

SULPHURIC ACID

Sulphuric acid (H₂SO₄) is a widely used chemical on a global basis. Pure sulphuric acid is a colourless, viscous liquid that can cause severe burns and serious eye and skin damage, and is therefore classified as corrosive or hazardous. Transportation of sulphuric acid requires special stainless steel tanks and vessels and is therefore very expensive. Sulphuric acid is soluble in water at all concentrations.

There are three main types of sulphuric acid, based on the different production methods:

- **Sulphur-based sulphuric acid**, which involves the burning of sulphur to produce the acid. Around 60% of the total global output of sulphuric acid is manufactured through this process.
- **Smelter acid**, an involuntary by-product of metal smelting operations.
- **Sulphuric acid from pyrites**: Pyrite is an iron disulphide and is quarried extensively to produce sulphuric acid. The pyrite is burnt with excess oxygen to produce sulphur trioxide, which will form sulphuric acid when combined with water. Production by this process accounts for less than 10% of annual production and is most common in China.

The main use of sulphuric acid, around 60%, is for the production of phosphate fertilizers where the sulphuric acid is mixed with phosphate rock and other raw materials to produce phosphoric acid. Phosphoric acid is produced when sulphuric acid is manufactured using the 'wet method' of manufacturing. Phosphoric acid is then used as a raw material for the production of Diammonium phosphate (DAP), Monoammonium phosphate (MAP) and triple superphosphate (TSP) fertilizers.

Other uses include base metals leaching which requires sulphuric acid and is prevalent in Chile and the Pacific Rim while production of sulphuric acid from base metals smelting is found mostly in Asia and Europe. Industrial uses include the consumption of sulphuric acid for pulp & paper, battery and specialty chemical production.

There are many grades of sulphuric acid available based on concentration, including:

- 20-22%, which contains excess dissolved sulphur trioxide.
- 33% or electrolyte grade, used in car batteries
- 62-70% or chamber acid
- 98% or concentrated sulphuric acid

Frequency:

- ICIS PentaSul quotes Sulphuric Acid prices on a weekly basis **worldwide** on Fridays in the World Sulphuric Acid Weekly report.
- ICIS PentaSul includes Sulphuric Acid price quotes from World Sulphuric Acid Weekly in the World Monthly Review (WMR) report. WMR is published during the first week of the month and prices quoted are from the latest World Sulphuric Acid Weekly report.
- ICIS Pricing quotes Sulphuric Acid prices on a weekly basis for **Asia Pacific** on Fridays.

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Weekly Price Assessments:

- CFR US GULF spot (USD/MT)
- CFR TAMPA spot (USD/ST)
- FOB NW EUROPE spot (USD/MT)
- FOB MEDITERRANEAN spot (USD/MT)
- CFR CHILE spot (USD/MT)
- CFR BRAZIL spot (USD/MT)
- CFR NORTH AFRICA spot (USD/MT)

Contract Price Assessments (included every week but adjusted upon settlement):

- CFR SOUTH US contract (USD/ST) – contract
- CFR NW EUROPE contract (USD and €/MT) – quarterly/half year contract
- CFR CHILE contract (USD/MT) – annual contract

Monthly Price Assessments:

- CFR CHILE spot (USD/MT) – as assessed in World Sulphuric Acid Weekly
- CFR US GULF spot (USD/MT) – as assessed in World Sulphuric Acid Weekly
- FOB MEDITERRANEAN spot (USD/MT) – as assessed in World Sulphuric Acid Weekly
- CFR NW EUROPE contract (USD and €/MT) – as assessed in World Sulphuric Acid Weekly
- CFR CHILE contract (USD/MT) – as assessed in World Sulphuric Acid Weekly

ICIS Pricing

Weekly Price Assessments:

- FOB CHINA spot (USD/MT)
- CFR SE ASIA spot (USD/MT)
- CFR INDIA spot (USD/MT)
- CFR NE ASIA contract (USD/MT) – included every week but adjusted upon settlement
- CFR SE ASIA contract (USD/MT) – included every week but adjusted upon settlement

General Information:

Assessment window:

ICIS PentaSul price assessments are based on information supplied by market participants through the week up to close of business on Thursdays at 17:00 hours in London. Prices published in the most recent published issue of World Sulphuric Acid Weekly are used in World Monthly Review. ICIS Pricing price assessments are based on information supplied by market participants through the week up to close of business on Friday at 1800 hours in Singapore.

Specifications:

Prices are generally quoted in metric tonnes (MT) except for: the CFR Tampa and CFR SOUTH US prices which are in short tons (ST). Prices are quoted in USD except for the NW Europe contract price which is quoted in Euros (€).

Timing:

Contract prices quoted on a quarterly or semester basis. Spot prices are typically for cargoes loading prompt (four to six weeks).

Terms:

Prices are usually assessed on a cash basis. ICIS will report about specific credit terms when required.

Standard cargo size:

All cargo sizes are considered from 3,000 to 60,000 tonnes for all FOB and CFR quotes. Cargoes moving from northeast Asia into southeast Asia or intra-southeast Asia are typically 6,000-12,000 tonnes; cargoes moving from Asia into Chile are 18,000-20,000 tonnes. Cargoes are typically moved in lots of 3,000-10,000 tonnes to North Africa.

Assessment basis:

Information about new sales, changes to supply/demand and any other factors that can have an impact on the sulphuric acid market is collected through the week up to press time on Friday through telephone calls with producers, end-users, traders and shippers, plus email correspondence and web searching. Information received is carefully counterchecked with other sources to make sure the information is true and accurate and not in any way misleading.

Following are some price specific information:

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Prices refer to most recently concluded contract, spot business or competitive offers. Prices are net of credit or other terms.

Spot prices are changed on confirmed business only – the supplier, consumer or both confirm origin, destination and price.

The Tampa price in US\$/short ton delivered consumer tank Bone Valley is based on spot imports. Because of the thin import trade in the Tampa market, a US Gulf price range also is quoted, again for basis spot imports. The South US price series is for domestic industrial business CFR for a medium-to-large industrial consumer by rail or barge.

The NW Europe CFR consumer series represents the contract price range for medium-to-large sized consumers for both vessel and barge delivery within the region. The upper end includes sulphur-based product. This series is shown in €, the currency in which it is agreed and also in USD at the prevailing exchange rate. A division between quarterly and semester contracts is shown.

The NW Europe export prices are for lots of 10,000 tonnes or larger for export into the international market.

Mediterranean prices are for export lots of 5,000–10,000 tonnes generally sold by traders, some of which are for destinations within the region. The prices are based on confirmed deals on the buy or supply side or ideally, both the buyer and supplier confirming business concluded. Discussion of price ideas is included in the text of reports.

The Chilean price series is for shiploads of 10,000 tonnes or larger landed at a northern (Region II) terminal in the Mejillones area; spot is the prevailing price for prompt delivery. The contract price is for supply from Chile and Peru and international supply regions such as Asia negotiated at an annual domestic price.

The Brazilian price series is for shiploads of 10,000 tonnes or larger.

The North African price series is for spot business to markets including Morocco and Tunisia. Typically, these are small lot volumes from within the Mediterranean region.

It is also important to note that there is business concluded in the market that is not reported or confirmed. This can influence price ideas. The ICIS PentaSul prices are intended to be an indication.

ICIS Pricing

The ICIS pricing Asia sulphuric acid report examines trade flows within northeast Asia, and from northeast Asia into southeast Asia, India and Chile. While business to northeast Asia and southeast Asia is covered comprehensively, the report focuses mainly on



material originating in China, Japan and Korea as these represent the main export markets for sulphuric acid, although exports ex-Australia and the Philippines will also be reflected periodically in the report.

ICIS pricing Asia sulphuric acid assessments are derived from details of completed business reported during this period. In the absence of concluded business, the range would be assessed on a combination of price indicators including the last-detected transactions, firm bids and offers, buy and sell indications as well as notional discussions.

The report offers market commentary that includes prices in industry sectors related to sulphuric acid, details of traced transactions, news on the supply/demand balance, export/import information, contract price negotiations and general sentiment for price direction. Where applicable, there is production information, comments on up and downstream market developments and general market intelligence.

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