



# A CALL TO ACTION: FREE CHILDREN FROM BPA'S TOXIC LEGACY

BPA IN PLASTIC PRODUCTS FROM BANGLADESH, BHUTAN, CHINA, INDONESIA, MALAYSIA, RUSSIA, SRI LANKA & TANZANIA THAT ARE IN CONTACT WITH FOOD OR WITH CHILDREN'S MOUTHS

February 2022



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**IPEN** is a network of non-governmental organizations working in more than 120 countries to reduce and eliminate the harm to human health and the environment from toxic chemicals.

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Toxics Link  
for a toxics-free world

**Toxics Link** is a civil society organisation working for environmental justice, right to know information about environmental pollution and freedom from toxics for India and the rest of the world.

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# BISPHENOL A - INTRODUCTION

Bisphenol A (BPA) is a synthetic chemical used in a wide range of products such as epoxy paints and glue, lining of food cans, and thermal paper receipts. BPA is also used as a building block in polycarbonate plastics which can be used to make food containers and baby bottles, despite BPA being a known endocrine disrupting chemical (EDC)<sup>[1]</sup>. Several million metric tonnes of BPA are produced yearly<sup>[2]</sup>, even though BPA is associated with several negative effects on the environment and human health.

## ENVIRONMENTAL AND HEALTH CONCERNS OF BISPHENOL A

BPA and its metabolites have been found in urine, blood, saliva, umbilical cord, placenta and amniotic fluid and samples collected from people around the world indicate that more than 90% of the world's population have BPA in their bodies<sup>[3]</sup>. New-born and infant exposure to BPA increases the sensitivity of hormone-sensitive organs to later-life exposures to estrogens<sup>[4,5]</sup> or chemical carcinogens<sup>[6,7]</sup>.

Moreover, BPA levels found in children are typically higher than in adults. This is due to the higher food consumption per body weight in early life and dust ingestion associated with hand-to-mouth contact behaviour in children, as well as a higher use of plastic products. Babies are exposed to BPA when it leaches from bottles and other containers into beverages and food they consume.

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**STUDIES ON ANIMALS<sup>[8]</sup>, AS WELL AS EPIDEMIOLOGICAL STUDIES ON HUMAN HEALTH EFFECTS<sup>[9,10]</sup>, SHOW THAT BPA CAN AFFECT BRAIN DEVELOPMENT LEADING E.G. TO BEHAVIOURAL IMPACTS IN CHILDREN. EXPOSURE CAN ALSO INCREASE ANXIETY, DEPRESSION, HYPERACTIVITY, AND INATTENTION<sup>[11]</sup> AND NEGATIVELY AFFECT REPRODUCTIVE FUNCTIONS<sup>[12]</sup>.**

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“BPA is associated with Polycystic Ovary Syndrome (PCOS)—a complex hormonal condition associated with irregular menstrual cycles, reduced fertility, and increased risk of diabetes. In men, BPA affects fertility and is associated with sexual dysfunction among men exposed to high occupational levels”, states the report by IPEN and Endocrine Society, 2020<sup>[1]</sup>.

BPA enters the environment from specific point sources, such as leachates from landfills<sup>[13]</sup>, as well as a wide range of diffuse sources related to their usage. Due to its continuous leakage into the environment it contaminates several environmental matrices, including rivers and groundwater<sup>[14, 15]</sup>. It has also been found in beach sand around the world, originating from plastic marine waste<sup>[16]</sup>. BPA is acutely toxic to aquatic organisms and triggers disruptive effects on their endocrine system<sup>[17-19]</sup>. It thereby has negative physiologic and ecologic consequences for aquatic systems<sup>[17-19]</sup>.

Health and environmental concerns have led many countries to restrict use of BPA in baby bottles and other items in contact with children's food or placed into the children's mouths (see Table 1). However, in many countries compliance with the legislation is only sporadically monitored. On top of that, the restriction of BPA has led to replacement with other bisphenols just as harmful, or potentially worse (although not yet regulated). Those so-called regrettable substitutes of BPA include bisphenol F and bisphenol S, as well as bisphenol E and bisphenol B, which exhibit endocrine-disrupting properties and health impacts similar to BPA<sup>[20]</sup>. For the timeline of the rising environmental and health concerns on bisphenols please see Figure 1 below.

## LEGAL RESTRICTIONS ON BISPHENOL A

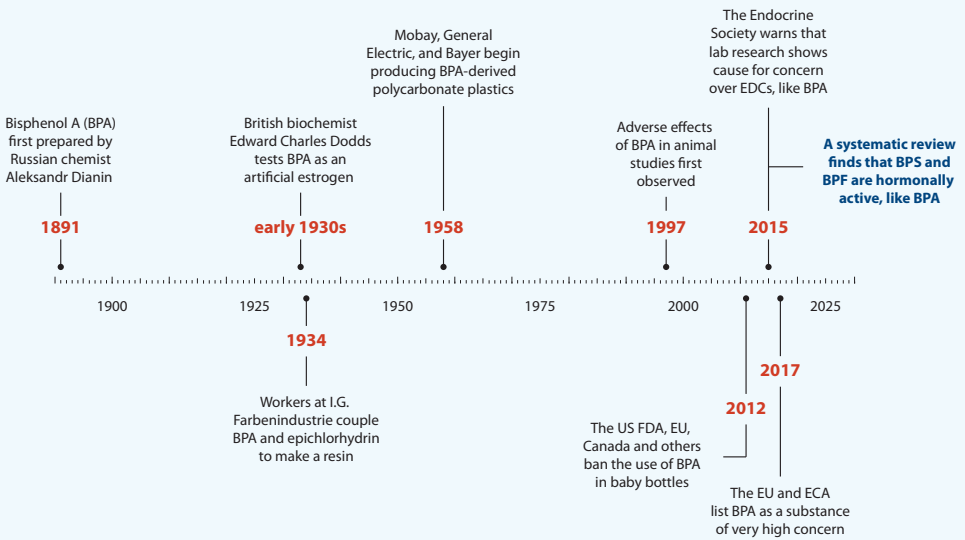
**In the European Union**, BPA was banned from use in baby bottles in 2011, based on the evidence that a baby's metabolic system is more vulnerable than the metabolic system of adults<sup>[21]</sup>. The EU also imposed a maximum limit of BPA migration from food contact materials into food<sup>[22]</sup>. Moreover, BPA was listed as a "substance of very high concern" (SVHC) because of its endocrine disrupting properties both for human health and the environment. Previously, in 2017, BPA was classified as a substance toxic for reproduction<sup>[23]</sup>.

Because of health concerns, use of BPA in some plastic containers, such as baby bottles, is restricted in many countries (see Table 1 and Annex 1) and is being voluntarily reduced or phased out in others.

**In Malaysia**, according to provision 27A of the Food Regulations 1985:

- (1) *No person shall import, manufacture or advertise for sale or sell any feeding bottles containing Bisphenol A (BPA).*
- (2) *The words "BPA free" may be labelled on the feeding bottles or on the packages of the feeding bottles which do not contain Bisphenol A (BPA).*

## REGRETTABLE SUBSTITUTION: SHIFTING TO BPA-FREE, BUT WITH BPF OR BPS



**Figure 1: The timeline of the BPA rising environmental and health concerns**

Source: *Plastics, EDCs & Health: A Guide for Public Interest Organizations and Policymakers on Endocrine Disrupting Chemicals & Plastics* by IPEN and Endocrine Society, 2020

**In China,** BPA has been restricted from polycarbonate baby feeding bottles and other infant feeding bottles since 2011. According to GB 9685-2016 “National Food Safety Standard for the Use of Additives for Food Contact Materials and Products”, when bisphenol A is used as an additive in adhesives and paint coatings, its specific migration limit (SML) is 0.6 mg/kg; when bisphenol S is used as an additive in paint coatings, its SML is 0.05 mg/kg.

**In Indonesia,** the allowable concentration of BPA in food contact materials should not be higher than 600 µg/kg.

**In Bangladesh, Bhutan, Sri Lanka, Tanzania, and Russia,** the use of BPA in baby bottles is unregulated.

**TABLE 1: LEGAL RESTRICTION ON BPA IN MALAYSIA, CHINA, INDONESIA, EU AND US**

Country	Scope	Citation	Conditions
China	Polycarbonate baby feeding bottles and other infant feeding bottles	Ministry of Health, Bulletin No. 15 of 2011	Prohibited
	Additive in adhesives and paint coatings	GB 9685-2016	Specific migration limit of 0.6 mg/kg
India	BPA in Packaging Material for baby/infant food supplements	Food Safety and Standards (Foods for Infant Nutrition) Regulations, 2020	Prohibited
	BPA in baby feeding bottles/sippy cups	IS 14625:2015, Bureau of Indian Standards (BIS), 2015	Prohibited
Indonesia	Food contact plastics	Regulation of the National Agency of Drug and Food Control (Badan Pengawas Obat dan Makanan/BPOM) Number 20 of 2019 concerning Food Packaging	Maximum permitted content of 600 µg/kg
Malaysia	Polycarbonate Baby bottles	P.U. (A) 35/12 of the Food Regulations 1985 (since March 1st, 2012)	Prohibited
EU	Infant feeding bottles Bottles and packaging of food for children up to 3 years old	Directive (EU) 2011/8/ EU amending Directive 2002/72/EC	Prohibited
	Food contact plastics and food contact varnished or coated products	Regulation (EU) 2018/213 amending Regulation (EC) 10/2011	Maximum migration of 0.05 mg/kg
	Toys - intended for use by children under 36 months or in other toys intended to be placed in the mouth	Directive (EU) 2017/898 amending 2009/48/EC	Maximum migration of 0.04 mg/L
	Thermal paper	Regulation (EU)2016/2235 amending Annex XVII of REACH	Maximum content of 0.02% by weight
US	Baby bottles, sippy cups, infant formula	Rule 77 FR 41899	Prohibited
	Epoxy resins as coatings in packaging for infant formula	Rule 78 FR 41840	Prohibited



# METHODS

A total of 142 samples of hard and transparent plastic bottles and cups were collected during 2020 at local markets in 8 countries (Bangladesh, Bhutan, China, Indonesia, Malaysia, Russia, Sri Lanka and Tanzania) by IPEN Participating Organizations (Jagrata Juba Shangha in Bangladesh, Royal Society for Protection of Nature (RSPN) in Bhutan, Toxics Free Corps in China, Nexus 3 in Indonesia, Consumers' Association of Penang (CAP) in Malaysia, Eco-Accord in Russia, Centre for Environmental Justice (CEJ) in Sri Lanka and Irrigation Training and Economic Empowerment Organization (IRTECO) in Tanzania). In each of the 8 countries 10-30 hard and transparent plastic bottles, sippy cups and other items in contact with food or children's mouths were purchased. Items made of polycarbonate and designed for children were preferably selected at the local markets. We selected 9 to 20 samples per country (98 samples in total) for lab analyses to represent different countries and to cover diverse types of products.

Samples from China, Indonesia and Russia (Group 1) were shipped in their original packaging for lab analysis to the University of Chemistry and Technology Prague in the Czech Republic. Inner separable parts (i.e. straws) and lids of the bottles were removed from the samples as they were expected not to be made from polycarbonate. The samples were filled up with demineralized water up to 90% of bottle volume. Inert glass was used to cover the bottles during the analysis. BPA was extracted for 30 minutes in demineralized boiling water bath ( $> 90^{\circ}\text{C}$ ) under static conditions (mixing by magnetic stirrer). The extraction from one Indonesian sample (IND-BPA-17) was conducted at ambient laboratory temperature ( $\approx 23^{\circ}\text{C}$ ) as this sample was sensitive to deformation at high temperature. The extracts were analysed using flow-injection analysis electrospray ionization high resolution mass spectrometry (FIA-ESI-HRMS) without additional reagents. The analytical results were obtained in ng/L with 5 ng/L limit of quantification (LOQ). The ng/L unit expresses the amount of extracted BPA into the boiling water.

The samples from Bangladesh, Bhutan, Malaysia, Sri Lanka and Tanzania (Group 2) were shipped to and analysed at the Shiriram Institute for Industrial Research in New Delhi in India. BPA was extracted using incubation with boiling water followed by application of Dichlormethane (DCM) as a solvent into the separation funnel. Analytical performance was controlled for each sample using a reference BPA solution of known concentration (spike). Extracts were analysed using gas chromatography coupled with tandem mass spectrometry (GC-MS/MS) with the 0.1 ppb LOQ. The analytical results were obtained in  $\mu\text{g}/\text{kg}$  (ppb). The  $\mu\text{g}/\text{kg}$  unit expresses the amount of extractable BPA into the boiling water per kilogram of plastic bottle.

# RESULTS

The analytic results show that BPA is present and able to leach from 76 out of 98 (78 %) of tested products. Results overview and basic statistics of samples collected in China, Indonesia and Russia (Group 1) are provided in Table 2. Results overview and basic statistics of samples collected in Bangladesh, Bhutan, Malaysia, Sri Lanka and Tanzania (Group 2) are summarized in Table 3. Minimum, average and median concentrations were calculated for the samples with BPA concentrations above the Level of Quantification (LOQ). For the complete results of the BPA analysis and detailed overview of the analysed samples please see Annex 2.

**TABLE 2.** BPA CONCENTRATION RANGES, AND AVERAGE AND MEDIAN CONCENTRATIONS OF BABY AND WATER BOTTLES FROM CHINA, INDONESIA AND RUSSIA (GROUP 1)

<b>Country</b>	<b>Samples (#)</b>	<b>BPA &gt;LOQ (#)</b>	<b>BPA &gt;LOQ (%)</b>	<b>Min (ng/L)</b>	<b>Max (ng/L)</b>	<b>Average (ng/L)</b>	<b>Median (ng/L)</b>
China	20	19	95	19	50 292	5 046	1 055
Indonesia	15	13	87	33	16 521	2 810	820
Russia	15	13	87	32	2 376	412	181

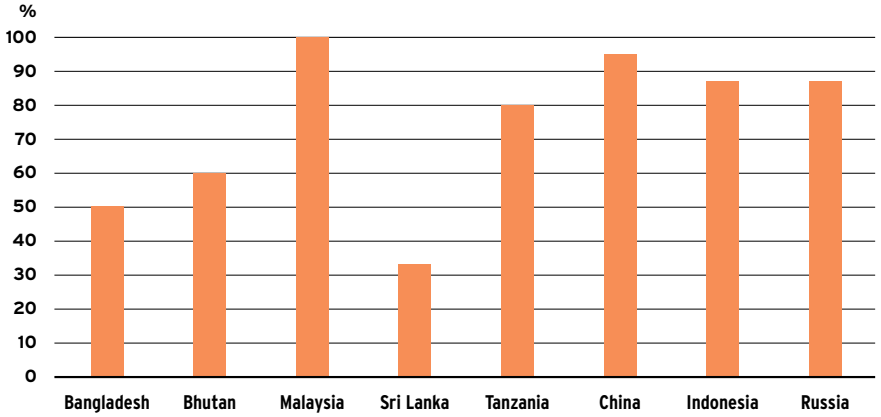


**TABLE 3:** BPA CONCENTRATION RANGES, AND AVERAGE AND MEDIAN CONCENTRATIONS OF BABY BOTTLES, SIPPY CUPS AND WATER BOTTLES FROM BANGLADESH, BHUTAN, MALAYSIA, SRI LANKA AND TANZANIA (GROUP 2)

Country	Samples (#)	BPA >LOQ (#)	BPA >LOQ (%)	Min (µg/kg)	Max (µg/kg)	Average (µg/kg)	Median (µg/kg)
Bangladesh	10	5	50	0.6	12	6.6	7.1
Bhutan	10	6	60	0.2	4.6	1.7	0.9
Malaysia	9	9	100	0.3	5.8	2.2	2.0
Sri Lanka	9	3	33	0.9	3.2	2.2	2.5
Tanzania	10	8	80	0.4	8.4	3.2	2.4

# MAIN FINDINGS

- 78% (76/98) of all the samples contained BPA above the limit of quantification (LOQ). The samples included different baby feeding bottles and other items in contact with food or children's mouths marked to be made of polycarbonate, polypropylene, a combination of the two materials, or silicone. The proportion (%) of BPA-containing samples per country is provided in Graph 1 below.
- 14 out of 23 (61 %) products labelled "BPA-free" or "0% BPA" were found to be mislabelled because they contained BPA.
- One baby feeding bottle ("Minitree regular neck feeding bottle"), made in China and purchased in Malaysia, violates existing Malaysian legislation. According to the provision 27A of the Food Regulations 1985 such product shall not be imported to Malaysia or advertised for sale as it contains 2.6 ppb BPA. The bottle has a misleading "BPA-free" label.
- Two baby feeding bottles made in India, both non-compliant with Indian legislation, are marketed in Bhutan. Use of BPA in baby feeding bottles is prohibited according to IS 14625:2015 by Bureau of Indian Standards (2015).
- All the other analysed samples containing BPA above the LOQ are at this point legal, as they either do not exceed the threshold concentrations set by the legislation, or do not fall into a product category covered by national/regional legislations, or no legislation concerning BPA exists in that country/region.
- In the first group of analysed samples, where the extractable BPA content in the plastic itself was measured, the highest BPA concentration was found in a sample from China (50 292 ng/L).
- In the second group of analysed samples, where BPA content in leaches was measured, the highest BPA concentration was found in one baby bottle from Bangladesh (12 µg/kg).



**Graph 1: Proportion (%) of BPA-containing samples per country**

# DISCUSSION

Of the 98 tested samples, 76 contained BPA above the level of quantification. Our analysis shows that BPA is present in the products and it can leach out of them. Consumers are exposed to BPA from food contact materials in addition to other exposure routes, resulting in 90-99% of individuals having BPA in their bodies<sup>[31]</sup>. Children are particularly sensitive to BPA as their metabolic system is under development. These findings illustrate an urgent need for stronger, global controls on the use of BPA, because BPA is a known endocrine disruptor with several negative effects on human health. In recent years public pressure has led to regulations on BPA in some countries or to voluntary shifts to BPA-free alternatives by some companies. Despite this fact, as shown by the results in this report, BPA is still frequently used in plastic bottles intended both for adult consumers and children in Bangladesh, Bhutan, China, Indonesia, Malaysia, Russia, Sri Lanka and Tanzania. A restriction on BPA use will have a positive effect in terms of reduction of the BPA body burden as, fortunately, BPA does not accumulate in the body<sup>[24]</sup>.

Some samples investigated in our analysis had particularly high concentrations of BPA and one sample purchased in Malaysia (but manufactured in China) violates existing Malaysian legislation. It was also falsely labelled as “BPA-free”. Overall, 14 samples were labelled as BPA-free but still contained BPA. These findings highlight the urgent need for regulatory control mechanisms.

The findings of BPA content and leaching from products in contact with children’s food or mouths purchased in 8 countries (Bangladesh, Bhutan, China, Indonesia, Malaysia, Russia, Sri Lanka and Tanzania) are consistent with previous studies from Malaysia (2003)<sup>[25]</sup> or India (2014)<sup>[26]</sup>. Other studies from countries with enforced BPA regulations (Spain, Italy) showed that BPA migration levels were below the allowed regulatory limits (as of 2010, 2011 and 2013)<sup>[27-29]</sup>. Those studies illustrate that regulations are an effective tool to protect people from exposure to BPA and other harmful chemicals. On the other hand, if the threshold amounts are high or the items are too-distinctively defined by the national legislation, BPA-containing products that come in contact with children’s food or mouths continue to flood the markets. Such a situation is illustrated

in Indonesia and China, countries with BPA restrictions for baby bottles. None of the samples from Indonesia exceeds the far-too-high threshold set by the Food Packaging Regulation and none of the samples from China designed for children (i.e. holding nipple or child-friendly pictures) are out of the scope of the legislation of the Chinese Ministry of Health, as the manufacturer claims the items are intended for older children and adults. Moreover, other studies from Europe reported bisphenol S (BPS) as the most abundant compound in plastic packed baby food<sup>[30]</sup>, which is consistent with the industry replacing BPA with BPS. BPS, however, is known to be a regrettable substitute to BPA as it is just as harmful as, or potentially worse than, BPA. BPS, as well as other bisphenols (F, E and B), exhibits endocrine-disrupting actions and health impacts similar to BPA<sup>[20]</sup>, and thus, all bisphenols should be regulated as a group.





# CONCLUSIONS AND RECOMMENDATIONS

Consumers including children in Bangladesh, Bhutan, China, Indonesia, Malaysia, Russia, Sri Lanka and Tanzania are likely exposed to the endocrine disrupting chemical Bisphenol A (BPA) from widely used products. Consumers in Malaysia, Bhutan, Indonesia and Sri Lanka are deceived by misleading “BPA-free” or “0% BPA” labelling of baby products. It is important to view these results in relation to the scientific research that has shown that BPA can impact brain development, increase anxiety, depression, hyperactivity and inattention. It is also crucial to note that concerns have been raised about other bisphenols (mainly BPS and BPF) and that regulating only the use of BPA runs the risk of steering manufacturers towards those regrettable substitutions. Therefore, the governments of Bangladesh, Bhutan, China, Indonesia, Malaysia, Russia, Sri Lanka, and Tanzania should take immediate steps to restrict manufacture, sale, and distribution of BPA and other bisphenols used as replacements (BBB, BPS and BPF) in all products intended for children, as well as food contact materials. Where existing regulations exist, control mechanisms for monitoring compliance should be established and existing legislation enforced. Governments should take the following steps to protect consumer’s and children’s health:

1. To immediately ban use of BPA and bisphenol-based materials (i.e., polycarbonate plastics, bisphenol-containing polypropylene, or bisphenol-containing silicone) in baby bottles.
2. To rapidly ban use of BPA and bisphenol-based materials in all children’s products and all food contact materials.
3. To establish a control mechanism for monitoring compliance of products on the market to established legislation.
4. To establish legally binding rules for “BPA-free” labelling of consumer products.
5. To support substitution of BPA and bisphenol-based materials with safe, already existing alternatives<sup>[31]</sup> in order to rapidly transition towards non-toxic, recyclable materials.
6. To require separation of bisphenol-based materials from the waste stream to avoid circulation of bisphenols into new products.

# ANNEX 1: SELECTED NATIONAL RESTRICTIONS ON BPA

Country	Scope	Citation	Conditions
Denmark, Belgium (EU)	Food contact materials for infants and young children up to 3 years old	Statutory Order No. 822 (Denmark)	Prohibited
Sweden (EU)	Coatings and varnishes in food contact materials for children up to 3 years old	Regulation SFS 2012:991	Prohibited
France (EU)	All food contact materials	Law 2012-1442 of 24 December 2012	Prohibited
Colombia	Food contact plastics	Resolución 4143 del 7 de diciembre de 2012	Restricted
Canada	Polycarbonate baby bottles	Canada Consumer Product Safety Act S.C. 2010, c. 21	Prohibited
Mercosur (Argentina, Brazil, Paraguay, Uruguay, Venezuela, and Bolivia)	Baby bottles and containers intended for infants up to 12 months	MERCOSUR/GMC/RES. N° 02/12	Prohibition
Turkey	All other food contact materials		Migration limit of 0.6 mg/kg
	Baby bottles and containers intended for babies	Communication No: 2011/29	Prohibition
	Polycarbonates		Migration limit of 0.6 mg/kg

Country	Scope	Citation	Conditions
South Korea	Food contact polycarbonate plastics for infants and young children	Korea Food Code Section 7	Prohibited
California (US)	Bottles and cups for children younger than 3 years	Health and Safety Code Division 104, Part 3, Chapter 12	Maximum content of 0.1 ppb
Connecticut (US)	Reusable food or beverage containers (baby bottles, spill-proof cups, sports bottles and thermoses) Baby food or infant formula sold in container	Public Act 09-103 'An Act Concerning Banning Bisphenol A in Children's Products and Food Products'	Prohibited
Delaware (US)	Bottles and cups for children younger than 4 years	Chapter 25, Title 6, §2509 'Products for Young Children, Prohibition of Bisphenol A'	Prohibited
Illinois (US)	Containers for food and beverages designed for children	Public Act 97-1101 'Toxin-Free Toddler Act'	Prohibited
Maine (US)	Food or beverage container to be used by children and packaging for baby formula and infant food	Chapter 882 'Regulation of Bisphenol A in Children's Products'	Prohibitions (with exceptions to be authorized)
Maryland (US)	Food or beverage container to be used by children under 4 years Containers of infant formula	Title 24, Subtitle 3, §24-304 'Childcare Articles Containing Bisphenol A Prohibited'	Prohibited Maximum content of 0.5 ppb
Massachusetts (US)	Reusable food or beverage containers intended for children under 3 years	105 CMR 650.020 'Listing of banned hazardous substances'	Prohibited

<b>Country</b>	<b>Scope</b>	<b>Citation</b>	<b>Conditions</b>
Minnesota (US)	Reusable food or beverage containers intended for children under 3 years	325F.173 Bisphenol A In Certain Children's Products	Prohibited
	Containers for infant formula, baby food, or toddler food	Chapter 325F. 174 'Bisphenol A in children's food containers'	Prohibited
Nevada (US)	Reusable food or beverage containers intended for children under 4 years	Nevada Revised Statutes 597.985 and 597.990 'Knowing manufacturing, sale or distribution of certain products containing bisphenol A'	Prohibited
	Containers for infant formula, baby food, or toddler food		Prohibited
New York (US)	Food contact materials and pacifiers, intended for children up to 3 years old	Environment Conservation Laws §37-0501 to 37-0511 'Bisphenol A'	Restricted
Vermont (US)	Reusable food or beverage containers such as baby bottles, spill-proof cups, sports bottles, and thermoses	18 V.S.A. § 1512	Prohibited
	Baby food and infant formula containers or jars		
	Cans		

<b>Country</b>	<b>Scope</b>	<b>Citation</b>	<b>Conditions</b>
Washington (US)	Bottles, cups or other food or beverage containers (metal cans exempted) Sports bottles of 64 ounces or less	RCW 70.280 'Bisphenol A-Restrictions on sale'	Prohibited
Wisconsin (US)	Children's baby bottles and spill-proof cups up to 3 years old	Wisconsin Act 145 BPA-Free Kids Act	Prohibited

# ANNEX 2: COMPLETE RESULTS OF BPA ANALYSIS

<LOQ =below level of quantification  
 \* values based on conversion from original ng/L unit

Sample code	Country	Sample type	Sampled product	Made/distributed by	Made in	Material	Label	BPA value (µg/kg)	BPA value (ng/L)
BAN-01-A	Bangladesh	Feeding bottle	Fantasy Handy Baby Feeding Bottle (120 ml)	Brand: Fantasy Producer: RFL Plastic Ltd Distributor: Durable Plastic Ltd (DPL)	Bangladesh	PP	No label	10.2	-
BAN-02-A	Bangladesh	Feeding bottle	Fancy Baby Feeding Bottle (120 ml)	Brand: Mother Touch Producer: RFL Plastic Ltd Distributor: Durable Plastic Ltd (DPL)	Bangladesh	PP	No label	11.9	-
BAN-03-A	Bangladesh	Feeding bottle	Promise Feeding Bottle (160 ml)	Brand: Promise Producer: Universal Hygiene Care Distributor: Universal Hygiene Care	Bangladesh	PP	No label	7.1	-
BAN-04-A	Bangladesh	Water bottle	Jia Jia Cup (water) Bottle (600 ml)	Brand: Jia Jia, China Producer: Zhejiang Wenxin Mechanical & Electrical Co., Ltd. Distributor: N/A	China	PC	No label	<LOQ	-

Sample code	Country	Sample type	Sampled product	Made/distributed by	Made in	Material	Label	BPA value (µg/kg)	BPA value (ng/L)
BAN-05-A	Bangladesh	Water cup	BINIE Water Cup (240 ml)	Brand: BINIE Producer: Zenxin, China Distributor: N/A	China	PC	No label	<LOQ	-
BAN-06-A	Bangladesh	Feeding bottle	Chu Chu Feeding Bottle (90 ml)	Brand: Chu Chu Producer: Chu Chu Distributor: N/A	Bangladesh	PP	No label	3.3	-
BAN-07-A	Bangladesh	Sippy cup	Stony Angel Feeding Bottle (60 ml)	Brand: Stony Angel Producer: Stony Angel Distributor: Yellow Care Ltd, Thailand	Thailand	PP	BPA free	<LOQ	-
BAN-08-A	Bangladesh	Feeding bottle	Twinkle Tumbler (180 ml)	Brand: Twinkle Producer: Bongo Materials Building Ltd Distributor: ACI Ltd, Dhaka	Bangladesh	PC	No label	0.6	-
BAN-09-A	Bangladesh	Feeding bottle	Linco Mini Feeding Bottle (60 ml)	Brand: Linco Producer: Linco Baby Merchandise Works Co. Ltd. Distributor: N/A	-	PP	No label	<LOQ	-

Sample code	Country	Sample type	Sampled product	Made/distributed by	Made in	Material	Label	BPA value (µg/kg)	BPA value (ng/L)
BAN-10-A	Bangladesh	Feeding bottle	Farlin Baby Feeding Bottle MomFit (140 ml)	Brand: Farlin Producer: Farling Industrial Co. Ltd. Distributor: MH Trade International	-	PP	BPA free	<LOQ	-
CHI-03-A	Bhutan	Straw water bottle	-	Miniso	China	-	No label	<LOQ	-
CHI-10-A	Bhutan	Feeding bottle	-	Aierbao	China	-	No label	4.6	-
ENG-05-A	Bhutan	Feeding bottle	-	Philips Avent	England	-	BPA free	<LOQ	-
IDA-02-A	Bhutan	Sippy cup	-	Philips Avent	Indonesia	-	0% BPA	<LOQ	-
IND-08-A	Bhutan	Feeding bottle	-	Morisons	India	-	BPA free	0.6	-
IND-09-A	Bhutan	Feeding bottle	-	Poop-pee	India	-	BPA free	3.2	-
ITY-06-A	Bhutan	Feeding bottle	Fantastic love special edition	Chicco	Italy	-	0% BPA	0.7	-
THA-01-A	Bhutan	Sippy cup	-	Natur	Thailand	-	BPA free	0.2	-
THA-04-A	Bhutan	Sippy cup	-	Honey	Thailand	-	No label	1.1	-
THA-07-A	Bhutan	Feeding bottle	-	Natur	Thailand	-	BPA free	<LOQ	-



Sample code	Country	Sample type	Sampled product	Made/distributed by	Made in	Material	Label	BPA value (µg/kg)	BPA value (ng/L)
MY-01-A	Malaysia	Feeding bottle	Regular neck feeding bottle	Brand: Minitree Manufacturer: Zhejiang Zunrun Baby Supplies Co. Ltd. Supervision: UK Yingzhixi Baby Supplies Co. Ltd.	China	PP (5 in triangle)	BPA free	2.6	-
MY-02-A	Malaysia	Bottle	Container for storing liquid food	Brand: Forever maiden	No details	-	No label	2.2	-
MY-03-A	Malaysia	Water bottle	Space Cup/Swinn Cup	Brand: Shiyin Life Distributor: CTW	China	PC	No label	1.9	-
MY-04-A	Malaysia	Water bottle	Water bottle	Brand: Woben Manufacturer: Taizhou Jinlongtai Plastic Co., Ltd Distributor: CTW	China	PP (5 in triangle)	No label	0.3	-
MY-05-A	Malaysia	Water bottle	I am Flamingo	No details	-	(7 in triangle)	No label	0.7	-
MY-06-A	Malaysia	Water bottle	Water bottle	Brand: Veezun Manufacturer: Taizhou Weizun Industrial & Trading Co. Ltd. Distributor: CTW	China	PP (5 in triangle)/ PC (5, 8 in triangle)	No label	1.8	-

Sample code	Country	Sample type	Sampled product	Made/distributed by	Made in	Material	Label	BPA value (µg/kg)	BPA value (ng/L)
MY-08-A	Malaysia	Water bottle	Water bottle	Brand: Dibe Manufacturer: Taizhou Huangyan Zhaolong Plastic Mould Co. Ltd.	China	-	No label	5.8	-
MY-10-A	Malaysia	Water bottle	Di Bang Cup Union Jack	Brand: Dibe Manufacturer: Taizhou Huangyan Zhaolong Plastic Mould Co. Ltd.	China	-	No label	2.0	-
MY-11-A	Malaysia	Water bottle	My bottle	No details	-	-	No label	2.6	-
SRL-01-A	Sri Lanka	Water cup	JIANGHONG Children's water cup	Produced/ distributed by: JIANGHONG Sold at: Kids Land	China	-	BPA free	<LOQ	-
SRL-02-A	Sri Lanka	Feeding cup	GL34 LIONSTAR Feeding Cup	Produced/ distributed by: LION STAR PLASTICS Sold at: Kids Land	Indonesia	-	No Label	<LOQ	-
SRL-03-A	Sri Lanka	Feeding bowl	Easy Grip Bowl	Produced/ distributed by: SUNDE- LIGHT INFANT PRODUCTS LTD. Sold at: Kids Land	China	-	No Label	<LOQ	-
SRL-04-A	Sri Lanka	Juice feeder	Baby Juice feeder (Name is in Chinese)	No details on producer or brand Sold at: Kids Land	China	-	No Label	3.2	-

Sample code	Country	Sample type	Sampled product	Made/distributed by	Made in	Material	Label	BPA value (µg/kg)	BPA value (ng/L)
SRL-06-A	Sri Lanka	Feeding bottle	Feed Bottle H-8DN-204	Hongkong Xiaotaopi Industrial Co., Limited Sold at: LadyJ	Hong Kong	PP	No Label	<LOQ	-
SRL-07-A	Sri Lanka	Water bottle	Mickey Mini	Brand: Mickey Mini Sold at: Arpico Showroom	India	-	No Label	<LOQ	-
SRL-08-A	Sri Lanka	Feeding bottle	Mom Fit Feeding bottle 3+ months	Brand: FARLIN Sold at: Keels	-	PP	<b>BPA free</b>	<b>0.9</b>	-
SRL-09-A	Sri Lanka	Feeding bottle	P/ Feeding Bottle (CR28B-21)	Brand label: Nice Baby Sold at: MANJARI	No details	-	No Label	<LOQ	-
SRL-10-A	Sri Lanka	Feeding bottle	Baby feeding bottle HR 16B-209	Sold at: MANJARI	No details	-	No Label	2.5	-
TZA-01-A	Tanzania	Teether	-	Momeasy	China	-	No label	6.6	-
TZA-02-A	Tanzania	Silicon nipples	-	Momeasy	China	Silicon	No label	2.2	-
TZA-03-A	Tanzania	Nasal Aspirator	-	Momeasy	China	-	No label	<LOQ	-
TZA-04-A	Tanzania	Pacifier	-	Momeasy	China	-	No label	0.6	-
TZA-05-A	Tanzania	Training up	-	Momeasy	China	-	No label	8.4	-

Sample code	Country	Sample type	Sampled product	Made/distributed by	Made in	Material	Label	BPA value (µg/kg)	BPA value (ng/L)
TZA-06-A	Tanzania	Bottle with spoon	-	Momeasy	China	-	No label	<LOQ	-
TZA-07-A	Tanzania	Feeding bottles	-	Momeasy	China	-	No label	0.4	-
TZA-08-A	Tanzania	Cup with flip straw	-	Momeasy	China	-	No label	4.5	-
TZA-09-A	Tanzania	Water bottle	-	Squees	India	-	No label	0.4	-
TZA-10-A	Tanzania	Feeding bottle	-	Momeasy	China	-	No label	2.5	-
IDN-BPA-17	Indonesia	Adult bottle	-	Hariku	-	-	BPA free	-	<LOQ
IDN-BPA-26	Indonesia	Adult bottle	-	Brand: Miniso Distributor: PT Miniso Lifestyle Trading	-	7 other	BPA free	-	<LOQ
IDN-BPA-20	Indonesia	Adult bottle	-	Brand: Greentech Distributor: Ami Farina	-	PC	No label	0.3*	33
IDN-BPA-02	Indonesia	Feeding bottle	-	Brand: Dodo Distributor: Cahaya Baru Swalayan	-	PC	No label	0.4*	65
IDN-BPA-03	Indonesia	Feeding bottle	-	Brand: Bebe Distributor: Bebe Indonesia	-	PC	BPA free	0.8*	117

Sample code	Country	Sample type	Sampled product	Made/distributed by	Made in	Material	Label	BPA value (µg/kg)	BPA value (ng/L)
IDN-BPA-01	Indonesia	Feeding bottle	-	Brand: Huki Distributor: Cahaya Baru Swalayan	-	7	No label	0.8*	135
IDN-BPA-06	Indonesia	Children bottle	-	Ecentio	-	PC	No label	11*	178
IDN-BPA-24	Indonesia	Adult bottle	-	NewB	-	PC	No label	6.4*	767
IDN-BPA-19	Indonesia	Adult bottle	-	-	-	PC	<b>BPA free</b>	<b>6.7*</b>	<b>820</b>
IDN-BPA-22	Indonesia	Adult bottle	-	Brand:Yaqicup Distributor: Nok Nok	-	PC	No label	6.6*	883
IDN-BPA-16	Indonesia	Adult bottle	-	SiChuan In One Technology	-	PC	No label	9.2*	1 207
IDN-BPA-04	Indonesia	Children bottle	-	Sunxin	-	PC	No label	17*	4 154
IDN-BPA-11	Indonesia	Adult bottle	-	Hayat Muздahira Shop	-	7 PC	No label	32*	4 642
IDN-BPA-12	Indonesia	Adult bottle	-	BSI-5M	-	PC	<b>BPA free</b>	<b>53*</b>	<b>7 009</b>
IDN-BPA-15	Indonesia	Adult bottle	-	ABS Otomotif	-	PC	<b>BPA free</b>	<b>91*</b>	<b>16 521</b>
RUS-BPA-17	Russia	Adult bottle	-	Fata Morgana	China	7	BPA free	-	<LOQ
RUS-BPA-24	Russia	Adult bottle	-	Hearts, Importer Zakka Trends, Moscow, Russia	China	58 PC	No label	-	<LOQ
RUS-BPA-14	Russia	Adult bottle	-	Wolf	China	PC	No label	1.8*	243
RUS-BPA-07	Russia	Adult bottle	-	Kari, importer - Kari, Russia	China	PC	No label	0.2*	32
RUS-BPA-11	Russia	Adult bottle	-	Flamengo	China	PC	<b>BPA free</b>	<b>0.4*</b>	<b>53</b>

Sample code	Country	Sample type	Sampled product	Made/distributed by	Made in	Material	Label	BPA value (µg/kg)	BPA value (ng/L)
RUS-BPA-25	Russia	Adult bottle	-	Love Wild, Importer Zakka Trends, Moscow, Russia	China	PC	No label	0.7*	91
RUS-BPA-22	Russia	Adult bottle	-	U r so cute	China	PC	No label	0.7*	100
RUS-BPA-06	Russia	Adult bottle	-	Magic Home, Producer - Tsindao Ruli Plastic Industries, China; Importer - Feniks, Russia	China	PC	No label	1.2*	145
RUS-BPA-18	Russia	Adult bottle	-	KIDSBY	China	-	No label	1.1*	172
RUS-BPA-21	Russia	Adult bottle	-	Antidepressant	China	PC	No label	1.3*	181
RUS-BPA-01	Russia	Adult bottle	-	Stayer	China	PC	No label	1.5*	211
RUS-BPA-02	Russia	Adult bottle	-	Elcasa Outdoor	China	PC	<b>BPA free</b>	<b>1.8*</b>	<b>254</b>
RUS-BPA-23	Russia	Adult bottle	-	Lower	China	PC	No label	1.8*	258
RUS-BPA-13	Russia	Adult bottle	-	INDIGO Sport	China	58 PC	No label	9.3*	1 239
RUS-BPA-05	Russia	Adult bottle	-	Ipapai	China	PC, 7 other	No label	19*	2 376
CHN-BPA-20	China	Feeding bottle	-	-	-	-	No label	-	<LOQ
CHN-BPA-10	China	Adult bottle	-	-	-	PC	No label	0.1*	19

Sample code	Country	Sample type	Sampled product	Made/distributed by	Made in	Material	Label	BPA value (μg/kg)	BPA value (ng/L)
CHN-BPA-26	China	Adult bottle	-	Anhui Fuguang Industrial Co.,Ltd.	-	7, PC	No label	1.4*	170
CHN-BPA-11	China	Children bottle	-	Yongkang Dalian Trading Company	-	7	<b>BPA free</b>	<b>1.6*</b>	<b>189</b>
CHN-BPA-06	China	Adult bottle	-	Taizhou Huangyan daily necessities company	-	PC	No label	1.7*	213
CHN-BPA-27	China	Adult bottle	-	Zhejiang Shunmei Plastic Products Company	-	PC PP	No label	1.5*	229
CHN-BPA-02	China	Adult bottle	-	Guangzhou Convenient Shangpin Trade Company	-	PP	<b>BPA free</b>	<b>2.0*</b>	<b>278</b>
CHN-BPA-12	China	Adult bottle	-	-	-	7	No label	4.2*	644
CHN-BPA-05	China	Children bottle	-	Guangzhou Fuquan Plastic Company	-	7 PC	No label	4.6*	834
CHN-BPA-23	China	Adult bottle	-	-	-	PP/PC	No label	8.6*	932
CHN-BPA-29	China	Adult bottle	-	Taizhou Huangyan Jinshi Daily Plastic Products Company	-	PC	No label	9.1*	1 055
CHN-BPA-14	China	Adult bottle	-	-	-	PC	No label	9.9*	1 155
CHN-BPA-15	China	Adult bottle	-	Xingtai Jiale Plastic Products Company	-	PC	No label	11*	1 332
CHN-BPA-24	China	Adult bottle	-	Zhejiang Tizhou Huangyanqiaofeng Plastic Products Industry	-	7 PC	No label	13*	1 496

Sample code	Country	Sample type	Sampled product	Made/distributed by	Made in	Material	Label	BPA value (μg/kg)	BPA value (ng/L)
CHN-BPA-28	China	Children bottle	-	Taizhou Huangyan Nuode Plastic Products Company	-	PC	No label	11*	1 640
CHN-BPA-04	China	Adult bottle	-	Guangzhou Shengzhao daily necessities Company	-	7 other	No label	13*	2 153
CHN-BPA-22	China	Adult bottle	-	-	-	7 other, PC	No label	14*	2 676
CHN-BPA-07	China	Children bottle	-	-	-	PC	No label	33*	6 872
CHN-BPA-13	China	Children bottle	-	Guangdong Yinrui Industrial Co., Ltd.	-	7 (PP,ABS)	No label	154*	23 699
CHN-BPA-25	China	Adult bottle	-	Xingtai Sanhao Plastic Products Company	-	PP/PC	No label	550*	50 292



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