



# PLATINUM GROWTH IN THE CHEMICAL SECTOR

Double-digit growth in platinum use by the chemical sector is expected for 2019

Recent data is predicting a 10 per cent rise in demand for platinum from the chemical industry this year, which is set to grow to 625 koz. This increase comes on the back of substantial capacity expansion in China, designed to improve the country's self-sufficiency across a range of bulk chemicals.

Here, major new paraxylene plants have come on stream, as well as propane dehydrogenation (PDH) facilities, representing a scaling up and consolidation of production away from smaller plants towards large integrated refining and petrochemical complexes.

Paraxylene is an intermediate that is used in the production of plastics and polyester textiles, while PDH is used in the production of propylene from propane. PDH is essential to the petrochemical industry as part of the petroleum refining process.

Across the chemicals sector – including in the production of paraxylene and PDH – platinum is prized for its catalytic properties. A catalyst speeds up a chemical reaction without itself being chemically changed or used up in the reaction, improving yields and reducing the energy required.

## PLATINUM CATALYSTS are used to make ...

Nitric acid, a feedstock in the production of fertiliser

Paraxylene, an intermediate in the production of plastics and polyester

Propylene-based compounds used in cosmetics

Silicones - with a multitude of uses, including sticky notes

Since the early 20th century, platinum has been used as a catalyst in the commercial production of nitric acid, a key feedstock in the making of fertiliser. Around 90 per cent of nitrogen manufactured using platinum goes towards producing the 190m tonnes of fertiliser nutrients used each year.

Platinum catalysts are also used to make silicones, in a process known as 'curing', which enables silicone rubber in a liquid or gel form to toughen and harden. This produces silicone where performance characteristics such as high purity, tear-resistance, transparency and low toxicity are important. Platinum-cured silicones are known to be especially useful in

processes that require detailed customisation or extreme hardness. Rising nitric acid and silicone production during 2019 is also expected to contribute towards demand growth for platinum, especially in Western Europe.

## Forecast for 2020

Early indications are that platinum demand from the chemical sector will continue to grow during 2020, albeit at a more modest rate, with a 10 koz increase forecast. Growth next year is expected to come from ongoing expansion in PDH capacity plus rising nitric acid and silicone production across Asia.

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