

# SAFEGUARDS

SGS CONSUMER TESTING SERVICES

SOFTLINES

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## CADMIUM BAN MAY EXTEND TO TEXTILE PRODUCTS

In response to the CPSIA lead ban in children's products, some jewelry manufacturers have substituted cadmium for lead and this led to an increased number of reports and recalls<sup>1</sup> on children jewelry containing cadmium. Considering the toxicity and diversified application of cadmium, the cadmium ban may be extended to others children's products including textile products in United States, not merely for children's jewelry.

On May 15, 2010, Minnesota became the first state in the US to specifically regulate soluble cadmium in children's jewelry<sup>2</sup> and others state laws<sup>3</sup> regarding bans on

cadmium are currently under evaluation and are pending the signature of respective Governors for enactment. Please refer to [SGS Safeguards 93/10](#) for details

With a view to safeguarding the health of US citizens, the Toxic Metals Protection Act of 2010<sup>4</sup> was introduced into the US House of Representatives. This bill would prohibit the sale, offer for sale or distribution in commerce any children's products containing Antimony, Barium, Cadmium or Chromium and compounds or alloys containing the heavy metals. This proposed law does not merely restrict cadmium contents on jewelry but also may cover others textile and apparel products. In addition to this proposed Federal Law, there are others states laws aim at regulating the soluble or total cadmium content in children products. Highlights of the state laws concerning the cadmium content in children's products are summarized below in Table 1.



<sup>1</sup>. a) [Recalls on Metal Necklaces, Bracelets and Earrings](#); b) [Recalls on Bracelets and Football Rings](#); c) [Recalls on Bracelet Sets](#); d) [Recalls on Metal Necklaces](#); e) [Recalls on Charm Bracelets](#)

<sup>2</sup> [Section 27 \[Section 325E.389\] Cadmium in Children's Jewelry, Chapter 347 – SF 2510, Regular Session, 2010](#)

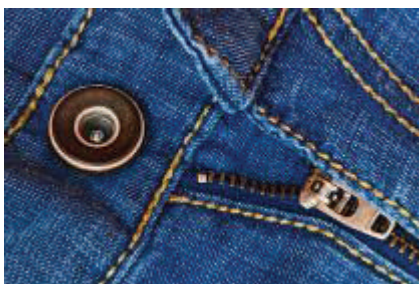
<sup>3</sup>. a) [An act Banning Cadmium in Children's Jewelry, Public Act 10-113 \(HB 5314\), State of Connecticut](#); b) [Cadmium-Safe Kids Act, HB 5040, State of Illinois](#); c) [Children's Toxic Metals Act, HR 4428, S 2975, Federal Law](#); d) [Children's Jewelry: Heavy Metals, SB 929, State of California](#); e) [Directs the Commissioner of Health to Establish Standards for the Cadmium that Children's Jewelry may Contain, A 9561, New York State](#)

<sup>4</sup>. [Toxic Metals Protection Act of 2010, H.R. 5920, Federal Law](#)

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Table 1: Highlights of the state laws concerning cadmium contents in children products

JURISDICTION	BILL	SCOPE	REQUIREMENT	PROPOSED EFFECTIVE DATE
Federal	H.R. 5920 <sup>4</sup> (proposed law not yet passed)	Children's products	Soluble Heavy Metals: ≤60 ppm antimony ≤1000 ppm barium ≤75 ppm cadmium ≤60 ppm chromium	90 days after enactment
New Jersey	A 2259 / S 1636 <sup>5</sup> (proposed)	Product for children under 6	Prohibited (lead, mercury or cadmium)	First day of the seventh month following enactment date
New York	A 9771 <sup>6</sup>	Product for children under 12	≤40 ppm cadmium by weight	90 days since enactment date



Cadmium is hard to oxidize and hence is mainly applied in manufacturing of corrosion resistant metal alloys and electroplating. Cadmium is not only applicable in the metal industry but also in the textile

and apparel industry. Cadmium compounds have advantages of excellent heat sensitivity, lightfastness and chemical resistance and hence they are widely applied in coloring plastics. By substituting different amounts of cadmium with selenium, pigment colors could be altered from orange to black. Nevertheless, cadmium compounds are often employed as stabilizers in the manufacturing process of plastic, particularly to provide ultraviolet light and weathering resistance to vinyl plastic.

Based on the major applications of cadmium compounds as pigment and polymer stabilizers, they would be mainly found in printing (acts as stabilizer in plastisol print), coating and plastic accessories especially made of vinyl materials. Applications of cadmium compounds in textile industry are showed in Table 2.

<sup>5</sup>[Prohibits the Sale of Certain Children's Products Containing Lead, Mercury, or Cadmium, A 2295, New Jersey, 214th Legislature](#)

<sup>6</sup>[Prohibits the Use of Cadmium in Children's Products, A 9771, New York State Assembly](#)



Table 2: Major applications of cadmium compounds in textile industry:

PRODUCT SCOPE	APPLICATION
Printing, Coating	Pigment , Plastic stabilizer
Plastic and others synthetic materials (mainly found in vinyl materials)	

Humans may intake cadmium through inhalation of fine dusts and fumes or ingestion of soluble cadmium compounds. Inhalation of cadmium fumes may result in metal fume fever and may even develop into severe inflammation of lung tissues. Long term exposure may lead to bone softening and kidney failure. Some researches suggest that cadmium could have similar adverse effects as lead, probably to hinder brain development in children. Furthermore, cadmium is often suspected as a carcinogen.

SGS will follow up and inform interested parties as developments on US and other international legislation occur. Throughout our global network of laboratories, we are able to provide a wide range of services, including analytical testing and consultancy for heavy metals and other restricted substances for international markets. Please do not hesitate to contact us for further information.

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