THE FINAL WORD

The official e-newsletter
of
Industrial Chemistry (IC) Department,
ISTAR, CVM University,
Vallabh Vidyanagar, Anand, Gujarat
E-Mail : headic@istar.edu.com
Visit us on : http://istar.edu.in/IC/index.htm

February 2021

M. Sc. Industrial Chemistry

Placement Details - 2021

Sr. No.	Name of the Company	Post Offered	No. of students
1	Lupin Ltd., Ankleshwar	Production Officer	9
2	Lupin Ltd., Dabhasa	Production Officer	3
3	Astral Adhesive, Ahmedabad	R & D Chemist	2
		Production Officer	4
		QC Chemist	2
		TSS	3
4	Royal Castor Products Ltd., Siddhpur	Production Officer	2
		R & D Chemist	2
		QA Chemist	1
5	Cadilla Healthcare(Zydus), Dabhasa	Production Officer	5
		QC Officer	5
6	Parshwnath Colorants, Dahej	Production Officer	4
		QC Officer	1
7	JDM Scientific Research	QC executive	1
8	Ashapura Minechem	QC Officer	2
		TOTAL	46

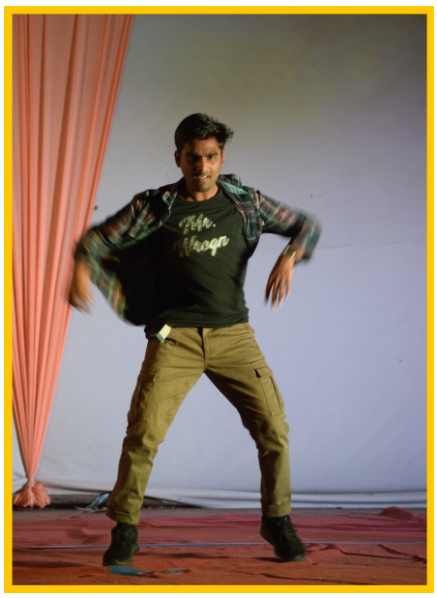
Interview and Industrial visit at Royal Castor Products Ltd.

Expert Talk by Dr. Raju Rathod, Professor MBA department Sardar patel university. On Soft Skills.

Buddies Meeting.

Buddies Meeting

Fresher's party



Article

A mild way to upcycle plastics used in bottles into fuel and other high-value products

Summary

Plastic is ubiquitous in people's lives. Yet, when plastic-containing items have fulfilled their missions, only a small amount is recycled into new products, which are often of lower quality compared to the original material And transforming this waste into high-value chemicals requires substantial energy. Now combined a ruthenium-carbon catalyst and mild, lower-energy reaction conditions to convert plastics used in bottles and other packaging into fuels and chemical feedstock.

Full Story

Plastic is ubiquitous in people's lives. Yet, when plastic-containing items have fulfilled their missions, only a small amount is recycled into new products, which are often of lower quality compared to the original material And transforming this waste into high-value chemicals requires substantial energy. Now combined a ruthenium-carbon catalyst and mild, lower-energy reaction conditions to convert plastics used in bottles and other packaging into fuels and chemical feedstock. production of strong materials, single-use plastic for toys, medical packaging and food and beverage containers is increasing. Polyolefin polymers, such as polyethylene and polypropylene, are the most common plastics used in these products because the polymers' molecular structures are long, straight chains of carbon and hydrogen atoms there for material make's very durable.

It's difficult to degrade the carbon-to-carbon bonds in polyolefins, however, so energy-intensive procedures using high temperatures, from 800 to 1400 F, or strong chemicals are needed to break down and recycle them. studies have shown that noble metals, such as zirconium, platinum and ruthenium, can catalyze the process of splitting apart short, simple hydrocarbon chains and complicated, plant-based lignin molecules at moderate reaction temperatures requiring less energy than other techniques. So, if metal-based catalysts would have a similar effect on solid polyolefins with long hydrocarbon chains, disintegrating them into usable chemicals and natural gas.

The method to react simple hydrocarbon chains with hydrogen in the presence of noble- or transition-metal nanoparticles under mild conditions. ruthenium-carbon nanoparticles converted over 90% of the hydrocarbons into shorter compounds at 392 F. Then, the new method on more complex polyolefins, including a commercially available plastic bottle. Despite not pretreating the samples, as is necessary with current energy-intensive methods, they were completely broken down into gaseous and liquid products using this new method. In degradation methods, the reaction could be tuned so that it yielded either natural gas or a combination of natural gas and liquid alkanes. The method could help reduce the volume of post-consumer waste in landfills by recycling plastics to desirable, highly valuable alkanes, though technology to purify the products is needed to make the process economically feasible.

Shrey Patel

(20IC87)