

LINEAR ALKYL BENZENE (LAB)

Linear alkylbenzene (LAB) is an organic compound with the formula $C_6H_5C_nH_{2n+1}$, where n is typically between 11 and 12. LAB is used almost wholly as an intermediate in the production of linear alkylbenzene sulphonate (LAS), which is a surfactant. In the past five decades, LAB has emerged as an important feedstock for producing biodegradable detergents and other cleaners.

Normal paraffin (n-paraffin) and benzene are the main feedstocks for LAB. High-purity n-paraffin is obtained by hydrotreating jet kerosene. This is then dehydrogenated to form linear olefins, which are then exposed to benzene in the presence of a catalyst to produce LAB.

There are three types of catalysts used in producing LAB. Hydrogen fluoride (HF) is the major catalyst used. The second type of catalyst used is aluminium chloride ($AlCl_3$), but it is getting phased out. The HF process, in particular, was seen to be the most commercially viable. However, because of environmental concerns around the use of HF, it has been replaced since 1995 by a fixed bed catalyst system – for example, the DETAL process, which does not use HF.

Surfactant LAS, also known as linear alkylbenzene sulphonic acid (LABSA), is typically sold at a 96% minimum purity level in liquid state. LAS is used widely in the manufacture of detergents for household and industrial use. The common use form is as a sodium salt.

One tonne of LAS uses around 0.77 tonnes of LAB.

ICIS quotes LAB and LAS prices in **Asia/ Middle East**.

Frequency:

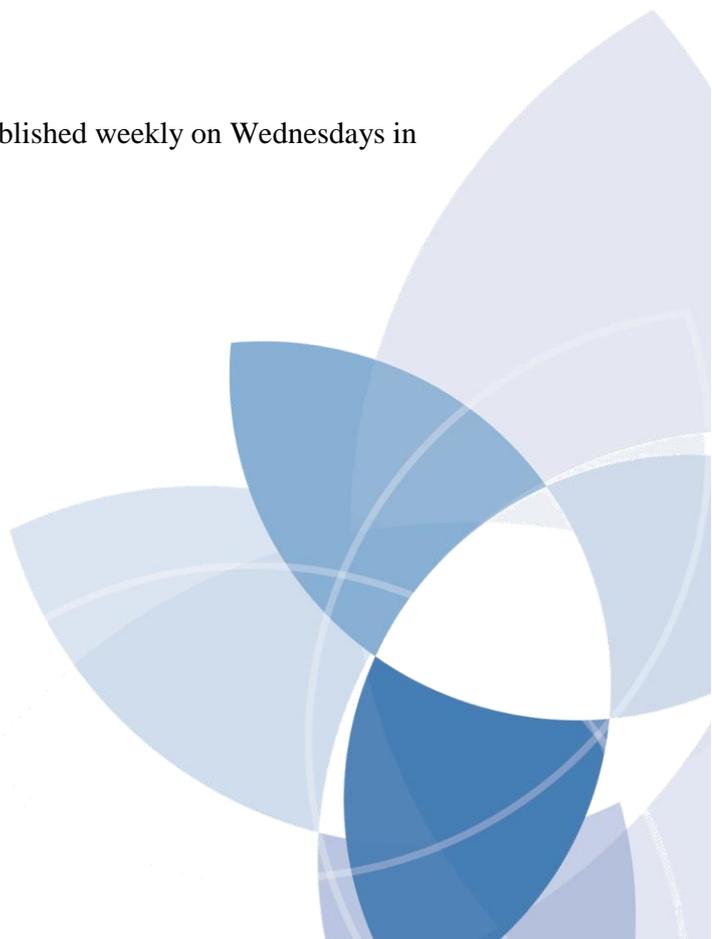
The Linear Alkylbenzene & Sulphonate report is published weekly on Wednesdays in Asia.

Linear Alkylbenzene & Sulphonate (Asia/Middle East)

Weekly spot price assessments:

Linear alkylbenzene (LAB)

- FOB India (USD/MT)
- FOB NE Asia (USD/MT)
- FOB Middle East (USD/MT)
- CFR SE Asia (USD/MT)
- CFR India (USD/MT)



Linear alkylbenzene sulphonate (LAS)

- FOB India (USD/MT)
- FOB NE Asia (USD/MT)
- CFR SE Asia (USD/MT)

General information:

Assessment window:

Price assessments are based on information supplied by market participants through the week up to close of business on Wednesdays at 18:00 hours Singapore time.

Specifications:

For LAS, the report assesses the 96% purity grade, as this is the industry standard. However, grades which have 90-95% purity will also be taken into account and mentioned in the market commentary.

Timing:

In Asia, quotes refer to cargoes delivered two-four weeks forward from the date of publication.

Terms:

L/C at sight, except FOB India, FOB Middle East and CFR India for Middle East origin cargoes which are 60-90 days.

Standard cargo size:

The standard cargo size considered for the LAB assessments is 1,000-3,000 tonnes lifted in bulk carriers or iso-tanks. However, because of the increasing popularity of flexi-containers, the transactions of smaller cargoes, which are typically 100-300 tonnes in volume, will be mentioned only in the commentary.

The standard volume for LAS assessments will be 100-300 tonne drummed cargoes. Cargoes being transported by iso-tanks will also be considered, but mentioned only in the commentary.

Assessment basis:

The LAB and LAS markets in Asia and the Middle East are veering increasingly towards spot cargoes, according to market players. A few years ago, 50% of the transactions were done on a contract basis to large end-users and the other half to smaller players in the detergents sector. Currently, only 25% of trade are done on contract, with the remaining 75% transacted on a spot basis.



The FOB Middle East LAB assessments reflect largely trade flows from countries such as Saudi Arabia, Qatar, Iran and Egypt. The FOB northeast (NE) Asia assessments represent largely exports out of South Korea and Taiwan. The CFR southeast (SE) Asia assessments reflect largely imports to Vietnam, Philippines, Thailand, Malaysia and Indonesia, even though Indonesia is supplied largely by its domestic producer.

The LAS FOB NE Asia assessment reflects largely exports out of China, South Korea and Taiwan, while the CFR SE Asia assessment for LAS reflects largely imports to Malaysia, Thailand, the Philippines, Vietnam and Indonesia. China is increasingly assuming a dominant position among LAS exporters.

The assessments in the price table exclude taxes and special discounts offered on one-to-one basis.

Discounted prices heard in the market will be mentioned in the commentary.

Prices incorporate discussions and confirmed deals across the region. Prices may represent a bid/sell range in the absence of confirmed deals.

The report offers market commentary and analysis including details of traced LAB and LAS spot transactions, supply/demand issues, export/import data and news, spot prices, contract price negotiations, general market sentiment for price direction, feedstock markets, production news and market outlook.

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