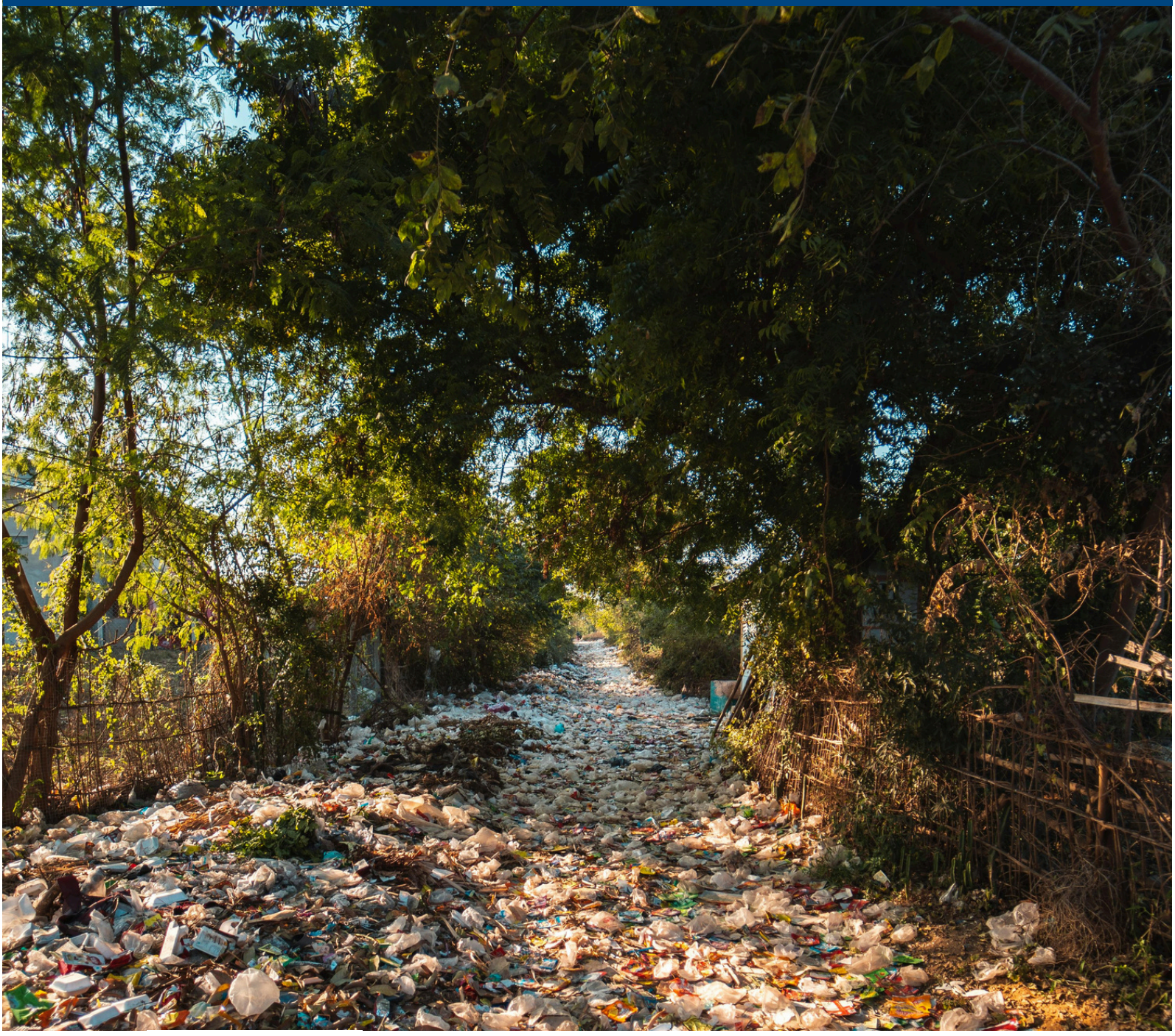
PHTHALATES AND BISPHENOLS IN INDIA

MARCH 2026



Toxics Link
for a toxics-free world

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Regulating Toxic Plastics: Country Situation Reports on Phthalates, Bisphenols, and the Gaps in Protection

Prepared by

Toxics Link

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 toxic 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 toxics. We have taken upon ourselves to collect and share both information about the sources and the dangers of poisons in our environment and bodies, and information about clean and sustainable alternatives for India and the rest of the world." Toxics Link has unique expertise in areas of hazardous, medical, and municipal wastes, international waste trade, and the emerging issues of pesticides, Persistent Organic Pollutants (POPs), hazardous heavy metal contamination, etc. from the environment and public health point of view. We have successfully implemented various best practices and have brought in policy changes in the aforementioned areas apart from creating awareness among several stakeholder groups.

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Supervise by: Mr Piyush Mohapatra, Sr. Programme Coordinator, Toxics Link
Research and compile by: Ms. Alka Dubey, Programme Coordinator, Toxics Link

Short summary

India is a major global producer and consumer of plastics, with the sector valued at USD 26.61 billion in 2025 and projected to reach USD 44.59 billion by 2030. Despite large-scale use, information on the domestic production of bisphenols and phthalates remains limited. Available trade data shows high consumption: in FY 2024–25 India imported USD 146 million worth of BPA while exporting only USD 5.9 million, and imported phthalate plasticizers worth USD 4.18 million.

Regulatory controls exist but are fragmented and largely product-specific. The Bureau of Indian Standards (BIS) standards restrict several phthalates in toys, cosmetics, inks and food-contact materials, while the Food Safety and Standards Authority of India (FSSAI) regulates Di(2-ethylhexyl)phthalate (DEHP) in food packaging and has proposed broader restrictions on phthalates and BPA. BPA is banned in baby bottles, infant-food packaging, and thermal paper. A draft national chemical management rule identifying BPA, BPS and phthalates as endocrine-disrupting chemicals (EDCs) is pending notification. However, no national mechanisms exist to ensure traceability or consumer access to chemical information in plastics.

Numerous Indian studies document widespread contamination of BPA and phthalates in consumer products, food-contact materials, bottled water, surface waters, wastewater, fish, and human biomonitoring samples. Research links exposure to reproductive impacts, metabolic disorders, and increased cancer risk. Toxics Link has contributed significantly through monitoring studies highlighting BPA and phthalate presence in baby products, sanitary pads, diapers, thermal paper, and recycled plastics.

Despite growing evidence, India lacks national-scale phase-out initiatives. Major challenges include low awareness, weak enforcement, reliance on product-specific rules, proliferation of plastic recycling, and limited availability of safer alternatives. Recommended actions include stronger regulations, nationwide surveillance of consumer products, capacity-building for regulators and industry, and improved supply-chain transparency.

Introduction

Plastics are synthetic organic polymers that are omnipresent and integral to various sectors of the economy, including packaging, transportation, construction, healthcare, and electronics, due to their affordability, adaptability, long-lasting nature, and impressive strength-to-weight ratio.[i] In India alone app. 1.7 million metric tons of plastic was produced in 2022 fiscal year.[ii]

During the production of plastic many chemicals are used either as building monomers, additives, surfactants, and/or solvents. The additives are used as fillers and plasticizers that modulate texture, coloring agents, antimicrobials, flame retardants, oil-resistance etc. that change material properties in desired ways. These additives represent 7% of the total plastic production and include plasticisers (e.g., phthalates), flame retardants, stabilisers, antioxidants, pigments, and processing aids, many of which are known or suspected to be hazardous. These includes chemicals such as Bisphenol congeners, Phthalates, PFAS, BFRs, UV328, SCCPs, Dechlorane plus etc.

However, these chemicals leach into the environment when plastics are produced, used, and disposed of and have profound impact on environment and health of all living beings. Even small exposures can result in disruptions to reproductive systems, impaired intellectual functions, delays in physical development, cancer etc. Research studies suggests that people can get exposed through skin, hand-to-mouth contact, and through chemicals leaching into food and beverages.[iii],[iv],[v]

Even low-level exposure has been linked to endocrine disruption, reproductive and developmental harm, neurotoxicity, cancer, and other chronic health effects. In a circular economy, recycling can further concentrate and recirculate these hazardous chemicals, posing risks to workers, consumers, and communities if chemical safety is not adequately addressed.

Methods

To prepare this report, we relied on secondary data sources that are publicly accessible. A systematic secondary research approach was used to identify, verify, and compile information. We have consulted government databases and official documents, including publications from the Ministry of Commerce and Industry, Directorate General of Foreign Trade (DGFT), Ministry of Chemicals and Fertilizers, and the Bureau of Indian Standards (BIS) for national regulations, standards, import–export statistics, and policy initiatives.

To understand the production, market size, and consumption trends of plastics and specific chemicals such as BPA, BPS, and phthalates, reports from credible market research agencies were reviewed. This provided insight where official production data was not publicly available.

Scientific literature formed a major part of the methodology. Structured searches were done across peer-reviewed journals using online academic databases and indexing services to collect national studies on BPA and phthalate occurrence, human exposure, environmental contamination, and associated health impacts. Keywords such as “Bisphenol A India”, “phthalate exposure India”, “plasticizers contamination”, and “endocrine disruptors” were used to retrieve relevant studies. The selected articles were screened for chemical specificity, sample type, and key findings.

Production and use in the country

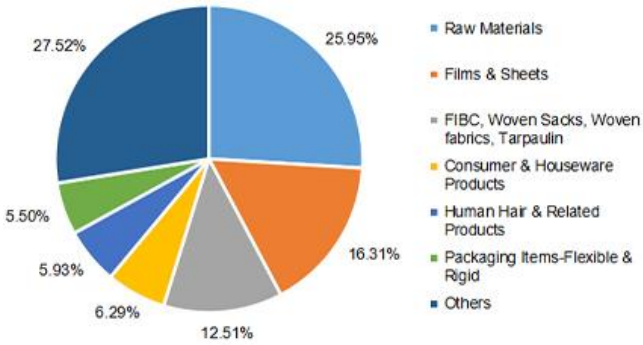
India is among the leading producers and users of plastics and polymers. The plastic industry is one of the fastest-growing sectors in the country. It is valued at USD 26.61 billion in 2025 and is forecasted to reach USD 44.59 billion by 2030, with CAGR of 10.88%. Polyethylene polymer had 34% of the India plastic industry market share in 2024.[vi]

To strengthen and increase the production, the Department of Chemicals and Petrochemicals has approved set-up of 10 Plastic Parks in 2024 and provides funds of up to 50% of the project costs or a ceiling cost of USD 5 million per project.

In India raw plastics are imported and exported under HS Code 39 as commodity "PLASTIC AND ARTICLES THEREOF", while plastic finished goods are traded under HS codes 2803, 3923, 3924 and 3926. According to the data of Ministry of Commerce[vii] in fiscal year 2024-25, India has imported plastics of USD 22 billion under the HS code 39. The major type of plastics that India imports include PVC, polymers of ethylene, polyacetals, other polymers and various household and industrial plastic items.

In FY 2024-25, India's plastic exports stood at USD 10.34 billion. To support export of plastic and polymers, the Ministry of Commerce and Industry has established Plastics Export Promotion Council (PLEXCONCIL) which manages over 2,500 exporters. PLEXCONCIL has set the goal for USD 25 billion in plastic exports by 2027. The country majorly exports plastic raw materials, films, sheets, woven sacks, fabrics, and tarpaulin.[viii]

India's product-wise share of plastics exports (FY25*)



Note: *Until January 2025
Source: The Plastics Export Promotion Council of India (PLEXCONCIL)

Though both BPA & Phthalates are high-production chemicals in India, information on production (production data) is very limited and fragmented. Based on secondary information, import-export data is compiled here for the report.

BPA Market overview

India Phenol Market (that includes bisphenol analogs) achieved a total market volume of 58.94 thousand Metric Tonnes in 2024 and is expected to reach 70 thousand Metric Tonnes by 2030 with a CAGR of 3.25% during the forecast period[ix]. According to another market agency, market share of BPA is estimated at 8.71 million tons in 2025, and is expected to reach 11.97 million tons by 2030, which shows market is growing at a CAGR of 6.56%.[x] While BPS market is forecasted to reach 16.73 thousand tons by 2030.[xi] According to Directorate General of Foreign Trade (GoI), in FY 2024-25 India had imported BPA worth $146.11 million[xii] USD majorly from South Korea,

Thailand, and Singapore while exported BPA only of $5.91 million USD[xiii]. This shows the high domestic consumption of the chemical. However, information on the production is not yet available on public platform.

Phthalates market overview

According to Directorate General of Foreign Trade (GoI), in FY 2024-25 India had imported phthalates plasticizers (HS code: 38122010) worth $4.18 million[xiv] USD majorly from Malaysia, and Taiwan while exported only of $0.21 million USD[xv]. This shows the high domestic consumption of the chemical. However, information on the production is not yet available on public platform. Various congeners are also trade under individual HS code. For ex. India imported Dibutyl Phthalate (HS Code: 29173910) worth $0.18 million USD while exported $8.17 million USD. While imported Dioctyl Phthalate (HS Code: 29173920) worth $26.84 million USD while exported $6.58 million USD.

Regulatory controls on phthalates and/or bisphenols in India

There are several global & country specific research studies available that highlights health & environment impact of BPA & Phthalates. Considering these impacts and global development, India also has taken some measures to regulate both BPA & Phthalates. BIS standards restrict several phthalates in toys, cosmetics, inks and food-contact materials, while FSSAI regulates DEHP in food packaging and has proposed broader restrictions on phthalates and BPA. BPA is banned in baby bottles, infant-food packaging, and thermal paper.

There are certain rules and guidelines on Bisphenol-A and phthalates but are restricted to specific products only.

a. Phthalates
    i. BIS standard IS 9873 (Part 9) :2017 restricts six phthalate esters in toys that includes: DBP, BBP, DEHP, DNOP, DINP, and DIDP.[xvi]
    ii. BIS standard IS 4707 (Part 2) : 2009 restricts eight phthalates as raw ingredient in cosmetics that includes: **nPIPP,** DPP**, BBP, DIPP, DBP, DEHP, DMEP and DOP**
    iii. The Food Safety and Standards Authority of India (FSSAI) under Food Safety and Standards (Packaging) Regulations, 2022 has restricted phthalates in food packaging by setting a migration limit of 1.5 mg/kg for DEHP.
    iv. In Oct 2025 FSSAI had Issued Draft Packaging Amendment Rules 2025 that proposes to restrict phthalates and BPA in food contact materials.[xvii]

v. BIS standard IS 15495:2020 bans the use of phthalates in printing inks for food packaging.[xviii]

b. Bisphenol-A

i. BIS standard IS 14625:2015[xix,xx] prohibit the use of BPA in baby feeding bottles and sippy cups. Toxics Link was part of the revising committee.

ii. Food Safety and Standards (Foods for Infant Nutrition) Regulations, 2020 bans BPA in food packaging materials intent for infant foods.[xxi]

iii. BIS is also referring EN 14350: 2020 'Child care articles - Drinking equipment - Safety requirements and test methods' to amend "Plastic feeding and drinking containers, accessories and cutleries for infant and child use — Specification". Toxics Link is part of the revising committee.

iv. BIS standard **IS 17568:2021**[xxii] 'Thermal Paper- Specification' in 2021 restricts the use of BPA in thermal papers.

Besides, the Government of India has released a draft chemical management rule 2020 that recognizes BPA, BPS & phthalate congeners as EDCs and gave a major thrust to manage these toxic chemicals. However, the draft is not yet notified.

In India, transparency and traceability of chemicals used in plastics remain limited and fragmented, with no comprehensive regulatory framework addressing chemical disclosure across the plastic life cycle. Existing regulations primarily focus on packaging, weights, measures, and consumer information rather than the chemical composition of plastic materials. The Legal Metrology Act, 2009 and Legal Metrology (Packaged Commodities) Rules, 2011 provide for standardization of packaging and labelling, and define the labelling requirements of all commodities manufactured, imported and sold in the country. For food products, labelling requirements are defined under the Food Safety and Standards (Labelling and Display) Regulations, 2020. However, none of these regulations require disclosure of the chemical composition of plastic materials. Only in product categories where specific restrictions exist, such as baby feeding bottles, infant food packaging, sippy cups and toys, manufacturers often include claims like "BPA-free" or "No BPA," but these are voluntary and not part of a comprehensive chemical traceability framework.

Impacts of Phthalates & Bisphenols in the country

In India limited but significant scientific studies have been done on the presence of bisphenols and phthalates across environmental media, consumer products, food-contact materials, and human biological samples, indicating widespread exposure and challenges for chemical

traceability in plastics. Toxics Link has played a critical role in revealing BPA and phthalates in childcare products, personal care items, thermal paper, and recycled plastics, frequently contradicting "BPA-free" claims. These studies have initiated academic studies as well. Research studies are there on toxicological, biomonitoring, and environmental investigations. Research has reported BPA-induced reproductive toxicity in animal models, its presence in baby feeding bottles, drinking water bottles, take-out foods, and aquatic organisms from the River Ganga. Human biomonitoring studies have detected BPA in serum and urine of women, infants, children, and adults, with associations observed with diabetes, reproductive outcomes, and early-life exposure. More recent studies also report bisphenol analogues such as BPS and BPF in surface and wastewater, reflecting substitution trends rather than elimination.

Similarly, studies on phthalates since 2014 show their occurrence in food, bottled water, milk, facemasks, diapers, sanitary pads, toys, drinking water supplies, and environmental waters, as well as in human blood, urine, and breast cancer case–control cohorts. Multiple congeners—including DEHP, DBP, DIBP, BBP, DINP, and DNOP—have been detected, often with food and indoor environments identified as major exposure pathways. Findings consistently indicate higher body burdens in vulnerable groups and links to infertility and cancer risks.

Studies on BPA					
Year	**Study Title**	**Author**	**Chemical studied**	**Product(s) Tested**	**Key Findings**
2015	Bisphenol A-induced ultrastructural changes in the testes of common marmoset[xxiii]	Tushara Vijaykumar, , Dipty Singh, Geeta R. Vanage, Rohit V. Dhumal, Vikas D. Dighe,	BPA	marmosets	Ultrastructural analysis of the testis revealed several degenerative effects
2017	Studies on environmental toxicity of Bisphenol A BPA and adverse effects on human health[xxiv]	A Kaur	BPA	baby feeding bottles, drinking water bottles, microwave safe polycarbonate bowl	

				and cans of different brands	
2018	Bisphenol A (BPA) levels in the serum of Indian women collected at the time of Oocyte retrieval may predict BPA levels in their follicular fluid[xxv]	S. Uttamchandani et al	BPA	serum of women undergoing intracyto-plasmic sperm injection	The median [range] levels of total serum BPA were 1.81 [0.2 -66.32] ng/ml versus 0.53 [0.09 - 19.11] ng/ml in the FF with the difference being statistically significant [p< 0.0001].
2020	A Study on Impact of BPA in the Adipose Tissue Dysfunction (Adiposopathy) in Asian Indian Type 2 Diabetes Mellitus Subjects[xxvi]	Jain J, Gupta N, Mathur R, Nimesh S, Mathur S	BPA	Human	Serum BPA concentration was found to be significantly higher in diabetic subjects in comparison to the control subjects.
2020	Nationwide distribution and potential risk of bisphenol analogues in Indian waters[xxvii]	D. Lalwani	BPA, BPS and BPF	Surface water and waste water	BPA was the predominant compound in all samples, along with noticeable detection of BPS and BPF. Higher frequencies of BPS and BPF were found in wastewater than surface water.
2021	Surveillance of plasticizers, bisphenol A, steroids and caffeine in surface water of River Ganga and Sundarban wetland along the Bay of Bengal: occurrence, sources, estrogenicity screening and	P Chakraborty et al.	phthalic acid esters and bisphenol A	Surface water	• Predominance of DnBP at tourist destinations may have plastic litter as its source. • Dominance of BPA in the lower stretch of Ganga is due to industrial effluents.

	ecotoxicological risk assessment[xxviii],[xxix]				
2024	Biomonitoring Study of Urinary Bisphenol A Levels and Impact of Bottle-Feeding Practices Among Infants and Children From Northern India[xxx]	P Gangadaran, B Bharti, S V Attri, V Singh Malik, A Patial	BPA	Urine samples of 184 children	94.56% (n = 174) children had detectable urinary BPA levels
2024	Bisphenol A in Indian Take-Out Soups: Compliance, Implications and Sustainable[xxxi]	S. Datta et al	BPA	take-out vegetable soups and premixed tomato soups	All results were below the Specific Migration Limit (SML) set at 0.5 ppm
2024	Bisphenol A contamination in Hilsa shad and assessment of potential health hazard: A pioneering investigation in the national river Ganga, India[xxxii]	S Kundu et al	BPA	184 numbers of Hilsa fish	The estuarine zone of River Ganga had higher BPA levels than the lower region. BPA concentration in fish tissues was found as liver>muscle>kidney>gonad.
2025, Review paper	Exploring the Endocrine Disrupting Effects of BPA and Phthalates in Consumer Plastics: Implications for Human Health and Safer Alternative	Kanhaiya S Patel	BPA and Phthalates		
Studies on Phthalates					
2014	Intake estimates of phthalate esters for South Delhi population based on	M.T. Das, P. Ghosh, Indu Shekhar Thakur	fifteen phthalate congeners	urban population of Delhi	• Food was the major source of exposure contributing up to 74% of daily intake.

	exposure media assessment[xxxiii]				• Indoor air contained higher concentration of phthalates with respect to outdoor. • DEHP was the most abundant congener and its daily intake reached upto 70 µg kg^{-1} d^{-1}
2015	Cumulative exposure and dietary risk assessment of phthalates in bottled water and bovine milk samples: A preliminary case study in Tamil Nadu, India[xxxiv]	K.K.Selvaraj *et al*		bottled water and bovine milk samples	• Total phthalates in bottled water and milk were in the range of 39–7820 ng/L and 56–686 ng/g
2020	A study on the effect of phthalate esters and their metabolites on idiopathic infertile males[xxxv]	R. Rana, S. Joon, A. K. Jain, N. K. Mohanty	13 congeners DEHP, DBP, DIBP, BEHIP, BPBG, DPP, DIOP, DIHP, DMP, DINP, BIOP, DMOP and DICHP	blood serum and urine samples of 227 men	• Phthalate congeners were significantly higher in the infertile males compared to the fertile males ($p < .05$ or $p < .01$)
2021	Estimation of phthalates in bottled drinking water, manufactured in India, using liquid chromatography mass spectrometry (LC-MS/MS)[xxxvi]	J Prakash	Eight phthalate easters	375 water bottle samples	• Of eight investigated phthalate esters, Di-butyl Phthalate (DBP) was detected in 94% and Di-isobutyl phthalate (DiBP) in 80% of samples analyzed.
2022	Occurrence of phthalates in facemasks used in India and its	N Shende *et al*	DMP, DEP, DBP, BBP, and DEHP	facemasks	contents in facemasks ranged from 101.79 to 27,948.64 ng/g.

	implications for human exposure[xxxvii]				
2022	Urinary concentration of endocrine-disrupting phthalates and breast cancer risk in Indian women: A case-control study with a focus on mutations in phthalate-responsive genes[xxxviii]	A.M. Das *et al*	DMP, DEP, DBP, BBP, DEHP, DINOP	171 participants	Significant associations were observed between urinary phthalate concentrations and increased risk of breast cancer for DBP (OR=1.5, 95% CI; 1.06, 2.11, p = 0.002) and DEHP (>median vs ≤ median; OR=2.97, 95% CI; 1.18, 7.47, p = 0.005)
2023	Investigating the urinary concentrations and distribution of phthalate metabolites in cow urine distillate in India[xxxix]	S. B. Jorvekar *et al*	MMP, MiBP and MEP	cow urine	All samples contain phthalates. The mean concentrations of phthalate metabolites were 407.6 ng mL−1 (mono-methyl phthalate, MMP), 35.6 ng mL−1 (mono-isobutyl phthalate, MiBP) and 22.25 ng mL−1 (mono-ethyl phthalate, MEP).
2023	Seasonal fluctuations in phthalates' contamination in pond water: A case study.[xl]	S. Rajput *et al*	BBP, DNP, DMP, DAP, DEP	Pond water samples for were collected four consecutive seasons in two years	BBP, DNP, DMP found in all samples
2024	Occurrence and Health Risk Assessment of Phthalates in Municipal Drinking Water Supply of a Central Indian City[xli]	G. Hippargi and A. R. Kumar	fifteen phthalate congeners	phthalates in the municipal water supply	The concentration was ranged from 0.27 to 76.36 µg L^{-1}. Prominent phthalates identified were di-n-butyl phthalate (DBP), di-isobutyl phthalate (DIBP), benzyl butyl phthalate (BBP), di (2-ethylhexyl)

					phthalate (DEHP), di-n-octyl phthalate (DNOP), and di-nonyl phthalate (DNP).
2024	Quantitative Estimation of Phthalates from Commercial Bottled Water[xlii]	P.S. Amritha, V. Vinod and P.B. Harathi	DBP, BBP, DEHP, DNOP and DEP	Plastic water bottles	results indicated the presence of PAEs in trace amounts, which are not harmful to humans as they are present under the permissible levels.
2025	Comparative Study of Phthalates in Short- and Long-Term Plastic using Women Volunteers by GCMS and HPLC Analysis[xliii]	M. Sujatha, and Safiya	DMP, DEP, DBP, DHP, BBP, DBEP, DEHP, DINP and DNOP	Questionnaires were circulated to 2500 women volunteers of reproductive age group ranging from 20-45 years.	
Studies done by Toxics Link on BPA & Phthalates					
2014	Bottles Can Be Toxic – I			Baby feeding bottles	BPA was found in most tested bottles; highlighted potential health risks due to BPA's estrogenic activity and urged regulatory action.
2016	Bisphenol-A in Teethers – An Indian Perspective			Baby teethers	Detected BPA in several teething rings; flagged concerns over infants' oral exposure to BPA through prolonged chewing.
2016	Beware of Toxic Sippy Cups			Sippy cups	Identified presence of BPA in many samples; warned against misleading "BPA-free" claims in the market.
2016	EDCs in Personal Care Products			Shampoos, lotions, deodorants	Review

				(multiple brands)	
2018	EDC: Review of Indian Research	Literature review			Summarised Indian scientific studies on EDCs, including BPA exposure through packaging, food contact, and consumer goods
2018	BPA in Thermal Paper		BPA	Thermal receipt paper	BPA detected in thermal paper; potential dermal exposure risk to cashiers, shop workers, and consumers.
2019	Bottles Can Be Toxic – II		BPA	Baby feeding bottles, sippy cups	BPA leaching ranged from 0.9 to 10.5 ppb; repeated use increased leaching; stressed stronger enforcement of BPA bans.
2020	BPA in Sippy Cups and Feeding Bottles		BPA	Sippy cups and bottles	Reaffirmed BPA migration despite "BPA-free" claims; highlighted gaps in quality control and labelling compliance.
2020	What's in the Diaper?		Phthalates (DBP, BBP, DEHP, DIBP)	Baby diapers (multiple brands)	Phthalates, including DEHP found in all samples; levels ranged from 2.36 ppm to 302.25 ppm.
2022	Wrapped in Secrecy			Sanitary pads	Phthalates and VOCs were detected in many pads; potential for reproductive and developmental health effects through prolonged skin contact.
2024	BPA in thermal paper: A monitoring study		BPA & BPS	Thermal papers	Bisphenol analogues have been reported in range of < LOQ to 17400 ppm
2024	Is Plastic Recycling Safe?[xliv]		BPA, Phthalates (DBP, BBP,	FCM, Children toys	BPA was reported in range of 0- 12.7 pp,

			DEHP, DNOP, DINP, DIDP, DIBP)		Phthalates were reported in range of 0 to 220000ppm
2025	Recycled Plastic Toys HOW SAFE?			Toys	BPA was found only in one sample (23.8ppm). Phthalates were below detection limit.

Based on the available studies, it can be said that several group of people in India seems to experience higher exposure to phthalates and bisphenols. Infants and young children are among the most vulnerable, as multiple assessments of baby products consistently report BPA and phthalate contamination, and a 2024 biomonitoring study detected urinary BPA in over 94% of children tested. Women of reproductive age also show elevated exposure, with studies reporting higher BPA levels in the serum and follicular fluid of women undergoing fertility treatments, as well as significant associations between urinary phthalate levels and breast cancer risk. Based on the findings of higher BPA in thermal receipts, it can be concluded that cashiers and retail workers who frequently handle thermal paper, face increased BPA exposure. Similarly, occupational exposure can be observed in workers during manufacturing, packaging and recycling of BPA & Phthalates containing products.

Several studies indicate the presence of BPA and phthalates in environmental matrices such as municipal drinking water, pond water, indoor air and other local sources; however, the available data is limited in scope and geographic coverage. As a result, it is not possible to draw a generalized conclusion about nationwide exposure patterns.

National endeavors to phase out bisphenols and/or phthalates

Though there are no Government funded or national /campaigns to phase out phthalates/and or bisphenols; however, Toxics Link is doing extensive work on this issue since more than a decade. With our continuous efforts and evidence-based approach, a few regulatory shifts have been observed in the country. Toxics Link has been part of various regulatory committees of BIS.

During these decade long campaigns on plastic additives, and current position of India on plastics, certain challenges can be highlighted in the phasing out of phthalates/bisphenols. These are:

- Low awareness among key stakeholders resulting in limited understanding of the health
- risks associated with phthalates and bisphenols.
- Focusing on specific products instead of the chemicals themselves slows regulation and often results in replacing harmful substances with equally dangerous alternatives.
- Insufficient enforcement and monitoring capacity, especially in informal and unorganized manufacturing sectors

- Lack of availability or higher cost of safer alternatives.
- Weak consumer demand for safer products.
- Increasing plastic recycling in the country

There is a dire need of roadmap to reduce plastic consumptions in the country and also to phase out harmful chemical additives from the plastic life cycle. Some of the suggested recommendations are:

- Strengthen Regulatory Framework & Monitoring
- National Screening & Surveillance Programme: testing of toys, food-contact materials, baby products, and medical devices for phthalates/BPAs collected from pan India.
- Capacity-Building Workshops: Large-scale awareness programs targeting regulators, SMEs, and consumers on the health risks and available alternatives.
- Improve Supply Chain Transparency

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