



Polyvinyl Chloride Toys

What is polyvinyl chloride?

Polyvinyl chloride (PVC) is a commonly used type of plastic. PVC is naturally hard. Chemicals are added to it to change its natural characteristics. Phthalates (pronounced thay-lates) are added to make the PVC soft and squishy for use in infant toys that are chewed and sucked. Heavy metals like lead and cadmium are added to make the rigid type of PVC more durable for use in older children's toys and other consumer products.

Why is there concern about phthalates?

Phthalates in infant toys that are chewed and sucked can be swallowed by the child. Animal studies confirm that exposure to phthalates can lead to liver, kidney and reproductive system damage. Some studies show that these chemicals may interfere with hormone systems that regulate normal growth and development in children.

Germany, the Netherlands, Denmark, Austria, Belgium, Spain, Sweden, Italy, Argentina, the Philippines and Greece have taken steps to remove some or all PVC infant toys from sale because of the risk that phthalates pose. In 1998, Health Canada made a decision to remove these additives from vinyl teethers, teething rings and rattles.

What are the effects of lead and cadmium?

Lead damages the nervous system, leading to decreased learning ability and behavioural deficits. Children are especially susceptible because they absorb and retain lead more easily than adults and because their brains are still developing. Cadmium is known to produce cancer, cause kidney damage and affect the developing brain.

When exposed to heat, sunlight and aging, lead is released as a fine dust that builds up on the product's surface. Lead dust does not biodegrade but stays in the environment. Children can easily swallow or inhale this dust.

Are all soft plastic toys made from PVC?

Almost all soft plastic toys for infants and toddlers sold in Canada are imported from factories in Asia where PVC is very widely used. However, there are other types of plastics that are naturally soft (e.g., polyethylene and ethylene vinyl acetate) that do not contain plasticizers like phthalates, but in North America it is difficult to find teething rings and infant toys made from these plastics.

How can PVC toys be identified?

- Children's toys are rarely labelled to indicate the type of plastic they contain.
- Toys in their original packaging may contain the words "vinyl" or "PVC" in the description.
- Soft PVC items containing phthalates often have a pungent, disagreeable odour. A masking agent is often applied to cover up the additive's odour.
- Soft PVC products tend to be soft but not rubbery, and tend to not return immediately to their initial shape after being twisted or bent.

What safer alternatives are there to PVC?

- fabric teethers
- wooden toys (with non-toxic paint)
- hard plastic toys. Although hard PVC can contain lead and cadmium, most hard plastic children's products are made from other kinds of plastics containing fewer additives than PVC.

- soft teethers made from other types of plastic that do not contain phthalates.

For a list of safe teething products, visit Health Canada's website: www.hc-sc.gc.ca/english/protection/warnings/1998/list.html

Is the government regulating these products?

Plastic toys intended for children under three years of age must conform to food packaging regulations. However, phthalates, lead and cadmium are not specifically mentioned in Canada's food packaging legislation (Section 23, Part B, "Food and Drugs Regulations," Food and Drug Act). No legal limits exist in Canada regarding the amounts of lead or cadmium used in plastic consumer products.

In 1998, Health Canada issued an advisory stating that any soft vinyl product designed to be mouthed (sucked or chewed) such as teething toys, teething rings and rattles containing the phthalate DINP, will be immediately removed from sale and parents or caregivers are being advised to dispose of these products. In addition, Health Canada is requesting the toy industry to phase out DINP from small vinyl toys that are likely to be mouthed frequently and for a prolonged period (three hours or more per day) by young children.

How do I dispose of unwanted PVC toys?

When burned, PVC plastic releases dioxins, which are highly toxic even in small quantities. Ensure that PVC toys go to a landfill site, not to a municipal incinerator. Most municipal and regional Blue Box programs do not have the facilities to recycle post-consumer PVC products and thus do not accept them.