Chevron up after power outage

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Cape Town - The Chevron refinery in Cape Town is expected to resume full production by the end of this week after shutting down following a power failure on Sunday, the company said. "We already started producing on Sunday and we will be in full production by the end of the week," Phumi Nhlapo, spokesperson for the refinery told Reuters.

The refinery shut down early on Sunday during blackout that hit large parts of South Africa's Western Cape Province, which includes Cape Town. Nhlapo said the refinery, which is the only oil refinery serving the Western Cape, had sufficient stocks to cover the shortfall.

This news article was obtained from the website www.fin24.com. Learners - if you use any part of it you need to write it in your own words and include the following in your reference list: Fin24.com. 2006. Chevron up after power outage. [Online]. Available: http://www.fin24.com/Companies/Chevron-up-after-power-outage-20060221 [21 May 2010].

Introduction

Modern petrol engines require a high proportion of branched-chain alkanes for efficient combustion. Straight-chain alkanes, which make up about 10% of the distilled product of crude oil, are heated in the presence of a platinum catalyst to form branched-chain isomers.

There are a number of different chemical reactions that occur in the catalytic reforming process, all of which occur in the presence of a catalyst and a high hydrogen partial pressure. Depending upon the type of catalytic reforming used, the reaction conditions range from temperatures of about 495 - 525°C and from pressures of about 5 - 45 atm.

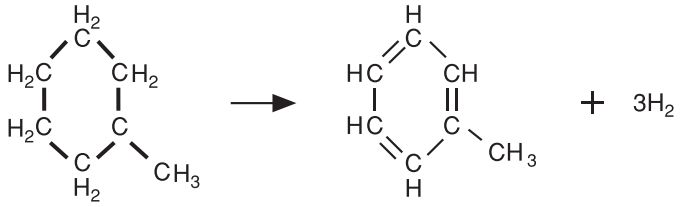
DID YOU KNOW?

Catalytic reforming is a chemical process used to convert petroleum refinery naphtha, typically having low-octane ratings, into high-octane liquid products called reformates which are components of high-octane petrol.

The four major catalytic reforming reactions are:

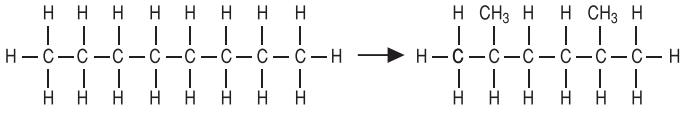
1: The **dehydrogenation** of naphthenes to convert them into aromatics, for example in the conversion of methylcyclohexane (a naphthene) to toluene (an aromatic), as shown below:

methylcyclohexane ⟶ toluene + $3H_2$



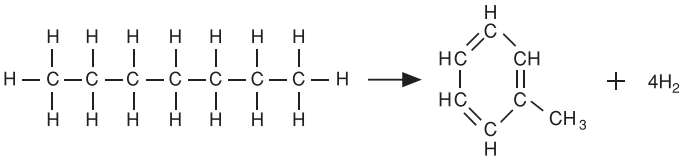
2: The **isomerisation** of normal paraffins to isoparaffins, for example in the conversion of normal octane (n-octane) to 2,5-dimethylhexane (an isoparaffin), as shown below:

n-octane ⟶ 2,5-dimethylhexane



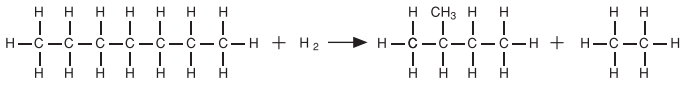
3: The **dehydrogenation and aromatisation** of paraffins to aromatics (commonly called dehydrocyclisation), for example in the conversion of normal heptane to toluene, as shown below:

n-heptane ⟶ toluene + $4H_2$



4: The **hydrocracking** of paraffins into smaller molecules, for example, the cracking of normal heptane into isopentane (2-methylbutane) and ethane, as shown below:

n-heptane + H_2 ⟶ isopentane + ethane



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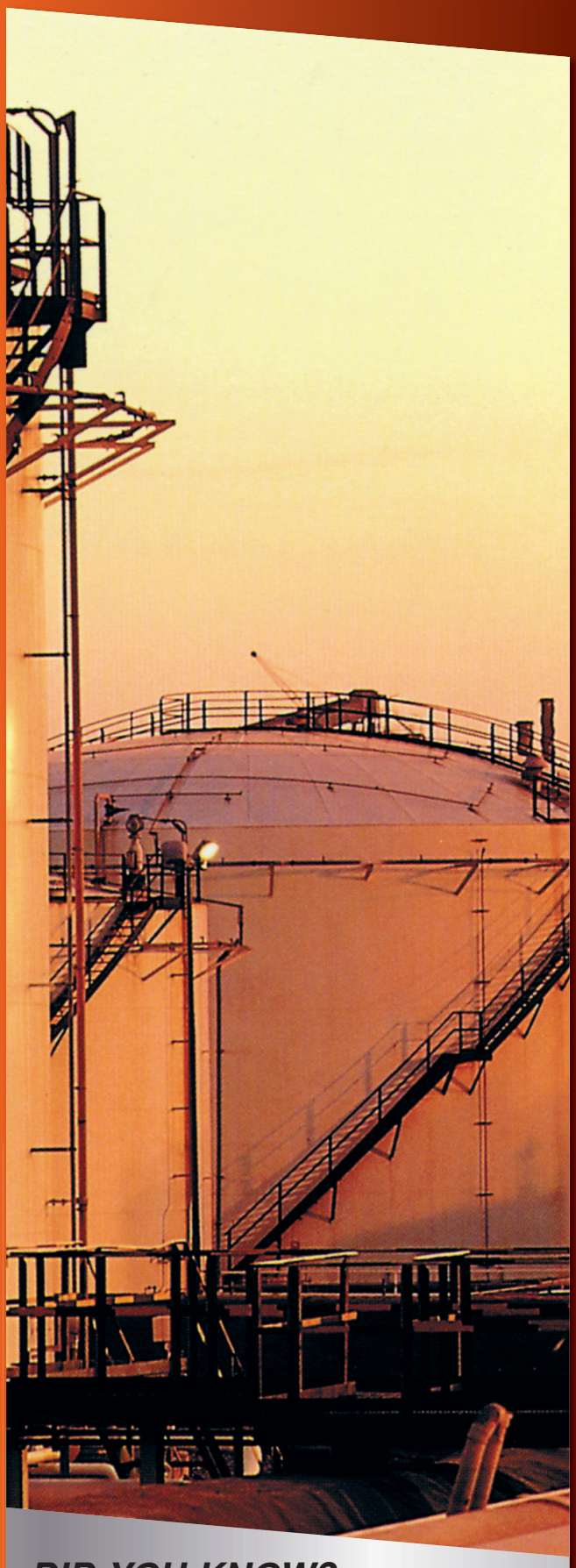

DID YOU KNOW?

'Paraffins' is another word used for hydrocarbons.
The word 'normal' as in normal octane (n-octane) is used to indicate a straight chain hydrocarbon.