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Base Oils Methodology

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I·C·I·S
Independent Commodity Intelligence Services

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General methodology

ICIS continuously develops, reviews and revises its methodologies in consultation with industry participants. The product specifications and trading terms and conditions used are intended to reflect typical working practices in the industry.

ICIS publishes market assessments based on information gathered from market participants about: spot transactions, spot bid and offer levels, contract price negotiations, prices of related commodities, and relevant freight costs.

ICIS does not make retrospective adjustments or changes to price assessments based on information received after publication time or after any cut-off point specified in individual methodology documents.

ICIS regards all arm's-length transactions which meet its specification criteria as carrying equal weight.

ICIS uses proprietary models where necessary to normalise data to the typical specifications for cargo size and date ranges given for each commodity. Some ICIS assessments are the product of calculation alone, for example in markets where insufficient market activity takes place to permit price assessment, or where a market itself habitually sets prices according to a formula. Such calculated assessments are noted as such in their detailed methodology specifications.

ICIS endeavours to cross-check all the transaction information it gathers. ICIS will not use information for assessment purposes where such checks call into doubt the accuracy of the original information, or where a transaction appears to have occurred under circumstances that render it non-repeatable or otherwise markedly unusual.

Rationale for base oils methodology

All ICIS-published spot assessments in the weekly base oils reports are so-called "week's range" assessments. That is, they are intended to represent the tradable value throughout the week leading up to the date of the report. ICIS will indicate days where closure of particular markets due to public holidays would result in non-publishing and non-assessment days. The full week is defined from the report's deadline, e.g. Friday 17.00 to the following Friday 17.00.

The value published is intended to reflect the real transactable value of a commodity during the course of the week. As such, transaction information would take precedence over bids and offers.

Where a confirmed deal is done for the same specification and loading range as confirmed bids and offers, and when all are declared to the market

simultaneously, the deal will take precedence over the bids and offers. In illiquid markets, sole deals will be used together with bids and offers. In a liquid trading period, deals will form the basis of assessments. In an illiquid market, a single or small number of deals will be included in the range, together with bids and offers. In the absence of any deals, bids and offers will be used. During the assessment process we may consider other information. However actual transactions, and bids and offers will always take precedence.

ICIS takes into account a wide range of market input in making such choices, and reserves the right to exclude from its analysis any price information deemed unreliable or unrepresentative of the market. ICIS commits to describing the information it deemed reliable in the market comment accompanying its assessments, including transactions, bids, offers and other market information used in making these assessments. This includes instances where ICIS typically makes assessments based on firm transaction or bid/offer information, but where that information was not available on a given day and alternative evidence was used.

Cargoes partially loading outside of the Assessed Trading Timeframe may be reflected in the assessment, but will not typically be used where there is deal/bid/offer information within the assessment period.

ICIS has adopted this “week’s range” methodology for base oils reports based on several decades of market observation and feedback. Other measurement strategies, for example weighted averaging, are vulnerable to random variation in transaction levels and volume, which can give rise to distortions.

In addition, the exact volume of transactions for any given product is unknowable in advance, and a volume-dependent methodology is exposed to: a) the charge that lower volumes will result in less accurate prices, and b) to the possibility of failure in the event no transactions occur.

Specifications for base oils

Frequency: The Europe and US reports are published weekly on Tuesdays, the Middle East report on Thursdays, and the Asia-Pacific and China reports on Fridays. A Base Oils Daily (Asia Pacific) report is published Mondays-Fridays.

Assessment window: Price assessments are based on information supplied by market participants in the week up to close of business on Tuesdays at 1700 hours in London and Houston.

For the Asia-Pacific and China reports, price assessments are based on information gathered in the week up to Fridays at 1700 hours in Singapore. For the Middle East report, price assessments are based on information

gathered in the week up to Thursdays at 1400 hours in Dubai, or 1800 hours in Singapore.

Daily assessments in Asia-Pacific are based on information gathered throughout the day up to the close of business at 1700 hours in Singapore.

In the absence of confirmed deals, ICIS may move spot prices based on “best” bids, offers and market fundamentals especially when supply-demand dynamics are moving quickly.

Significant developments in feedstock markets or in the downstream finished lubricant sector will also be taken into account during price assessment, used to determine price direction if not necessarily a particular price point.

For example, if upstream vacuum gasoil (VGO) and crude oil prices are falling at a time when finished lubricant demand is low as illustrated by industry data, ICIS editors may move base oils prices down to reflect lower buying interest and these upstream/downstream market dynamics, in the absence of confirmed trades. This reduction may occur despite producers’ offers remaining steady. The opposite will also apply in a rising market, despite bids remaining steady. These moves are to be made at the editor’s discretion and will only be used in a conservative manner.

Specification: Prices relate to paraffinic base oils in all areas, except in the US where both paraffinic and naphthenic base oils prices are quoted.

Timing: Cargoes loading two-four weeks forward or delivered two-six weeks forward from the date of publication will be considered for assessment. US cargoes to India and China take about 35-45 days and this window will be considered for assessment purposes. In Europe, all assessments are for cargoes loading within four weeks. Spot truck volumes within the Amsterdam-Rotterdam-Antwerp (ARA) region are typically delivered within four weeks.

China domestic spot assessments are for cargoes loading prompt (5 days).

Terms: 30-90 days after bill of lading date. Domestic trades in China are based on cash payments.

Standard cargo size: In Europe, domestic Group I FOB prices quoted are for minimum cargoes of 500 tonnes, most commonly moved by barge. European domestic Group I FCA truck price quotations cover volumes of up to 499 tonnes, commonly moved by truck by suppliers, traders and distributors. Trucks are normally around 23 tonnes each. Europe export prices quoted are for cargo quantities of a minimum 1,000 tonnes transported by sea-going vessel.

In the ex-tank Singapore spot market, the traded cargo sizes are typically 500 tonnes to 1,000 tonnes, but when demand is seasonally weak, the typical traded cargo size is 200-300 tonnes. Small cargoes of 199 tonnes and below also take place in the Singapore ex-tank market. Such trades are reported only in the text of the report and not included as part of the assessment in the presence of larger-sized cargoes, and in the absolute absence of trade in larger volumes, prices of smaller cargoes of at least 100 tonnes will be referenced for price assessment.

Group I FOB Asia, CFR NE (northeast) Asia, CFR China and CFR India quotes, as well as Group II FOB NE Asia, CFR NE Asia, CFR China and CFR India prices are for cargo quantities of a minimum 1,000 tonnes.

The minimum parcel size for Group III FOB Asia, CFR NE Asia and CFR China quotes will be revised to 500 tonnes from 1,000 tonnes with effect from 3 January 2023.

For domestic transactions in China, cargo sizes vary from 30 to 500 tonnes for Group I, II, III base oils.

Assessment basis: European domestic Group I (500 tonnes +) quotations refer to a 95 viscosity index (VI) minimum specification base oil manufactured by a northwest European refiner. FOB prices refer to no particular installation, jetty or load port. Monthly and official list prices announced by major suppliers will be included, provided they are not considered exceptional to the rest of the market any given week. Typically, these listed prices populate the upper ends of the ranges published, when included. Smaller volumes will attract a premium to the range.

European domestic Group I truck price quotations are wider in terms of specifications than the above as they include some of the lower quality base oils imported into northwest Europe from other parts of Europe, Russia and the NIS. The minimum VI considered for each are as follows: SN150 (95 VI); SN500 (90 VI); brightstock (90 VI). Base oils with a VI below these levels, which may attract a significant price discount, will be excluded in order not to skew the published price ranges.

European Group III base oil prices are assessed for individual truckloads of 4cSt, 6cSt and 8cSt material, typically around 23 tonnes. The product is commonly made available from storage within the ARA region and sold on an FCA basis.

European Group II base oil prices are assessed for individual truckloads of N150, 200N/220N and 500/600N material, typically around 23 tonnes. The product is commonly made available from storage within the ARA region and sold on an FCA basis.

European export quotations encompass all west European and European Mediterranean Sea refiners. Prices are quoted on an FOB Europe basis, and do not refer to any particular load port. Prices quoted are for cargo quantities of a minimum 1,000 tonnes and the typical minimum VI is 95.

In **Asia**, Group I quotations on a FOB Asia, CFR NE Asia and ex-tank Singapore basis are based on a minimum VI of 95 while CFR India Group I quotations refer to a minimum VI of 85.

Ex-tank Singapore prices represent sales on an ex-tank basis from secondary storage in Singapore to local blenders. Exxon Mobil's prices to its term customers are often taken into account in the assessment process as its prices function as a benchmark for both ex-tank Singapore and FOB Asia export sales. The ex-tank Singapore numbers also function as a benchmark for export sales in other Southeast Asian countries, because Singapore is a major base oil production base and exporter in the region.

In the absence of transactions e.g. in an inactive week, the highest bid and lowest offer will be used to derive the price range in accordance with market fundamentals. Transactions that are non-repeatable will not be included.

Group II ex-tank Singapore quotes were added in January 2015 by ICIS to better reflect the evolving dynamics of the base oil market. It follows the methodology for Group I ex-tank, representing sales on an ex-tank basis from secondary storage in Singapore to local blenders.

FOB Asia (export) prices represent sales of material from Asia. Singapore, Indonesia, Thailand, Taiwan, Japan, China, India and Pakistan supply Group I base oils.

Brightstock BS120 cargoes of South Korean-origin are not taken into account for assessment. ICIS takes only BS150 into account for its price assessment.

For Group II FOB NE Asia, prices represent export sales of Group II cargoes originating from northeast Asia, which mainly represent South Korea, Taiwan and China-based refineries.

The Group III base oil production centres are in South Korea, Indonesia and Malaysia. Prices quoted for the above-mentioned Group I and II grades are for cargo quantities of a minimum 1,000 tonnes, and for Group III grades a minimum 500 tonnes. ICIS takes into account all FOB Asia and FOB NE Asia transactions and/or discussions regardless of the landed destination.

For Group I and II base oils, where bundled sales usually take place for grades (for example, SN500 with brightstock, and 150N with 500N), prices will also be taken into account for the relevant grades.

CFR India numbers are assessed prices of imports of base oils into India from producers in Europe, the US, the Middle East and Asia. Prices quoted are for cargo quantities of a minimum 1,000 tonnes.

Group II CFR India quotes cover the cargoes coming in mostly from South Korea to India. Sometimes Group II cargoes are also sold from the US into India. Group I prices reflect mainly supplies from Iran. Prices quoted are for cargo quantities of a minimum 1,000 tonnes.

India monthly domestic posted prices in Indian rupee/litre (INR/ltr) for Group I and II base oils are typically announced by the three major local refiners – Bharat Petroleum Corp Ltd (BPCL), Hindustan Petroleum Corp Ltd (HPCL) and IndianOil Corp (IOC) – in the first half of each month. The prices will be updated after all the refiners announce their prices for the month. Actual transacted prices may differ due to discounts on posted prices that vary depending on volume size and customers. Inland delivery by truck usually takes one week or less.

CFR NE Asia prices capture spot deals into China, Taiwan, South Korea and Japan. China and Taiwan import Group I, II and III base oils regularly. South Korea buys Group I base oils from time to time, while Japan imports small quantities of Group II base oils. Prices quoted are for cargo quantities of a minimum 1,000 tonnes for Group I and II, and a minimum of 500 tonnes for Group III.

Group I spot supply to the northeast Asian markets comes mainly from Singapore, Thailand, Indonesia and Japan. Europe exports Group I base oils to northeast Asia when the west-east arbitrage economics are favourable. Spot cargoes for Group II base oils to northeast Asia are mainly from South Korea and Taiwan. Group III spot supply to China, Taiwan and southeast Asia comes mainly from South Korea.

Europe feedstock prices are given as a reference point only. Both high and low sulphur VGO prices are quoted on a USD/tonne FOB Rotterdam basis. Low sulphur VGO has a maximum sulphur content of 0.5%, while high sulphur material has a maximum of 1.6%. 3.5% fuel oil prices are quoted in USD/tonne basis FOB Rotterdam.

The latest FOB Singapore spot assessments for 3.5% fuel oil and 0.05% sulphur gas oil from ICIS-C1 are included in the Asia base oil report.

CFR China prices capture spot deals into China. Group I spot supply to Chinese markets comes mainly from Singapore, Thailand, Indonesia, Taiwan and Japan. Europe exports Group I base oils when the west-east arbitrage economics are favourable. Spot cargoes for Group II base oils to China are mainly from Korea and Taiwan. Spot cargoes for Group III base oils to China are mainly from South Korea, Malaysia and Indonesia.

East China ex-terminal prices on truck delivery basis cover but are not limited to terminals in Nantong, Wuxi, Jiangyin, Changzhou, Suzhou, Shanghai, Nanjing, Taichuang, Zhangjiagang and Ningbo.
South China ex-terminal prices on truck delivery basis cover but are not limited to terminals in Guangzhou, Dongguan, Shenzhen, Huizhou, Maoming and Hainan.

Northeast/North China ex-terminal prices on truck delivery basis cover but are not limited to terminals in Beijing, Tianjin, Hebei, Panjin, Dalian and Shandong.

FOB Iran quotations for SN150 and SN500 reflect deals and discussions for base oil spot exports from Iran. Iranian SN150 and SN500 cargoes typically have a VI of around 90. Prices are quoted for cargoes that are at least 1,000 tonnes in size.

CFR UAE quotations for SN 150 and SN 500 reflect mainly prices of base oil spot supply from Iran. The UAE also imports similar grades from Europe, and Russia & New NIS on a spot basis when arbitrage economics are favourable, and such deals will be reflected in the weekly price assessment. Saudi Arabia is also a regular supplier to the UAE, although most deals are done on a term basis. India and Pakistan also supply Group I base oils from time to time.

ICIS CFR UAE pricing considers SN 150 and SN 500 bulk cargoes that are at least 1,000-2,000 tonnes in size. ICIS takes into account Iranian SN 150 and SN 500 imports that typically have a minimum VI of around 90. ICIS also takes into consideration Russian supplies that commonly have a VI of less than 95, and product from Europe and Saudi Arabia that have a VI of at least 95.

Russian and European imports into the UAE are usually sold on LC 30-60 days' basis or open credit terms of 30-60 days. The payment for Iranian cargoes typically involves full or partial cash in advance.

Ex-tank Sharjah assessments take into consideration prices of SN150 and SN500 cargoes of any origin sold in the local UAE markets. Prices quoted are for cargo quantities of a minimum 500 tonnes, with payment terms ranging from cash up to credit terms of 90 days.

Group II CFR UAE prices reflect trades and discussions for 150N and 500N supply from northeast Asia. The minimum assessed quantity is 1,000 tonnes. ICIS may derive the prices by applying a freight component to FOB NE Asia prices in weeks of low liquidity.

Group III ex-tank UAE prices reflect trades and discussions for 4/6/8cst base oils supply from any origin but would reflect mostly cargoes from Middle

Eastern refiners into any of the main ports within the UAE. The minimum assessed quantity is 500 tonnes and payment terms would include cash and credit facilities. The typical delivery window is prompt up to two weeks forward.

Much of the day-to-day activity taking place in the US market is done on a contract basis, using posted prices as a key factor in a number of formulas (privy to supplier/consumer only).

Shipping: A section on the transportation of Base Oils in bulk is included. The information contained has been obtained from the ICIS pricing Chemical Tanker Shipping reports and also directly from shipping sources. In the shipping market, the general term for base oils is “lubes”, which is not a reference to finished lubricants.

Shipping fixtures refer to cargoes that have been chartered on a vessel. The fixtures are anonymous, i.e. the charterer’s name is withheld. A fixture details the vessel name, cargo size, number of grades (if known), load port and discharge port, loading dates and freight rate, if available.

Shipping enquiries refer to cargo enquiries that have been circulated in the shipping market. They are in the same format as the fixtures.

Normalisation: In exceptional cases where the lack of liquidity represents a challenge in making assessments, editors can choose to adopt a normalisation process to include deals/trades information which falls outside the standard specifications listed in the methodology pertaining to, but not limited to, volume, timing, delivery, payment terms, import tariffs, product specifications and other operational matters. The normalisation process adopted should be in line with standard practices and will only be used either as a reference for assessments, or be included as part of the assessment range. Where normalisation has occurred and has been reflected in a published price assessment, this will be described in the text of the report and the process will be described and justified.

Base Oils (EUROPE)

Weekly Price Assessments

SN 150 Spot Prices

- FOB NWE DOMESTIC (USD/MT)
- FCA NWE DOMESTIC TRUCKS (EUR/MT)
- FOB EUROPE EXPORT (USD/MT)

SN 500 Spot Prices

- FOB NWE DOMESTIC (USD/MT)
- FCA NWE DOMESTIC TRUCKS (EUR/MT)

- FOB EUROPE EXPORT (USD/MT)

Brightstock Spot Prices

- FOB NWE DOMESTIC (USD/MT)
- FCA NWE DOMESTIC TRUCKS (EUR/MT)
- FOB EUROPE EXPORT (USD/MT)

Group II Spot Prices

- N150 FCA NWE TRUCKS (EUR/MT)
- 200/220N FCA NWE TRUCKS (EUR/MT)
- 500/600N FCA NWE TRUCKS (EUR/MT)

Group III Spot Prices

- 4cSt FCA ARA TRUCKS (EUR/MT)
- 6cSt FCA ARA TRUCKS (EUR/MT)
- 8cSt FCA ARA TRUCKS (EUR/MT)

Low Sulphur Vacuum Gasoil (VGO)

- FOB ROTTERDAM (USD/MT)

High Sulphur Vacuum Gasoil (VGO)

- FOB ROTTERDAM (USD/MT)

3.5% Fuel Oil

- FOB ROTTERDAM (USD/MT)

Base Oils (ASIA-PACIFIC)

Daily Price Assessments

GROUP I BASE OILS

SN 500 Spot Prices

- FOB ASIA EXPORT (USD/MT)

Brightstock Spot Prices

- FOB ASIA EXPORT (USD/MT)

GROUP II BASE OILS

150 Neutral Spot Prices

- FOB NORTH EAST ASIA (USD/MT)

500 Neutral Spot Prices

- FOB NORTH EAST ASIA (USD/MT)

Weekly Price Assessments

GROUP I BASE OILS

SN 150 Spot Prices

- EX-TANK SINGAPORE (USD/MT)
- FOB ASIA EXPORT (USD/MT)
- CFR INDIA (USD/MT)

SN 500 Spot Prices

- EX-TANK SINGAPORE (USD/MT)
- FOB ASIA EXPORT (USD/MT)
- CFR INDIA (USD/MT)
- CFR NORTH EAST ASIA (USD/MT)

Brightstock Spot Prices

- EX-TANK SINGAPORE (USD/MT)
- FOB ASIA EXPORT (USD/MT)
- CFR INDIA (USD/MT)
- CFR NORTH EAST ASIA (USD/MT)

GROUP II BASE OILS

70 Neutral Spot Prices

- CFR INDIA (USD/MT)

150 Neutral Spot Prices

- EX-TANK SINGAPORE (USD/MT)
- FOB NORTH EAST ASIA (USD/MT)
- CFR NORTH EAST ASIA (USD/MT)
- CFR INDIA (USD/MT)

500 Neutral Spot Prices

- EX-TANK SINGAPORE (USD/MT)
- FOB NORTH EAST ASIA (USD/MT)
- CFR NORTH EAST ASIA (USD/MT)
- CFR INDIA (USD/MT)

GROUP III BASE OILS

4cSt Spot Prices

- FOB Asia (USD/MT)
- CFR NORTH EAST ASIA (USD/MT)

6cSt Spot Prices

- FOB Asia (USD/MT)
- CFR NORTH EAST ASIA (USD/MT)

8cSt Spot Prices

- FOB Asia (USD/MT)
- CFR NORTH EAST ASIA (USD/MT)

RELATED OIL PRODUCT PRICES

0.05% Gas Oil

- FOB Singapore (USD/MT)

India Monthly Domestic Posted Prices

GROUP I BASE OILS

SN 150, SN 500 and Brightstock Prices

- EX-WORKS INDIA (INR/LTR)

GROUP II BASE OILS

70 Neutral, 150 Neutral and 500 Neutral Prices

- EX-WORKS INDIA (INR/LTR)

Base Oils (AMERICAS)

PARAFFINIC BASE OILS

Paraffinic Posted Prices (updated upon announcement by following producers)

All posted prices are given FOB location shown.

All posted prices are in USD/gal.

Effective price dates on posted prices typically vary by producer and can vary by grade.

Effective price dates are shown on the report by producer and by grade.

GROUP I

ExxonMobil (information gathered from industry sources as Exxon does not comment upon or provide its prices) – location: US Gulf Coast; grades: 100; 150; 300/350; 600/650; Brightstock

HollyFrontier – location: Mid Continent; grades: 70/75; 100; 150; 250; 525; Brightstock

Paulsboro Refining Company (PRC) – location: US East Coast; grades: 100; 150; 500; 700; Brightstock

Calumet – location: Shreveport, Louisiana; grades: 600/650; Brightstock

GROUP II

Phillips 66 – location: US Gulf Coast; grades: 70; 75/80; 100/120; 200/220; 600

Chevron – location: US Gulf Coast; grades: 100/120; 200/220; 600

Motiva – location: US Gulf Coast; grades: 100/120; 200/220; 600

Calumet – location: US Gulf Coast; grades 75/80; 100/120; 145/150; 300/350

Excel Paralubes – location: US Gulf coast; grades: 70, 80, 100/120; 200/220; 600

ExxonMobil – location: US Gulf coast; grades: 200/220

PetroCanada – location: Ontario, Canada; grades: 70; 100; 200; 300/350; 600/650

GROUP II+

ExxonMobil (the note at Group I applies for all Exxon) – location: US Gulf Coast; grades: 110/130.

SK Lubricants – location: US Gulf Coast; grades: 70/80

Phillips 66 – location: US Gulf Coast; grades: 50/60; 70/80

Kleen Performance Products (re-refiner) – locations: US West coast; US Midwest; US Northeast; for all locations grades 120 and 200/240 are reported

PetroCanada – location: Ontario, Canada; grades: 65 and 100

GROUP III

SK Lubricants – location: US Gulf Coast; grades 4cSt; 6cSt; 8cSt

Phillips 66 – location: US Gulf Coast; grades; 4cSt; 8cSt

Motiva – location: US Gulf coast; grades: 4cSt; 6cSt

PetroCanada – location: Ontario, Canada; grades 4cSt; 6cSt; 8cSt

Paraffinic Market Prices – Group I

Assessments made weekly based upon market participants' input/commentary; slow or active upstream sector; slow or active demand.

Can include finished transactions but primarily represents doable price levels on non-contracted and/or rateable business.

The term rateable as used in the Americas Base Oil report refers to apportioned or assigned business done on a routine basis. It is non-contracted, but can include spot business if detected.

Common minimum volume represented: 1 large tank truck to 3-5 railcars.

Given on FOB Plant basis.

Provided in USD/gal.

Grades: 100; 150; 200/250; 300/350; 500/550; 600/650; Brightstock

Paraffinic Market Price – Group I: FOB Brownsville, Texas (Mexico border)

Assessments made weekly based upon market participants' input/commentary; slow or active upstream sector; slow or active demand.

Can include finished transactions but primarily represents doable price levels on non-contracted and/or rateable business.

The term rateable as used in the Americas Base Oil report refers to apportioned or assigned business done on a routine basis. It is non-contracted, but can include spot business if detected.

Finished transactions, if obtained, may also be found designated within the report text.

Common volumes represented: one tank truck (Large US tank truck volume: 5,500-11,600 gallons, depending upon the product) to 3-5 railcars, approximately 3,000 bbls. Exports or material shipped outside Mexico from Brownsville are not included.

Given on FOB Brownsville, Texas basis.

Provided in USD/gal.

Grade: Brightstock entering Mexico (a member of NAFTA).

Note: North American Free Trade Agreement (NAFTA) market consists of Canada, the United States and Mexico.

Paraffinic Market Prices – Group II

Assessments made weekly based upon market participants' input/commentary; slow or active upstream sector; slow or active demand.

Can include finished transactions but primarily represents doable price levels on non-contracted and/or rateable business.

The term rateable as used in the Americas Base Oil report refers to apportioned or assigned business done on a routine basis. It is non-contracted and non-spot.

Common minimum volume represented: 3-5 railcars or approximately 3,000 bbls.

Given on FOB US Gulf Coast basis.

Provided in USD/gal.

Grades: 100/120; 200/220; 600

Paraffinic Export Prices – Group II

Assessments made weekly based upon market participants' input/commentary.

Range commonly represents volumes of 1,000-5,000 tonnes shipping from US Gulf Coast ports into deep-sea export.

FOB US Gulf Coast basis.

Provided in USD/gal.

Grades: 100/120; 200/220; 600

The paraffinic section of the Americas Base Oils report contains an overview of the week's market based upon market intelligence accumulated over five working days from one report date to the next.

Rateable business is defined as a recurring set of transactions between a supplier and its regular customers, where the supplier allocates available material based on the usual purchasing pattern even though there is no contractual obligation on either party to conclude a transaction in any given month.

NAPHTHENIC BASE OILS

The Americas report includes a section on naphthenic base oils with a weekly overview based upon market intelligence accumulated over five working days from one report date to the next.

Naphthenic (Pale Oil) Market Prices

Assessments made weekly based upon market participants' input/commentary; slow or active upstream sector; slow or active demand.

Represents doable price levels on non-contracted and/or rateable business.

The term rateable as used in the Americas Base Oil report refers to apportioned or assigned business done on a routine basis. It is non-contracted, but can include spot business if detected.

Common minimum volume represented: 1 large tank truck to 3-5 railcars.

Given on FOB Plant basis.

Provided in USD/gal.

Grades: Pale 60; Pale 100; Pale 150; Pale 200; Pale 300; Pale 500; Pale 750; Pale 1200; Pale 2000; Pale 2400

Naphthenic (Pale) Oil Export Prices

Assessments made weekly based upon market participants' input/commentary.

Range represents minimum volume of 1,000 tonnes shipping from US Gulf Coast ports into deep-sea export.

FOB US Gulf Coast basis.

Provided in USD/gal.

Grade: Pale 60

FEEDSTOCK PRICES

The report shows weekly ranges for:

Vacuum gas oil (VGO) low sulphur content

VGO high sulphur content

Fuel oil at 3.0%

Ranges are derived from calculations made by ICIS price editors covering refined products, following a chart on price indicators including the West Texas Intermediate (WTI) crude oil closing price on the publication date and VGO premiums (or discount) to the crude.

The base oils editor takes the refined products number from the indicator chart and adds plus one-cent to form the reported spread.

Base Oils (MIDDLE EAST)

Weekly Price Assessments

GROUP I BASE OILS

SN 150 Spot Prices

- FOB Iran (USD/MT)
- CFR UAE (USD/MT)
- Ex-tank Sharjah (USD/MT)

SN 500 Spot Prices

- FOB Iran (USD/MT)
- CFR UAE (USD/MT)
- Ex-tank Sharjah (USD/MT)

GROUP II BASE OILS

150N Spot Prices

- CFR UAE (USD/MT)

500N Spot Prices

- CFR UAE (USD/MT)

GROUP III BASE OILS

Ex-Tank UAE 4/6/8cst (USD/MT)

Related Oil Product Prices

0.05% Gas Oil

- FOB Singapore (USD/MT)

Base Oils (CHINA)

Asia Market

Region	Assessment name	Type	Freq	Units
China	Group I Brightstock 150 base oil CFR China	Spot	W	USD/MT
China	Group II N70 base oil CFR China	Spot	W	USD/MT
China	Group II N150 base oil CFR China	Spot	W	USD/MT
China	Group II N500 base oil CFR China	Spot	W	USD/MT
China	Group III N100 base oil CFR China	Spot	W	USD/MT
China	Group III N150 base oil CFR China	Spot	W	USD/MT
China	Group III N250 base oil CFR China	Spot	W	USD/MT

China Market

Region	Assessment name	Type	Freq	Units
East China	Base Oils Group I SN150 Truck Domestic Ex-Terminal China E Inland	Spot	W	CNY/MT
East China	Base Oils Group I SN 400 Truck Domestic Ex-Terminal China E Inland	Spot	W	CNY/MT
East China	Base Oils Group II N60 Truck Domestic Ex-Terminal China E Inland	Spot	W	CNY/MT
East China	East China Group II N150 (Local Origin) Ex-terminal Truck	Spot	W	CNY/MT
East China	East China Group II N150 (Import Origin) Ex-terminal Truck	Spot	W	CNY/MT
East China	Base Oils Group II N500 Truck Domestic Ex-Terminal China E Inland	Spot	W	CNY/MT

East China	Base Oils Group III N100 Truck Domestic Ex-Terminal China E Inland	Spot	W	CNY/MT
East China	Base Oils Group III N150 Truck Domestic Ex-Terminal China E Inland	Spot	W	CNY/MT
East China	Base Oils Group III N250 Truck Domestic Ex-Terminal China E Inland	Spot	W	CNY/MT
East China	Base Oils Group I Brightstock 150 Truck Domestic Ex-Terminal China E Inland	Spot	W	CNY/MT
South China	South China Group II N150 (Local Origin) Ex-terminal Truck	Spot	W	CNY/MT
Northeast/North China	Northeast/North China Group II N150 (Local Origin) Ex-terminal Truck	Spot	W	CNY/MT
China	Base Oils Group II N500 (Local Origin) Truck Domestic Ex-Terminal China Inland	Spot	W	CNY/MT
China	Base Oils Group III N100 (Local Origin) Truck Domestic Ex-Terminal China Inland	Spot	W	CNY/MT
China	Base Oils Group III N150 (Local Origin) Truck Domestic Ex-Terminal China Inland	Spot	W	CNY/MT

Import Costs

Region	Assessment name	Type	Freq	Units
China	Group I Brightstock150 spot import cost China	Spot	W	CNY/MT
China	Group II N70 spot import cost China	Spot	W	CNY/MT
China	Group II N150 spot import cost China	Spot	W	CNY/MT
China	Group II N500 spot import cost China	Spot	W	CNY/MT
China	Group III N100 spot import cost China	Spot	W	CNY/MT
China	Group III N150 spot import cost China	Spot	W	CNY/MT
China	Group III N250 spot import cost China	Spot	W	CNY/MT

Import cost = CFR (converted by official USD/CNY exchange rate 6% import tariff 13% VAT) CNY 40/tonne est. terminal charges CNY 1,711.52/tonne consumption tax 13% VAT. The source for exchange rates is from XE.

Publications referenced above:

ICIS Base Oil Market Weekly Report (both in English and Chinese) – published weekly on Fridays.

Other principles and guidelines

Changes to methodology

All markets evolve and ICIS has a duty to ensure its methodologies for market-reporting evolve in step with markets.
ICIS therefore regularly conducts internal reviews of the appropriateness of its methodologies, based on industry feedback.
Draft changes are then made public and comment requested from industry participants, with a minimum one-month notice period, except where, exceptionally a *force majeure* event (natural disaster, war, bankruptcy of a trading exchange etc.) makes necessary a shorter notice period.
ICIS is committed to reviewing all comments on proposed methodology changes, but in some cases may find it necessary to alter its methodologies against the wishes of some market participants.
In addition, ICIS has a formal methodology consultation process. The company commits to holding this consultation every three years for the Base Oils Reports. The date of the last consultation launched and the expiry date by which the company commits to conducting the next consultation can be seen at the top of the methodology document.
Please also refer to the Methodology Consultation Process section of the company's Compliance Manual. This contains detailed flow charts documenting the internal and external review and consultation process.

Consistency

ICIS achieves consistency between its assessors in exercising their judgement by requiring all assessors to follow this detailed methodology as well as the company's Editorial Standards document. In addition, ICIS reporters are required to complete standard training before undertaking the work of a market reporter. Every reporter's work is spot checked.

Data standards

ICIS has a public Data Standards Policy which covers the type and quality of information we ask market participants to report.
The following principles relate to ICIS Base Oils assessments and commentaries:

- Where possible, please allow access to active market traders and allow them to comment on active news stories.
- Where possible, please provide market data from both front and back-office functions.

- Where possible, please provide complete data and not a subsection.
- Flag inter-affiliate transactions.
- Flag sleeve trade.
- Flag spread trades.
- When a source or contact leaves the organisation please contact ICIS to the replacement (ICIS requests that both the source and the organisation contacts them).
- Where information is not validated by the source (i.e. rumour) please indicate as such.

Delivery locations for price assessments

Locations for ICIS base oils assessments are chosen to reflect the concentration of liquidity on the traded markets.

Exercise of judgement

Apart from instances where data may be excluded (see below), ICIS will typically exercise judgement where market information about firm bids and offers or transactions is not available.
In most cases this will involve the application of spread trade information or prevailing market relationships, detailed in the specifications section for each grade in this document.
ICIS will also exercise judgement where only a bid or offer is available, or where a bid/offer spread is so wide as to be unhelpful in establishing tradable value. In both instances, spreads to other grades or prevailing market relationships will typically be used to assess the price. In these cases the assessment will still fall above the highest firm bid and below the lowest firm offer, as long as the bid and/or offer information meets all other criteria specified in this methodology.

Exclusion of data

In line with its Editorial Standards policy, ICIS reporters actively seek to identify anomalous market information and exclude it from the assessment process. For crude market assessments, this is done by the daily information gathering and verification process carried out by reporters, whereby market transaction, bid and offer information is confirmed and verified by multiple sources.

In assessing base oils markets, ICIS takes into consideration only arms-length transactions between non-affiliated parties.

ICIS does not accept bids or offers that are not firm. Any bid or offer which is demonstrably not firm will be disregarded and further bids or offers from the same counterparty may also be disregarded.

ICIS also excludes from its assessments transactions where ICIS market reporters have reasonable grounds to doubt that a transaction is representative of typical market behaviour: for example, where a deal is concluded disregarding the best bid or offer on the market; where there is evidence that a market participant has disclosed only part of its market activity to ICIS; or where a transaction lies outside the prevailing range of typical market activity.

ICIS records instances of anomalous data and reviews these instances on a regular basis with a view to determining if a pattern exists.

Where market reporters have concerns over the behaviour of a market participant, this will be escalated using the ICIS Escalation Process for Compliance and Regulatory Issues. This can be found in the company's Compliance Manual.

Market communication

ICIS communicates with a broad range of market participants – traders, brokers, back-office employees, supply managers, operations personnel and company executives – to obtain market information.

ICIS communicates with participants by telephone, email, instant messenger and in person. All instant messenger, email communication and notes of any face-to-face communication are archived and details of telephone communication are logged and data-based.

ICIS does not accept instant messenger communication from unknown parties, and reporters are required to verify a market participant's identity prior to using IM communication.

ICIS does not regard in any way as binding attempts by companies to restrict ICIS communication with their employees. ICIS has a duty to its subscribers to obtain the maximum possible amount of market information. ICIS treats all communication from market participants as confidential.

ICIS reporters are bound by a Code of Conduct to report to their superiors any coercive or threatening communication from market participants, or any offers of inducements of any kind intended to influence an assessment.

Where improper communication appears to have taken place, ICIS will communicate in the first instance with senior management at the company or companies involved, and if necessary with relevant market authorities.

ICIS expects the highest standards of propriety from all market participants, and regards all communications from market participants as representative of the views of an individual's employer.

ICIS is committed to the highest levels of customer service, and has a formal feedback and complaints policy, which can be viewed here: http://www.icis.com/about/icis-feedback-policy

Market data verification

ICIS will always make best endeavours to confirm bids, offers and transactions with the relevant party/parties. ICIS attempts to cross-check all market data received from a buy or sell-side participant with a participant's trading counterparty.

Where both counterparties to a transaction cannot or will not confirm the data, ICIS seeks corroboration from other market sources.

Where transaction or bid/offer information has been received from a trader rather than from a company's back office, ICIS always seeks confirmation from other sources.

Where ICIS has grounds to doubt an item of market data, it may request further evidence that a transaction has taken place, including documented evidence.

ICIS treats transaction data received from active brokerages as confirmed. On occasion, in markets with low liquidity and a low number of counterparties, ICIS may choose to use unconfirmed data, but only in so far as it is aligned with other market information and comes from a source deemed reliable by ICIS based on previous interactions.

Minimum data threshold

Because of the sometimes thinly traded nature of some markets, ICIS does not have a minimum data threshold for its assessment methodologies in this market.

ICIS makes clear in its daily market comments whether it has assessed a price based on transaction or bid/offer data or whether it has used other forms of evidence or calculation.

Selection of participants

ICIS policy on general market data is that we welcome all information regardless of source or constitution as long as it is provided in good faith as true.

However, only active market participants verified as such by existing active industry participants and verified as a viable business by ICIS investigations

will be allowed to contribute price data to ICIS for the purpose of assessing tradable market value under this methodology.

Unit prices and credit terms

Base Oils in all regions is generally traded in US dollars/tonne, cents/lb or euros/tonne and therefore all price assessments are quoted on these bases. Typical credit terms for Base Oils are 30-90 days from Bill of Lading date.

Volumes

For each region ICIS publishes the standard cargo size, found in the specifications sections of this methodology document. Market information for cargoes conforming to these standards will be fully considered in the assessment process, providing the information conforms to all other specifications and conditions published in this methodology.
As indicated earlier, if ICIS has market information regarding cargoes outside of these published ranges, it will be normalised together with any standard-sized cargo information. In this case, ICIS will seek to establish whether there is a market price premium or discount for the non-standard cargo and apply this for the purpose of making its assessment.

General Methodology Guide for ICIS Chemicals

ICIS endeavours to provide a fair and timely representation of traded prices, which could be used as an effective reference point for market participants. As no two markets are the same, ICIS hopes to tailor methodologies which reflect the needs of each specific commodity market it covers based on factors such as, but not limited to, geography, trade flows/logistics, market size, product characteristics, participants and regulation. ICIS adopts an open policy to feedback regarding its methodology and will conduct reviews on a regular basis.

Spot range assessments

Published daily and weekly, these delineate the typically tradable range for a full working day or week.

The range is normally established using verified typical transactions and standardized atypical transactions.

In the event that no relevant transactions have occurred in the assessed period, ICIS will establish a range using bids and offers for typical spec material; and using established market relationships resulting from manufacturing economics, product linkages, freight and forward markets.

ICIS Mid-Point

Established referencing to ICIS prices often refer to the mid-point of the range as the fair representation of the commodity's traded value.

Weekly range assessments are marked in some ICIS reports with a "+" to distinguish them from spot close assessments (see below).

Instrument function: In liquid markets, ICIS would typically focus on the majority traded principle which would typically exclude deals considered to be outlier deals and unrepresentative of the general market consensus. Provides overview of market activity over course of one day in the case of daily reports, or one week in the case of weekly reports. Any change in assessment periods as a result of public holidays arising in any given week will be indicated via subscriber notes. Width of range offers insight into current levels of market volatility, and could also infer associated differentials caused by logistical and product variances.

ICIS endeavours to keep a tight range through maintaining detailed methodologies but this is difficult in thinly traded markets. Variable range width means assessment trades off accuracy for inclusivity, and transparency is reduced vis-a-vis spot close assessment. Suitable for inclusion in averaging mechanisms and market analysis tools.

Spot close assessments

Published daily and weekly, these reflect the transactable market value of the assessed product at the close of business for the assessed period (daily or weekly). Assessments are nevertheless shown as a low-high range, indicating the "space" in which a transaction is deemed to have been possible at the specified time. This low-high is typically tighter than that shown in a Spot Range assessment. The assessment is established taking into account:

· typical, repeatable transactions at arm's length between non-affiliated market participants;
· standardized "atypical" transactions, where it is possible to derive a typical equivalent market value for a transaction which does not conform to standard specifications;
· bids and offers for typical spec material;
· movements in related markets. In the absence of reliable, confirmable market information for a specific commodity, ICIS reserves the right to compute changes in specific assessments based on established relationships derived from manufacturing economics, product linkages, freight, and forward markets.
Weekly/Daily Spot Close assessments are marked in some ICIS reports with a "*" to distinguish them from Spot Range assessments (see above).

Where possible, editors will indicate any weightage used for spot close assessments which are weighted towards an active period.

Instrument function: Reflects most recent tradable market value with high transparency and high accuracy. Suitable for inclusion in averaging mechanisms and market analysis tools.

Indexes

In some markets, ICIS publishes volume-weighted averages – known as “indexes” or “indices” – of verified typical transactions over specified periods, either daily or weekly.

Inputs to an index are checked editorially for conformity to specification and statistical outliers are eliminated. See individual methodologies for details.

Instrument function: An index is a mathematically derived indicator of typical traded value over a given period. Because it is an average, the deviation from the last transacted value at the close of business could be substantial, depending on the time period assessed hence does not always provide a currently transactable price indication.

Contract reference prices

These are publicly announced, often single number, reference contract prices, agreed in multilateral negotiations and used as a base price for contractual sales of material by producers, typically between major producers and large end-users. ICIS publishes Contract Reference prices once confirmation is obtained of at least two agreements between recognised contract partners of significant size. Note that the date of publication can vary for each contract period depending on the speed of industry negotiations.

It is common for discounts to be associated with announced contract prices, which are usually not common knowledge.

Instrument function: Contract reference prices are used in some markets as the basis for monthly or quarterly contracts and form the basis for further negotiations between producers and buyers on volume-related discounts or premiums.

Contract price assessments

Published weekly, these reflect the achievable “base price” for contractual sales of material by producers, either to onward “distributors” or direct to end-users. Prices, typically valid either for one month or for three, are arrived at by negotiation between producers and buyers, and are updated by ICIS once confirmation is obtained of agreement between major producers and typical

buyers of the size indicated in individual specifications. Note that most contract prices are agreed as a base from which discounts or premiums are given to individual buyers, and that the size of these discounts typically varies based on the volume purchased over the contract period by the buyer.

In the event that market participants fail or decline to confirm outright contract price levels to ICIS, ICIS reserves the right to make its assessments of achievable contract prices based on established market relationships derived from manufacturing economics, product linkages, freight, and forward markets.

Instrument function: Provides view of baseline for currently prevailing contract mechanisms, where these are statically determined – that is, bilaterally negotiated contracts not based on automated averaging of spot market prices.

Distribution indicators

Published weekly for some markets, these reflect contract prices net of known discounts to typical-sized product distributors. See individual methodology statements for details.

Instrument function: Provides additional insight into typical prices paid by buyers in statically determined (i.e. bilaterally negotiated contracts not based on averaged spot market prices).

Margins

Published in ICIS Margin Reports, margin prices reflect computed differentials between different products related through the processing chain.

Instrument function: Provides insight into supply chain economics and industry profitability. A useful reference for baseline production cost calculations, particularly by tracking the margin shifts across different periods. Theoretically determines scope of pricing further along processing chain. Note that market behaviour sometimes violates apparent margin economics. Suitable for in-depth market and industry analysis.

List or posted prices

Published weekly for some markets, these are released by manufacturers as suggested selling prices. In many cases, these prices are reduced after negotiations with buyers. Price changes are sometimes used as important references for negotiations in thinly traded markets.

Price changes

The change in prices from the previous period is indicated in blue as an increase (+), in red as a decrease (-) or no change (n/c) or not assessed (n/a). Changes for prices at the low end of each range are shown at the left and

changes for prices at the high end of each range are shown at the right. Changes in weekly spot prices represent the changes from the previous week and changes in monthly or quarterly contract prices represent the change from the previous month or quarter.

Report name

Some reports cover a range of products. Trade in product of inferior quality (off-spec) is taken into consideration when it affects the market for material that meets standard specifications. Reference to off-spec/distressed cargo is at the discretion of the editor.

Periods referred to in contract price quotations are either months (noted by standard abbreviations) or quarters of the calendar year.

Q1 January February March
Q2 April May June
Q3 July August September
Q4 October November December

Feedstock prices

Contract prices for certain feedstocks are shown where appropriate. In all cases where feedstock prices are shown, they have been taken from the current ICIS pricing report for the product.

Date

ICIS pricing reports are written on the day of publication. The only exceptions are when a public holiday impacts the market. In some circumstances reports will be compiled one or a maximum two days early. When this occurs, it is clearly marked on the report. ICIS pricing provides daily and weekly pricing reports. Deadlines (unless otherwise specified in the methodology) are 1700 hours local time in London, Singapore, Shanghai and Houston. Market close prices refer to this deadline, unless specified otherwise.

Contract price assessments are updated in reports as soon as possible after confirmation is obtained of contract settlement. Because the amount of time required to reach contract agreement varies from month to month, it is not possible to guarantee publication of monthly contract prices at the same point in each month.

Note that information received after the relevant close cannot be used for assessment purposes, nor can a correction be issued based on subsequently received information.

The date of publication is not altered in the event of public holidays. All weekly reports are published at least 50 times per year. Certain reports are not

published during a two-week period in late December/early January. Daily reports are published five times per week, but may not appear on certain days due to public holidays. Please refer to the ICIS pricing publishing schedule for more detailed information.

Geographical regions

ICIS pricing normally covers products on a regional basis to ensure the main drivers impacting the market in any given area are adequately covered. Reports are currently issued covering Europe, the Middle East, Asia or Asia-Pacific, China, India, West Asia, the United States or North America, Latin America, and the Former Soviet Union.

Within these broad areas the most common quotations comprise:

NWE	mainland Northwest Europe (N. France, N. Germany, Benelux)
Med	Southern France, Spain, Italy
NE Asia	Taiwan, Korea, Japan, China
SE Asia	Singapore, Philippines, Indonesia, Malaysia, Thailand, Vietnam
West Asia	Pakistan, India
East Asia	NE Asia & SE Asia
GCC	Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, UAE
E. Med	Greece, Israel, Egypt, Syria, Jordan, Lebanon
FSU	Former Soviet Union: Russia, Ukraine, Belarus, Uzbekistan, Kazakhstan
USG	US Gulf
CMP	China Main Port
Northern Africa	Morocco, Algeria, Tunisia, Libya, Egypt, Sudan
Eastern Africa	Eritrea, Djibouti, Somalia, Kenya, Tanzania
Southern Africa	Namibia, Mozambique, South Africa
Western Africa	Mauritania, Senegal, The Gambia, Guinea-Bissau, Guinea, Sierra Leone, Liberia, Côte d'Ivoire, Ghana, Togo, Benin, Nigeria.

Quotation basis

Prices are quoted with reference to the terms and location of delivery. The period of delivery is also quoted for contract prices. Assessment windows vary from product to product for spot sales. See specific product entries in the Methodology for further details.

Incoterms devised by the International Chamber of Commerce are mainly used to indicate what costs are included in the price. Assessments do not include Value Added Tax (VAT). Terms regularly used in ICIS pricing reports can be found in the Glossary.

Units

Prices are quoted in the currency and unit measure relevant to the particular market. Most chemicals are quoted in US dollars per metric tonne ($/MT), although euros per metric tonne (€/MT), US cents per pound (US CTS/LB) or US cents per gallon (US CTS/GAL) are frequently used. Historical data includes assessments previously measured in European currencies superseded by the euro.

Conversions (weights and measures)

Prices are converted to other currencies and unit measures for ease of reference. Conversions are derived from the quoted price assessments using standard rates of conversion and current exchange rates. Conversions involving weights and volumes are calculated within industry acceptable ranges, which vary from product to product according to specific gravity (e.g. USD/MT to CTS/GAL).

Foreign exchange rates

ICIS provides exchange rates for a variety of international currencies that are time aligned with publication of our pricing reports and consistent for analytical use when applied to historical pricing data. Because of our publishing schedule, certain rates used in some reports may be changed as data moves into a historical database. The ICIS methodology used is as follows:

Rates are not established by ICIS pricing but are published by arrangement with Xenon (www.xe.com). The exchange rates shown are those in effect at the time and date indicated, normally around 17:15 hours in London on the day of publication. They are not a mean or average of exchange rates in effect during the period since the report was last published, but reflect a mean of the bid/offer at the time taken for that particular day. Exchange rates published by ICIS pricing are intended only as a reference and rates offered by local banks or other financial institutions may vary.

- Exchange rates quoted at the foot of the text in ICIS pricing reports are mid-market rates, quoted to two decimal places, applicable on the date of publication. ICIS pricing also offers a real-time currency conversion tool via www.XE.com, with a click-through link from the pricing reports, to enable subscribers to make quick exchange calculations.

- Exchange rates used for the current day's price assessments in compiling the charts contained within ICIS pricing reports are mid-market rates issued at 01:00 UTC on the date of publication. This preliminary exchange rate is used to allow charts to be produced ahead of 16:00 UTC.

- Exchange rates applied to historical data are mid-market rates issued at 16:00 UTC on the date of publication.

  ICIS pricing also offers a real-time currency conversion tool, with a click-through link from the pricing reports, to enable subscribers to make quick exchange calculations.

Non-market price adjustments

Non-market price adjustments are necessary on the rare occasions when after careful consideration it is determined that the level of a price assessment is deemed to have become unrealistic. Before any decision is taken to adjust a price level, a broad spectrum of market participants is polled for their views on both the necessity and potential impact of any planned change and its timing.

Once it is clear an adjustment is required, ICIS pricing posts a notice telling subscribers it intends to make the change, and asks for any feedback over a two week period. After two weeks, and if it is decided to proceed, a second notice is posted informing subscribers that the adjustment will be made two weeks later. All price adjustments take place with a minimum four weeks public notice to subscribers.

Once the adjustment has taken place it is prominently mentioned in the price report it applies to. ICIS also adds a note to the online Price History to explain the apparent step-change in prices. It is important to note that price change deltas remain unaffected by any adjustment and the price trend remains accurate.

Contract Price Change Deltas

In some markets, contract settlements – especially quarterly ones – can evolve further after the initial assessment. This may mean that the actual market movement to the next settlement may not be fully aligned with the mathematical difference between the reported prices in one period and the next. In such cases, ICIS may make an editorial decision to publish the new period's price range without including a delta value in the price table. The

reasons for doing so and the indications of the actual market movement would be discussed in the text of the report. The delta box in these cases would show as “not assessed” (n/a).

Price history – key changes to methodology for contract prices

ICIS price history has been modified such that contract price assessments now relate to the period to which they apply irrespective of their settlement date. This change has been applied retrospectively to all quotes, including discontinued quotes.

As a result:

For a monthly contract (or quarterly) quote selected as frequency ‘C’ and downloaded as csv or displayed as a table in the original quoted currency the report date is given as the first of the month (or quarter). For a contract selected as frequency ‘C’ and displayed as a graph, a ‘stepped’ chart of the value (or average of the low and high where applicable) is displayed with the steps occurring on the first of the month (or quarter).

For a contract quote selected as frequency ‘C’ in any currency other than the original a single monthly (or quarterly) value (low, high and average) is displayed. This value is derived using an average of the foreign exchange rates taken at 16:00 UTC (GMT) on each of the publication dates within the month (or quarter). For the current period, the average foreign exchange rates for all the publication dates within the period to date are used.

For a contract quote selected as frequency ‘W’, the report date is given as the ICIS pricing weekly report publication date – the contract value (low, high and average) applicable to that month (or quarter) is displayed (which, depending on settlement date, may differ from the contract value reported at the time in that week’s ICIS pricing report). For a contract quote selected as frequency ‘W’ and displayed as a graph, a ‘stepped’ chart is displayed with the steps occurring on the first publication date within the month (or quarter).

For a contract quote selected as frequency ‘W’ in any currency other than the original, the contract value is converted for each week using the foreign exchange rate taken at 16:00 UTC (GMT) on the publication date.

Where a contract for the current period has not yet settled, no contract value shows in a weekly price history series – price history terminates at the end of the period to which the last settled contract price applies.

Where a contract settles for a future period, it does not display in price history until publication of the first ICIS pricing report within that period.

Where an initial contract value is reported for a period, and subsequently revised, the latter (or latest) value is taken as the contract value for the whole period.