BISPHENOL A (BPA) AND INFANTS

What is bisphenol A (BPA)?

Bisphenol A, or BPA, is an industrial chemical used primarily to make a hard, clear plastic known as polycarbonate. Polycarbonate is used in a certain household containers, including baby bottles, sippy cups, reuseable water bottles (sports bottles), pitchers, water carboys, tableware, food storage containers and processing equipment. BPA is also used to make epoxy resins, which are used in protective linings for a variety of metal-based (i.e., canned) food and beverage cans, including infant formula.

How is my baby exposed to BPA?

In general, most Canadians are exposed to BPA in very low levels. Studies have shown the main sources of exposure to newborns and infants are from:

- BPA migrating from the lining of cans into liquid infant formula, and
- BPA migrating from polycarbonate baby bottles into the liquid inside following the addition of boiling water.

Health Canada recommends that breast milk is the best food for optimal growth in newborns and infants. Exclusive breastfeeding is recommended for the first six months of life for healthy term infants with continued breastfeeding for up to two years and beyond.

Are there potential health risks of BPA?

According to Health Canada's Food Directorate, current dietary exposure to BPA through food packaging uses is not expected to pose a health risk to the general population, including adults, teenagers and children. Potential health risks of BPA are focused mainly on newborn and infant exposure to BPA under 18 months.

However, there has been uncertainty shown in animal studies as to the potential health risks of exposure to low levels of BPA such as adverse health effects on reproduction, the nervous system and behavioral development. Due to this uncertainty, it is therefore recommended that the general principle of ALARA (as low as reasonably achievable) be applied to continue efforts on limiting BPA exposure from food packaging applications to infants and newborns. More specifically, it is recommended to limit BPA exposure from pre-packaged infant formula products as a sole source food, for this sensitive segment of the population.

Is My Baby Bottle Made of Polycarbonate?

In 1988, the Society of the Plastics Industry, Inc. (SPI) introduced a coding system for different types of plastics. According to the SPI, the sole purpose of the coding system is to simplify the process of sorting and recycling plastic bottles and containers and has nothing to do with health and safety.

The SPI code is a three-sided triangular arrow with a number 1 through 7 in the centre and letters underneath. Each number identifies the plastic from which the bottle or container is made. The SPI coding system is voluntary; not all plastic products carry a code.

Plastics identified by codes 1 through 6 do not use BPA in their manufacturing process:

1. polyethylene teraphthalate (PETE or PET)
2. high density polyethylene (HDPE)
3. polyvinyl chloride (PVC) vinyl (V)
4. low density polyethylene (LDPE)
5. polypropylene (PP)
6. polystyrene (PS)

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Code 7 is used to identify 'Other Plastics', which includes polycarbonate. Therefore, it is recommended to **avoid using baby bottles that have an SPI code of 7 or do not have an SPI code at all.** The only way to be certain that a plastic bottle with an SPI code of 7 does or does not contain polycarbonate is if it is labeled with its name or acronym (PC for polycarbonate) somewhere on the product or package.

What can parents and caregivers do?

If parents and caregivers are still concerned about using polycarbonate baby bottles, there are a number of alternative options. In anticipation of a potential ban, many retailers have already removed polycarbonate baby bottles from shelves and replaced them with alternatives, including:

- baby bottles or baby bottle liners (flexible plastic inserts) made of polyethylene (PE), which is SPI codes 2 or 4, or polypropylene (PP) which is SPI code 5; and
- glass baby bottles (please refer to **www.chemicalsubstanceschimiques.gc.ca/index-eng.php** for information on safety precautions when using glass bottles).

If you continue to use polycarbonate baby bottles, the following is recommended:

- Do not put very hot/boiling water in baby bottles, as very hot water causes BPA to migrate out of the bottle at a much higher rate.
- Boil water and allow it to cool to lukewarm before transferring to baby bottles. This advice is consistent with proper instructions for the preparation of infant formula.
- Sterilize bottles according to instructions on infant formula labels. Bottles can be cleaned in the dishwasher, although they should be left to cool to room temperature before adding the infant formula.
- Do not heat bottles in the microwave as the liquid may heat unevenly and can cause burns to your infant.

What is being done?

Period reviews are conducted by Health Canada as new information becomes available. Investigation continues into the relevance of the low dose effects being observed in some experimental animal studies. The Government of Canada will continue to ensure that levels of BPA in infant formula are kept at the lowest levels achievable by carefully reviewing pre-market submissions of infant formula and continuing to work with the food packaging industry to reduce levels of BPA in infant formula to the lowest levels possible. The Government of Canada will also evaluate alternatives to BPA for infant formula can linings on a priority basis. The Government of Canada is also moving forward with legislation to ban the importation, sale and advertising of polycarbonate baby bottles.

Where can I get more information?

For more information on BPA, please visit the following sites:

Health Canada: **healthycanadians.gc.ca/kids/bisphenol-a/**

Health Canada: **www.hc-sc.gc.ca/fn-an/securit/packag-emball/bpa/index-eng.php**

Government of Canada: **www.chemicalsubstanceschimiques.gc.ca/fact-fait/bisphenol-a-eng.php**

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