

July 30, 2026

Comments on Draft Indian Standard PCD 21 (34327) – Plastics Feeding Bottles – Specification (Second Revision of IS 14625)

Dear Madam or Sir,

The [Food Packaging Forum Foundation \(FPF\)](http://foodpackagingforum.org) welcomes the opportunity to comment on Draft Indian Standard PCD 21 (34327), Plastics Feeding Bottles – Specification (Second Revision of IS 14625). FPF is a non-profit, independent, and science-based research and communications organization working at the science-policy interface, with expertise in hazardous chemicals in food contact materials.

FPF appreciates the efforts of BIS and its Technical Committee on Plastics Packaging to update the standard for plastic feeding bottles. In particular, the available scientific evidence justifies the decision to remove polycarbonate and polyethersulfone as a material choice due to concerns regarding Bisphenol A (BPA) and Bisphenol S (BPS). Considering the potential for known chemical migration, FPF also welcomes the committee's inclusion of migration testing requirements for feeding bottles and accessories intended for infant use. In doing so, the BIS has taken an important step towards better protecting infants against known harmful chemicals.

However, given that infants are particularly vulnerable to chemical exposures due to their developing physiology and higher food intake relative to body weight, we encourage BIS to further strengthen the chemical safety provisions of the draft standard. We therefore respectfully offer the following comments, based on the available scientific evidence, for the committee's consideration:

1. Consider a broader approach to bisphenols and other groups of chemicals of concern to avoid regrettable substitutions.

The draft standard identifies concerns related to both BPA and BPS and removes materials previously associated with these substances. However, the proposed requirements appear to prohibit only BPA specifically, while not addressing other bisphenols or structurally related substances that may be used as replacements and are also hazardous. Experience from other food contact materials regulations has shown that restricting individual substances can lead to the replacement of one chemical of concern with another chemically similar substance, a phenomenon often referred to as "regrettable substitution." We therefore encourage the committee to consider whether a broader approach addressing bisphenols as a chemical class, or otherwise considering

structurally related alternatives, may provide more robust and future-proof protection for infant feeding products.

2. Expand consideration of chemicals beyond heavy metals, BPA, and DEHP.

The draft includes limits for selected heavy metals and establishes a specific migration limit for di(2-ethylhexyl) phthalate (DEHP). While these provisions are valuable, plastic food contact materials can contain a much wider range of intentionally added substances, including plasticizers, antioxidants, stabilizers, catalysts, processing aids, lubricants, pigments, and other additives. According to our free and publicly available [FCCmigex](#) and [FCCprio List](#) databases synthesizing the available scientific evidence, 536 different chemicals have been found to migrate from olefine-based plastics (including PP, HDPE, and LDPE) into food or food simulants, including other known hazardous phthalates such as dibutyl phthalate and diisobutyl phthalate.

We therefore encourage the committee to consider whether additional categories of substances commonly present in food contact plastics should also be evaluated, particularly given the intended use of these products by infants and the repeated nature of exposure. Our published resources can assist with this.

3. Address non-intentionally added substances (NIAS).

The draft focuses on specified chemicals and migration limits but does not appear to contain provisions addressing the many non-intentionally added substances (NIAS) that can also be present in the final plastic article, such as impurities, manufacturing by-products, reaction products, breakdown products, and oligomers. Recent research has shown that NIAS are an important consideration in food contact material safety assessment because they may be harmful to health and migrate into food even when they are not intentionally added to the product formulation.

This consideration may be particularly relevant for reusable infant feeding bottles that are repeatedly exposed to heat, sterilization, cleaning, and mechanical wear during normal use. We therefore encourage the committee to consider incorporating a requirement or guidance for the assessment of NIAS as part of the overall safety evaluation of feeding bottles and their accessories. Given the lack of current analytical and toxicity testing approaches needed to properly check for NIAS and ensure product chemical safety, chemically simpler and more inert food contact materials such as stainless steel and glass are worth considering instead of plastics.

4. Ensure migration testing reflects realistic repeated-use conditions.

The draft standard recognizes that feeding bottles are frequently subjected to heating and sterilization during normal use and therefore includes migration testing under elevated temperature conditions.

However, material properties and migration behavior may change over time as products undergo repeated heating, sterilization, cleaning, and long-term use. Repeated use may also contribute to the release of micro- and nanoplastic particles (MNPs) from plastic feeding bottles, an emerging area of scientific concern.

We therefore encourage the committee to consider the potential impacts of repeated use, material ageing, and MNP releases throughout the lifetime of the product.

5. Apply a more precautionary approach to protect the special vulnerability of infants.

Feeding bottles represent a unique category of food contact material because they are intended specifically for infants and are used frequently, directly, and repeatedly. For this reason and considering the many known (and unknown) hazardous chemicals that can be present in plastics, we encourage the committee to explicitly consider infant-specific vulnerability when establishing chemical safety requirements and migration limits. A precautionary approach is especially warranted given scientific uncertainties regarding NIAS, cumulative exposures, and mixture toxicity. A growing body of epidemiological and experimental evidence indicates that combined exposure to multiple endocrine-disrupting chemicals can contribute to adverse developmental outcomes, even when individual chemicals are present at levels that may not raise concern on their own.

Conclusions

We commend the committee for updating the standard and for addressing concerns associated with BPA-containing feeding bottles. Given the available scientific evidence, we encourage further strengthening of the chemical safety provisions.

To support future updates of the standard, the committee may wish to consider publicly available scientific resources that compile information on food contact chemicals and chemical migration. In particular, our [FCCprio List](#) identifies and prioritizes food contact chemicals of concern using published hazard data.

We remain available to provide additional scientific input and to support BIS in the development of standards to ensure a high level of protection for India's infants and other vulnerable populations.

Yours sincerely,

Narain M. Ashta
Communications and Engagement Officer

Justin Boucher
Operations Director