

Ethylene Oxide Methodology

Ethylene oxide (EO) is a useful intermediate in chemical manufacture, despite being a deadly product with about half the explosive content of TNT. It is also a suspected carcinogen. EO is primarily used in the production of ethylene glycol, which is in turn utilised mainly in the making of polyesters and antifreeze. Globally, some 63% of EO is converted to mono ethylene glycol (MEG), with a further 7% going into other glycols.

Other EO derivatives include glycol ethers, ethanolamines, ethoxylates, polyols for polyurethane systems, polyethylene glycols and polyalkylene glycols.

EO is a colourless gas at ambient temperatures which condenses when cooled to a colourless mobile liquid boiling at 10.4°C. The vapours are extremely flammable and toxic if inhaled.

ICIS pricing quotes ethylene oxide in **Europe** and the **USA**.

Frequency:

Published weekly on Fridays.

Ethylene Oxide (EUROPE)

Weekly Price Assessments:

Ethylene Oxide monthly contract price

- FD NWE (EUR/MT & conversion to CTS/LB)
- FD MED (EUR/MT & conversion to CTS/LB)

Ethylene Oxide Feedstock prices

- ETHYLENE FD NWE quarterly contract (EUR/MT)

Ethylene Oxide (USA)

Ethylene Oxide Contract Prices (FOB)

- FOB monthly (US CTS/LB & conversion to USD/MT)

Ethylene Oxide Feedstock prices

- ETHYLENE US DELIVERED monthly contract (US CENTS/LB)

General Information:

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

Specifications: In the US, the EO quote covers product of minimum 99.5% purity by weight, with maximum water content of 0.03% by weight, maximum acidity of 0.002% by weight and maximum aldehydes content of 0.01% by weight. In Europe typical values are 99.9% minimum purity by weight, maximum water content of 70 ppm and maximum aldehydes content of 40 ppm.



Timing: Cargoes loading or delivered four-six weeks forward from the date of publication.

Terms: 30-60 days after bill of lading date.

Standard cargo size: Standard cargo size in the US is a railcar, road and rail trucks and pipelines in Europe.

Assessment basis: In Europe, prices are settled on a monthly and quarterly contractual basis. The ICIS pricing Northwest Europe (NWE) price assessment includes both monthly and quarterly contracts for consumers of 2,000-15,000 tonnes/year. The assessment includes contracts which are formula-related – based on approximately 82% of the monthly change in the ethylene contract and the addition of a conversion fee, or adder – and freely negotiated. The vast majority of European contracts are now formula-related.

In the absence of price confirmation in Europe, ICIS uses a mathematically derived indicator using 0.82 of the upstream monthly FD NWE ethylene contract move to calculate the monthly EO price move.

The assessment includes contracts which are delivered to consumers by road, rail and pipeline. Including all of these criteria necessarily results in a wide price range for the assessment, but this reflects the nature of the European EO market.

The FD Med assessment covers monthly contractual business in Spain and Italy. Prices in these markets are generally above prices in NWE due to higher freight costs, either by road or inter-modal.

Due to the hazardous nature of transporting EO, most consumers in Europe are located at, or close to, production sites, and the bulk of volume is delivered by pipeline.

In the US, the published contract price range in the USA report price assessment is monthly and contracts are formula-based on approximately 80% of the monthly change in the ethylene contract and the addition of a conversion fee, or adder. The contract price range in the USA report represents prices paid by consumers on a free on board (FOB) basis. The published contract price range is typically updated when feedstock ethylene contracts settle and upon confirmation received from buyers and sellers. The published contract price range represents the average contract price among small, medium and large volume buyers. In addition to the published contract price range, price ranges for small, medium and large volume consumers are posted directly below the published benchmark contract price range and above the report's text.



The reports offer market commentary that includes 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 product information, comments on up and downstream market developments and general market intelligence. In the USA, the report also includes trade data supplied by the US Department of Commerce.

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