

For close to 50 years, the world's toy makers have been using vinyl to make some of the best known and most popular toys and children's products. There's a good reason for that choice: vinyl — otherwise known as PVC or polyvinyl chloride — is one of the most thoroughly tested, well-researched plastic materials on the market today. Moreover, vinyl has been carefully and continually examined by the world's leading governmental health authorities. Those groups, too, continue to give vinyl their approval for even the most demanding and health-sensitive children's products.

### Some Final Thoughts on Potential Risk vs. Real Risk

The important point to remember when considering these issues is *bioavailability*. If phthalates or lead are compounded into the vinyl toy so that they aren't available for the child to extract by sucking or chewing, then *potential* risk never becomes *real* risk. In fact, a study conducted in 1995 found that a child would have to consume at least 50 grams (almost 2 ounces) of a popular vinyl doll *per week* for there to be any health risk from the vinyl. That's nearly six *pounds* of vinyl a year.<sup>6</sup>

Toy manufacturers, whose mission is to provide safe playthings for children, are committed to making sure that these children come to no harm. They vehemently reject suggestions that they would knowingly disregard legitimate concerns about the products they make and sell.

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<sup>1</sup> "EPA: Questions and Answers; Potential of Chemicals to Affect the Endocrine System." United States Environmental Protection Agency, Office of Prevention, Pesticides and Toxic Substances (7506C), January 1997.

<sup>2</sup> Wind, Marilyn, letter to Joel Tickner, July 18, 1997. U.S. Consumer Product Safety Commission.

<sup>3</sup> M.D. Meek, J. Clemons, Z.F. Wu, M.R. Fielder and T. Zacharewski. "In Vitro and In Vivo Assessments of the Alleged Estrogen Receptor-Mediated Activities of Phthalate Esters." Abstract of a presentation at the 1997 Society of Environmental Toxicologists' annual meeting, as published in *Fundamental and Applied Toxicology*, Volume 36, No. 1, Part 2, March 1997.

<sup>4</sup> CPSC Staff Report on Lead and Cadmium in Children's Polyvinyl Chloride (PVC) Products, U.S. Consumer Product Safety Commission, November 1997.

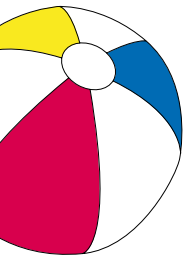
<sup>5</sup> Investigation into Lead and Cadmium in Certain Vinyl Consumer Products, Consumer Products Division, Product Safety Bureau, Environmental Health Directorate, Health Canada, October 30, 1997.

<sup>6</sup> Norwegian National Institute for Public Health, Report on PVC Toys, May 1995.



Why Vinyl is a Leading Material for the Toy Industry

A good safety record isn't the only reason the toy industry uses vinyl. Its exceptional durability makes it a smart choice for products that must withstand extremely demanding use conditions. Its ability to be formulated in almost infinite ways means that it can be used for both flexible and rigid applications. Its ability to withstand household cleaners means that vinyl toys can easily be kept safe and hygienic. And, its favorable cost gives toy manufacturers a decided advantage in a highly competitive market. But the most important reason lies with the ultimate consumers: parents and their children. Vinyl gives them safe, affordable, durable toys and allows manufacturers to bring them exciting new products quickly and economically.



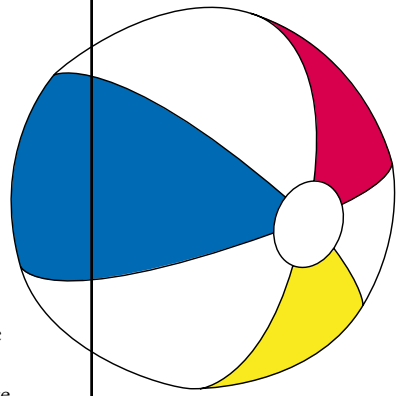
SAFE

Quite naturally, any time a product comes in contact with a child, there are concerns about its suitability and safety. Vinyl is no exception. Fortunately, there are good answers to the questions that have been raised about vinyl. Here are the facts about some of the issues you may have heard associated with vinyl toys:

### Plasticizer Usage

In order to give vinyl its excellent flexibility and toys their softness, ingredients called plasticizers are added to the plastic formulation in varying amounts, depending on the specific needs of the toy design. The most common plasticizers used in vinyl toys are a family of compounds called "phthalate esters" (pronounced thäl ätes).

Phthalate plasticizers have been used safely for over 40 years, not only in toys, but in many other very health-sensitive applications, including a range of medical products, such as blood bags, catheters, IV tubing and surgical



gloves. Why are phthalates used in such a wide variety of products? Because no other plasticizer has been subjected to the same level of scrutiny and testing.

In fact, the U.S. Environmental Protection Agency, as recently as January 1997, reviewed the need to restrict infants and children from playing or chewing on plastic objects and noted, "At present, EPA does not believe the scientific evidence supports this recommendation..."<sup>1</sup> The Consumer Product Safety Commission has also responded to questions about the toxicity of phthalates by concluding, "None of the phthalates discussed meet the definition of 'toxic' with regard to their acute toxicity."<sup>2</sup>

### Plasticizer Stability

During the life-cycle of a product, only minute amounts of the plasticizer will migrate from the vinyl product — if at all — and those levels will not pose a health risk to children. In fact, the potential for migration is not a new issue. The tendency of a compound to migrate is taken into consideration long before a toy ever hits the market. Realistic exposure to plasticizers in children's products is not a health threat.

### Plasticizer Safety

There has been much discussion lately in scientific circles as to whether various chemical products can disrupt endocrine, or hormone, functions in the body. Phthalates are among the products that have been examined in this regard.<sup>3</sup> That examination, however, has

TIME-TESTED

revealed no scientifically validated evidence to show that the use of phthalates poses a health risk in toys.

### Heavy Metal Usage

The international toy industry has set a firm standard against the intentional use of lead in toy products since it was first identified as a health hazard more than 30 years ago. Since then, governments around the world have set strict limits on the amount of lead permitted in toys. With the move away from lead-based paints, most of the hazard associated with this substance has disappeared. However, small amounts of lead or cadmium (another "heavy" metal) may occasionally be detected in toys as a result of the pigments used to color the plastic.

Very recently, both Health Canada and the U.S. Consumer Product Safety Commission looked carefully at the presence of lead and cadmium in vinyl toys, testing a number of commercially available items. Both agencies concluded that these products were safe for children.<sup>4,5</sup>

DURABLE

