

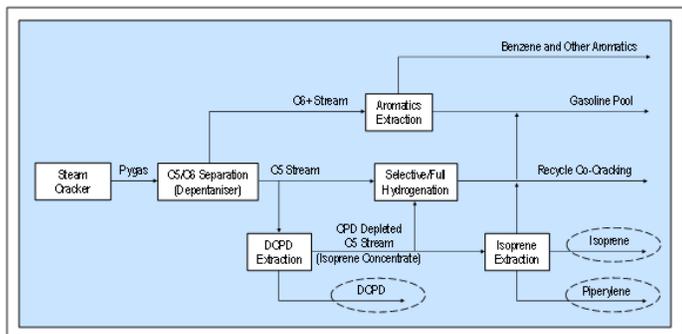
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C₅ Chemicals: Unlocking Hidden Opportunities in Steam Crackers?

Report Overview

The mixed C₅ stream contained in the pyrolysis gas (pygas) from steam cracking is a rich source of diolefins. The normal fate for these C₅ diolefins within most steam cracker complexes is in the gasoline pool or in recycle co-cracking. However, some steam crackers depentanize the pygas, opening up several options to add chemical value to the C₅ stream in applications such as hydrocarbon resins, elastomers of various kinds, and even fine chemicals. The major C₅ components which are currently extracted or synthesized for chemical uses include isoprene, dicyclopentadiene (DCPD), and piperylene.



Source: Nexant

A first impression of the C₅ chemicals industry could be one of relatively healthy profit margins, set against a background of reliable supply sources from established steam crackers, coupled with firm demand fundamentals for C₅ components in growing end-use markets. However, there has been limited recent investment activity in this sector due to various reasons such as uncertainties in oil price, low natural rubber price and poor economic environment. The C₅ chemicals sector evidently presents not only various potential business opportunities, but also a host of investment hurdles and strategic considerations. The objective of this study is therefore to examine the current and developing situation in the global C₅ chemicals industry today.

Subjects Addressed

This report aims to provide a comprehensive business analysis, including commercial, technical, economic, and strategic considerations, addressing the following key issues facing the C₅ chemicals sector:

- C₅ availability and supply potential amidst evolving developments in the ethylene industry
- Criteria for extracting unsaturated C₅ streams from by-product streams of steam crackers

- Prospects of emerging markets and trends in mature markets
- Trade considerations and their implications on trade flows and patterns
- Production economics and drivers of production costs, product pricing, and profitability
- Industry structure, competitive intensity, and market attractiveness
- Sustainable business models based on integration, optimization, or partnership along the value chain

Some Key Questions Answered

Market factors:

- What are the implications for crude C₅ supply, based on projected feedstock preferences and investment patterns in the ethylene sector?
- What are the key features and development trends in end-use markets, and how will these impact the outlook for C₅ chemicals and derivatives demand?
- What are the major threats for market growth for each of the C₅ chemicals?

Strategic considerations:

- Are there opportunities in the merchant market, or will investments heavily rely on forward integration?
- Is the demand and price of the C₅ chemicals attractive enough to make installing of extraction units economical?
- What are the main entry barriers for entering each of the individual C₅ chemicals business?
- Should producers be looking into on-purpose production processes (especially for isoprene) for reliable supply of feedstock?

Who Should Buy Oil Price and the Cost Competitiveness of Petrochemicals?

This report has been designed to be of benefit to both existing players and new entrants within the entire C₅ chemicals value chain. For the steam cracker operators, the report aims to evaluate the opportunities that could potentially increase their competitiveness within the industry. For new entrants, the report aims to provide guidance on business considerations for entering the industry from both the supply to demand sides.

For information regarding the report, [C₅ Chemicals: Unlocking Hidden Opportunities in Steam Crackers?](#), please contact STMC@nexant.com.

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