

# Tech Talk

Monthly Newsletter by Spectro Labs

## Brief About Spectro

**Spectro** commenced to serve in the year 1995 and during the span of 23 years, **Spectro Group of companies** has created a globally recognized position in the field of Testing, Calibration, Auditing, Training, Inspection and R&D. **Spectro** holds the most prestigious accreditations from National Accreditation Board for Testing and Calibration Laboratories (NABL) in six fields, viz; **Chemical, Mechanical, Non-Destructive Testing, Biological, Electrical and Electronics and Calibration**. It has dedicated and specialized departments in **Metal, Polymers and Elastomers, Consumer Products like Toys, Textiles, Electronics** and has now setup a latest state of art Fire Test facility.

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## Plastic ban in Maharashtra

On the day of Gudi Padwa that is 23rd March 2018, the government of Maharashtra issued a notification for putting ban on plastic. It was issued under the name of Maharashtra Plastic and Thermocol Products (Manufacture, Usage, Sale, Transport, Handling and Storage) Notification, 2018, under which the notification it cited the rising concerns of *'usage and disposal of plastic are diverse and include accumulation of waste in landfills, water bodies and in natural habitats, physical problems for wild animals resulting from ingestion or entanglement in plastic, the leaching of chemicals from plastic products and the potential for plastics to transfer chemicals to wildlife and humans.'* The ban is not applicable to PET bottles, irrespective of the capacity. These bottles should have a predefined buyback price which ranges from Re 1 to Rs 2, depending on the size, printed on them. On World Environment Day, 5th June, India was the host nation, with the theme for this year being 'Beat plastic pollution.'



Plastic used for packaging of medicines, compostable plastic bags or material used for plant nurseries, handling of solid waste, plastic bags not less than 50 micron thickness used for packaging of milk, plastic manufactured for export in SEZs and plastic to wrap the material at the manufacturing stage are excluded from the ban. The ban is applicable to manufacturers and consumers as well as the chain between them, which includes shops, hawkers, vendors and offices.

Environment experts have been blaming plastic for the choking of drains in Mumbai and the flooding in parts of the city during monsoons. Plastic bag manufacturers approached the Bombay High Court against the decision, but their appeal was turned down. The Federation of Retail Traders Welfare Association also had gone to court. A hearing was held however the plea had been rejected. Maharashtra has 2,500 units for making plastic bags, employing 56,000 people. They owe nearly ₹11,000 crore to banks as of 31st March 2018. The Clothing Manufacturers' Association of India has spoken out against the ban, saying the apparel trade employs 30 lakh people in the country and depends on polypropylene for packaging.

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The Maharashtra government had numerous reasons to ban plastic. The state generates 1,200 tonnes of plastic waste every day and Mumbai alone generates 500 metric tonnes, which accounts for nearly 10% of its total waste. In contrast, Indian cities generate 15,000 tonnes of plastic waste per day, of which 9,000 tonnes are collected and processed/recycled, while the remaining 6,000 tonnes go into drains, streets or are dumped in landfills, according to a 2015 report of the Central Pollution Control Board.



### However, just banning plastics will not solve the problem.

First, implementation of the law will be critical, and Maharashtra would do well to learn from the experience of the 17 states that have already walked down this route.

Second, people would not mind giving up plastic if cheaper alternatives are made available.

Third, to ensure sustainable alternatives, the central government must encourage innovations and establish facilities that can provide alternatives.

The ban covers plastic bags, disposable cups and plates, plastic cutlery, non-woven polypropylene bags, plastic pouches and packaging, and thermacol.

The ban notification also have defined "Plastic" means material; which contains as an essential ingredient a high polymer such as polyethylene terephthalate, high-density polyethylene, vinyl, low density polyethylene, polypropylene, polystyrene resins, poly styrene (thermacol), non-oven polypropylene, multi layered co extruder, poly propylene, poly terephthalate, poly amides, poly methyl methacrylate, plastic micro beads, etc.

As per the notification, violators will be fined Rs 5,000 and Rs 10,000 for the first and second-time offense. A third-time offender will have to shell out Rs 25,000 and may also face imprisonment for a period of 3 months.



Apart from Maharashtra, Bengaluru, Delhi, Punjab, Rajasthan has plastic ban imposed, these 11 states have partial bans on the use of plastic bags around sites of religious, historical or natural importance, or during the pilgrimage season: Andhra Pradesh, Arunachal Pradesh, Assam, Goa, Gujarat, Karnataka, Odisha, Tamil Nadu, West Bengal, Uttar Pradesh and Uttarakhand.

# Conserve the natural resources and save the Planet

The world's population is increasing day by day and that is why each and every human being has added a significant amount of waste to the surroundings. As the natural resources of our planet earth are less so, we must take care about the conservation of these resources so, that we leave this for the next generations. To conserve the resources recycling is the best option and is also good for the environment because in the process of recycling, new products are manufactured by using the old and the products which are of no use and then converting them back to the new products. Paper, plastic, glass, aluminum cans are some examples that are recycled in greater amount. Recycling is important in a number of ways:

- ➔ To make the atmospheric environment clean
- ➔ Conservation of materials
- ➔ To save renewable sources of energy
- ➔ Reduce garbage in landfill sites
- ➔ Helps in reducing water and air pollution
- ➔ Reduce the effects of global warming in the atmosphere



Recycling actually starts from our home because if we are using an older product instead of discarding then we are actually doing recycling. It is basically an idea of reduce, reuse and recycle. Conservation of things is an important aspect of recycling, in this process, less production of garbage will help in reducing the landfill sites that helps in cleaning the environment.

**TESTING** - As a growing concern for the environment has become an important issue nationally and globally, more efforts have been in place to sustain our resources. Sustainable materials are of increasing industrial importance. One such material is biodegradable polymers.

Since the interest for using biodegradable plastics has grown exponentially, there have been a number of standards developed for testing the material. ASTM and ISO develops various standards that have been used worldwide and provide a foundation for comparisons of data in testing of plastics in various laboratories. Test methods are ASTM D6400 and ASTM D5988-03 for determining compostable plastics and aerobic biodegradation in soil of plastic respectively. This test method was used because it provides clear guidelines to biodegradability and is designed to evaluate aerobic biological reaction. The ASTM D 5998 method used is equivalent to the International Organization for Standardization (ISO) 17556:2003. First process is biodegradability in soil/compost by monitoring CO<sub>2</sub> and second by monitoring loss of mass and reduction in physical properties via tensile testing.



## We could save our planet by doing a handful of things-

1. Discard all the waste from the house which is of no use, packaged in an appropriate container such as paper, plastic and glass and send it to the nearest recycling center.
2. Avoid using plastic bags, plastic papers and plastic container as much as possible. As these things are non biodegradable in nature will only create pollution in the atmosphere by filling the landfill sites.
3. Use own reusable bags to buy groceries and purchase only those items having least packaging as a huge amount of money is spent on these packaging materials that ultimately go to the landfill sites.
4. Limit the use of disposable things like disposable utensils made up of plastic and Styrofoam.



**Spectro Analytical Lab** offers all the facilities and instruments for analyzing the safety parameters of air and water quality. It also provides training and assistance in this regard.-

# Major Clients



## Our Branch Offices

### Spectro Research Lab Ventures (P) Ltd. (Kanpur)

Mr. Sanjeet Mishra ☎ +91-9235503985 ✉ knp@spectro.in

### Spectro Testing (P) Ltd. (Jammu)

Mr. Yogesh Badyal ☎ +91-9419199192 ✉ yogesh@spectro.in

### Spectro SSA Labs (P) Ltd. (Mumbai)

Mr. Ratan Jotwani ☎ +91-9769696069 ✉ ratan@spectro.in

## Project Sites

Chennai (Tamil Nadu)

Bhubaneswar (Odisha)

Patna (Bihar)

Ranchi (Jharkhand)

Jaipur (Rajasthan)



Delhi(H.O)



Greater Noida, U.P.



Jammu



Mumbai



Kanpur



CIN : U74220DL1998PL C092698

## Okhla Lab

E-41, Okhla Industrial Area, Phase-II  
New Delhi-110020 (India)  
Ph:- 91-11-41611000, 40522000  
Fax:- 91-11-40503150/51  
E-mail:- care@spectro.in  
URL:- www.spectro.in

## Greater Noida Lab

S-1 GNEPIP, Kasna Road  
Greater Noida Gautam  
Budha Nagar U.P  
Ph:- +91 120-2341251/52  
E-mail:- care@spectrogroup.com  
URL:- www.spectro.in