

# Chemical Profile: Europe PMMA

DATE: 2018-01-25

## USES

Polymethyl methacrylate (PMMA) is an acrylic polymer that has high ultraviolet (UV) resistance and is available as resin or sheet. About two-thirds of consumption is in sheets produced by extrusion or casting, while the remainder is moulded into various shapes. PMMA's primary use is in car headlamps and tail lights. The second largest use is in construction (pool and sanitary ware, architectural fittings) and glazing/signage. Other uses are household appliances, optical media, electronics, mobile phone displays, cosmetics packaging, toys, pens and furniture.

[blocked URL](#)

## SUPPLY/DEMAND

Demand for PMMA was healthy throughout 2017, with strong performances from the automotive and construction sectors. Overall demand is expected to grow above GDP, but there will be some applications that are expected to significantly outperform this. As the automotive sector continues a shift toward lightweight vehicles, then the demand for PMMA continues to grow, with a double-digit percentage increase expected in 2018. Producers continue to develop methods to increase the impact-resistance for PMMA, which means it can be used in more parts of a vehicle, including bumpers. There are also further opportunities in the construction sector. The main concern, especially after a year of global shortage in 2017, is whether there will be the material to meet the growth in the industry.

Players are eagerly awaiting new capacity in the Middle East, with production now expected online in the first half of 2018. An additional 40,000 tonnes/year additional PMMA capacity is expected to come online for Saudi Methacrylates, along with MMA. The 250,000 tonne/year MMA plant is a joint venture between Mitsubishi Chemical (MCC) and newcomer to the market SABIC. There will also be an additional 50,000 tonne/year PMMA facility for Petro Rabigh, with the 90,000 tonne/year MMA plant expected on line in the first half of 2018, after a number of delays to the project. Petro Rabigh is the joint venture between Japan's Sumitomo Chemical and state-owned energy firm Saudi Aramco.

## PRICES

European PMMA prices increased by 34% last year, with further triple-digit increases being discussed for first-quarter contracts for 2018. The extreme MMA shortage has altered the makeup of the downstream market, with contract terms changing and some buyers leaving the market for supply security. This is expected to continue into 2018, with both MMA and PMMA expected to remain unbalanced for at least the first half of the year. The monthly European MMA contract rose 68% between January and December, significantly increasing costs for PMMA producers. A number of quarterly contracts were changed to monthly, and even the large automotive players had to compromise to quarterly contracts from six-monthly. Although the vast majority of business is still on a quarterly basis, shorter-term contracts will remain a factor in the market until supply rebalances. With MMA prices at an historical high at the start of 2018, many PMMA players are questioning if 2018 will show an improvement, and how long can the shortage continue before it has long-term damage on the sector.

[blocked URL](#)

## TECHNOLOGY

PMMA is produced from polymerizing MMA and several processes are in operation. For glazing uses, some MMA can be pre-polymerized in a continuous stirred tank reactor and the resulting viscous liquid is fed into a series of flat glass plate-like moulds. This type of batch operation is very cumbersome, so continuous polymerization/cast technologies also operate. In belt polymerization processes, the MMA/PMMA syrup is injected between continuous highly polished metal belts. Continuous and batch solution processes also exist.

## OUTLOOK

There is a major stoppage approaching for Lucite International at its 200,000 tonne/year MMA facility in Cassel, UK. The overhaul will take place at the end of the first quarter, and is expected to take approximately two months. There will also be a series of upstream MMA stoppages in Asia in 2018, which are likely to impact the flow of PMMA to Europe. Imports were low level for the bulk of 2017, with buyers also unable to pay the higher prices for Asian product. There are worries over margins for buyers, as many have been unable to pass on the sharp increases, with prices fixed on an annual basis. Buyers in the extruded sheet sector in particular are citing poor and in some cases negative margins, with PMMA prices at their current level. In the long term, the current price level for MMA is not seen as sustainable, with prices at an all-time high. However, prices are also not expected to fall to the lows of 2016, as it was the low margins of then that in part led to the series of production outages, with a lack of investment in facilities. Although the second half of 2018 may bring relief to the market, turbulence is expected until then, as players battle with further outages and strong demand.

Source *Icis News*