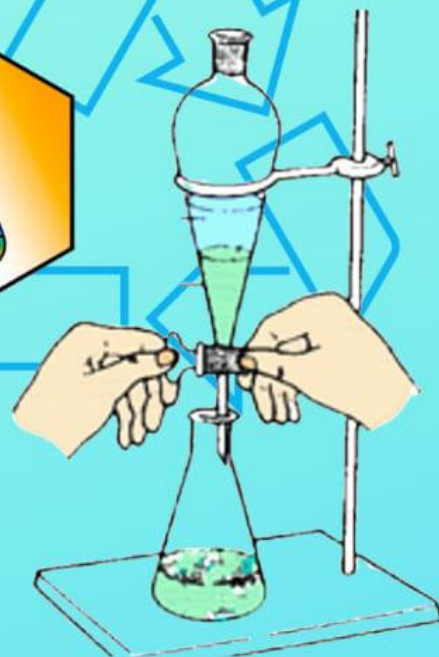


THE FINAL WORD



The official e- newsletter of

**Industrial Chemistry (IC) Department, ISTAR,
CVM University, Vallabh Vidyanagar, Anand, Gujarat**

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INDUSTRIAL CHEMISTRY DEPARTMENT

Open House

Department have a tradition to organize open house every year, during open house parents, guardians of students used to visit department. In open house 2022 parents, guardians of 90 students had visited the department on 1st April 2022 to see their child's academic performance during the year.



Industrial Chemistry Department

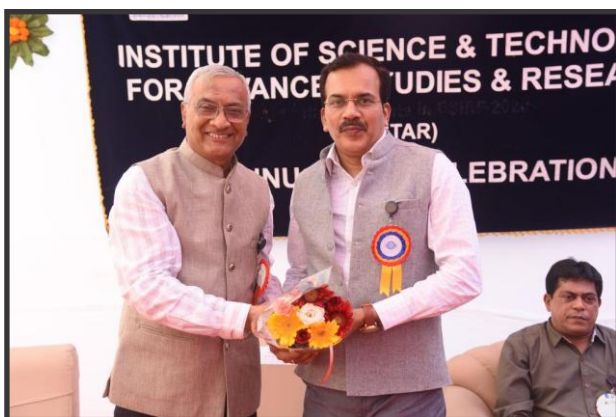
Placement 2021-22

Sr. No.	Name of the Company	Post Offered	No. of students
1	Lupin Ltd., Ankleshwar	Production Officer	4
2	Lupin Ltd., Dabhasa	Production Officer	4
3	LEWENS LAB, Dahej	QA Chemist	5
4	Royal Castor Products Ltd., Siddhpur	Production Officer	3
		R & D Chemist	2
		QA Chemist	1
5	Rusan Pharma, Ankleshwar	R & D Chemist	4
		QC Officer	3
		Production Officer	4
6	Atul Ltd., Valsad	Production Officer	4
7	Parshwanath DyeChem Industries Pvt. Ltd., Ahmedabad	R & D Chemist	1
		QC Officer	1
		Production Officer	2
8	Parshwnath Colourants, Dahej	QC Officer	3
		Production Officer	1
9	ARMEIN Pharmaceuticals Pvt. Ltd., Dharmaj	QC Officer	1
10	Dishman Pharmaceuticals & Chemical Ltd., Ahmedabad, Gujarat.	Production Officer	6
11	Santram Gases, V U Nagar	Production Officer	1
12	Rasayan Laboratory, Lambhvel.	Lab Chemist	1
13	Aarti Industries Ltd. , Vapi	QC Officer	2
14	Zydus Life Sciences Pvt. Ltd.	Trainee Production Officer	5
		Trainee QC Officer	2
15	ZCL Chemicals Ltd., Ankleshwar	R & D Chemist	1
		ADL Chemist	1

23rd Annual Day 2022

ISTAR college celebrated 23rd Annual Day On 7th April 2022. The President of function Shri Manishbhai Patel Sir, honourable chief guest Dr. Rajesh Nair, Director at CALF, National Dairy Development Board Anand, Gujarat, India. Honorary Secretary-CVM Shri Vishal Patel sir were present on occasion and gave their blessings to final year students for succes.

President, Chief guest and other dignitaries have felicitate the students for their academic, curricular and co-curricular activities. All students participated in cultural activities and took a Dinner.



Industrial Chemistry Department



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Utilization of waste plastic for the production of fuel

Pyrolysis is an advanced technology used in disposing waste plastics. Adopting such a technology, our waste plastic pyrolysis plant can convert waste plastics into oil and carbon black, which are both in high demand in the market. Usually, the plastic pyrolysis process can be described as follow:

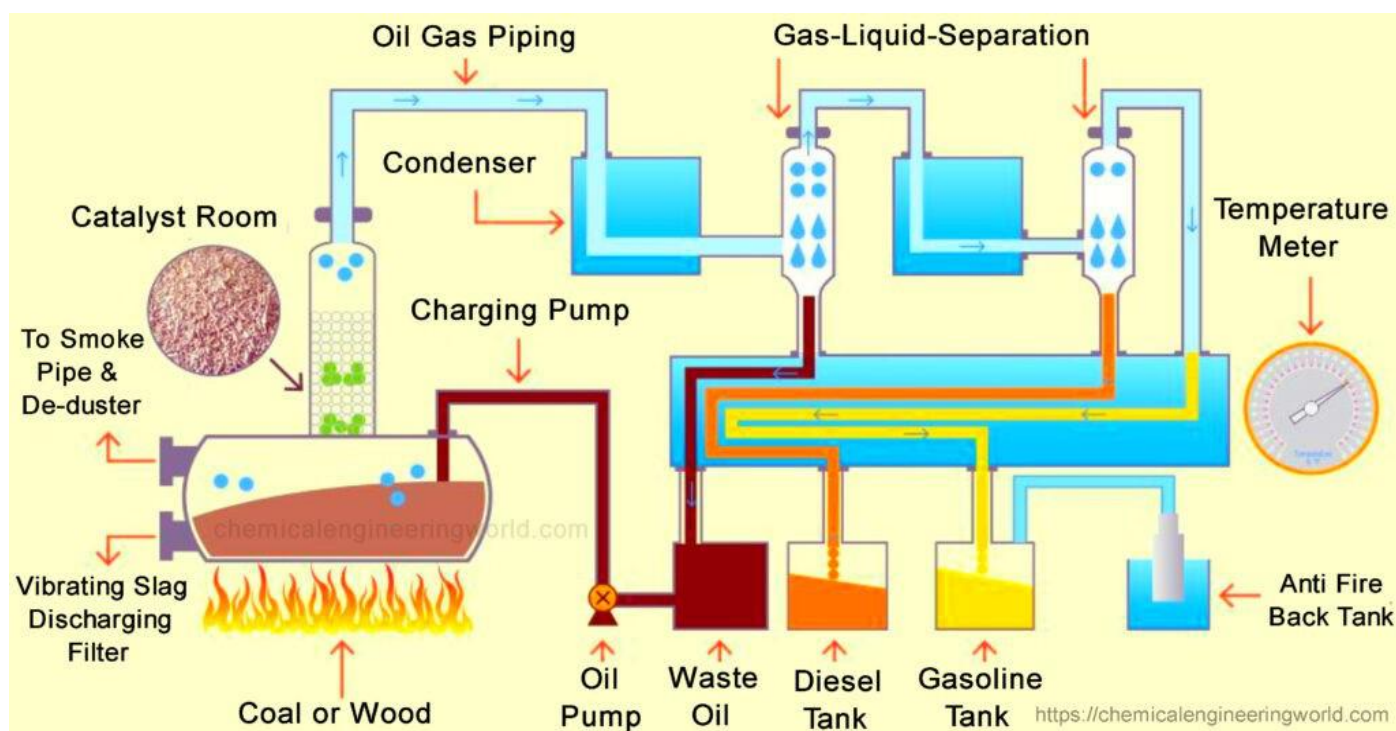


Figure: Manufacturing of Fuel from Waste Plastic

Plastic waste is treated in a cylindrical reactor at temperature of 300°C-350°C. Now a day's plastics waste is very harmful to our nature also for human beings. Plastics is not easily decomposable its affect in fertilization , atmosphere , mainly effect on ozone layer so it is necessary to recycle these waste plastic into useful things. So we recycle this waste plastic into a useful fuel.

Pyrolysis of waste plastic is a prospective way of conversion of waste plastic into low-emissive hydrocarbon fuel. Waste plastic materials viz., polyethylene, polypropylene, polystyrene and polyethylene terephthalate were collected from local convenience store packing materials. Waste plastic material pyrolysis was -

conducted as individual plastics and as mixed feed in a new laboratory scale batch reactor. Hydrocarbon molecules from the basic materials are split under the impact of catalyst inside the reactor in 70-240 °C. The reduction of process takes place from 500-600°C to 240 °C in the presence of catalyst. The analyses of pyrolysis products suggested that it can be used as a viable alternative to motor fuel.

The global plastic production increased over years due to the vast applications of plastics in many sectors. The continuous demand of plastics caused the plastic wastes accumulation in the landfill consumed a lot of spaces that contributed to the environmental problem. The rising in plastics demand led to the depletion of petroleum as part of non-renewable fossil fuel since plastics were the petroleum-based material. Some alternatives that have been developed to manage plastic wastes were recycling and energy recovery method. However, there were some drawbacks of the recycling method as it required high labour cost for the separation process and caused water contamination that reduced the process sustainability.

Due to these drawbacks, the researchers have diverted their attentions to the energy recovery method to compensate the high energy demand. Through extensive research and technology development, the plastic waste conversion to energy was developed. As petroleum was the main source of plastic manufacturing, the recovery of plastic to liquid oil through pyrolysis process had a great potential since the oil produced had high calorific value comparable with the commercial fuel.

Plastic to oil (fuel) conversion technology has gained prominence primarily due to two factors: forming a reliable source of alternative energy from an abundant feedstock having negligible economic value and an eco-friendly disposal of non-recycled plastics. The rapidly rising volumes of plastic waste has led to the overriding concern of environmental hazards to various habitats, particularly humans and aquatic life. Coupled with this, stringent government regulations against the disposal of plastics and revised risk assessment approaches in developing and developed nations have boosted the market.

The Asia Pacific market is expected to showcase promising growth avenues over the forecast period, mainly driven by the modernizing of different plastic-to-fuel technologies. Countries such as Saudi Arabia, Brazil, and the UAE, also contribute to the substantial demand for plastic waste to oil processes.

Raj Thakor
(21IC72)

Sweet Words From Family

College Life is one of the most remarkable and lovable times of an individual's life. College Life exposes us to whole new experiences which we always dream of experiencing after our school life. Lucky are those who get the chance to enjoy their college life and so am I consider myself lucky that I choose to go for Industrial chemistry from ISTAR.

Today, I am so grateful that I took IC over other subjects, it changed my life!!! Starting from the beginning when I decided to go for this subject I used to get feedback from other people that why you took this as a girl you won't have future, you won't get a job, it's male domain subject you will not get easily job and so on but at that time also I didn't change my mind and I am thinking why should I change my mind to fit so-called society strands and there is nothing place in which girls can't service that is my personal belief

Later on, going forward to the department of ISTAR where I came across such positive energy people Jiger sir, Rohit sir, Mandar sir, Misra sir, Nirmal sir who made me believe there is no such difference between girls and boys...they used to push all towards a better version of our self...and yes that day was not so far when I was selected as research associate in one of the multi national company!! it was a clear answer for those people who think girls can't go for this! ISTAR strict rules and regulations now helping a lot to survive in this corporate world! I consider myself lucky that I am from ISTAR!!



Arshin Saiyed
Research Associate,
Evalueserve.
(Delhi)