



**U.S. CONSUMER PRODUCT SAFETY COMMISSION
4330 EAST WEST HIGHWAY
BETHESDA, MARYLAND 20814**

COMMISSIONER NANCY A. NORD

**Statement on the Commission's vote to terminate
the petition to regulate cadmium content**

Oct. 3, 2012

The U.S. Consumer Product Safety Commission voted unanimously to terminate the petition of the Sierra Club and others asking the Commission to establish content limits for cadmium in children's jewelry and children's toy jewelry.¹ Two ASTM standards (ASTM F963-11, which applies to toy jewelry and was made mandatory by the Consumer Product Safety Improvement Act of 2008, and ASTM F2923-11, which applies to children's jewelry) place restrictions on the use of cadmium in these products. CPSC staff found that these restrictions adequately protect against the risk of harm from cadmium exposure, negating the need for further regulation. We also approved sending petitioners a letter to inform them why we denied their petition.

The ASTM standards are appropriate because they use a risk-based approach that relates the restriction to the level of risk: the most likely exposure routes are subject to the stricter limits. Thus, different parts of jewelry are subject to different cadmium levels. For example, paints and surface coatings can have only 75 ppm of cadmium, while the cadmium total-content limit for metal components is 300 ppm. An additional element in the standards that tailors restriction to risk is the use of a tiered testing approach that calls for a screening test and more extensive testing if cadmium levels exceed the screening level. Tailoring restrictions and testing to risk and exposure is precisely the way the Commission should be issuing chemical regulations.

The standard established for toy jewelry is mandatory and applies nationally, so it will ensure that all children are afforded the same level of protection with respect to toy jewelry. Although the children's jewelry standard is a consensus standard, our expectation is that manufacturers will similarly abide by it. These two standards together set up a comprehensive system for regulating these products which our staff has told us is adequate to address the risk of cadmium exposure from toy and non-toy children's jewelry.

¹ See Petition HP 10-2, Request for Regulations on Cadmium, Record of Petition Action (Aug. 8, 2012), <http://www.cpsc.gov/library/foia/ballot/ballot12/cadmiumpet.pdf>.

Transparency and good administrative practice argue for publishing a notice of our termination action in the *Federal Register* so I was surprised that two of my colleagues voted against doing that. Such a notice would be especially appropriate since it reverses the Commission's decision to grant the petition last fall and to direct the staff to draft rules on cadmium unless acceptable standards were adopted (which has now happened). As a matter of good administrative practice, having notified the world in the *Federal Register* that the Commission was granting the petition to initiate rulemaking, we should likewise notify the world that we are now denying the petition and terminating the proceeding. Doing what I can to advance transparency and open communications, a copy of the letter sent to the petitioners is attached to this statement. The letter is also available on the Commission's website.² Because of the somewhat confusing Commission action of granting the petition and then denying it because the staff has found that the risk is adequately addressed, more complete efforts to inform the public of our action would be preferable.

² See Letter, Todd A. Stevenson, Secretary, U.S. Consumer Product Safety Commission, to Judy Braiman, et al. (Aug. 9, 2012), <http://www.cpsc.gov/LIBRARY/FOIA/FOIA10/petition/cadmiumdenial.pdf>.



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August 9, 2012

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Dear Messieurs Braiman, Hopkins, Cox and Newcom:

The Commission has considered your petition of May 28, 2010, requesting that the Commission adopt regulations, declaring that any metal “toy jewelry” containing more than trace amounts of cadmium by weight, which in a foreseeable manner could be ingested by children, is a banned hazardous substance.¹ The petition also requested that the Commission consider a test method for total cadmium, and evaluate the extractability of cadmium based on a 24-hour acid extraction period. If the Commission has insufficient information regarding cadmium, you requested that additional information should be obtained through the Interagency Testing

¹ Although the petition refers to “toy metal jewelry”, CPSC staff distinguishes between “children’s jewelry” from “toy jewelry.” However, CPSC staff evaluated cadmium levels in both children’s jewelry and toy jewelry. “Children’s jewelry” refers to decorative accessory items, such as necklaces and rings that are designed and intended for children. “Toy jewelry” refers to products that might accompany toys, such as dolls and stuffed animals, and it also refers to jewelry used in pretend and role play.

Committee, and that metal jewelry be included in the scope of the listing for Toxic Substances Control Act reporting, administered by the U.S. Environmental Protection Agency (EPA), and that importers and manufacturers be required to test toy metal jewelry for cadmium. Your request was docketed as petition number HP 10-2 pursuant to the Federal Hazardous Substances Act (FHSA).²

CPSC staff's work on cadmium began prior to receipt of your petition. In August 2010, CPSC staff provided the Commission with a report titled, "Toy Standard Test Methods with Data from Testing Metal Jewelry and Other Materials," which reviewed the toy safety standards with respect to the requirements and test methods for certain chemical elements, including cadmium. That report also provided a summary of the test results from CPSC Laboratory Sciences staff, who analyzed 384 pieces of children's metal jewelry for lead to evaluate ingestion and mouthing scenarios, and assessed the potential toxicity associated with cadmium and cadmium-containing compounds. Subsequently, on October 14, 2010, CPSC staff prepared another report which was peer reviewed, "Children's Cadmium-Containing Metal Jewelry." This report reviewed the available data and results regarding exposure and risk to cadmium, summarized the relevant toxicology for cadmium, and derived limits for exposure, which, if exceeded, could result in adverse health effects. These reports are available at: <http://www.cpsc.gov/library/foia/foia11/os/cadmiumjewelry.pdf>.

While CPSC staff was working on these reports, on August 19, 2010, the Commission published a notice in the *Federal Register*, to seek comment on your petition. The Commission received comments from 85 organizations in response to the notice of petition published in the *Federal Register* on August 19, 2010 (75 FR 51246). Most of the commenters support the petitioners' interest in restricting the potential exposure to cadmium from children's jewelry, although commenters offered differing views about the scope and form of possible Commission action. Additional comments were received from five other organizations, including the American Academy of Pediatrics, the Consumer Federation of America, and Consumers Union, and four industry associations, including the International Cadmium Association and the Jewelry Safety Coalition.

On February 10, 2011, CPSC staff submitted a briefing package to the Commission regarding the petition, which addressed all of the comments submitted and which described the ongoing ASTM standards activities that were intended to address cadmium in children's jewelry and toy jewelry. <http://www.cpsc.gov/LIBRARY/FOIA/FOIA11/brief/cadmumpet.pdf>. On February 16, 2011, the Commission voted to defer its decision on the petition for 6 months and directed CPSC staff to participate in the ASTM subcommittees responsible for the development of voluntary standards addressing accessible cadmium in children's metal jewelry and toy jewelry. On August 30, 2011, CPSC staff further informed the Commission that the voluntary standard activities under the ASTM committees that would address cadmium in children's metal jewelry and toy jewelry were expected to be completed in 2011. On September 6, 2011, the Commission granted the petition and directed staff to begin drafting a proposed rule conditioned on the publication of voluntary standards for cadmium in children's metal jewelry and toy jewelry by ASTM within 3 months of September 16, 2011. The Commission directed CPSC staff to assess the adequacy of, and compliance with, any standards published within this

² 15 U.S.C. 1261-1278

timeframe, and based upon these assessments make a recommendation on the disposition of the petition within 9 months of September 16, 2011.

Both of the standards were published in 2011. The standard, ASTM F2923-11, *Standard Specification for Consumer Product Safety for Children's Jewelry*, a voluntary standard, was published in November 2011. The revised standard, ASTM F963-11, *Standard Consumer Safety Specification for Toy Safety*, a mandatory standard, was published in December 2011.³ CPSC staff participated in the development of both standards and contributed to discussions about the types of products that should be included, as well as the test methods for determining the limits (e.g. total content or extractable) for cadmium in children's products. In addition, CPSC staff provided its own data and analyses to the ASTM subcommittees for each of these standards.

CPSC staff was directed to assess the adequacy of, and compliance with, any standards published and based upon these assessments make a recommendation on the disposition of the petition. Based on the CPSC staff's briefing package dated June 29, 2012, the Commission finds that the new children's jewelry standard and the amended toy safety standard are appropriate measures for reducing the risk of harm from exposure to cadmium in children's jewelry and toy jewelry. <http://www.cpsc.gov/LIBRARY/FOIA/FOIA12/brief/cadmium.pdf>.

In addition to the potential hazards associated with cadmium, ASTM F2923-11, *Standard Specification for Consumer Product Safety for Children's Jewelry* addresses a number of other potential hazards, such as hazardous magnets, hazardous batteries, certain chemicals in surface coatings, and contact with nickel. The restrictions in the standard for cadmium cover paint and surface coatings, restricting the solubility or migration of cadmium and other chemicals from surface coatings. The solubility of cadmium in paints and surface coatings may not exceed 75 mg/kg (equivalent to 75 ppm) based on the weight of the dried paint film, using the laboratory test specified in the standard. Additionally, under this standard, if the cadmium content in component parts of children's jewelry does not exceed 300 ppm, no additional testing for cadmium migration is required. Based on CPSC staff's experience, 300 ppm is a low cadmium concentration, which has not been associated with excess exposure or subsequent adverse health effects. The standard provides that if the cadmium content of a component that is a small part (as defined in 16 C.F.R. § 1501.4) exceeds 300 ppm, then that small part is subject to additional testing to determine the migration of cadmium. Metal components that are small parts are subject to a test in which the item is placed in a heated acid solution and agitated for 24 hours.⁴ The migration limit for parts subject to this test is 200 µg cadmium per component part.

The standard prescribes a different test for plastic or metal components with more than 300 ppm cadmium content that are not small parts but are accessible to children (i.e., potentially can be mouthed by a child). This test uses a heated, agitated saline solution to identify cadmium-containing items that could result in excess cadmium exposure and subsequent health effects under conditions of exposure, such as mouthing. The migration limit for parts subject to this test is 18 µg cadmium per component part.

³The toy standard, ASTM F-963 was made a mandatory standard under section 106 of the CPSIA. ASTM amended the standard to address cadmium and other chemicals in toy jewelry.

⁴ The standard requires that plastic components of children's metal jewelry be tested for cadmium migration under the European toy safety standard, which provides for a migration limit of 75 mg/kg.

For cadmium in children's toy jewelry, ASTM F 963-11, *Standard Consumer Safety Specification for Toy Safety* is the latest revision of the toy standard. On February 15, 2012, the Commission voted to accept the revised standard, and it became a mandatory consumer product safety standard on June 12, 2012, replacing the previous mandatory standard ASTM F 963-08. Although most products that are considered "children's jewelry" are not toy jewelry, and therefore, would be subject to the ASTM F 2923-11 children's jewelry standard, any jewelry products intended for children that are considered toys would be subject to the toy safety standard. This standard establishes requirements for cadmium in toys, as well as for other chemical elements that previously had been restricted for paints and surface coatings only. The standard also sets content limits for cadmium and several other chemicals in plastics, metal, glass and ceramic toys, and parts of toys. Only toys and parts of toys that are small parts or that are susceptible to being mouthed, sucked, or ingested are subject to the requirements of this standard. Toys and parts of toys that, due to their inaccessibility, size, mass, function, or other characteristics cannot be mouthed, sucked, or ingested, are not subject to the cadmium content requirement of this standard.

The previous standard contained restrictions for cadmium in paints and surface coatings, and the revised standard retains the requirement that the solubility of cadmium may not exceed 75 ppm based on the weight of the dried paint film. The current standard adds a migration limit for cadmium solubility in accessible parts of toys (75 ppm; or 50 ppm for modeling clay toys) and in metallic toys or parts of toys that are small parts (200 µg cadmium per component part). A solubility test in which an item is placed in a heated acid solution and agitated for 24 hours is used to determine migration limits for both accessible parts of toys and toys or parts of toys that are small parts. The revised standard also includes the option of satisfying the standard's requirements by testing for total cadmium content, rather than for cadmium solubility. If the cadmium content does not exceed 75 ppm (50 ppm for modeling clay toys), then solubility testing may be omitted.

The CPSC also has been working collaboratively with the EPA to limit cadmium in children's jewelry and toy children. Your petition requested that the EPA adopt regulations that require producers, importers, and processors of cadmium and cadmium compounds—that are reasonably likely to be incorporated into consumer products—to provide the EPA with copies of unpublished health and safety studies that address the risks to consumers from exposure to cadmium in such products. By letter dated August 30, 2010, the EPA notified the petitioners that it would propose the requested rule and work closely with the CPSC to determine the most effective means of limiting cadmium in children's jewelry.

The EPA has initiated work on a direct final rule pursuant to its authority under the Toxic Substances Control Act to require manufacturers and importers to submit unpublished health and safety studies to the agency. As of spring 2012, this work was ongoing. The EPA expects to propose a rule that would require processors and distributors of products containing cadmium to provide the same types of health and safety studies to the agency. In addition, EPA and CPSC staff has communicated numerous times, in person and by conference call, to collaborate and discuss each agency's efforts to address the potential hazards of cadmium in children's products. Separately, the EPA's Interagency Testing Committee added cadmium-containing compounds to its Priority Testing List in its reports to the EPA administrator. Manufacturers and importers of

chemicals appearing on this list are required to submit certain production and exposure information, as well as unpublished health and safety studies to the EPA.

Additional data also was obtained by the Commission, which appears to show that children's jewelry manufacturers have been and will continue to produce children's jewelry products with cadmium content of less than 300 ppm, and that children's toy jewelry manufacturers will continue to produce toy jewelry products with cadmium content of less than 75 ppm. This view is supported by the domestic surveillance, sampling, and testing activities undertaken by the CPSC's Office of Compliance, which uncovered only a few items of children's jewelry that had more than 300 ppm cadmium content. The domestic surveillance program conducted by the Office of Compliance for fiscal years 2010, 2011, and 2012 of children's jewelry and toys resulted in the screening of 711 pieces of children's metal jewelry in 94 separate retail stores. Of these 711 items, screening revealed that 21 could contain elevated levels of cadmium, and those items were collected. These 21 samples were tested for cadmium content and extractability, and only five were confirmed to have cadmium content levels in excess of 300 ppm, and only three items which released more than 200 µg of cadmium following 24-hour extraction testing. Accordingly, it appears that manufacturers and importers of children's jewelry and toy jewelry are complying with the voluntary standards and that continued compliance with the voluntary standards is likely to address adequately the risk of injury resulting from the exposure of children to cadmium in children's jewelry and toy jewelry. However, the CPSC's Office of Compliance will continue to monitor children's jewelry and children's toys for products that contain cadmium and other harmful chemicals.

Based on the available information obtained by the Commission, as set forth in the CPSC staff's February 9, 2011, August 30, 2011, and June 29, 2012, Reports and Briefing Packages, the Commission finds that compliance with the voluntary standard for children's jewelry (ASTM F 2923-11), and the mandatory standard for toy jewelry (ASTM F 963-11), will adequately reduce the risk of harm from exposure to cadmium. The Commission finds that the requirements in the ASTM voluntary standard for children's jewelry (ASTM F 2923-11), and the mandatory standard for toy jewelry (ASTM F 963-11), set forth appropriate exposure limits and establish testing methods for soluble cadmium to determine whether a product may be considered a hazardous substance and that such limits and testing methods incorporated into the new standards will reduce the risk of harm from exposure to cadmium. Accordingly, the proceeding will be terminated, but the work undertaken by ASTM is ongoing and their activities will continue to limit cadmium in children's products.⁵ Thank you for bringing the issue of cadmium in children's toy jewelry and children's jewelry to the attention of the CPSC.

Sincerely,

Todd A. Stevenson
Secretary for the Commission

⁵ Because the Commission voted to grant the petition conditionally, we have concluded that procedurally the Commission should terminate the proceeding. See 16 C.F.R. §1051.10(d) (after granting a petition, should later information indicate that the action is "unwarranted or not necessary," the Commission "may terminate the proceeding").