All units are metric ton (mt), which is the industry practice.

### **Standard delivery points:**

- **China domestic:** East China market

### **Product grade:**

#### **China Domestic**

- LDPE-Film, LLDPE-Film, HDPE-Film, HDPE-Yarn, PP(Homo)-Yarn/Inj

### **Standard Volume:**

- 25-100mt for China domestic, ex-factory in East China or ex-warehouse of importers (included tax) on a cash on delivery (COD) basis.

### **Delivery Timing:**

- within one week of publication of Rim Petrochemicals report

## **Butadiene:**

**Assessment Window:** Rim's assessment window for butadiene closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for butadiene in China domestic markets where prices are indicated in Yuan. All units are metric ton (mt), which is the industry practice.

### **Standard delivery points:**

- **China Domestic:** East China market

**Standard Volume:**

- 50-200mt for China domestic, ex-tank on a cash on delivery (COD) basis

**Delivery Timing:**

- within one week of publication of Rim Petrochemicals report

**Quality Standard:** purity level  $\geq 99.5\%$  and dimer content is  $\leq 1,000$  PPM

**Styrene-Butadiene Rubber (SBR):**

**Assessment Window:** Rim's assessment window for SBR closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for SBR in China domestic markets are indicated in Yuan. All units are metric ton (mt), which is the industry practice.

**Standard delivery points:**

- **China domestic:** East China market

**Product grade:**

- 1502-grade

**Standard Volume:**

- 20-500mt for China domestic, ex-factory in East China or ex-warehouse of importers (included tax) on a cash on delivery (COD) basis.

**Delivery Timing:**

- within one week of publication of Rim Petrochemicals report

**Butadiene Rubber (BR):**

**Assessment Window:** Rim's assessment window for BR closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for BR in China domestic markets are indicated in Yuan. All units are metric ton (mt), which is the industry practice.

**Standard delivery points:**

- **China domestic:** East China market

**Product grade:**

- BR9000

**Standard Volume:**

- 20-100mt for China domestic, ex-factory in East China or ex-warehouse of importers (included tax) on a cash on delivery (COD) basis.

**Delivery Timing:**

- within one week of publication of Rim Petrochemicals report

**Styrene Monomer:**

**Assessment Window:** Rim's assessment window for styrene monomer closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for styrene monomer in China domestic markets are indicated in Yuan. All units are metric ton (mt), which is the industry practice.

**Standard Volume:**

- 500 and above mt for China domestic, next-day delivery, ex-tank on a cash on delivery (COD) basis

**Quality Standard:** ASTM D-2827

**Standard delivery points:**

- **China Domestic:** East China market

**Expanded polystyrene (EPS):**

**Assessment Window:** Rim's assessment window for EPS closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for EPS in China domestic markets are indicated in Yuan. All units are metric ton (mt), which is the industry practice.

**Standard delivery points:**

- **China domestic:** East China market

**Standard Volume:**

- 5-200mt for China domestic, ex-factory in East China or ex-warehouse of importers (included tax) on a cash on delivery (COD) basis.

**Delivery Timing:**

- within one week of publication of Rim Petrochemicals report

**Quality Standard:** Block, package grade

**Mono ethylene glycol (MEG):**

**Assessment Window:** Rim's assessment window for MEG closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for MEG in China Domestic markets are indicated in Yuan. All units are metric ton (mt), which is the industry practice.

**Standard delivery points:**

- **China domestic**

**Standard Volume:**

- 200-1,000mt for China Domestic, ex-factory on a cash on delivery (COD) basis

**Delivery Timing:**

- within three days of publication of Rim Petrochemicals report

**Product grade:** Resin grade

**Quality Standard:** purity level  $\geq 99.8\%$

**Purified terephthalic acid (PTA):**

**Assessment Window:** Rim's assessment window for PTA closes each business day at 18:30 Tokyo time.

**Price and Unit:** Prices for PTA in China domestic markets are indicated in Yuan. All units are metric ton (mt), which is the industry practice.

**Standard delivery points:**

- China domestic

**Standard Volume:**

- 500-1,000mt for China domestic, ex-factory on a cash on delivery (COD) basis

**Delivery Timing:**

- within one week of publication of Rim Petrochemicals report

**Quality Standard:** purity level  $\geq 99.0\%$