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Campaign for Safe Cosmetics Report: Toxic Chemicals Found in Kid's Bath Products

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Children's bath products are often marketed as safe and gentle. However, laboratory tests commissioned by the Campaign for Safe Cosmetics found these products are commonly contaminated with formaldehyde or 1,4-dioxane – and, in many cases, both. These two chemicals, linked to cancer and skin allergies, are anything but safe and gentle and are completely unregulated in children's bath products.

The Food and Drug Administration (FDA) oversees the safety of personal care products in the U.S., but lacks basic authority needed to ensure that products are actually safe. The FDA cannot require companies to test products for safety before they are sold, does not systematically review the safety of ingredients and does not set limits for common, harmful contaminants in products. The FDA also does not require contaminants to be listed on product ingredient labels.¹ As a result, consumers have no way of knowing if their products contain toxic contaminants.

This report is the first to document the widespread contamination of children's products with formaldehyde and 1,4-dioxane.

According to the Environmental Protection Agency (EPA), 1,4-dioxane is a probable carcinogen.² The federal Consumer Product Safety Commission states that "the presence of 1,4-dioxane, even as a trace contaminant, is cause for concern."³ 1,4-dioxane is a by-product of a chemical processing technique called ethoxylation used to make petroleum-based cosmetic ingredients gentler to the skin. Manufacturers can easily remove the toxic byproduct, but are not required to under federal cosmetic safety standards.

Formaldehyde is a probable carcinogen, according to the EPA,⁴ though the risk of cancer from absorption through the skin is not fully understood.⁵ The chemical can also trigger adverse skin reactions in children and adults who are sensitive to the chemical.⁶⁻⁹ Contact dermatitis specialists recommend that children avoid exposure to products containing formaldehyde.¹⁰ Formaldehyde contaminates personal care products when common preservatives called formaldehyde releasers break down over time in the container.

None of the products tested list formaldehyde or 1,4-dioxane on the ingredient label. They are not added to products intentionally, but are toxic byproducts of chemical manufacturing and product formulation.

To better understand the extent of the problem, the Campaign for Safe Cosmetics and its partner Environmental Working Group sent samples of popular children's bath products to Analytical Sciences, an independent laboratory in Petaluma, Calif., to be tested. The products chosen for testing contained ingredients commonly associated with 1,4-dioxane or formaldehyde contamination.¹¹

61% of the children's bath products tested for this report contained both formaldehyde and 1,4-dioxane.

We tested 48 products for 1,4-dioxane. From that batch, we also tested 28 of those products for formaldehyde. Highlights of results from the independent lab tests include:

Multiple Contaminants:

- 17 out of 28 products tested (61%) contained both formaldehyde and 1,4-dioxane.
- Popular products that contained both contaminants include: Johnson's Baby Shampoo, Sesame Street Bubble Bath, Grins & Giggles Milk & Honey Baby Wash and Huggies Naturally Refreshing Cucumber & Green Tea Baby Wash.

Formaldehyde:

- 23 out of 28 products tested (82%) contained formaldehyde, at levels ranging from 54 to 610 parts per million (ppm).
- Baby Magic Baby Lotion, made by Ascendia Brands, Inc., contained the highest levels of formaldehyde found in the tests.
- Two samples of Baby Magic Baby Lotion contained formaldehyde at levels that would trigger warning label requirements in Europe (above 500 ppm or .05%).¹²
- Formaldehyde is banned from personal care products in Japan and Sweden.¹³

1,4-dioxane:

- 32 out of 48 products tested (67%) contained 1,4-dioxane at levels ranging from 0.27 to 35 ppm.
- Several samples of American Girl shower products were found to contain the highest levels of 1,4-dioxane found in the tests.
- The European Union bans 1,4-dioxane from personal care products at any level,¹⁴ and has recalled products that contain the chemical.¹⁵

As this report shows, dozens of leading body care products for babies and children contain the toxic chemicals formaldehyde and 1,4-dioxane. Many of these products also contain other ingredients with known or suspected links to cancer or other serious health problems – showing that, unbeknownst to most parents, harmful chemicals in the bath may be adding up.

The evidence is compelling: The United States must reform cosmetic policies to protect people, especially babies and children, from unnecessary toxic chemical exposures.

References

- ¹ There are two major loopholes in ingredient labeling laws – companies do not have to list the components of fragrance on labels, nor do they have to list contaminants, also known as impurities. The Campaign has released several reports that highlight concerns about fragrance. For example, see “A Little Prettier” (available at www.safecosmetics.org/article.php?id=367) and “Not Too Pretty” (available at www.safecosmetics.org/downloads/NotTooPretty_report.pdf).
- ² U.S. Environmental Protection Agency. Technology Transfer Network Air Toxics Web Site. “1,4-Dioxane (1,4-Diethyleneoxide).” www.epa.gov/ttn/atw/hlthef/dioxane.html. Viewed December 20, 2008.
- ³ U.S. Department of Health and Human Services, Public Health Service, National Toxicology Program. “1,4-Dioxane, CAS No. 123-91-1: Reasonably Anticipated to be a Human Carcinogen.” Eleventh Report on Carcinogens. December 2002. Available at: <http://ntp.niehs.nih.gov/ntp/roc/eleventh/profiles/s080diox.pdf>.
- ⁴ Environmental Protection Agency Technology Transfer Network Air Toxics Web site. “Formaldehyde.” www.epa.gov/ttn/atw/hlthef/formalde.html. Viewed January 5, 2009.
- ⁵ Australian Government Department of Health and Ageing. Priority Existing Chemical Assessment Report No. 28: Formaldehyde. November 2006. Page 68. Available at: www.nicnas.gov.au/Publications/CAR/PEC/PEC28/PEC_28_Full_Report_PDF.pdf.
- ⁶ Flyvholm MA, Menné T. Allergic contact dermatitis from formaldehyde. A case study focusing on sources of formaldehyde exposure. *Contact Dermatitis*. 1992 Jul;27(1):27-36.

- ⁷ Boyvat A, Akyol A, Gürgey E. Contact sensitivity to preservatives in Turkey. *Contact Dermatitis*. 2005;52(6):333-337.
- ⁸ Pratt MD, Belsito DV, DeLeo VA, Fowler JF Jr, Fransway AF, Maibach HI, Marks JG, Mathias CG, Rietschel RL, Sasseville D, Sherertz EF, Storrs FJ, Taylor JS, Zug K. North American Contact Dermatitis Group patch-test results, 2001-2002 study period. *Dermatitis*. 2004;15(4):176-83. Erratum in: *Dermatitis*. 2005;16(2):106.
- ⁹ Jacob SE, Brod B and Crawford GH. Clinically Relevant Patch Test Reactions in Children—A United States Based Study. *Pediatric Dermatology*. 2008;25(5):520–527. Perrenoud D, Bircher A, Hunziker T, Suter H, Bruckner-Tuderman L, Stäger J, Thürlimann W, Schmid P, Suard A, Hunziker N. Frequency of sensitization to 13 common preservatives in Switzerland. Swiss Contact Dermatitis Research Group. *Contact Dermatitis*. 1994;30(5):276-9.
- ¹⁰ Jacob SE and Steele T. Avoiding Formaldehyde Allergic Reactions In Children. *Pediatric Annals* 2007;36(1):55-6.
- ¹¹ The Environmental Working Group's Skin Deep Cosmetics Database was used for this research. www.cosmeticsdatabase.com.
- ¹² Scientific Committee on Cosmetic Products and Non-food Products. Opinion concerning a clarification on the formaldehyde and para-formaldehyde entry in Directive 76/768/EEC on cosmetic products. Opinion: European Commission. 2002. Available at http://ec.europa.eu/food/fs/sc/sccp/out187_en.pdf.
- ¹³ Salvador, Amparo and Alberto Chisvert, editors. *Analysis of Cosmetic Products*. Elsevier. Amsterdam. 2007. p. 215. <http://books.google.com/books?id=lyf8FDXID5oC&dq=Analysis+of+Cosmetic+Pr...> Viewed February 25, 2009.
- ¹⁴ European Union Cosmetic Ingredients & Substances. Annex II: List of substances which must not form part of the composition of cosmetic products. Available at http://ec.europa.eu/enterprise/cosmetics/cosing/pdf/COSING_Annex%20II.pd... Note, the EU lists dioxane as prohibited. According to the United States Department of Labor Occupational Safety and Health Administration, Dioxane is a synonym for 1,4-Dioxane. See www.osha.gov/SLTC/healthguidelines/dioxane/recognition.html.
- ¹⁵ Europa Consumer Affairs. "The Rapid Alert System for Non-Food Products - Week 39, 2006." http://ec.europa.eu/consumers/dyna/rapex/create_rapex.cfm?rx_id=99 Viewed February 28, 2009.