



POLENEWS

e-News for Polymer Industry



INAUGURATION OF CIPET CENTRE AT GWALIOR



IPLEX '17 (8th Edition), held at Chennai from 15th - 18th June, 2017



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Inauguration of Central Institute of Plastics Engineering & Technology (CIPET), Gwalior



IPLEX '17 (8th Edition), held at Chennai from 15th - 18th June, 2017



The IPLEX - 2017, the 8th edition of the Southern Regional Plastics Manufacturer's Associations was jointly organized by the Members from KPMA, TAPMA, TAAPMA, KSPA in association with CIPET and with the active support from Department of Chemicals & Petrochemicals, Ministry of Chemicals & Fertilizers, Govt. of India and Plastindia Foundation, AIPMA, GSPMA, IPI, IPF, NSIC, OPPI, TANSTIA at Chennai.

The IPLEX vision is to empower local entrepreneurs by exposing them to global opportunities, technologies and know-how and thus enabling them to reap the benefits of globalization.



CIPET stall at IPLEX '17, held at Chennai from 15th - 18th June, 2017 was inaugurated by Prof. (Dr.) S.K. Nayak, Director General, CIPET

PET Bottles Have a 70% Recycle Rate In India, For Good Reason



What do the Indian cricket team uniforms, made by Nike, have in common with blankets distributed on Emirates airlines? Not much, you could say. There seems to be no apparent connection, on the face of it. But a connection there is, and it binds them with a common thread. Quite literally.

The uniforms and blankets are both made with recycled PET bottles. They share the same lineage, so to speak. But, before I go on to explain why PET bottles are ideal for recycling, let me give you a quick definition of PET. For those who know what PET is, bear with me just a little.

The chemistry of PET in a nutshell

PET, which stands for polyethylene terephthalate, is a common form of plastic. To be more precise, it is a kind of polyester - which is the same basic material that is used to make polyester fabric (chances are that the clothes you are wearing as you read this, have polyester in them). Polyethylene terephthalate is a polymer that is formed by combining two monomers called modified 'ethylene glycol' and 'purified terephthalic acid' through a chemical process called 'polymerisation' in presence of a catalyst 'antimony trioxide'. It is a process, of joining together a large number of small molecules to make a smaller number of very large molecules. The reactants (ie the small molecules from which the polymer is constructed) are called monomers and products of the polymerisation process are called polymers. This is then moulded into different shapes of PET bottles and containers used for packing of various consumer packs of food, beverages and personal care etc.

What makes PET great for recycling?

Highly inert nature of PET makes it safe and non-toxic - all of which makes it extremely suitable for recycling. This is the reason; PET is the most widely recycled plastic in the world. Also, PET bottles can be recycled repeatedly without fear of any significant deterioration of the quality for use in production of fibres, monofilament, sheet, mattresses, car parts and many such applications.

It is technically feasible to recycle post-consumer PET bottles used for beverages into granules suitable for production of PET bottles again for use in packaging of beverages. It is not allowed in India as yet to use post-consumer PET bottles for recycling into bottles again. Countries like US, Germany, Japan etc allow use of such recycled material for packaging of food products and beverage. The process, machinery and location producing such recyclable material need approval from regulator. Still, the largest percentages of recovered post-consumer PET bottles are recycled into fibre production due to economics and demand especially from Asian countries.

So, how exactly is PET recycled?

A ragpicker picking items from a pile of garbage. The next time you see one, look closely. You will see that he is picking, amongst other items, all the PET bottles he can find. The reason why he is doing this is simple - PET bottles fetch him more money - about Rs 14-15 per kg of PET bottles - for lesser effort (far easier to pick out PET bottles than chocolate wrappers). The reason they fetch more money, is because of their exceptional recyclable qualities. If you think about it, the fact that the rag picker understands the worth of PET bottles is a great ground-level validation of the product.

The value chain of PET recycling: A four-act play

In the recycling story of PET, there are four main acts, with four essential protagonists.

Act one begins with the waste collectors or ragpickers. They collect PET bottles from places like railway stations, airports, restaurants, hotels, kiosks, parks, and of course, from piles of garbage. Once collected, the bottles are sold to kabadiwallas for around Rs 14-15 a kg - a fair amount for the ragpickers. The recycling story, however, has just begun.

Act two begins with the kabadiwallas, most of whom receive mixed-plastic waste from different sources. The first thing they need to do is to sort the different kinds of Plastics and separate them (different kinds are sold to different traders). When that is done, they make bundles of the PET bottles and pile them up separately. These are then sold further to PET traders, for about Rs 25 a kg. Again, this number adds up to forming a large part of their income. Act two ends here.

Which leads to the third and crucial act. It is the middle act in the recycling narrative, where the traders enter the scene. A fair amount of work is done at this stage, because this is where the first major sorting takes place, which is an important step in PET recycling.

The traders receive anywhere between a few hundred kilograms to a few tons of PET bottles a day. These are first inspected manually, to insure that they are all PET. Then, even within the PET bottles, further segregation is needed. This is because each PET bottle has various types of plastic on it - while the bottle itself is made of PET, the caps and labels are not, and thus need to be removed. Also, the coloured PET bottles cannot be mixed with the clear ones, so they are separated as well. Once this is done, the bottles are put into baling machines large crushing machines which press the bottles together - and made into compact bundles. The traders earn about Rs 30-31 per kg for these bales, which are loaded onto trucks sent to recycling centres for, what would be, the final act of the story.

The last act opens when the trucks carrying bales of PET bottles arrive at the recyclers' facilities. Here the sorting and cleaning process starts all over again. The process is very thorough and does not leave gaps for any slip ups, because if any other kind of plastic gets mixed with PET, it causes problems downstream in the recycling process.

Once the bottles are checked for any caps of other kinds of plastic, through both manual as well as mechanical systems, they are painstakingly cleaned. The bottles are then shredded and made into flakes. These flakes are, in turn, subjected to further washing and drying, after which they are shipped to the manufacturing units. That concludes the final act.

There is an epilogue, of course, before the story can finally be put to rest. The flakes are turned into yarn, which is then used to make fabric or other materials. The first four acts, however, each play a significant role in the success of the epilogue.

So, the next time you wear a shirt or a jacket think about where it came from, and the thousands of people who played a part in bringing it to you. Also, the next time you drink from a PET bottle, try and put it in a recycle bin - you'll make someone's job easier.

Government of India, Department of Chemicals & Petrochemicals has announced in April 2007 an Award scheme to incentivize meritorious innovations and inventions in the field of Polymeric Materials, Products Processes and other area of national and social importance. The polymeric applications has already penetrated in all walks of life including various manufacturing sectors for conservation of natural resources and energy efficiency etc. This innovation award scheme will motivate the inventors to carry out innovative Research & Development in the areas of petrochemicals industry, which in turn will improve performance /quality of the existing product. The department had implemented the scheme thru CIPET and consequently awarded Seven National Awards. For the current year 2017-18, online/offline applications for the 8th National Awards are invited.



Government of India
Ministry of Chemicals & Fertilizers
Department of Chemicals & Petrochemicals

Online / Offline Applications
 should reach us on or before

31st October 2017



ORGANIZED BY:

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8th

National Awards

for Technology Innovation in Petrochemicals &
 Downstream Plastics Processing Industry (2017-18)



www.pds.gov.in



Applications are Invited from
 Individual, Team, Cottage, Micro, Small, Medium,
 Large Scale Industry, Academic, R & D Institution etc..
 for the following 12 Categories

1. Innovation in Polymeric Materials

- > New Polymers, Blends & Alloys, filled materials, fibers, Polymer, Composites and Nano composites, Smart Materials etc.

2. Innovation in Polymeric Products

- > New / creative product design.
- > Non conventional application / Replacement of conventional materials (eg. Metals, ceramics etc.).
- > Modification of product design for performance improvements.

3. Innovation of Polymer Processing Machinery & Equipments

- > Development of new processing techniques.
- > Modification of machinery for higher efficiency / productivity / Automation.
- > Energy conservation, product quality improvement.
- > Improvement in moulds, dies and auxiliary equipments.

4. Innovation in Polymer Waste Management & Recycling Technology

- > Newer technology in plastic waste utilization into products/energy recovery.
- > Recycling Technology.
- > Plastic waste collection, segregation techniques.
- > Product design for improved recyclability.

5. Innovation in Green Polymeric Materials & Products

- > Biopolymers.
- > Biodegradable / compostable Polymers.
- > Time controlled degradation.
- > Green material filled polymers.
- > Biodegradability evaluation techniques.

6. Innovation in Packaging Techniques including creative Design

- > Emerging Packing Technologies

7. Polymers in Agriculture and Water Conservation

- > Water transportation, mulching, canal lining, Drip irrigation, Sprinkler system Low Tunnels, Poly house etc.
- > Controlled release system for fertilizer, pesticides, micro nutrients, etc.
- > Innovative packaging for agriculture, floriculture and horticultural produce.
- > Controlled permeability films & packaging for improved shelf life
- > Novel Usage of plastics for food security.

8. Polymers in Public Health care

- > Affordable / cost effective implants, implements and devices.
- > New innovative products for medical application.
- > Polymer based new drugs delivery system.
- > Polymer body implants.
- > Drinking water storage & transportation.
- > Polymer membrane for water purification /Desalination.
- > Devices for waste water, drainage, sewage treatment system.

9. Innovation in Defence / Space Applications

- > Use of Polymers for Indigenization of products, creative product design, replacement of conventional material, performance optimization of products for defence & space applications.

10. Innovation in Petrochemicals

- > Cost effective newer process/improvements in the field of Petrochemicals to enhance properties, working environment.

11. Innovation in Newer Polymer Applications

- > Newer Polymer Applications in any field to enhance the working environment, Lifecycle, Energy Efficiency, Recyclability, etc.

12. Research in the field of Polymer Science & Technology (for Researchers Working in Academic Institute / research lab.)

- > Individual / Team of researchers in R & D Institutions & laboratories
- > Original research work in polymeric materials processing etc. leading to proto type development & future industrial applications.



Tender Information

Sl. NO	Tender Tittle	Company Name	Opening Date	Closing Date
01	Waste Paper Basket Plastic	Ministry of Railways http://ireps.gov.in	22-Jun-2017	11-Jul-2017
02	Supply of Plastic Bags Black	Hindustan Petroleum Corporation Limited http://tenders.hpcl.co.in	15-Jun-2017	28-Jul-2017
03	Disposable Polypropylene Swab Sticks with Screw Caped Tubes, STERILE, Pack Size 100 pieces per Pack	Ministry of Railways http://ireps.gov.in	17-Jun-2017	10-Jul-2017
04	Polypropylene Rope	Nuclear Power Corporation of India Ltd https://npcil.etenders.in	14-Jun-2017	05-Jul-2017
05	SINTEX PVC water tank	Nuclear Power Corporation of India Ltd https://npcil.etenders.in	27-Jun-2017	25-Jul-2017
06	Procurement of 135520 KG of Additive (CAS no. 159223-0) for LLDPE HDPE unit of BCPL Lepetkata Dibrugarh Assam	GAIL India Limited http://gailtenders.in	13-Jun-2017	17-Jul-2017
07	Supply of LDPE Sheets of 50 micron thickness	Food Corporation of India http://fci.gov.in	28-Jun-2017	19-Jul-2017
08	Procurement of Nylon Bushes For Emu Tr.Coaches Etc.	Ministry of Railways http://ireps.gov.in	27-Jun-2017	21-Jul-2017
09	Supply of HD BLACK LDPE SHEET 35MX5MX0.25MMTH ICK to STPP, Jaipur, Mancherial, Telangana	The Singareni Collieries Company Limited https://singareni.tenders.nic.in	07-Jun-2017	13-Jul-2017
10	PVC Pipes	Bharat Heavy Electricals Limited http://www.bhel.com/tender	19-Jun-2017	11-Jul-2017

For more details, <http://pds.gov.in/tenderinfo.php>

Event Information



July 08 - July 11, 2017

The logo for Sri Lanka Plast International Plastics Exhibition. It features the text 'SRI LANKA PLAST' in a bold, sans-serif font, with 'INTERNATIONAL PLASTICS EXHIBITION' written in a smaller font below it. The background is a dark red color with a faint, stylized graphic of a globe or a similar shape.

Aug 03 - Aug 05, 2017



IRAN PLAST

THE INTERNATIONAL EXHIBITION OF
PLASTICS RUBBER, MACHINERY & EQUIPMENT

26-29 SEPTEMBER 2017

TEHRAN INTERNATIONAL PERMANENT FAIRGROUND

Sep 26 - Sep 29, 2017

VietnamPlas

Saigon Exhibition & Convention Center
Ho Chi Minh City, Vietnam

13-16 SEPT, 2017

Sep 13 - Sep 16, 2017

For Publishing your polymer related article/News, Advertising Your product in our next E-issue,
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