

Converting Mixed Plastic Waste to Liquid Transportation Fuels

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Categories:

- Chemical Engineering
- Green Technology

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- Chemical Engineering
- Chemical Processing
- Efficiency
- fuels
- Green Technology
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- Materials and Manufacturing
- oil
- Petrochemical Technology
- Plastics
- Polymers
- Recycling
- Reusable
- Sustainable Plastics

Researchers at Purdue University have developed a new integrated continuous reaction and separation process (ITCS) for converting mixed plastic waste into liquid transportation fuels. Currently, recycling technologies are inadequate to meet the challenge resulting in an estimated 98% of products coming from non-recycled content. One of the most common types of plastic, polypropylene, can be converted into gasoline-like (about 80%) and diesel-like (about 20%) fractions through an optimized hydrothermal processing technique. The carbon number distribution of the fuels that are created from this ITCS process range from C4 to C25, and about 86-90% yield of these fuels is obtained with purity up to 95%. The total amount of energy savings from ITCS for plastic recycling is found to be 68-72% over current technology and a 72-75% energy savings is found over producing liquid fuels from crude oil.

Advantages

- Efficient
- Recycling capability
- Energy Savings
- Cost Effective

-Reliable

Applications

-Plastic Manufacturing

-Fuel Manufacturing

-Plastic Recycling

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