



Olefins from Mixed Plastics Waste – Are Thermolysis Routes Viable?

Background

The problem with plastics waste is actually a problem of solid waste in general. Society's willingness to dispose of garbage responsibly has not kept up with the ability to produce it. It is for this reason that public and private companies are seeking ways to reduce plastics production (which represents about 12 percent of global waste).

As consumers will continue to lean toward companies that offer sustainable products and call for a decrease of petroleum based plastics, thermolysis methods are being investigated for recycling mixed plastics waste.

Initially, the focus of these technologies was the production of various fuels, typically diesel. More recently, the focus has shifted to production of naphtha, as it can be used to create new plastics, thus creating a circular process, and one that can count toward recycling goals and requirements.

Objective

The purpose of this report is to provide a strategic analysis of thermolysis technologies and how viable they are for olefins production from mixed plastics waste.

This detailed study examines the thermolysis (i.e., pyrolysis and gasification) of mixed plastics waste by:

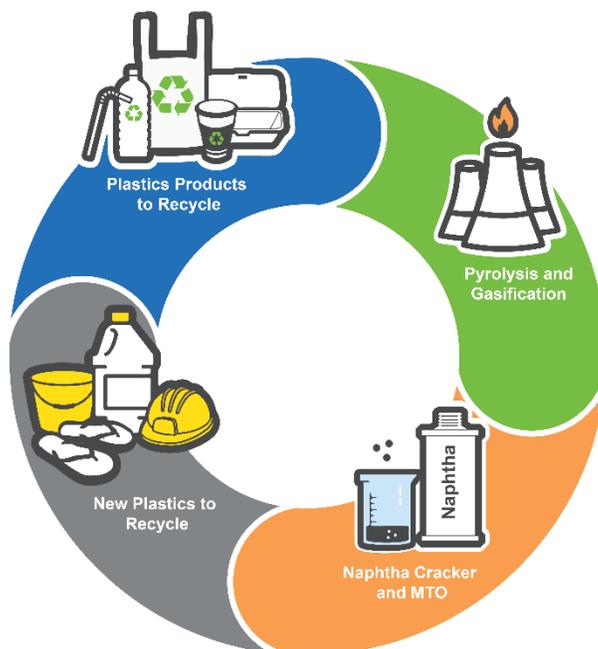
- An analysis of the waste stream, including the mixed plastics waste value chain
- An analysis of the thermolysis plant location, including the issues and challenges/factors affecting location
- Profiling thermolysis technologies currently being used and considered for recycling of mixed plastics waste, including a ranking of these technologies
- Economics of thermolysis technologies and olefins production

This report incorporates expertise Nexant has gained over many years of examining polymer technology developments as well as the knowledge gained during recent recycling studies. Thus, the information used to develop this report is derived from in-house sources as well as information provided by technology developers, conversations with experts in the area, and publicly available resources.

What is Included in the Report?

- High level profiles of pyrolysis and gasification technology developers
- A ranking of the profiled companies on criteria such as:
 - Capital investment
 - Status of the technology
 - Feedstock flexibility
 - Product usefulness
 - Patent protection
- Economics for pyrolysis and gasification products and olefins from products in 1H 2020 for USGC, Western Europe, China, Japan, and Southeast Asia locations
- Cost competitiveness and profitability for olefins production based on various oil price scenarios for USGC, Western Europe, and China
- Strategic and business considerations (e.g., SWOT, certifications, Porter's 5 Forces, potential price premium, thermolysis feedstock sources)

Using Thermolysis to Create a Circular Economy



**For more information please contact
specialreports@nexant.com or www.nexanteca.com**

Special Reports



Olefins from Mixed Plastics Waste – Are Thermolysis Routes Viable?

About Special Reports

Special Reports analyze issues of topical importance to the energy and chemicals industry. Each special report explores the subject matter in detail to provide an up-to-date and thorough understanding of the related issue allowing investment decisions and new business strategy to be formulated.

Our Special Reports analyze issues of topical importance to the energy and chemicals industry. Each special report explores the subject matter in detail to providing an up-to-date and thorough understanding of the related issue allowing investment decisions and new business strategy to be formulated.

For more information please contact
specialreports@nexant.com or www.nexanteca.com



Nexant Subscriptions and reports provide clients with comprehensive analytics, forecasts and insights for the chemicals, polymers, and energy and cleantech industries. Using a combination of business and technical expertise, with deep and broad understanding of markets, technologies and economics, Nexant provides solutions that our clients have relied upon for over 50 years.

To complement Nexant's main subscription programs, a series of **Special Reports** are available. These reports analyze issues of topical importance to the energy and chemicals industry. Each special report explores the subject matter in detail to provide business analysts and senior executives with an up-to-date and thorough understanding of the related issue allowing investment decisions and new business strategy to be formulated.

Corporate Headquarters

Tel: +1 415 369 1000
101 2nd St Suite 1000
San Francisco
CA 94105-3651
USA

Americas

Tel: +1 914 609 0300
44 S Broadway,
5th Floor White Plains
NY 10601-4425
USA

Europe, Middle East & Africa

Tel: +44 20 7950 1600
1 King's Arms Yard
London EC2R 7AF
United Kingdom

Asia Pacific

Tel: +662 793 4600
22nd Floor, Rasa Tower I
555 Phahonyothin Road
Kwaeng Chatuchak
Khet Chatuchak
Bangkok 10900
Thailand