



## CONSUMERS ASSOCIATION OF SINGAPORE

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### MEDIA RELEASE

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**For Immediate Release**

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#### **CASE tests reusable plastic water bottles for BPA**

The Consumers Association of Singapore (CASE) commissioned a test on 20 different reusable plastic water bottles sold in Singapore to find out the amount of Bisphenol A (BPA) migration (the amount of BPA that may transfer to a liquid in a plastic container) from these bottles. The results showed that the BPA detected in one bottle was within the tolerable BPA migration limit (see *Annex A: Results of Test on Water Bottles*). There was no BPA detected in the other 19 bottles tested.

#### **Why is CASE testing plastic water bottles?**

Bisphenol A (BPA) is a carbon-based synthetic compound that is used to make certain plastics, such as polycarbonate (PC) and polysulfone (PSU). BPA-based plastic is clear and tough, making it a popular choice for consumer goods such as water bottles, compact discs and can linings.

However, there have been health concerns related to human exposure to BPA. For instance, a study by the University of Exeter in England suggested a positive relationship between high urinary BPA levels and heart problems and diabetes in humans. Past studies on animals also show that very high doses of BPA were likely to affect the liver and kidneys.

Since 2008, several governments have investigated BPA safety, which prompted some retailers to withdraw PC and PSU products. Following a risk assessment of consumer exposure to BPA that was published in 2015, the European Food Safety Authority (EFSA) deemed that although BPA could pose some risk to consumers, the current BPA exposure levels in the market are too low to adversely affect human health. Nevertheless, the Agri-Food & Veterinary Authority of Singapore (AVA) has prohibited the use of BPA in infant feeding bottles sold in Singapore. This serves as a precautionary measure due to infants' high food intake-to-body weight ratio.

AVA is the regulator of food-contact articles, including reusable water bottles. AVA adopts the European Union (EU) BPA migration limit of 0.6 µg per ml of test simulant: this refers to the tolerable amount of BPA that may transfer to a liquid in a plastic container.

### Conducting the test

CASE mystery shoppers purchased 20 different brands of reusable plastic water bottles from supermarkets, neighbourhood retail outlets and outdoor shops in Singapore. These were deliberately chosen from a variety of lesser-known brands of water bottles. Two samples of each bottle were sent to a laboratory to ascertain whether they comply with the European Safety Standard. Eleven bottles carried “BPA-free” claims and nine did not. The bottles ranged in price from \$2.50 for a 400ml bottle to \$30 for a foldable 1.5-litre bottle.

The shoppers noted that the plastics used were not always identified on the bottles themselves. Different components may also be made using different plastics. Hence, it was not feasible to purchase only bottles that were identified as made using PC or PSU.

The test involved filling the bottles with distilled water and keeping them at a constant temperature of 40°C for 24 hours. The water was then tested for BPA. It is worth noting that bottles made using good manufacturing practices may not leach BPA, even if it forms part of the base material. However, the test would reveal if the bottles release BPA under normal usage conditions.

According to the test results, the polycarbonate bottle made by *Zenxin*, a Chinese manufacturer, released 0.08 µg of BPA per millilitre of water, which is well within the EU BPA migration limit adopted by AVA (see *Annex B: Photograph of Zenxin PC Bottle*). It was purchased from a store in Ang Mo Kio and it did not carry a “BPA-free” claim. BPA was not detected in the other 19 bottles that were tested, including all those that did not carry “BPA-free” claims.

### Recommendations

Notwithstanding these findings, CASE advises consumers to follow the correct usage and cleaning instructions provided by the manufacturer of water bottles. The water bottles should only be used as recommended in order to reduce the deterioration of the product and the leaching of harmful chemicals. Consumers can also look up product reviews before they purchase a water bottle to see if other users are satisfied with the performance and safety of the product.

CASE is committed to protecting the health, safety and interests of consumers, and will continue to highlight issues of concern regarding consumer goods and services.

Lim Biow Chuan  
President  
Consumers Association of Singapore (CASE)

## Annex A

### Results of Test on Water Bottles

The results of the test for Bisphenol A (BPA) migration are reproduced below. In the table, “ND” stands for “not detected.”

No.	Brand	Product Name / Description	Price (\$)	BPA-free claim	BPA (µg/ml)
1	Aladdin	Aveo	14.50	Yes	ND
2	Chang Young	Diamond Y-724	6.90	Yes	ND
3	Contigo	Madison Autoseal	19.00	Yes	ND
4	Echo	Colour Bottle	3.50	No	ND
5	Erke	Polycarbonate water bottle	9.90	Yes	ND
6	Komax	Finger Bottle 600	4.80	Yes	ND
7	Lock & Lock	Waterdrop ABF601	5.80	Yes	ND
8	Nalgene	Cantene	30.00	No	ND
9	Neo Klein	42428	6.90	Yes	ND
10	Ohyo	Collapsabottle	24.90	Yes	ND
11	Platypus	Soft bottle	19.00	Yes	ND
12	Shanqian	Free Bottle	3.90	No	ND
13	Shi Shang	2802	4.50	Yes	ND
14	Shotay	SM-6580	2.50	No	ND
15	So-Kid	Outer Space Cup H-008	3.90	No	ND
16	ST Logistics	Bottle, Water Polycarbonate	7.00	No	ND
17	(Unmarked bottle purchased from Hwa Aik General Store in Ang Mo Kio)	(Tinted hourglass screwtop)	3.90	No	ND
18	Vapur	Foldable anti-bottle	4.00	No	ND
19	Vapur	Kids Anti-bottle	25.90	Yes	ND
20	Zenxin	PC Bottle	6.90	No	0.08

## Annex B

### Photograph of Zenxin PC Bottle

