

Toxic Household Waste: A Serious Threat

- **Source Segregation Of Domestic Hazardous Waste Still A Distant Dream, Finds Study In Delhi, Jaipur, Bhopal & Ranchi**
- ***Most People Aware But Less Concerned & Conscious About Health and Environment***
- ***Study Underscores Need For Creating Awareness & Behaviour Change & Also Improving Waste Collection System***

New Delhi: Do you know the humble nail polish bottle that you dispose along with your regular household wastes may spark a fire? Nail polish containers, paint drums, pesticide cans, CFL bulbs, expired medicines, broken mercury thermometers, used batteries and used needles and syringes are Domestic Hazardous Wastes (DHW) or Household Hazardous Wastes that have the potential to adversely impact both ecology and human health.

India generates about 1,600 to 6,401 tonnes of DHW every day which is not segregated at source and is thus far from being safely disposed. Constituting about 1-4% of the municipal solid waste (MSW) volume, it includes biomedical wastes and other discarded, unused and leftover household products that are corrosive, reactive, toxic and ignitable. Even when the Solid Waste Management Rules, 2016 mandates source segregation of bio-degradable, non-biodegradable and domestic hazardous wastes, it is not being achieved in most cities across the country, including the national capital Delhi.

Interestingly, Delhi is also governed by Municipal Solid Waste Rules, 2016 which has provision for imposing fines for non-segregated wastes.

Toxics Link recently conducted a study to assess the present state of DHW generation and disposal through a household survey in four cities of India including Delhi, Jaipur, Bhopal and Ranchi, and another survey among waste workers including these cities and also in Coimbatore to understand the handling practices and flow of DHW once it is discarded by households.

The survey found severe lack of health and environmental consciousness both among households and waste workers. Though at least **72%** respondents (households) said they were aware of the

negative impacts of DHW, more than **65%** households said they mixed nearly every category of Household Biomedical Waste (HBMW) with regular household wastes. At least 13.6% of households said they drained expired or leftover syrups before discarding the bottles, while some preferred burning of leftover/expired medicines (5%), pregnancy and sugar testing strips (2.5%) and disposable PPE (7%).

Likewise, though the workers in all the surveyed cities separately collected some of the categories of DHW, they mixed those while selling indicating a lack of awareness among them regarding the toxicity of DHW.

“The study pointed at an urgent need for concerted efforts from all stakeholders, including policymakers, waste handlers, and the general public to ensure the safe handling and disposal of DHW and protect human health and the environment from its impact,” said Priti Banthia Mahesh who was the lead researcher.

Key Findings

- 8% of total households still prefer to discard their HBMW along with regular household wastes, with **Delhi** at the highest at 13%.
- More than 50% households discard fluorescent bulbs and tube lights with regular waste.
- Each city reported injuries while handling DHW, with the national average being 31%. But 38% of the waste workers were unaware about health impacts of improper handling of DHW while around 10% used personal protective equipment (PPE) kits. The lack of awareness was more pronounced in **Delhi**.
- 14% waste workers had no problem in collecting DHW along with regular waste, and the percentage of these workers is highest (26%) in **Delhi**.
- 36.7% waste workers wanted that DHW should be handed separately to them.
- Of 600 households surveyed, 46% preferred separate collection of DHW by municipalities and 45% wanted drop boxes set up by societies/Residents Welfare Association (RWA)/municipalities.

Key Findings in Jaipur

- 26% households drained the expired medicines which causes pharmaceutical pollution.
- 60% households mixed HBMW with MSW.

- 17% households discarded mercury containing thermometers.
- Majority of households prefer to sell their toxic waste to *Kabadiwalas*.
- Almost 50% households prefer collection units at RWA level for HTW collection.
- 47.4% households showed interest in take back program for HTW by manufacturers.
- More than 70% waste workers reported of having had injuries during work.
- 8.15% waste workers found mercury thermometers during collection.
- 9.26% waste workers believe that DHW has no impact on their health.
- 10.66% workers want DHW to be given to them with separate packing while 10% think it is okay if given with regular waste.

Key Findings In Ranchi

- The household survey conducted in Ranchi indicated that expired medicines, both solids (capsules & tablets) and liquids (syrups) are discarded by almost all households (95% & 97% respectively).
- A significant percentage of households (35%) generate injection and needle waste, which was not so common in other cities.
- More than 70% of households mentioned that they discard Household Biomedical Waste along with regular waste across all categories.
- Around 14-15% of households reported to burn blood-soaked cotton/dressings as well as pregnancy & sugar testing strips which can release potentially harmful gases containing dioxins and furans.
- 5. 87% households discard injection and needle waste along with regular household waste which can cause injuries to the waste collectors.
- Containers of household cleaning agents is one of the most common Household Toxic Waste and is discarded by the 93% households (93%) in Ranchi which is closely followed by nail paints and nail paint remover containers (discarded by 50% households) and containers of paint/turpentine and varnish (51% households).
- 21% of households also shared that they have discarded mercury-containing thermometers, indicating that the usage of mercury bearing instruments is still prevalent in the city of Ranchi.

- The study found that more than 90% of the respondents were aware about the harmful impacts of DHW and 99% were willing to give this waste for free to the waste collectors and they preferred it to be collected at units installed at RWA/ Society level.
- Shockingly, around 96% of waste workers find used injections/needles mixed with regular waste during collection.
- 62% of the waste workers in Ranchi admitted to having sustained some form of injury while handling DHW but none of them used any form of PPE during work.
- 94% of the interviewed waste workers in Ranchi want the waste to be separately packed in a bag when handed over to them, out of which 60% would prefer this waste to be marked and labelled.

The study underscores the need for greater commitment from all stakeholders involved. Toxics Link Associate Director Satish Sinha said, *“With rapid urbanisation and lifestyle changes underway in India, domestic hazardous waste poses a significant environmental and public health challenge due to its increasing volume. One of the primary concerns in the country is the informal recycling sector, where a large portion of this waste ends up being processed in unregulated and often unsafe conditions. This not only exposes workers to health risks but also leads to contamination of soil and water in surrounding areas. The study brought to light the areas where we can focus to bring changes in people’s behaviour and strengthen the waste collection system.”*

Recommendations

- Bridging Regulatory Gaps to cover all aspects of DHW management, including collection, transportation, treatment, and disposal for proper compliance.
- Equipping and capacitating regulatory agencies to effectively monitor and strengthen Inter-Agency Coordination for strict enforcement.
- Increasing penalties for non-compliance with DHW regulations for households, businesses, or waste management entities as it is currently insufficient.
- Creating awareness and providing guidance on proper waste segregation techniques at source.
- Conducting a study to assess the volumes of domestic hazardous waste generated as it is currently mixed with municipal solid waste.
- Proper labelling and strong messaging on products to create awareness about hazards among households and waste workers.

- Improving waste collection systems and expanding coverage to include a separate collection of DHW even in rural pockets.
- Addressing cost burden of DHW disposal and transportation through subsidies, incentives, or cost-sharing mechanisms.

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About Toxics Link:

Toxics Link is an Indian environmental research and advocacy organisation set up in 1996, engaged in disseminating information to help strengthen the campaign against toxics pollution, provide cleaner alternatives, and bring together groups and people affected by this problem.

Toxics Link's Mission Statement - "Working together for environmental justice and freedom from toxins."

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