A Roadmap for India to Regulate Toxic Chemicals

- ***Nonylphenol is an endocrine disrupting chemical and has been banned by India in the cosmetics sector, but it remains prevalent in surfactants and other consumer products***
- ***India should accelerate plans to regulate the use of toxic chemicals in various sectors***

New Delhi, October 17, 2024: Nonylphenol (NP) and Nonylphenol Ethoxylates (NPEs) are globally recognised as toxic chemicals and restricted for use by several countries. These are endocrine disrupting chemicals which are toxic to aquatic organisms and also interfere in reproduction, development and other physiological processes in humans and animals. The Central Pollution Control Board of India and the Bureau of Indian Standards, in individual reports, have both indicated the toxicity of NP and NPEs.

According to the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment, NP has detrimental effect on fish, aquatic vegetation, and aquatic invertebrates, causing severe poisoning in them. Studies have also found that NP has detrimental effects on the immune, nervous and reproductive systems. It has the ability to imitate the female sex hormone, estrogen, leading to the disruption of hormonal systems. NP gets released into the environment during manufacturing, and usage and also through wastewater, contaminating the groundwater and water bodies. The chemical accumulates in aquatic organisms and remains in the environment for considerably long periods of time. It enters the human body through contaminated food, particularly fish.

In 2009, India prohibited the use of NPs in the cosmetics industry, but not in others. There is both a need and an opportunity for regulatory measures to control their use in India. A new study released by Toxics Link, with support from Environmental Defense Fund (EDF), found they continue to be used in a number of sectors in India. The report, "**Nonylphenol - An Endocrine Disrupting Chemical**", found that NP and NPEs are being widely used in textiles and leather, detergents and cleaning products, paper and pulp, food packaging, cosmetics, construction, automotive, agrochemicals, paints and metalworking fluids. There are safer, cost-effective, technically viable alternatives available but transition towards these has been slow in India.

"***Nonylphenols have been detected in human breast milk, blood, and urine and have been proven to interfere with the way hormones work in humans and animals. Concerned with its implications, several countries have restricted the use of the chemical in various products. It is wise for India to act on this chemical concerning human health and environment. Any regulatory measures taken on the chemicals will be a welcome step,"*** **said Satish Sinha, Associate Director**, **Toxics Link.**

Key findings of the report:

- Non-ionic surfactants (NIS), such as NPEs, accounted for 30% of total consumption of surfactants (Asia Pacific Surfactants Market, 2024).
- NP market in India was 95,000 tonnes in 2020 and is expected to grow at a CAGR 6.50% by 2030, higher than global average.
- Out of total NPEs consumption in India, agrochemicals (pesticides) accounts for 22%, textiles 20%, leather 18%, metalworking fluid 15%, and the remaining 25% is shared between paints, detergents and personal care products.
- Demand for NP is shifting from developed to developing economies.
- India's import demand increasing over exports with a 54.72% rise from 2013-14 to 2023-24.
- Indian exports declined by 49.41% between 2013-14 to 2023-24.
- Countries like USA, South Korea, China, ASEAN countries and EU have restricted its use.

The study found that though NP was being used in a wide range of substances in the country, there was not enough data on the life cycle of products and their impact on human health and environment to initiate regulatory decisions and remediation efforts. The report thus suggests:

- Initiating environmental monitoring programmes to track presence of NP and NPEs in various environmental matrices, including water bodies, soil and sediments.
- Obtaining data on possible impacts of the chemical on human health and environment.
- Creating an inventory of production and use of NP in different sectors to track the supply chain.

The report observed that strengthening regulatory frameworks, promoting and innovating safer alternatives through sectoral collaboration, creating awareness, and building the capacity of industries, would help reduce exposure to NP and NPEs. The measures suggested are:

- Developing comprehensive regulations for gradual phase-out of the chemicals.
- Revising industrial effluent standards to prevent entry of NP & NPEs into the environment.
- Introducing standards for NP & NPEs in drinking water and food.
- Incentivising Research and Development of safer alternatives and encouraging voluntary industry-led initiatives that go beyond compliance reporting.
- Encouraging industries to adopt supply chain transparency practices, including full disclosure of chemical usage and sourcing of safer alternatives.
- Encouraging consumers to shift to NP and NPEs-free products through eco-labelling, awareness campaigns, and incentives for environmentally friendly products.
- Promoting collaboration between different industry associations, environmental NGOs, and academic institutions to share best practices and innovations in chemical management.

The report states there is the need for collaborative effort by the government, industry, research institutions and other stakeholders to catalyse innovations, fostering a sustainable paradigm in chemical production in the country. Innovating and developing safer alternatives can make India a major player in the sustainable global marketplace.

"*There is both a public health and an economic reason to act. The health benefits are self-evident and the faster the action, the faster the benefits will accrue. On the economic front, there is increasing momentum towards phasing these chemicals out and adopting safer alternatives will strengthen Indian industry's reputation and business opportunity in global and in Indian markets*", said Hisham Mundol, Chief Advisor - India, Environmental Defense Fund.

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About Environmental Defense Fund: A global non-profit, Environmental Defense Fund (www.edf.org) collaborates with governments, NGOs, research and academic institutions, corporates and others to support and advance India's vision of shared, sustainable prosperity. We combine scientific and economic foundations, a broad network of partnerships and a pragmatic approach in support of India's ambitions. Our areas of interest include demonstrating the viability of sustainable livelihoods in agriculture, livestock and fisheries; establishing the shareholder value potential through responsible business; informing of the potential of market-based mechanisms; and catalysing the climate technology ecosystem in India.

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About Toxics Link: Toxics Link **(www.toxicslink.org)** is an Indian environmental research organisation set up in 1996. The non-profit is engaged in building the knowledge base and developing solutions to strengthen action against toxic pollution, provide cleaner alternatives, and bring together experts to co-create and implement these solutions.

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