STATE OF MINNESOTA
COMMISSIONER OF COMMERCE

ORDER BANNING SALES AND
DISTRIBUTION OF HAZARDOUS TOYS

To: ContextLogic Inc. (d/b/a Wish)
    Attn: Legal Dept.
    One Sansome St., 40th Floor
    San Francisco, CA 94104

Commissioner of Commerce Steve Kelley has determined as follows:
1. On November 26, 2019, the Commissioner served Respondent ContextLogic Inc. d/b/a Wish with a temporary order banning the sales and distribution of hazardous toys, which is attached as Exhibit A and incorporated herein.
2. The temporary order banned Respondent from selling or distributing the following hazardous toys, which contained high levels of lead and cadmium, purchased from wish.com:
   a. Hell Kerbecs BB-99, sold by AK110, brand generic; 240 total ppm lead / 62 total ppm cadmium;
   b. Diablo Nemesis BB-122, sold by AK110, brand Rapidity; 330 total ppm lead / 110 total ppm cadmium;
   c. Big Bang Pegasus BB-105, sold by dsgbsrtjnatrjg, brand Top Set Rapidity; 310 total ppm lead / 93 total ppm cadmium; and
   d. Rock Leone BB-30, sold by News shopping mimi, brand generic; 310 total ppm lead / 250 total ppm cadmium
3. Respondent has been cooperating with the Commissioner to comply with the temporary order and has removed the hazardous toys from its website in compliance with the temporary order.
4. Pursuant to section 325F.10 of the Minnesota Statutes, the Commissioner has the authority and obligation to ban hazardous toys.
5. Continued sale and distribution of the toys specified above on Respondent’s website is hazardous to the buying public.
6. The Commissioner has jurisdiction over the subject matter.
7. Sufficient grounds exist to prohibit the distribution and sale of the specified hazardous toys.
8. Sufficient grounds exist for the Commissioner to effectuate this order. Pursuant to sections 325F.10 and 325F.14, the Commissioner has discretion to effectuate this order and enforce any seizure of the product if Respondent continues to sell or distribute the hazardous products.

9. The Commissioner has determined that Respondent is a dealer under Minnesota Rule 2630.0100, subp. 5. Respondent disputes that it sold the hazardous products, that it is a dealer under Chapter 325F of the Minnesota Statutes and Minnesota Rules 2630, and reserves its rights under the aforementioned statutes and rules to contest the Commissioner’s determination in future matters.

10. Respondent has waived its right to a hearing on this matter under Minnesota Rule 2630.0500.

11. Respondent has agreed to continue the temporary order as modified below.

12. This order is in the public interest.

NOW, THEREFORE, IT IS HEREBY ORDERED THAT:

A. The order of temporary sales and distribution ban of hazardous toys attached as Exhibit A is continued as modified herein.

B. Respondent shall not allow on its website the distribution, shipment, or sale of the hazardous toys described in paragraph 2 to consumers in Minnesota.

C. Respondent will provide refunds to Minnesota consumers who purchased the hazardous toys specified in paragraph 2 in accordance with section 325F.12 of the Minnesota Statutes and Minnesota Rules 2630.1200. Respondent shall provide evidence to the Department of compliance with this provision by December 13, 2019.

D. Respondent shall fulfill Minnesota Rules 2630.1700 by providing direct notification to all Minnesota purchasers of the hazardous toys. Respondent shall provide evidence to the Department of compliance with this provision by December 13, 2019.

E. Respondent shall continue to cooperate with the Commissioner, his staff or other designees. Pursuant to Minnesota Statutes section 325F.15, Respondent shall, with reasonable notice and during ordinary business hours, allow the Commissioner or other designee of the Commissioner access to any premises in which toys, or other articles within the provisions of sections 325F.08 to 325F.18, are held and to all records pertinent to the enforcement of sections 325F.08 to 325F.18.

F. The Commissioner reserves all rights under chapters 45 and 325F of the Minnesota Statutes and Minnesota Rules 2630.

This order shall be effective upon signature by or on behalf of the Commissioner.
DATE: December 9, 2019

By:  

STEVE KELLEY
Commissioner

3
November 26, 2019

Wish.com
  c/o ContextLogic Inc.
  Attn: Legal Department/Service of Process
  One Sansome St., 40th Floor
  San Francisco, CA 94104

Wish.com/ContextLogic, Inc.
  c/o Corporation Service Company
  2710 Gateway Oaks Dr Ste 150n
  Sacramento, CA 95833

RE: File #60541; Minnesota Safe Toys Act Investigation – Beyblades / spinning battle toys banned from sale in Minnesota

Dear ContextLogic, Inc.,

The Minnesota Department of Commerce hereby serves upon you, as agent for Wish.com, the attached detailed letter with enclosures and Temporary Order of Commissioner regarding the above-entitled matter. The Department welcomes any phone calls or emails to discuss this matter.

Sincerely,

Kathleen Finnegan
General Counsel
651-539-1450

cc: Letter with enclosures
   Temporary Order of Commissioner
Dear ContextLogic, Inc.:  

The Minnesota Department of Commerce is conducting an investigation under Minnesota’s Safe Toys Act (Minn. Stat. §§ 325F.08 – 325F.17) involving products sold on Wish.com. This investigation is being conducted in conjunction with the Minnesota Pollution Control Agency (MPCA) and the Minnesota Department of Health (MDH).

The Safe Toys Act provides that, “no person, firm, corporation, association or agent or employee thereof shall import, manufacture, sell, hold for sale or distribute a toy or other article intended for use by a child which presents an electrical, mechanical or thermal hazard or presents a hazard due to toxic, or flammable properties or properties able to produce asphyxiation or suffocation.” Minn. Stat. § 325F.08. The products listed below (“Hazardous Products”) were purchased on Wish.com, have been identified as presenting a toxic hazard to children, and are hereby banned from sale in Minnesota:

1. Hell Kerbecs BB-99, sold by AK110, brand generic; 240 total ppm lead / 62 total ppm cadmium;
2. Diablo Nemesis BB-122, sold by AK110, brand Rapidity; 330 total ppm lead / 110 total ppm cadmium;
3. Big Bang Pegasus BB-105, sold by dsgbstjnattrjg, brand Top Set Rapidity; 310 total ppm lead / 93 total ppm cadmium; and
4. Rock Leone BB-30, sold by News shopping mimi, brand generic; 310 total ppm lead / 250 total ppm cadmium
Letters from MPCA regarding test results for the Hazardous Products are attached for your reference, along with MDH literature regarding the health risks posed by cadmium and lead.

The Department has authority under Minn. Stat. § 325F.10 and Minn. R. 2630.0500, to ban from sale or distribution in this state any hazardous toy or other article intended for use by children under 14 years of age. The Commissioner has issued a temporary order banning the sale of the Hazardous Products in Minnesota, as they pose an immediate danger to public health and safety. Per Minn. R. 2630.0500, Subp. 2, “A hearing shall be held no later than ten days after the issuance of the temporary order, after which and within ten days of the date of the hearing the commissioner shall issue a further order either vacating, modifying, or continuing the order.” Details regarding the hearing can be found in the attached order. The Department, MDH, and MPCA will also issue a press release and consumer alert about the ban and the banned products.

To further our efforts in protecting Minnesota children under the Safe Toys Act, please provide the full legal name, mailing address and email address for sellers AK110, dgsbtsjnatrjg and News shopping mimi within 24 hours of receipt of this letter.

You may provide this information via email to anne.gathje@state.mn.us, as well as documentation that ContextLogic Inc. has taken affirmative steps to comply with the terms of the attached order.

In addition, pursuant to Minn. Stat. § 325F.15, the Department hereby requests copies of the following records in effect, created, recorded, compiled, transmitted, or received from November 26, 2016 to the present date, related to the above-referenced Hazardous Products:

1. all invoices, purchase orders, sales reports, sales data (including returns), and transaction records, for all sales of the Hazardous Products delivered to a Minnesota address.

The Department requires these records be sent to my attention via email or other electronic form no later than December 11, 2019. Enclosed with this letter is a copy of the State’s data practices notice, known as the Tennessen Warning.

Please note, the Department welcomes any phone calls or emails to discuss this matter. If you wish to schedule a time to talk with myself and our Audit Director, Jacqueline Olson, please send me an email to schedule a call.

The Department appreciates your anticipated compliance with the Commissioner’s Order and looks forward to your expedited assistance to help protect Minnesota children under the Safe Toys Act.

Sincerely,

Anne Gathje
Senior Investigator, Enforcement Division
651-539-4066 / anne.gathje@state.mn.us
Encl: Tennessen Warning; temporary order banning Hazardous Products dated November 26, 2019; MPCA letters regarding Hazardous Product test results; MDH literature regarding the health risks of cadmium and lead
TENNESSEN WARNING

The Commissioner of Commerce is requesting that you supply data about yourself which may be classified as private or confidential under the Minnesota Government Data Practices Act and before asking you to supply private or confidential data about yourself, the Commissioner is required to give you the following notice.

1. The Commissioner is asking you to provide data about yourself as part of an investigation that the Commissioner is authorized by state law to conduct. The data you are being asked to supply will be used to determine whether any statute, rule, or order the Commissioner is authorized to investigate, enforce, or administer has been, is being, or is about to be violated.

2. MINNESOTA STATUTE § 45.027 requires that you provide the data the Commissioner is requesting about you unless you claim the privilege against self-incrimination as grounds for refusing to supply the requested data. If you supply the data requested the data may be used in a disciplinary proceeding or other legal action.

3. If you refuse to supply the data requested:
   i. The Commissioner may compel you to supply the data requested under the authority granted to the Commissioner in MINNESOTA STATUTE § 45.027.
   ii. If you are an individual subject to the jurisdiction of the Commissioner under the laws the Commissioner is responsible for administering and enforcing, the Commissioner may take disciplinary or other action against you for failure to cooperate with an investigation, unless you claimed the privilege against self-incrimination as grounds for refusing to supply the requested data.
   iii. If you claimed the privilege against self-incrimination as the grounds for refusing to supply the requested data, the Commissioner may compel you to supply the data requested.

4. The data you supply may be released to:
   a. personnel employed or under contract by the Department of Commerce who will investigate whether any statute, rule, or order administered or enforced by the Commissioner has been, is being, or is about to be violated;
   b. any appropriate person or agency, if the Commissioner of Commerce determines that failure to make the data accessible is likely to create a clear and present danger to public health or safety;
   c. the Legislative Auditor pursuant to MINNESOTA STATUTE § 3.978;
   d. any person authorized by a court order; or
   e. any other person including another law enforcement agency authorized by state or federal law.
STATE OF MINNESOTA
COMMISSIONER OF COMMERCE

NOTICE AND ORDER OF TEMPORARY
SALES AND DISTRIBUTION BAN
OF HAZARDOUS TOY

BY ORDER OF THE COMMISSIONER

To: ContextLogic Inc. (d/b/a Wish)
   Attn: Legal Dept.
   One Sansome St., 40th Floor
   San Francisco, CA 94104

Commissioner of Commerce Steve Kelley (hereinafter “Commissioner”) has determined as follows:

1. ContextLogic Inc. (d/b/a Wish), (hereinafter “Respondent”) is a company doing business in the State of Minnesota pursuant to Minnesota Statutes chapter 325F.

2. Pursuant to Minnesota Statutes section 325F.13, no person shall sell, expose for sale, deliver, give away, possess, or introduce or deliver for introduction into commerce any hazardous toy or article intended to be used by a child or banned hazardous toy or article intended to be used by a child.

3. Pursuant to Minnesota Statutes section 325F.10, the Commissioner shall ban from sale or distribution any toy or article intended for use by children that presents any of the hazards set out in Minnesota Statutes section 325F.08.

4. Minnesota Administrative Rules 2630.0500 states if the Commissioner determines that an immediate danger exists to the public health and safety, which is caused by a toy that presents an electrical, mechanical, or thermal hazard or a toy that presents a hazard due to toxic or flammable properties or properties able to produce asphyxiation or suffocation, the Commissioner may issue and cause to be served upon the manufacturer, importer, or dealer a temporary order banning the manufacture, importation, sale, or distribution of such toy. The order shall be served by registered or certified mail and shall be calculated to give reasonable notice of the time and place for a hearing thereon and shall state the reasons for the entry of the temporary order. The hearing shall be held no later than ten days after the issuance of the temporary order, after which and within ten days of the date of the hearing the commissioner shall issue a further order either vacating, modifying, or continuing the order.
5. On November 22, 2019, the Commissioner received the complete, attached test results from the Minnesota Pollution Control Agency (MPCA) indicating that the following “Hazardous Products,” purchased on ContextLogic Inc, (d/b/a Wish) contained high levels of lead and cadmium:

   a. Hell Kerbecs BB-99, sold by AK110, brand generic; 240 total ppm lead / 62 total ppm cadmium;

   b. Diablo Nemesis BB-122, sold by AK110, brand Rapidity; 330 total ppm lead / 110 total ppm cadmium;

   c. Big Bang Pegasus BB-105, sold by dsgrtsjnatrj, brand Top Set Rapidity; 310 total ppm lead / 93 total ppm cadmium; and

   d. Rock Leone BB-30, sold by News shopping mimi, brand generic; 310 total ppm lead / 250 total ppm cadmium

6. Pursuant to Minnesota Statutes section 325F.13, the Commissioner has the authority and obligation to ban hazardous toys.

7. Respondent’s continued sale and distribution of Hazardous Products is hazardous to the buying public.

8. The Commissioner has jurisdiction over the subject matter.

9. The Commissioner acknowledges that sufficient grounds exist for the prohibition, distribution and sale of Hazardous Products.

10. Sufficient grounds exist for the Commissioner to effectuate this notice and order for Prohibition of sale, and distribution of Hazardous Products. The Commissioner has discretion to effectuate this order and enforce any seizure of the product if the company does not stop selling and distributing the Hazardous Products immediately pursuant to 325F.135 and 325F.14.

11. The following Order is in the public interest.

NOW, THEREFORE, IT IS HEREBY ORDERED:

A. Effective immediately, Respondent will stop distributing and selling Hazardous Products described above in paragraph 5 (a – d). In compliance with this order, within one day from the date of this order, Respondent will remove the Hazardous Product listings from their website and cease fulfilling orders of the Hazardous Products listed above in paragraph 5 (a – d); or provide a prominently displayed disclaimer on the Hazardous Products advertisement stating, “This product is prohibited for
sale or purchase by consumers in the state of Minnesota due to toxic levels of lead and cadmium” and update the Company’s information technology systems to stop the shipment of these products to consumers in Minnesota in accordance with Minnesota Administrative Rules 2630.1500.

B. Within 15 days, Respondent will repurchase Hazardous Products from buyers in the manner pursuant to Minnesota Statutes section 325F.12.

C. That Respondent shall be responsible for Administrative Supervision expenses. It will reimburse the Department of Commerce for reasonable expenses of Administrative Supervision, and shall pay directly any contractors retained by the Commissioner for assistance with Administrative Supervision.

D. Respondent shall cooperate with and facilitate the presence and work of the Commissioner, his Deputy Supervisor, examiners, staff or other designees. Respondent shall allow the Commissioner or other designees of the Commissioner complete and unrestricted access to all offices maintained, and documents pursuant to Minnesota Statutes section 325F.15.

E. The Commissioner reserves all rights under Minnesota Statutes chapter 325F and Minnesota Administrative Rules 2630.

F. The Commissioner reserves all rights under Minnesota Statutes 45.027.

IT IS FURTHER ORDERED, that this Order shall remain in effect until otherwise amended or terminated by the Commissioner.

This Order shall be effective upon signature by or on behalf of the Commissioner.

DATE: November 26, 2019

By: _______________________________

STEVE KELLEY
Commissioner
RIGHT TO A HEARING

1. Respondent is entitled to a hearing to contest this order pursuant to Minnesota Administrative Rules 2630.0500.

2. The hearing will be held on Friday, December 6, 2019 at 11:00 at the Minnesota Department of Commerce 85 7th Place East, Suite 280, St. Paul MN 55101 at 11:00 a.m. (CST).

3. Please contact Kathleen Finnegan, General Counsel at: kathleen.finnegan@state.mn.us or 651-539-1450 for further hearing details.
November 22, 2019

Dear Commissioner Kelley:

Due to consumer and health agency concerns, the Chemicals in Products Interagency Team (CPIT) conducted a project in 2019 to test Beyblades-style children’s spinning battle toys for lead and cadmium, two neurotoxic and sometimes deadly metals. We are requesting that Commerce follow up with sellers of several toys for which lab analysis showed levels of concern to MPCA and MDH for lead and/or cadmium.

The toy that is the subject of this letter:

Beyblades character: Hell Kerbecs (identifier BB-99)
Purchase location: Wish.com
Purchase date: June 30, 2019
Sold by: AK110
Brand: Generic
Other description provided: Generic Battling Top High Performance Fight Master BB99 Hell Kerbecs BD145DS with Launcher

Shipped from: Leo
No. 1208 Baise Road
Wish Storehouse, Xuhui District
Shanghai, China 200237
Phone: 13764952523

MPCA sent the metal portion of the toy to Legend Technical Services in St. Paul, Minnesota for analysis.

Legend conducted total metals analysis of the metal portion as directed by ASTM F963 Standard.
Consumer Safety Specification for Toy Safety, finding total lead at 240 parts per million (PPM), and total cadmium at 62 PPM. “Totals” testing determines concentrations by weight throughout the component, including its coating layer. For comparison, in many children’s products lead is limited to 100 or 90 PPM, and cadmium to 75 PPM.

At MPCA’s direction, Legend then scraped off the coating layer (apparently paint) and tested it separately, again using ASTM F963 total metals analysis. Results were 160 PPM lead and 90 PPM cadmium, suggesting that both metals are readily available to be breathed or ingested by children as dust and flakes separate from the toy when it bangs into other toys (as is intended in “battles”).

The full report from Legend Technical Services can be provided for your reference.

Thank you for your assistance.

Al Innes
Safer Product Chemistry Coordinator
Minnesota Pollution Control Agency
November 22, 2019

Dear Commissioner Kelley:

Due to consumer and health agency concerns, the Chemicals in Products Interagency Team (CPIT) conducted a project in 2019 to test Beyblades-style children’s spinning battle toys for lead and cadmium, two neurotoxic and sometimes deadly metals. We are requesting that Commerce follow up with sellers of several toys for which lab analysis showed levels of concern to MPCA and MDH for lead and/or cadmium.

The toy that is the subject of this letter:

Beyblades character: Diablo Nemesis (identifier BB-122)
Purchase location: Wish.com
Purchase date: June 30, 2019
Sold by: AK110 (NOTE: Ordered Generic Diablo from AK110 but received Rapidity Diablo, so unsure if the seller was in fact AK110)
Brand: Rapidity (NOTE: Ordered Generic but received Rapidity)
Other description provided: X:D
Shipped from: Leo (NOTE: Separate package but same shipper as 15.6 Wish Hell Kerbecs)
No. 1208 Baise Road
Wish Storehouse, Xuhui District
Shanghai, China 200237
Phone: 13764952523

MPCA sent the metal portion of the toy to Legend Technical Services in St. Paul, Minnesota for analysis.

Legend conducted total metals analysis of the metal portion as directed by ASTM F963 Standard.
Consumer Safety Specification for Toy Safety, finding total lead at 330 parts per million (PPM), and total cadmium at 110 PPM. “Totals” testing determines concentrations by weight throughout the component, including its coating layer. For comparison, in many children’s products lead is limited to 100 or 90 PPM, and cadmium to 75 PPM.

At MPCA’s direction, Legend then attempted to remove the coating layer (apparently electroplated) and test it separately, again using ASTM F963 total metals analysis. They were unable to generate a sample, however, some very small fragments did come off. This suggests that both metals may be readily available to be breathed or ingested by children as dust or flakes separate from the toy when it bangs into other toys (as is intended in “battles”).

The full report from Legend Technical Services can be provided for your reference.

Thank you for your assistance.

Al Innes
Safer Product Chemistry Coordinator
Minnesota Pollution Control Agency
November 22, 2019

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The toy that is the subject of this letter:

Beyblades character: Big Bang Pegasus (Identifier BB-105)
Purchase location: Wish.com
Purchase date: June 30, 2019
Sold by: dsgbsrtnatrjg
Brand: Top Set Rapidity
Other description provided: BEYBLADE 4D RAPIDITY METAL FUSION Beyblades Toy Set Beyblade Big Bang Pegasus (Cosmic Pegasus) Blue Wing Version
Shipped from: Yang hao
Huangshi Road
Baiyun District
Guangzhou, Guangdongsheng, China 510000
Phone: 13802763420

MPCA sent the metal portion of the toy to Legend Technical Services in St. Paul, Minnesota for analysis.

Legend conducted total metals analysis of the metal portion as directed by ASTM F963 Standard.
Consumer Safety Specification for Toy Safety, finding total lead at 310 parts per million (PPM), and total cadmium at 93 PPM. “Totals” testing determines concentrations by weight throughout the component, including its coating layer. For comparison, in many children’s products lead is limited to 100 or 90 PPM, and cadmium to 75 PPM.

At MPCA’s direction, Legend then attempted to remove the coating layer (apparently electroplated) and test it separately, again using ASTM F963 total metals analysis. They were unable to generate a sample, however, some very small fragments did come off. This suggests that both metals may be readily available to be breathed or ingested by children as dust or flakes separate from the toy when it bangs into other toys (as is intended in “battles”).

The full report from Legend Technical Services can be provided for your reference.

Thank you for your assistance.

Al Innes
Safer Product Chemistry Coordinator
Minnesota Pollution Control Agency
Commissioner Steve Kelley  
Minnesota Department of Commerce  
85 7th Place East, Suite 280  
St. Paul, MN 55101  

November 22, 2019  

Dear Commissioner Kelley:

Due to consumer and health agency concerns, the Chemicals in Products Interagency Team (CPIT) conducted a project in 2019 to test Beyblades-style children’s spinning battle toys for lead and cadmium, two neurotoxic and sometimes deadly metals. We are requesting that Commerce follow up with sellers of several toys for which lab analysis showed levels of concern to MPCA and MDH for lead and/or cadmium.

The toy that is the subject of this letter:

Beyblades character: Rock Leone (identifier BB-30)  
Purchase location: Wish.com  
Purchase date: May 3, 2019  
Sold by: News shopping mimi  
Brand: Generic  
Other description provided: Rock Leone 145WB Metal Gyroscope Battling Tops Fusion Masters with Handle Launcher  
Shipped from: zhangtengfei  
ROOM 902 LONGXING BUILDING  
SONGYU’RD SONGGANG  
Baoan District  
Shenzhen City, Guangdong Province, China 518000  
Phone: 13424409870

MPCA sent the metal portion of the toy to Legend Technical Services in St. Paul, Minnesota for analysis.

Legend conducted total metals analysis of the metal portion as directed by ASTM F963 Standard.
Consumer Safety Specification for Toy Safety, finding total lead at 310 parts per million (PPM), and total cadmium at 250 PPM. “Totals” testing determines concentrations by weight throughout the component, including its coating layer. For comparison, in many children’s products lead is limited to 100 or 90 PPM, and cadmium to 75 PPM.

At MPCA’s direction, Legend then attempted to remove the coating layer (apparently electroplated) and test it separately, again using ASTM F963 total metals analysis. They were unable to generate a sample, however, some very small fragments did come off. This suggests that both metals may be readily available to be breathed or ingested by children as dust or flakes separate from the toy when it bangs into other toys (as is intended in “battles”).

The full report from Legend Technical Services can be provided for your reference.

Thank you for your assistance.

Al Innes
Safer Product Chemistry Coordinator
Minnesota Pollution Control Agency
F. Lead
CAS Number 7439-92-1

1. Overview
Lead is a soft metal that is found naturally in the earth’s crust. Before 1978, lead was frequently used in paints. Lead paint can still be found in many older residential structures. Other examples of uses of lead are in gasoline (formerly), piping, solder, coatings, glazes, leaded crystal, jewelry and toys.

Lead, a neurotoxin, is a danger for young children when it is ingested. Lead in household dust, paint chips, toys or jewelry may be ingested by young children when they chew, mouth, or swallow items or crawl on the floor and mouth their hands.

There are standards in the U.S. for the amount of lead that can be used in children’s toys, but in some cases products are not in compliance and children are exposed to lead. An example of this occurred in 2006 when a young boy in Minnesota died from acute lead poisoning after ingesting a charm that did not comply with lead standards. In 2010, the Consumer Product Safety Commission (CPSC), which is responsible for monitoring compliance with federal consumer safety product standards, made 24 recalls of infant and children’s products that contained more than permitted levels of lead. Often the recalls involved imported items, though some products were manufactured in the U.S. (Consumer Product Safety Commission [CPSC], 2010b).

Because of its toxicity, pervasiveness, and continued effect on children despite regulatory action, lead is being named a Minnesota Priority Chemical.

Further information about exposure, toxicity, and regulation are described below.

2. Exposure and Environmental Disposition
(Note: This section includes examples of exposure and environmental information. This summary is not intended to be comprehensive.)

a. Centers for Disease Control and Prevention
(1) Agency for Toxic Substances and Disease Registry (ATSDR)
People can be exposed to lead from contaminated soil, dust, drinking water that has been transported in lead pipes, and lead paint chips. Jewelry can also contain lead that can be transferred to the skin, but the skin does not absorb lead readily (Agency for Toxic Substances and Disease Registry [ATSDR], 2007). Other potential sources of exposure, particularly for infants and children, are breast milk, toys, hair dyes, cosmetics and some home remedies.

(2) National Health and Nutrition Examination Survey (NHANES)
Sources of exposure to lead can include lead paint chips, water transported in lead pipes, ceramics coated with lead-based glaze, stained glass window framing, toys and trinkets,
lead on the clothing of workers in certain occupations, lead-containing cosmetics and home remedies (Centers for Disease Control and Prevention [CDC], 2010a).

For adults, NHANES reports that blood lead levels (BLLs) have been declining over the past decade, with the U.S. adult BLLs similar or slightly lower than in other developed countries. In the 2005-2006 data, the geometric mean of the adult BLL was 1.41 µg/dL (CDC, 2010b).

For children, lead levels have also been decreasing over time. In the 2005-2006 data, the geometric mean for children age less than 5, the geometric mean was 1.46 µg/dL (CDC, 2010b) However, children with certain risk factors, such as non-white minority race, urban residence, or low family income tend to have higher BLLs (CDC, 2010a).

b. Consumer Product Safety Commission (CPSC)
In 2010, there were 24 recalls of children’s or infant products listed on the CPSC website. Some of the recalled items were children’s jewelry (CPSC, 2010b). Most, but not all, of these recalls involved materials produced outside of the U.S. At least one of the recalled products involved the need to treat a child for high lead levels (CPSC, 2010c).

c. Environmental Protection Agency (EPA)
(1) Inventory Update Reporting (IUR)
Lead was produced or imported into the U.S. at quantities of 1 billion pounds or more in the 2006 EPA Inventory Update Reporting (IUR) data (Environmental Protection Agency [EPA], 2010a). No use information was available for inorganic chemicals in this inventory, but usage information for inorganic chemicals will be required in the 2011 inventory.

(2) Toxic Release Inventory (TRI)
In 2009, there were about 14.3 million pounds of lead reportedly released to the environment in the U.S. (EPA, 2010d). In Minnesota in 2009, there were 12,973 pounds of lead released from 109 sites throughout the state (EPA, 2010c). The primary release method was disposal to off-site storage for an indefinite time and to landfills. This is an increase from the amounts reported released annually in Minnesota from 2002 - 2008, but a decrease from the peak in 1998, when 293,303 pounds of lead were released (EPA, 2010e).

d. Minnesota Department of Health (MDH)
In 2009, there were 778 children with high BLLs reported in Minnesota (Minnesota Department of Health [MDH], 2010a). While the BLLs in children have been decreasing, the goal is to eliminate this preventable condition. Lead poisoning in children often is related to ingestion of paint chips in older homes, though exposure to toys and other products containing lead can also result in lead exposure.
e. National Institutes of Health
1) Hazardous Substances Data Bank (HSDB)
Lead has been found in wildlife (Hazardous Substances Data Bank [HSDB], 2010) and may appear in food.

Maternal milk might be a source of lead for offspring, particularly when the mother has elevated BLLs (HSDB, 2010).

2) Household Products Database
In the Household Products Database, there are currently eight products containing lead. Six of these products are solder, one is ceramic glaze, and one is a colorant for landscaping concrete. The lead content listed for these items ranges from 0 to 100%, with some at 30-60% (National Library of Medicine [NLM], 2010). Because the Household Product Database provides information found in material safety data sheets (MSDS), if an MSDS is not required for the product, it is unlikely the product will appear this database.

3. Toxicity
(Note: This section provides examples of toxicity information from several sources. This summary is not intended to be comprehensive.)

a. Centers for Disease Control and Prevention
1) Agency for Toxic Substances and Disease Registry (ATSDR)
Lead targets the nervous system in humans. It can result in weakness, increased blood pressure, anemia, and brain and kidney damage. High exposure levels can result in miscarriage or affect sperm production. Exposures to lead can affect development and behavior in children (ATSDR, 2007).

2) National Health and Nutrition Exposure Survey (NHANES)
Lead can interfere with actions of nutrients, enzymes, regulatory proteins, and other physiological mechanisms in the body, as well as gene expression. Lead poisoning can result in anemia, kidney damage, seizures, abdominal pain, and neurocognitive effects (CDC, 2010a).

b. Environmental Protection Agency
1) Integrated Risk Information System (IRIS)

2) Office of Pollution Prevention and Toxics (OPPT)
Lead is known to be toxic to the neurological system, with manifestations of conditions such as lowered intelligence, decreased coordination, behavioral and learning problems, slowed growth, and hearing problems (EPA, 2010b).

c. National Institutes of Health
National Toxicology Program (NTP)
For carcinogenic potential, lead has been classified as: Reasonably anticipated to be a human carcinogen (National Toxicology Program [NTP], 2004).

d. World Health Organization
International Agency for Research on Cancer (IARC)
Lead is classified as a Group 2A carcinogen: Probably carcinogenic to humans (International Agency for Research on Cancer [IARC], 2006).

4. Statutory Requirements
In relation to Minn. Stat. 2010 116.9401-116.907, lead meets the following criteria:

<table>
<thead>
<tr>
<th>Statute</th>
<th>Information</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minn. Stat. 2010 116.9401</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subd. (e)(1) harm the normal development of a fetus or child or cause other developmental toxicity</td>
<td>Developmental effects</td>
<td>ATSDR 2007</td>
</tr>
<tr>
<td>Subd. (e)(2) cause cancer, genetic damage, or reproductive harm</td>
<td>Reproductive effects</td>
<td>ATSDR 2007</td>
</tr>
<tr>
<td>Cancer: IARC: Probably carcinogenic to humans (Group 2A).</td>
<td></td>
<td>IARC 2006</td>
</tr>
<tr>
<td>Cancer: NTP: Reasonably anticipated to be a human carcinogen</td>
<td></td>
<td>NTP 2004</td>
</tr>
<tr>
<td>Subd. (e)(3) disrupt the endocrine or hormone system</td>
<td>Disruption at high blood lead levels</td>
<td>ATDSR 2007</td>
</tr>
<tr>
<td>Subd. (e)(4) damage the nervous system, immune system, or organs, or cause other systemic toxicity</td>
<td>Neurotoxicity</td>
<td>ATSDR 2007</td>
</tr>
<tr>
<td>Kidney damage</td>
<td></td>
<td>ATSDR 2007</td>
</tr>
<tr>
<td>CDC 2010 a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subd. (e)(5) be persistent, bioaccumulative, and toxic;</td>
<td>(The EPA has designated lead as a PBT for the Toxic Release Inventory program.)</td>
<td>EPA 2001</td>
</tr>
<tr>
<td>Subd. (e)(6) be very persistent and very bioaccumulative</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Minn. Stat. 2010 116.9403 | | |
| Subd. (a) (1): has been identified as a high-production volume chemical by the United States Environmental Protection Agency | 1 billion pounds or greater | EPA 2010a |
| Subd (2) Meets any of the following criteria: | | |
| Subd. (a)(2)(i): the chemical has been found through biomonitoring to be present in human blood, including umbilical cord blood, breast milk, urine, or other bodily tissues or fluids | Blood, tissue, breast milk | ATSDR 2007 |
| CDC 2010a | | |
| HSDB 2010 | | |
Subd. (a)(2)(ii): the chemical has been found through sampling and analysis to be present in household dust, indoor air, drinking water, or elsewhere in the home environment. Household dust, indoor air, drinking water. ATSDR 2007, CDC 2010a, EPA 2010b

Subd. (a)(2)(iii): the chemical has been found through monitoring to be present in fish, wildlife, or the natural environment. Fish, wildlife (also a naturally occurring element). HSDB 2010

### 5. Current Regulations

#### a. Federal

1. **Consumer Product Safety Commission (CPSC)**

   Standards related to lead in children’s toys have been in place for many years. In 2008, the Consumer Product Safety Improvement Act (CPSIA) lowered the limits allowable in children’s toys. During a phase-in period, the allowable levels of total lead by weight for any part of a children’s toy dropped from 600 ppm in February 2009 to 300 ppm in August 2009. In August 2011, the limit is scheduled to drop to 100 ppm. However, the CPSC is yet determining if the 100 ppm level is feasible. After August 2009, a limit of 90 ppm on the surface coatings on consumer products went into effect (CPSC, 2010a). There have been several recent recalls related to children’s products for unacceptably high lead content.

2. **Environmental Protection Agency**

   In 2010, EPA enacted a rule intended to minimize potential hazards related to lead during renovation. This rule has requirements for contractors performing renovation to ensure that homeowners and tenants are informed about lead in the home. Contractors are also required to complete certification concerning knowledge of safe lead practices (MDH, 2010b). For more information, please see [http://www.health.state.mn.us/divs/eh/lead/prof/pre/index.html](http://www.health.state.mn.us/divs/eh/lead/prof/pre/index.html) or [http://www.epa.gov/lead/pubs/lscp-press-materials.htm](http://www.epa.gov/lead/pubs/lscp-press-materials.htm).

#### b. States

Several states have enacted regulations to reduce lead use and/or exposure. Many states have laws prohibiting certain metals from packaging and restricting lead components in automobiles and recreational equipment. Because most of these products are excluded from the requirements of Minn. Stat. 2010 116.9401-116.9407, these items are not included here.

Aside from packaging, automobile and recreational equipment-related legislation, the following information, taken from The Lowell Center for Sustainable Production, US State Chemicals Policy database at [http://www.chemicalspolicy.org/chemicalspolicy.us.state.database.php](http://www.chemicalspolicy.org/chemicalspolicy.us.state.database.php), describes state-level legislation related to lead for uses that could pertain to children.
Minnesota
Year: 2007
Restricts the sale or manufacturing of any jewelry that is offered for sale in Minnesota unless the jewelry is made entirely from a Class 1, Class 2, or Class 3 material. Prohibits the sale of any jewelry as children's jewelry or body piercing jewelry represented to contain safe levels of lead, unless the jewelry meets certain requirements. (Became effective August 30 and 31, 2009)

California
Year: 2010 (Amendment)
Prohibits the manufacture or sale of any toy contaminated with any toxic substance, coated with paints and lacquers containing compounds of lead, or coated with soluble compounds of antimony, arsenic, cadmium, mercury, selenium or barium.

Year: 2006
Cal. Health & Safety Code §§ 25214.1-25214.4.2
Prohibits a person, on and after March 1, 2008, from manufacturing, shipping, selling, or offering for sale jewelry, body piercing jewelry and children's jewelry for retail sale in the state, unless it contains less than 200 or 600 parts per million of lead by weight (standard varies by material). Includes civil and criminal penalties for a person who violates the prohibitions. Specifies the testing methods and protocols for determining compliance with the prohibitions.

Year: 1997
Concerns prohibitions on the use of lead in water pipes
Prohibits the use of any pipe, pipe or plumbing fitting or fixture, solder, or flux that is not lead free (not more than 0.2% lead with respect to solder and flux and not more than 8% lead with respect to pipes and pipe fittings) in the installation or repair of any public water system or any plumbing in a facility providing water for human consumption. Prohibits the introduction into commerce of any pipe, pipe or plumbing fitting, or fixture that is not lead free. Prohibits people engaged in the business of selling plumbing supplies, except manufacturers, from selling solder or flux that is not lead free. Requires labeling of solder and flux that is not lead free.

Connecticut
Year: 2008
Requires the Commissioners of Public Health and Environmental Protection to compile a list of toxic substances and the recommended maximum amount of such toxic substances that may exist in children's products. Requires the Commissioner of Consumer Protection to compile a list of safer alternatives to using said toxic substances. Requires certain consumer products determined by the Commissioner of Consumer Protection that bear lead-containing paint or that have lead in any part of the product and that a child may
reasonably or foreseeably come into contact with, to carry a warning label. Permits the
Commissioner of Consumer Protection to adopt a stricter standard than one hundred parts
per million total lead content by weight for any part of a children's product if the
Administrator determines that a stricter standard is feasible. Permits the Commissioner of
Environmental Protection to participate in an interstate clearinghouse to (1) prioritize
chemicals existing in commercial goods; (2) organize and manage available data on
chemicals; (3) produce and inventory information on safer alternatives for specific uses
of chemicals and model policies and programs related to such alternatives; and (4)
provide technical assistance to businesses and consumers relating to safer chemicals.

**Delaware**

Year: 2008


Prohibits the sale of a toy that contains a toxic substance (defined as lead or a coating on
an item that contains lead or a substance that has been deemed toxic or harmful to the

**Illinois**

Year: 2007 (Amendment)


Amends existing legislation to strengthen protection from lead poisoning in children.
Prohibits the addition of lead to surfaces children occupy, or which children could put in
their mouths, including toys, jewelry, furniture.

**Louisiana**

Year: 1998 (Amendment)


Prohibits the sale or application of lead-based paint or similar surface coating material on
toys or articles intended for use by children, residential furniture and fixtures that can be
readily chewed by children, and cooking, eating, and drinking utensils. Prohibits the sale
of any toy or other article intended for use by children, residential furniture, cooking,
drinking or eating utensils to which any lead-based paint or similar surface coating
material has been applied.

**Maine**

Year: 2008


Restricts the sale, manufacture or distribution of lead-containing children's products.

Year: 2006
Exec. Order Promoting Safer Chemicals in Consumer Products and Services (February
22, 2006)

Requires the Department of Environmental Protection to incorporate readily available
information on source reduction and safer alternatives to hazardous chemicals in
consumer products into their public education efforts. Requires the Department to
continue to virtually eliminate mercury from human caused sources, assess lead-free
alternatives to the current use of lead in consumer products, and review emerging information related to the availability of alternatives to brominated flame retardants.
Requires executive branch agencies to avoid products and services that contain, use, or release chemicals that are PBTs or carcinogens whenever safer alternatives are available, effective, and affordable. Creates the Governor's Task Force to Promote Safer Chemicals.
Requires the Task Force to identify and promote the use and development of safer alternatives to hazardous chemicals in consumer goods and services made, provided, or sold in Maine.

Maryland
Year: 2010
Requires the use of lead-free pipes, pipe fittings, plumbing fittings, fixtures, solder, or flux in the installation or repair of plumbing intended to dispense water for human consumption. Prohibits the sale of pipes, pipe fittings, plumbing fittings, or fixtures that will be used in the installation or repair of any plumbing that dispenses water for human consumption unless they are lead-free. Prohibits the sale of solder or flux that is not lead-free unless the solder or flux bears a label stating that it is illegal to use the solder or flux in the installation or repair of any plumbing that dispenses water for human consumption.

Year: 2009
Amends existing legislation prohibiting lead-containing children's products (See H.B. 62). Clarifies the manufacturers and importers that are required to perform certain testing and the children's products to be tested to determine whether they are lead-containing products.

Year: 2008
Prohibits the manufacture, sale, offer for sale, importation, or distribution of specified lead-containing children's products by any means, including through a sales outlet or the Internet.

Massachusetts
Year: 2009
Exec. Order No. 515 (Oct. 27, 2009)
Requires the Executive Department of the Commonwealth of Massachusetts and its agencies to reduce their impact on the environment and enhance public health by procuring environmentally preferable products and services whenever such products and services are readily available, perform to satisfactory standards, and represent best value. Environmentally preferable products include, but are not limited to, products and services that are less toxic and hazardous. Establishes a Toxic Reduction Task Force to provide guidance on and assist agencies with identifying and eliminating purchases of products that contain toxic chemicals. Requires the EPP Program and agencies to, wherever feasible, eliminate products procured by the Commonwealth that contain toxic chemicals in concentrations that pose a significant threat to the environment and/or public health.
Year: 2008 (Amendment)
Prohibits the sale, delivery, or possession with intent to sell, deliver or give away any toy, furniture, cooking, drinking or eating utensil to which any lead-based paint, glaze or other substance has been applied.

Year: 2008 (Amendment)
Prohibits any person from selling, delivering, giving away, or introducing into commerce any misbranded hazardous substance or banned hazardous substance. Permits the Commissioner of Public Health to declare any substance or mixture of substances, which meet certain requirements, to be a hazardous substance. Under this authority, the Commissioner has declared formaldehyde, urea-formaldehyde foamed in-place insulation, and children's leaded jewelry to be hazardous substances. The Commissioner has declared urea-formaldehyde foamed in-place insulation and children's leaded jewelry to be banned hazardous substances. Requires urea-formaldehyde foamed in-place insulation and children's leaded jewelry to be removed from commerce. (105 CMR 650)

**Michigan**
Year: 2007
Prohibits a lead-bearing substance from being used in or on any children's jewelry. Prohibits the sale of children's jewelry containing a lead-bearing substance. Makes information about the hazards of lead-bearing substances and any programs offered to educate individuals about those hazards available via the internet.

Year: 2007
Prohibits the sale of lunch boxes that contain a lead-bearing substance.

Year: 2007
Prohibits use or application of a toxic substance (i.e. substance that contains lead, or a coating on an item that contains lead) in or on any toy or child care article. Prohibits the sale, or transfer of a toy or child care article in this state that contains a toxic substance.

**Vermont**
Year: 2008
Prohibits the sale of any children's product that contains lead. Prohibits the sale of any jewelry that contains lead. Requires phase out of wheel weights containing lead. Requires labels on all plumbing equipment for sale that contains lead. Prohibits the sale of solder or flux for plumbing that contains lead. Requires a warning on all nonresidential paints and primers containing lead. Requires warning labels on salvaged building materials for sale stating that these products may contain lead.
6. Conclusion

Lead continues to pose a threat to children, despite attempts to control it. However, there is evidence that human BLLs are decreasing. Because of its toxicity and pervasiveness, lead is being named a Minnesota Priority Chemical. Information on any changes in federal or state policy, as well new information as health impacts and exposure routes, especially in children, will be monitored.

7. References


B. Cadmium  
CAS Number 7440-43-9

1. Overview
Cadmium, a natural metal found in the earth’s crust, is extracted during the refining of other metals, including zinc, lead and copper (Centers for Disease Control and Prevention [CDC], 2010). According to the U.S. Agency for Toxic Substances and Disease Registry (ATSDR), 83% of extracted cadmium is used in batteries, 8% in pigments, 7% in plating and coatings, and the remainder in plastics and other applications (Agency for Toxic Substances and Disease Registry [ATSDR], 2008).

Cadmium enters the body through ingestion or inhalation. Cadmium levels in blood reflect recent exposures, while levels of cadmium in urine reflect body burden from longer term exposures (Organisation for Economic Co-operation and Development [OECD], 2004). With repeated exposure, cadmium can accumulate in the body, especially in the kidney and liver, with potential of remaining in the body for several decades (ATSDR, 2008; OECD, 2004). The kidney can be damaged after over-exposure to cadmium (ATSDR, 2008; CDC, 2010). Cadmium can also cause malformation of bone, bone loss or decrease in bone strength. Further, there is some limited evidence that cadmium is a neurotoxin and an endocrine disruptor (ATSDR, 2008). In animal laboratory studies, cadmium has been found to be absorbed more readily by younger animals (ATSDR, 2008). Children have more years to accumulate cadmium and to manifest related health effects, making cadmium in children’s products a concern.

Cadmium has been found to cause lung cancer in some workers who have been exposed to it occupationally. It has been named a known carcinogen by the Department of Health and Human Services’ National Toxicology Program (NTP) (National Toxicology Program [NTP], 2005), as well as being named a Group 1 carcinogen by the International Agency for Research on Cancer (IARC) (International Agency for Research on Cancer [IARC], 1997), and a probable carcinogen by the Environmental Protection Agency (EPA) (Environmental Protection Agency [EPA], 1992).

Because cadmium has some properties that are similar to lead, cadmium could be used as a substitute for lead in products. After the Consumer Product Safety Improvement Act (CPSIA) of 2008 lowered the limit of lead allowable in children’s products, there was concern that cadmium would be used as an alternative. In the early part of 2010, the Consumer Product Safety Commission (CPSC) issued six recalls related to cadmium in children’s products. A survey of children’s products by the Associated Press, and later by the Canadian government, reported finding some children’s products with high cadmium content, sometimes topping 90% (Health Canada, 2010; Pesce, 2010). While currently no federal standard related to cadmium in children products exists, an industry standard is under development. In the interim, four state governments, including Minnesota, have attempted to limit children’s exposure to cadmium through state law. Federal and state policies related to cadmium will be discussed further below in Section 5 “Regulations” and Section 6 “Action Plans”.
Cadmium is being named a Priority Chemical by Minnesota Department of Health (MDH) because of its potential health effects, including kidney and bone damage, its ability to accumulate and remain in the body, and its use in products intended for children.

Further information about toxicity, potential exposure pathways, and current state and federal actions is provided below.

2. Exposure and Environmental Disposition
(Note: This section includes examples of exposure and environmental information for cadmium. This summary is not intended to be comprehensive.)

a. Centers for Disease Control and Prevention (CDC)
   (1) Agency for Toxic Substances and Disease Registry (ATSDR)
   Cadmium that enters the body tends to accumulate in the kidney and liver. Cadmium in the kidneys can have a half-life of several decades. Cadmium in the blood indicates recent exposures, while cadmium in the urine is related to the concentration of cadmium in the kidneys (ATSDR, 2008).

   (2) National Health and Nutrition Examination Survey (NHANES)
   NHANES data show levels of cadmium detected in humans have been declining since 2001. People of age 20 years and older had higher blood cadmium levels than people of younger ages. Females had slightly higher levels than males (CDC, 2010).

b. Consumer Product Safety Commission (CPSC)
A report by the CPSC determined that a test method for chemicals such as cadmium migrating from small swallowed items should be based on solubility in an acidic solution for 24 hours. CPSC has requested that an industry trade group make recommendations about voluntary cadmium standards (Consumer Product Safety Commission [CPSC], 2010a).

c. Environmental Protection Agency (EPA)
   (1) Inventory Update Reporting (IUR)
   Data from the 2006 IUR indicate that cadmium was produced or imported into the U.S. in a range of 1 million to 10 million pounds. EPA rules in place during the 2006 inventory did not require use information to be reported for inorganic chemicals like cadmium. Cadmium usage information will be required in the 2011 reporting period under current EPA rules (EPA, 2010a).

   (2) Office of Pollution Prevention and Toxics (OPPT)
   Products containing cadmium, such as jewelry, can be put in a child’s mouth and result in oral exposure (EPA, 2010c).
(3) Toxic Release Inventory (TRI)
There were no cadmium or cadmium compound releases reported for Minnesota in 2009 (EPA, 2010d). Cadmium was reported released in Minnesota from 1988-1994, with the highest release in 1990 of 1,612 pounds. This release was a transfer to a landfill (EPA, 2010e). For cadmium compounds, there were releases reported in 1988-1995 and 2005. The greatest release was 4,693 pounds reported in 1991. This release was primarily to landfills (EPA, 2010e).

d. National Institutes of Health (NIH)
National Library of Medicine (NLM)
(a) Hazardous Substances Data Bank (HSDB)
Cadmium has been found in fish (Hazardous Substance Data Bank [HSDB], 2010).

(b) Household Product Database
This database shows only two products, a glaze with less than 1% cadmium and a concrete material with an unspecified amount of cadmium. However, as noted in the Household Product Database background information, products for which a material safety data sheet (MSDS) is not created are not included. Therefore, jewelry and novelty glassware would not likely be listed (NLM, 2010a; NLM, 2010b).

3. Toxicity
(Note: This section provides examples of toxicity information from several sources. This summary is not intended to be comprehensive.)

a. Centers for Disease Control and Prevention (CDC)
(1) Agency for Toxic Substances and Disease Registry (ATSDR)
Cadmium can cause tissue damage leading to decreased function of the kidney. The effects of low level cadmium exposure over time on the kidney not are entirely understood. However, it is possible that adults exposed to cadmium as children might be at higher risk for the renal toxicity of cadmium than people exposed only as adults. Exposure to cadmium can also cause bones to weaken (ATSDR, 2008).

(2) National Health and Nutrition Examination Survey (NHANES)
NHANES reports that the kidney is the critical target of cadmium exposure. At high exposures, such as those encountered occupationally, irreversible proteinuria signals renal damage. Indicators of renal damage from environmental exposure levels are not as well understood. Effects on bone density have been reported from exposure to cadmium in areas with soil contamination (CDC, 2010).

b. Environmental Protection Agency (EPA)
Integrated Risk Information System (IRIS)
EPA Reference Dose:
5 x 10^{-4} \text{ mg/kg/day (water)} \text{ (proteinuria)}
1 x 10^{-3} \text{ mg/kg/day (food)} \text{ (proteinuria)} \text{ (EPA, 1994)}
Cadmium is a probable human carcinogen (EPA, 1992).

c. National Institutes of Health (NIH)  
National Toxicology Program (NTP)  
NTP has determined that cadmium is a known human carcinogen via inhalation.

d. World Health Organization (WHO)  
International Agency for Cancer Research (IARC)  
Cadmium is classified as a Group I carcinogen: carcinogenic to humans (IARC, 1997).

4. Statutory Requirements
In relation to Minn. Stat. 2010 116.9401-116.907, cadmium met the following criteria:

<table>
<thead>
<tr>
<th>Statute</th>
<th>Information</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minn. Stat. 2010 116.9401</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subd. (e)(1) harm the normal development of a fetus or child or cause other developmental toxicity</td>
<td>Development: Nervous system and skeletal system</td>
<td>ATSDR 2008</td>
</tr>
<tr>
<td>Subd. (e)(3) disrupt the endocrine or hormone system</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subd. (e)(4) damage the nervous system, immune system, or organs, or cause other systemic toxicity</td>
<td>Neurobehavioral Bones, kidney</td>
<td>ATSDR 2008 ATSDR 2008 CDC 2010</td>
</tr>
<tr>
<td>Subd. (e)(5) be persistent, bioaccumulative, and toxic</td>
<td>(Designated as a Persistent Bioaccumulative and Toxic (PBT) Priority Chemical in the EPA National Waste Minimization Program)</td>
<td>EPA 2009</td>
</tr>
<tr>
<td>Subd. (e)(6) be very persistent and very bioaccumulative</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Minn. Stat. 2010 116.9403 | | |
| Subd. (a) (1): has been identified as a high-production volume chemical by the United States Environmental Protection Agency | 1 to 10 million pounds | EPA 2010b |
| Subd (2) Meets any of the following criteria: | | |
| Subd. (a)(2)(i): the chemical has been found through biomonitoring to be present in human blood, including umbilical cord blood, breast milk, urine, or other bodily tissues or fluids | Blood, kidney, liver, umbilical cord blood | CDC 2010 HSDB 2010 |
5. Current Regulations

a. Federal
There are currently no mandatory federal regulations for cadmium in children’s products, though the CPSIA requires a standard, which is currently under development. Progress is described below in Section V “Planned Actions”.

b. States
Minnesota
During the 2010 Minnesota Legislative Session, a law (Minn. Stat. 2010 325E.3891) limiting the amount of cadmium permitted in jewelry intended for children age 6 or younger was passed. The law states:

Cadmium in any surface coating or accessible substrate material of metal or plastic components of children’s jewelry shall not exceed 75 parts per million, as determined through solubility testing for heavy metals defined in the ASTM International Safety Specification on Toy Safety, ASTM standard F-963 and subsequent versions of this standard, if the product is sold in this state unless this requirement is superseded by a federal standard regulating cadmium in children’s jewelry. (Minn. Stat. 2010 325E.3891, Sub.2)

This Minnesota law takes effect on January 1, 2011.

Many states have laws prohibiting certain metals, including cadmium, in packaging. The following states have legislation related to cadmium in other products to which children might be exposed. (Most information below was obtained from the Lowell Center for Sustainable Production’s US State Chemicals Policy database, available from http://www.chemicalspolicy.org/chemicalspolicy.us.state.database.php.)

California
Year: 2010
S.B. 929, 2009-10 Leg., Reg. Sess. (Cal. 2010)
In fall 2010, the governor of the State of California signed a bill that will limit cadmium levels in jewelry intended for children 6 years of age or younger. Under the new law, cadmium can comprise no more than 0.03% of total composition. This law will go into effect in January 2012 (California Department of Toxic Substances Control, 2011).
Because California has a large market share in the United States, standards passed in California are usually also applied to products sold outside of California. The effect is to apply the standard throughout the United States.

Year: 2010 (Amendment)
Prohibits the manufacture or sale of any toy contaminated with any toxic substance, coated with paints and lacquers containing compounds of lead, or coated with soluble compounds of antimony, arsenic, cadmium, mercury, selenium or barium.

**Connecticut**
Year: 2010
Prohibits the manufacture, sale, or distribution of any children's jewelry that contains cadmium at more than .004 percent by weight.

**Illinois**
Year: 2010
Prohibits the manufacture, sale, or distribution of children's jewelry containing cadmium. Authorizes the Illinois Environmental Protection Agency to participate in an interstate clearinghouse to promote safer chemicals in consumer products.

**Washington**
Year: 2008
Contains limits on lead, cadmium, or phthalates in children's products. (Largely preempted by the Federal Consumer Product Safety Improvement Act of 2008.)

(Lowell Institute for Sustainable Production, 2010)

**6. Planned Actions**

**a. Federal**
The CPSIA referred to industry standards under ASTM F963-08 to limit cadmium in coatings or accessible substrates of children’s products. However, in August 2010 there was a petition from the Empire State Consumer Project, Sierra Club, and others, requesting the CPSC issue a ban of cadmium in toy metal jewelry containing more than trace amounts of the substance (Federal Register, 2010). Petitioners also requested that the CPSC ban cadmium at levels applicable to lead if there is currently insufficient information available to determine appropriate levels of cadmium in products. This petition was open for comment until October 18, 2010.

In October 2010, the CPSC announced that it would defer regulation of cadmium in children’s products and allow a voluntary industry standard to be developed and implemented. The CPSC also announced an acceptable daily intake (ADI) for cadmium of 0.1 ug/kg/day (CPSC, 2010a).
The Environmental Protection Agency also received a petition from this group requesting that EPA use its authority under the Toxic Substances Control Act (TSCA) to require submission of health and safety studies. EPA has granted the petition and plans to collect information and to work with CPSC. If CPSC does not act, EPA announced that it intends to publish a rule under TSCA section 6 (EPA, 2010c).

The CPSC made six recalls of consumer products, including five jewelry items for children and one type of glassware in 2010 (CPSC, 2010b). Many of the recalled items were manufactured outside of the U.S.

b. Retailers
Some retailers have begun requiring manufacturers to meet standards for cadmium set by the European Union (Pritchard, 2010; Walmart Stores, 2010). The standard passed by California in 2010 (see above) will take effect in 2012. This standard is stricter than the European Union standard because it limits total cadmium; not only cadmium in the coating or accessible substrate. Because California standards sometimes are applied nationally, this might affect retailer policy on cadmium.

7. Conclusion
Cadmium is being named a Minnesota Priority Chemical because of its potential health effects, including kidney and bone damage, its ability to accumulate and remain in the body, and its use in products intended for children. After Minnesota’s statute related to cadmium in children’s jewelry takes effect January 1, 2011 and national standards are developed, cadmium will be limited in children’s products, but assurance of compliance will be needed. It will also be important to ensure that cadmium in products not covered by the regulations or guidance do not pose a threat to children.

New findings on cadmium toxicity and exposure routes will be monitored, as will developments in federal and state policy.

8. References


STATE OF MINNESOTA
COMMISSIONER OF COMMERCE

NOTICE AND ORDER OF TEMPORARY
SALES AND DISTRIBUTION BAN
OF HAZARDOUS TOY

BY ORDER OF THE COMMISSIONER

To: ContextLogic Inc. (d/b/a Wish)
   Attn: Legal Dept.
   One Sansome St., 40th Floor
   San Francisco, CA 94104

Commissioner of Commerce Steve Kelley (hereinafter “Commissioner”) has determined as follows:

1. ContextLogic Inc. (d/b/a Wish), (hereinafter “Respondent”) is a company doing business in the State of Minnesota pursuant to Minnesota Statutes chapter 325F.

2. Pursuant to Minnesota Statutes section 325F.13, no person shall sell, expose for sale, deliver, give away, possess, or introduce or deliver for introduction into commerce any hazardous toy or article intended to be used by a child or banned hazardous toy or article intended to be used by a child.

3. Pursuant to Minnesota Statutes section 325F.10, the Commissioner shall ban from sale or distribution any toy or article intended for use by children that presents any of the hazards set out in Minnesota Statutes section 325F.08.

4. Minnesota Administrative Rules 2630.0500 states if the Commissioner determines that an immediate danger exists to the public health and safety, which is caused by a toy that presents an electrical, mechanical, or thermal hazard or a toy that presents a hazard due to toxic or flammable properties or properties able to produce asphyxiation or suffocation, the Commissioner may issue and cause to be served upon the manufacturer, importer, or dealer a temporary order banning the manufacture, importation, sale, or distribution of such toy. The order shall be served by registered or certified mail and shall be calculated to give reasonable notice of the time and place for a hearing thereon and shall state the reasons for the entry of the temporary order. The hearing shall be held no later than ten days after the issuance of the temporary order, after which and within ten days of the date of the hearing the commissioner shall issue a further order either vacating, modifying, or continuing the order.
On November 22, 2019, the Commissioner received the complete, attached test results from the Minnesota Pollution Control Agency (MPCA) indicating that the following “Hazardous Products,” purchased on ContextLogic Inc, (d/b/a Wish) contained high levels of lead and cadmium:

a. Hell Kerbecs BB-99, sold by AK110, brand generic; 240 total ppm lead / 62 total ppm cadmium;

b. Diablo Nemesis BB-122, sold by AK110, brand Rapidity; 330 total ppm lead / 110 total ppm cadmium;

c. Big Bang Pegasus BB-105, sold by dsgbsrtjnatrjg, brand Top Set Rapidity; 310 total ppm lead / 93 total ppm cadmium; and

d. Rock Leone BB-30, sold by News shopping mimi, brand generic; 310 total ppm lead / 250 total ppm cadmium

Pursuant to Minnesota Statutes section 325F.13, the Commissioner has the authority and obligation to ban hazardous toys.

Respondent’s continued sale and distribution of Hazardous Products is hazardous to the buying public.

The Commissioner has jurisdiction over the subject matter.

The Commissioner acknowledges that sufficient grounds exist for the prohibition, distribution and sale of Hazardous Products.

Sufficient grounds exist for the Commissioner to effectuate this notice and order for Prohibition of sale, and distribution of Hazardous Products. The Commissioner has discretion to effectuate this order and enforce any seizure of the product if the company does not stop selling and distributing the Hazardous Products immediately pursuant to 325F.135 and 325F.14.

The following Order is in the public interest.

NOW, THEREFORE, IT IS HEREBY ORDERED:

A. Effective immediately, Respondent will stop distributing and selling Hazardous Products described above in paragraph 5 (a – d). In compliance with this order, within one day from the date of this order, Respondent will remove the Hazardous Product listings from their website and cease fulfilling orders of the Hazardous Products listed above in paragraph 5 (a – d); or provide a prominently displayed disclaimer on the Hazardous Products advertisement stating, “This product is prohibited for
sale or purchase by consumers in the state of Minnesota due to toxic levels of lead and cadmium” and update the Company’s information technology systems to stop the shipment of these products to consumers in Minnesota in accordance with Minnesota Administrative Rules 2630.1500.

B. Within 15 days, Respondent will repurchase Hazardous Products from buyers in the manner pursuant to Minnesota Statutes section 325F.12.

C. That Respondent shall be responsible for Administrative Supervision expenses. It will reimburse the Department of Commerce for reasonable expenses of Administrative Supervision, and shall pay directly any contractors retained by the Commissioner for assistance with Administrative Supervision.

D. Respondent shall cooperate with and facilitate the presence and work of the Commissioner, his Deputy Supervisor, examiners, staff or other designees. Respondent shall allow the Commissioner or other designees of the Commissioner complete and unrestricted access to all offices maintained, and documents pursuant to Minnesota Statutes section 325F.15.

E. The Commissioner reserves all rights under Minnesota Statutes chapter 325F and Minnesota Administrative Rules 2630.

F. The Commissioner reserves all rights under Minnesota Statutes 45.027.

IT IS FURTHER ORDERED, that this Order shall remain in effect until otherwise amended or terminated by the Commissioner.

This Order shall be effective upon signature by or on behalf of the Commissioner.

DATE: November 26, 2019

By: 

STEVE KELLEY
Commissioner

November 26, 2019

November 26, 2019

November 26, 2019
RIGHT TO A HEARING

1. Respondent is entitled to a hearing to contest this order pursuant to Minnesota Administrative Rules 2630.0500.

2. The hearing will be held on Friday, December 6, 2019 at 11:00 at the Minnesota Department of Commerce 85 7th Place East, Suite 280, St. Paul MN 55101 at 11:00 a.m. (CST).

3. Please contact Kathleen Finnegan, General Counsel at: kathleen.finnegan@state.mn.us or 651-539-1450 for further hearing details.
STATE OF MINNESOTA
COMMISSIONER OF COMMERCE

NOTICE AND ORDER OF TEMPORARY
SALES AND DISTRIBUTION BAN
OF HAZARDOUS TOY

BY ORDER OF THE COMMISSIONER

To: Amazon.com, Inc.
Attn: Tim Kozik
2021 – 7th Ave.
Seattle, WA 98121

Commissioner of Commerce Steve Kelley (hereinafter “Commissioner”) has determined as follows:

1. Amazon.com, Inc. (hereinafter “Respondent”) is a company doing business in the State of Minnesota pursuant to Minnesota Statutes chapter 325F.

2. Pursuant to Minnesota Statutes section 325F.13, no person shall sell, expose for sale, deliver, give away, possess, or introduce or deliver for introduction into commerce any hazardous toy or article intended to be used by a child or banned hazardous toy or article intended to be used by a child.

3. Pursuant to Minnesota Statutes section 325F.10, the Commissioner shall ban from sale or distribution any toy or article intended for use by children that presents any of the hazards set out in Minnesota Statutes section 325F.08.

4. Minnesota Administrative Rules 2630.0500 states if the Commissioner determines that an immediate danger exists to the public health and safety, which is caused by a toy that presents an electrical, mechanical, or thermal hazard or a toy that presents a hazard due to toxic or flammable properties or properties able to produce asphyxiation or suffocation, the Commissioner may issue and cause to be served upon the manufacturer, importer, or dealer a temporary order banning the manufacture, importation, sale, or distribution of such toy. The order shall be served by registered or certified mail and shall be calculated to give reasonable notice of the time and place for a hearing thereon and shall state the reasons for the entry of the temporary order. The hearing shall be held no later than ten days after the issuance of the temporary order, after which and within ten days of the date of the hearing the commissioner shall issue a further order either vacating, modifying, or continuing the order.
On November 22, 2019, the Commissioner received the complete, attached test results from the Minnesota Pollution Control Agency (MPCA) indicating that the following “Hazardous Products,” purchased on Amazon.com, contained high levels of lead and cadmium:

a. Hades Kerbecs BB-99, sold by HUSTORE, brand generic; 370 total ppm lead / 700 total ppm cadmium;
b. Diablo Nemesis BB-122, sold by appcom, brand Top Set Rapidity; 360 total ppm lead / 100 total ppm cadmium;
c. Big Bang Pegasus BB-105, sold by JKC KIDS, brand generic; 300 total ppm lead / 160 total ppm cadmium; and
d. Rock Leone BB-30, sold by 19TFDOG, brand generic; 560 total ppm lead / 95 total ppm cadmium.

Pursuant to Minnesota Statutes section 325F.13, the Commissioner has the authority and obligation to ban hazardous toys.

Respondent’s continued sale and distribution of Hazardous Products is hazardous to the buying public.

The Commissioner has jurisdiction over the subject matter.

The Commissioner acknowledges that sufficient grounds exist for the prohibition, distribution and sale of Hazardous Products.

Sufficient grounds exist for the Commissioner to effectuate this notice and order for Prohibition of sale, and distribution of Hazardous Products. The Commissioner has discretion to effectuate this order and enforce any seizure of the product if the company does not stop selling and distributing the Hazardous Products immediately pursuant to 325F.135 and 325F.14.

The following Order is in the public interest.

NOW, THEREFORE, IT IS HEREBY ORDERED:

A. Effective immediately, Respondent will stop distributing and selling Hazardous Products described above in paragraph 5 (a – d). In compliance with this order, within one day from the date of this order, Respondent will remove the Hazardous Product listings from their website and cease fulfilling orders of the Hazardous Products listed above in paragraph 5 (a – d); or provide a prominently displayed disclaimer on the Hazardous Products advertisement stating, “This product is prohibited for
sale or purchase by consumers in the state of Minnesota due to toxic levels of lead and cadmium” and update the Company’s information technology systems to stop the shipment of these products to consumers in Minnesota in accordance with Minnesota Administrative Rules 2630.1500.

B. Within 15 days, Respondent will repurchase Hazardous Products from buyers in the manner pursuant to Minnesota Statutes section 325F.12.

C. That Respondent shall be responsible for Administrative Supervision expenses. It will reimburse the Department of Commerce for reasonable expenses of Administrative Supervision, and shall pay directly any contractors retained by the Commissioner for assistance with Administrative Supervision.

D. Respondent shall cooperate with and facilitate the presence and work of the Commissioner, his Deputy Supervisor, examiners, staff or other designees. Respondent shall allow the Commissioner or other designees of the Commissioner complete and unrestricted access to all offices maintained, and documents pursuant to Minnesota Statutes section 325F.15.

E. The Commissioner reserves all rights under Minnesota Statutes chapter 325F and Minnesota Administrative Rules 2630.

F. The Commissioner reserves all rights under Minnesota Statutes 45.027.

**IT IS FURTHER ORDERED,** that this Order shall remain in effect until otherwise amended or terminated by the Commissioner.

This Order shall be effective upon signature by or on behalf of the Commissioner.

**DATE: November 26, 2019**

By: [Signature]

STEVE KELLEY
Commissioner
RIGHT TO A HEARING

1. Respondent is entitled to a hearing to contest this order pursuant to Minnesota Administrative Rules 2630.0500.

2. The hearing will be held on Friday, December 6, 2019 at Minnesota Department of Commerce 85 7th Place East, Suite 280, St. Paul MN 55101 at 11:00 a.m. (CST).

3. Please contact Kathleen Finnegan, General Counsel at: kathleen.finnegan@state.mn.us or 651-539-1450 for further hearing details.
STATE OF MINNESOTA
COMMISSIONER OF COMMERCE

NOTICE AND ORDER OF TEMPORARY
SALES AND DISTRIBUTION BAN
OF HAZARDOUS TOY

BY ORDER OF THE COMMISSIONER

To: AliExpress
   Attn: Legal/Compliance
   400 South El Camino Real
   Suite 400
   San Mateo, CA 94402

Commissioner of Commerce Steve Kelley (hereinafter “Commissioner”) has determined as follows:

1. AliExpress (hereinafter “Respondent”) is a company doing business in the State of Minnesota pursuant to Minnesota Statutes chapter 325F.

2. Pursuant to Minnesota Statutes section 325F.13, no person shall sell, expose for sale, deliver, give away, possess, or introduce or deliver for introduction into commerce any hazardous toy or article intended to be used by a child or banned hazardous toy or article intended to be used by a child.

3. Pursuant to Minnesota Statutes section 325F.10, the Commissioner shall ban from sale or distribution any toy or article intended for use by children that presents any of the hazards set out in Minnesota Statutes section 325F.08.

4. Minnesota Administrative Rules 2630.0500 states if the Commissioner determines that an immediate danger exists to the public health and safety, which is caused by a toy that presents an electrical, mechanical, or thermal hazard or a toy that presents a hazard due to toxic or flammable properties or properties able to produce asphyxiation or suffocation, the Commissioner may issue and cause to be served upon the manufacturer, importer, or dealer a temporary order banning the manufacture, importation, sale, or distribution of such toy. The order shall be served by registered or certified mail and shall be calculated to give reasonable notice of the time and place for a hearing thereon and shall state the reasons for the entry of the temporary order. The hearing shall be held no later than ten days after the issuance of the temporary order, after which and within ten days of the
date of the hearing the commissioner shall issue a further order either vacating, modifying, or continuing the order.

5. On November 22, 2019, the Commissioner received the complete, attached test results from the Minnesota Pollution Control Agency (MPCA) indicating that the following “Hazardous Products,” purchased on AliExpress, contained high levels of lead and cadmium:

a. Hell Kerbecs BB-99, sold by Better Life Club, brand Top Set Rapidity; 520 total ppm lead / 330 total ppm cadmium;

b. Big Bang Pegasus BB-105, sold by Better Life Club, brand Top Set Rapidity; 350 total ppm lead / 260 total ppm cadmium;

c. Meteo L-Drago BB-88, sold by Better Life Club, brand Top Set Rapidity; 340 total ppm lead / 240 total ppm cadmium;

d. Nightmare Rex (no BB identifier), sold by Better Life Club, brand Top Set Rapidity; 210 total ppm lead / 70 total ppm cadmium;

e. L-Drago Destroy BB-108, sold by Better Life Club, brand Top Set Rapidity; 590 total ppm lead / 170 total ppm cadmium;

f. Blitz Unicorn BB-117, sold by Better Life Club, brand Top Set Rapidity; 240 total ppm lead / 61 total ppm cadmium; and

g. Screw Lyra BB-116B, sold by Better Life Club, brand Top Set Rapidity; 450 total ppm lead / 410 total ppm cadmium.

6. Pursuant to Minnesota Statutes section 325F.13, the Commissioner has the authority and obligation to ban hazardous toys.

7. Respondent’s continued sale and distribution of Hazardous Products is hazardous to the buying public.

8. The Commissioner has jurisdiction over the subject matter.

9. The Commissioner acknowledges that sufficient grounds exist for the prohibition, distribution and sale of Hazardous Products.

10. Sufficient grounds exist for the Commissioner to effectuate this notice and order for Prohibition of sale, and distribution of Hazardous Products. The Commissioner has discretion to effectuate this order and enforce any seizure of the product if the company does not stop selling and distributing the Hazardous Products immediately pursuant to 325F.135 and 325F.14.

11. The following Order is in the public interest.

NOW, THEREFORE, IT IS HEREBY ORDERED:

A. Effective immediately, Respondent will stop distributing and selling Hazardous Products described above in paragraph 5 (a – g). In compliance with this order, within one day from the date of
this order, Respondent will remove the Hazardous Product listings from their website and cease fulfilling orders of the Hazardous Products listed above in paragraph 5 (a – g); or provide a prominently displayed disclaimer on the Hazardous Products advertisement stating, “This product is prohibited for sale or purchase by consumers in the state of Minnesota due to toxic levels of lead and cadmium” and update the Company’s information technology systems to stop the shipment of these products to consumers in Minnesota in accordance with Minnesota Administrative Rules 2630.1500.

B. Within 15 days, Respondent will repurchase Hazardous Products from buyers in the manner pursuant to Minnesota Statutes section 325F.12.

C. That Respondent shall be responsible for Administrative Supervision expenses. It will reimburse the Department of Commerce for reasonable expenses of Administrative Supervision, and shall pay directly any contractors retained by the Commissioner for assistance with Administrative Supervision.

D. Respondent shall cooperate with and facilitate the presence and work of the Commissioner, his Deputy Supervisor, examiners, staff or other designees. Respondent shall allow the Commissioner or other designees of the Commissioner complete and unrestricted access to all offices maintained, and documents pursuant to Minnesota Statutes section 325F.15.

E. The Commissioner reserves all rights under Minnesota Statutes chapter 325F and Minnesota Administrative Rules 2630.

F. The Commissioner reserves all rights under Minnesota Statutes 45.027.

**IT IS FURTHER ORDERED,** that this Order shall remain in effect until otherwise amended or terminated by the Commissioner.

This Order shall be effective upon signature by or on behalf of the Commissioner.

DATE: **November 26, 2019**

By: [Signature]

STEVE KELLEY
Commissioner
1. Respondent is entitled to a hearing to contest this order pursuant to Minnesota Administrative Rules 2630.0500.

2. The hearing will be held on Friday, December 6, 2019 at the Minnesota Department of Commerce 85 7th Place East, Suite 280, St. Paul MN 55101 at 11:00 a.m. (CST).

3. Please contact Kathleen Finnegan, General Counsel at: kathleen.finnegan@state.mn.us or 651-539-1450 for further hearing details.
STATE OF MINNESOTA  
COMMISSIONER OF COMMERCE  

ORDER BANNING SALES AND DISTRIBUTION OF HAZARDOUS TOYS  

To: Amazon.com, Inc  
Attn: Legal/Compliance  
410 Terry Avenue North  
Seattle, WA 98109-5210 U.S.A.  
regulatory-inquiries@amazon.com  

Commissioner of Commerce Steve Kelley has determined as follows:  

1. On November 26, 2019, the Commissioner served Respondent Amazon.com, Inc. with a temporary order banning the sales and distribution of hazardous toys, which is attached as Exhibit A and incorporated herein.  

2. The temporary order banned Amazon.com, Inc. from selling or distributing the following hazardous toys, which contained high levels of lead and cadmium, purchased from Amazon.com, Inc:  
   a. Hades Kerbecs BB-99, sold by HUSTORE, brand generic; 370 total ppm lead / 700 total ppm cadmium;  
   b. Diablo Nemesis BB-122, sold by appcom, brand Top Set Rapidity; 360 total ppm lead / 100 total ppm cadmium;  
   c. Big Bang Pegasus BB-105, sold by JKC KIDS, brand generic; 300 total ppm lead / 160 total ppm cadmium; and  
   d. Rock Leone BB-30, sold by 19TFDOG, brand generic; 560 total ppm lead / 95 total ppm cadmium.  

3. Respondent has been cooperating with the Commissioner to comply with the temporary order and promptly removed the hazardous toys from its website in compliance with the temporary order.  

4. Pursuant to section 325F.10 of the Minnesota Statutes, the Commissioner has the authority and obligation to ban hazardous toys.  

5. The Commissioner has jurisdiction over the subject matter.
6. Sufficient grounds exist to prohibit the distribution and sale of the specified hazardous toys.

7. Sufficient grounds exist for the Commissioner to effectuate this order. Pursuant to sections 325F.10 and 325F.14, the Commissioner has discretion to effectuate this order and enforce any seizure of the product if Respondent continues to sell or distribute the hazardous products.

8. Respondent has waived its right to a hearing on this matter under Minnesota Rule 2630.0500.

9. Respondent has agreed to continue the temporary order as modified below.

10. This order is in the public interest.

NOW, THEREFORE, IT IS HEREBY ORDERED THAT:

A. The order of temporary sales and distribution ban of hazardous toys attached as Exhibit A is continued as modified herein.

B. Respondent shall not distribute or sell the hazardous toys described in paragraph 2. Respondent shall update its information technology systems to stop the shipment of these products to consumers in Minnesota. Respondent will remove any of these products that evade its controls within 48 hours of receiving notice from the Department of Commerce.

C. Respondent shall directly contact all customers who purchased the hazardous toys specified in paragraph 2 and provide customers with a full refund of the price of the product on or before December 13, 2019. Respondent shall provide to the Department evidence of compliance with this provision on or before December 20, 2019.

D. Respondent shall continue to cooperate with the Commissioner, his staff or other designees.

E. The Commissioner reserves all rights under chapters 45 and 325F of the Minnesota Statutes and Minnesota Rules 2630.

This order shall be effective upon signature by or on behalf of the Commissioner.

DATE: December 6, 2019

By: 

STEVE KELLEY
Commissioner
November 26, 2019

Amazon.com, Inc.
Corporation Service Company
Attn: Legal Department – Legal Process
300 Deschutes Way SW, Suite 304
Tumwater, WA 98501

Amazon.com, Inc.
Attn: Attorney Tim Kozik
2021 – 7th Ave.
Seattle, WA 98121

RE: File #60535; Minnesota Safe Toys Act Investigation – Beyblades / spinning battle toys banned from sale in Minnesota

Dear CSC and Attorney Kozik,

The Minnesota Department of Commerce hereby serves upon you, as national registered agent for Amazon.com, the attached detailed letter with enclosures and Temporary Order of Commissioner regarding the above-entitled matter. The Department welcomes any phone calls or emails to discuss this matter.

Sincerely,

Kathleen Finnegan
General Counsel
651-539-1450

cc: Letter with enclosures
    Temporary Order of Commissioner

85 7th Place East - Suite 280 - Saint Paul, MN 55101 | P: 651-539-1500 | F: 651-539-1547
mn.gov/commerce
An equal opportunity employer
November 26, 2019

Amazon.com, Inc.
Attn: Attorney Tim Kozik
2021 – 7th Ave.
Seattle, WA 98121

RE: File #60535; Minnesota Safe Toys Act Investigation – Beyblades / spinning battle toys banned from sale in Minnesota

Dear Mr. Kozik,

The Minnesota Department of Commerce is conducting an investigation under Minnesota’s Safe Toys Act (Minn. Stat. §§ 325F.08 – 325F.17) involving products sold on Amazon.com. This investigation is being conducted in conjunction with the Minnesota Pollution Control Agency (MPCA) and the Minnesota Department of Health (MDH).

The Safe Toys Act provides that, “no person, firm, corporation, association or agent or employee thereof shall import, manufacture, sell, hold for sale or distribute a toy or other article intended for use by a child which presents an electrical, mechanical or thermal hazard or presents a hazard due to toxic, or flammable properties or properties able to produce asphyxiation or suffocation.” Minn. Stat. § 325F.08. The products listed below (“Hazardous Products”) were purchased on amazon.com, have been identified as presenting a toxic hazard to children, and are hereby banned from sale in Minnesota:

1. Hades Kerbecs BB-99, sold by HUSTORE, brand generic; 370 total ppm lead / 700 total ppm cadmium
2. Diablo Nemesis BB-122, sold by appcom, brand Top Set Rapidity; 360 total ppm lead / 100 total ppm cadmium
3. Big Bang Pegasus BB-105, sold by JKC KIDS, brand generic; 300 total ppm lead / 160 total ppm cadmium
4. Rock Leone BB-30, sold by 19TFDOG, brand generic; 560 total ppm lead / 95 total ppm cadmium

Letters from MPCA regarding test results for the Hazardous Products are attached for your reference, along with MDH literature regarding the health risks posed by cadmium and lead.

85 7th Place East - Suite 280 - Saint Paul, MN 55101 | P: 651-539-1500 | F: 651-539-1547
mn.gov/commerce
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The Department has authority under Minn. Stat. § 325F.10 and Minn. R. 2630.0500, to ban from sale or distribution in this state any hazardous toy or other article intended for use by children under 14 years of age. The Commissioner has issued a temporary order banning the sale of the Hazardous Products in Minnesota, as they pose an immediate danger to public health and safety. Per Minn. R. 2630.0500, Subp. 2, "A hearing shall be held no later than ten days after the issuance of the temporary order, after which and within ten days of the date of the hearing, the commissioner shall issue a further order either vacating, modifying, or continuing the order." Details regarding the hearing can be found in the attached order. The Department, MDH, and MPCA will also issue a press release and consumer alert about the ban and the banned products.

To further our efforts in protecting Minnesota children under the Safe Toys Act, please provide the full legal name, mailing address and email address for sellers HUSTORE, appcom, JKC KIDS, and 19TFDOG, within 24 hours of receipt of this letter.

You may provide this information via email to anne.gathje@state.mn.us, as well as documentation that Amazon has taken affirmative steps to comply with the terms of the attached order.

In addition, pursuant to Minn. Stat. § 325F.15, the Department hereby requests copies of the following records in effect, created, recorded, compiled, transmitted, or received from November 26, 2016 to the present date, related to the above-referenced Hazardous Products:

1. all invoices, purchase orders, sales reports, sales data (including returns), and transaction records, for all sales of the Hazardous Products delivered to a Minnesota address.

The Department requires these records be sent to my attention via email or other electronic form no later than December 11, 2019. Enclosed with this letter is a copy of the State’s data practices notice, known as the Tennessen Warning.

Please note, the Department welcomes any phone calls or emails to discuss this matter. If you wish to schedule a time to talk with myself and our Audit Director, Jacqueline Olson, please send me an email to schedule a call.

The Department appreciates your anticipated compliance with the Commissioner’s Order and looks forward to your expedited assistance to help protect Minnesota children under the Safe Toys Act.

Sincerely,

Anne Gathje
Senior Investigator, Enforcement Division
651-539-4066 / anne.gathje@state.mn.us

Encl: Tennessen Warning; temporary order banning Hazardous Products dated November 26, 2019; MPCA letters regarding Hazardous Product test results; MDH literature regarding the health risks of cadmium and lead
The Commissioner of Commerce is requesting that you supply data about yourself which may be classified as private or confidential under the Minnesota Government Data Practices Act and before asking you to supply private or confidential data about yourself, the Commissioner is required to give you the following notice.

1. The Commissioner is asking you to provide data about yourself as part of an investigation that the Commissioner is authorized by state law to conduct. The data you are being asked to supply will be used to determine whether any statute, rule, or order the Commissioner is authorized to investigate, enforce, or administer has been, is being, or is about to be violated.

2. Minnesota Statute § 45.027 requires that you provide the data the Commissioner is requesting about you unless you claim the privilege against self-incrimination as grounds for refusing to supply the requested data. If you supply the data requested the data may be used in a disciplinary proceeding or other legal action.

3. If you refuse to supply the data requested:
   i. The Commissioner may compel you to supply the data requested under the authority granted to the Commissioner in Minnesota Statute § 45.027.
   ii. If you are an individual subject to the jurisdiction of the Commissioner under the laws the Commissioner is responsible for administering and enforcing, the Commissioner may take disciplinary or other action against you for failure to cooperate with an investigation, unless you claimed the privilege against self-incrimination as grounds for refusing to supply the requested data.
   iii. If you claimed the privilege against self-incrimination as the grounds for refusing to supply the requested data, the Commissioner may compel you to supply the data requested.

4. The data you supply may be released to:
   a. personnel employed or under contract by the Department of Commerce who will investigate whether any statute, rule, or order administered or enforced by the Commissioner has been, is being, or is about to be violated;
   b. any appropriate person or agency, if the Commissioner of Commerce determines that failure to make the data accessible is likely to create a clear and present danger to public health or safety;
   c. the Legislative Auditor pursuant to Minnesota Statute § 3.978;
   d. any person authorized by a court order; or
   e. any other person including another law enforcement agency authorized by state or federal law.

85 7th Place East - Suite 280 - Saint Paul, MN 55101 | P: 651-539-1500 | F: 651-539-1547
mn.gov/commerce
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BY ORDER OF THE COMMISSIONER

To: Amazon.com, Inc.
Attn: Tim Kozik
2021 – 7th Ave.
Seattle, WA 98121

Commissioner of Commerce Steve Kelley (hereinafter “Commissioner”) has determined as follows:

1. Amazon.com, Inc. (hereinafter “Respondent”) is a company doing business in the State of Minnesota pursuant to Minnesota Statutes chapter 325F.

2. Pursuant to Minnesota Statutes section 325F.13, no person shall sell, expose for sale, deliver, give away, possess, or introduce or deliver for introduction into commerce any hazardous toy or article intended to be used by a child or banned hazardous toy or article intended to be used by a child.

3. Pursuant to Minnesota Statutes section 325F.10, the Commissioner shall ban from sale or distribution any toy or article intended for use by children that presents any of the hazards set out in Minnesota Statutes section 325F.08.

4. Minnesota Administrative Rules 2630.0500 states if the Commissioner determines that an immediate danger exists to the public health and safety, which is caused by a toy that presents an electrical, mechanical, or thermal hazard or a toy that presents a hazard due to toxic or flammable properties or properties able to produce asphyxiation or suffocation, the Commissioner may issue and cause to be served upon the manufacturer, importer, or dealer a temporary order banning the manufacture, importation, sale, or distribution of such toy. The order shall be served by registered or certified mail and shall be calculated to give reasonable notice of the time and place for a hearing thereon and shall state the reasons for the entry of the temporary order. The hearing shall be held no later than ten days after the issuance of the temporary order, after which and within ten days of the date of the hearing the commissioner shall issue a further order either vacating, modifying, or continuing the order.
5. On November 22, 2019, the Commissioner received the complete, attached test results from the Minnesota Pollution Control Agency (MPCA) indicating that the following “Hazardous Products,” purchased on Amazon.com, contained high levels of lead and cadmium:

   a. Hades Kerbecs BB-99, sold by HUSTORE, brand generic; 370 total ppm lead / 700 total ppm cadmium;
   b. Diablo Nemesis BB-122, sold by appcom, brand Top Set Rapidity; 360 total ppm lead / 100 total ppm cadmium;
   c. Big Bang Pegasus BB-105, sold by JKC KIDS, brand generic; 300 total ppm lead / 160 total ppm cadmium; and
   d. Rock Leone BB-30, sold by 19TFDOG, brand generic; 560 total ppm lead / 95 total ppm cadmium.

6. Pursuant to Minnesota Statutes section 325F.13, the Commissioner has the authority and obligation to ban hazardous toys.

7. Respondent’s continued sale and distribution of Hazardous Products is hazardous to the buying public.

8. The Commissioner has jurisdiction over the subject matter.

9. The Commissioner acknowledges that sufficient grounds exist for the prohibition, distribution and sale of Hazardous Products.

10. Sufficient grounds exist for the Commissioner to effectuate this notice and order for Prohibition of sale, and distribution of Hazardous Products. The Commissioner has discretion to effectuate this order and enforce any seizure of the product if the company does not stop selling and distributing the Hazardous Products immediately pursuant to 325F.135 and 325F.14.

11. The following Order is in the public interest.

NOW, THEREFORE, IT IS HEREBY ORDERED:

A. Effective immediately, Respondent will stop distributing and selling Hazardous Products described above in paragraph 5 (a – d). In compliance with this order, within one day from the date of this order, Respondent will remove the Hazardous Product listings from their website and cease fulfilling orders of the Hazardous Products listed above in paragraph 5 (a – d); or provide a prominently displayed disclaimer on the Hazardous Products advertisement stating, “This product is prohibited for
sale or purchase by consumers in the state of Minnesota due to toxic levels of lead and cadmium" and update the Company’s information technology systems to stop the shipment of these products to consumers in Minnesota in accordance with Minnesota Administrative Rules 2630.1500.

B. Within 15 days, Respondent will repurchase Hazardous Products from buyers in the manner pursuant to Minnesota Statutes section 325F.12.

C. That Respondent shall be responsible for Administrative Supervision expenses. It will reimburse the Department of Commerce for reasonable expenses of Administrative Supervision, and shall pay directly any contractors retained by the Commissioner for assistance with Administrative Supervision.

D. Respondent shall cooperate with and facilitate the presence and work of the Commissioner, his Deputy Supervisor, examiners, staff or other designees. Respondent shall allow the Commissioner or other designees of the Commissioner complete and unrestricted access to all offices maintained, and documents pursuant to Minnesota Statutes section 325F.15.

E. The Commissioner reserves all rights under Minnesota Statutes chapter 325F and Minnesota Administrative Rules 2630.

F. The Commissioner reserves all rights under Minnesota Statutes 45.027.

IT IS FURTHER ORDERED, that this Order shall remain in effect until otherwise amended or terminated by the Commissioner.

This Order shall be effective upon signature by or on behalf of the Commissioner.

DATE: November 26, 2019

By: ____________________________

STEVE KELLEY
Commissioner
RIGHT TO A HEARING

1. Respondent is entitled to a hearing to contest this order pursuant to Minnesota Administrative Rules 2630.0500.

2. The hearing will be held on Friday, December 6, 2019 at Minnesota Department of Commerce 85 7th Place East, Suite 280, St. Paul MN 55101 at 11:00 a.m. (CST).

3. Please contact Kathleen Finnegan, General Counsel at: kathleen.finnegan@state.mn.us or 651-539-1450 for further hearing details.
Dear Commissioner Kelley:

Due to consumer and health agency concerns, the Chemicals in Products Interagency Team (CPIT) conducted a project in 2019 to test Beyblades-style children's spinning battle toys for lead and cadmium, two neurotoxic and sometimes deadly metals. We are requesting that Commerce follow up with sellers of several toys for which lab analysis showed levels of concern to MPCA and MDH for lead and/or cadmium.

The toy that is the subject of this letter:

- **Beyblades character:** Hades Kerbecs (identifier BB-99)
- **Purchase location:** Amazon.com
- **Purchase date:** May 14, 2019
- **Sold by:** HUSTORE
- **Brand:** none/generic
- **Other description provided:** "Not the Takara Tomy"
  "You will receive item in poly wrap and protective shipping box"
- **Shipped from:** LWP-EC
  room908 longxing building songyu’rd
  songgang Baoan District
  Shenzhen City Guangdong Province 518000
  China

MPCA sent the metal portion of the toy to Legend Technical Services in St. Paul, Minnesota for analysis.

Legend conducted total metals analysis of the metal portion as directed by ASTM F963 Standard.
Consumer Safety Specification for Toy Safety, finding total lead at 370 parts per million (PPM), and total cadmium at 700 PPM. “Totals” testing determines concentrations by weight throughout the component, including its coating layer. For comparison, in many children’s products lead is limited to 90 PPM and cadmium to 75 PPM.

At MPCA’s direction, Legend then scraped off the coating layer (apparently paint) and tested it separately, again using ASTM-963 total metals analysis. Results were 200 PPM lead and 380 PPM cadmium, suggesting that both metals are readily available to be breathed or ingested by children as dust and flakes separate from the toy when it bangs into other toys (as is intended in “battles”).

The full report from Legend Technical Services can be provided for your reference.

Thank you for your assistance.

Al Innes
Safer Product Chemistry Coordinator
Minnesota Pollution Control Agency
Dear Commissioner Kelley:

Due to consumer and health agency concerns, the Chemicals in Products Interagency Team (CPIT) conducted a project in 2019 to test Beyblades-style children's spinning battle toys for lead and cadmium, two neurotoxic and sometimes deadly metals. We are requesting that Commerce follow up with sellers of several toys for which lab analysis showed levels of concern to MPCA and MDH for lead and/or cadmium.

The toy that is the subject of this letter:

- **Beyblades character:** Diablo Nemesis (identifier BB-122)
- **Purchase location:** Amazon.com
- **Purchase date:** May 14, 2019
- **Sold by:** appcom
- **Brand:** Top Set Rapidity
- **Other description provided:** None
- **Shipped from:** Not available

MPCA sent the metal portion of the toy to Legend Technical Services in St. Paul, Minnesota for analysis.

Legend conducted total metals analysis of the metal portion as directed by ASTM F963 Standard.
Consumer Safety Specification for Toy Safety, finding total lead at 360 parts per million (PPM), and total cadmium at 100 PPM. “Totals” testing determines concentrations by weight throughout the component, including its coating layer. For comparison, in many children’s products lead is limited to 100 or 90 PPM, and cadmium to 75 PPM.

At MPCA’s direction, Legend then attempted to remove the coating layer (apparently electroplated) and test it separately, again using ASTM-963 total metals analysis. They were unable to generate a sample, however, some very small fragments did come off. This suggests that both metals may be readily available to be breathed or ingested by children as dust or flakes separate from the toy when it bangs into other toys (as is intended in “battles”).

The full report from Legend Technical Services can be provided for your reference.

Thank you for your assistance.

[Signature]

Al Innes
Safer Product Chemistry Coordinator
Minnesota Pollution Control Agency
Dear Commissioner Kelley:

Due to consumer and health agency concerns, the Chemicals in Products Interagency Team (CPIT) conducted a project in 2019 to test Beyblades-style children's spinning battle toys for lead and cadmium, two neurotoxic and sometimes deadly metals. We are requesting that Commerce follow up with sellers of several toys for which lab analysis showed levels of concern to MPCA and MDH for lead and/or cadmium.

The toy that is the subject of this letter:

Beyblades character:  Big Bang Pegasus (identifier BB-105)
Purchase location:  Amazon.com
Purchase date:  May 14, 2019
Sold by:  JKC KIDS
Brand:  Generic
Other description provided:  JKC Battling Pegasus / Big Bang Pegasis F:D 4D System BB105 With Launcher Metal Fusion battling top Game Power Launcher (Black Wire) +Grip
Shipped from:  Not available

MPCA sent the metal portion of the toy to Legend Technical Services in St. Paul, Minnesota for analysis.

Legend conducted total metals analysis of the metal portion as directed by ASTM F963 Standard.
Consumer Safety Specification for Toy Safety, finding total lead at 300 parts per million (PPM), and total cadmium at 160 PPM. "Totals" testing determines concentrations by weight throughout the component, including its coating layer. For comparison, in many children's products lead is limited to 100 or 90 PPM, and cadmium to 75 PPM.

At MPCA's direction, Legend then attempted to remove the coating layer (apparently electroplated) and test it separately, again using ASTM-963 total metals analysis. They were unable to generate a sample, however, some very small fragments did come off. This suggests that both metals may be readily available to be breathed or ingested by children as dust or flakes separate from the toy when it bangs into other toys (as is intended in "battles").

The full report from Legend Technical Services can be provided for your reference.

Thank you for your assistance.

Al Innes
Safer Product Chemistry Coordinator
Minnesota Pollution Control Agency
November 22, 2019

Dear Commissioner Kelley:

Due to consumer and health agency concerns, the Chemicals in Products Interagency Team (CPIT) conducted a project in 2019 to test Beyblades-style children's spinning battle toys for lead and cadmium, two neurotoxic and sometimes deadly metals. We are requesting that Commerce follow up with sellers of several toys for which lab analysis showed levels of concern to MPCA and MDH for lead and/or cadmium.

The toy that is the subject of this letter:

Beyblades character: Rock Leone (identifier BB-30)
Purchase location: Amazon.com
Purchase date: May 14, 2019
Sold by: 19TFDOG
Brand: Generic
Other description provided: Toys BB30 Rock Leone Metal Gyroscope Battling Tops Fusion Masters with Handle Launcher

Shipped from: zhangtengfei
ROOM 902 LONGXING BUILDING
SONGYU’RD SONGGANG Baoan District
Shenzhen City Guangdong Province
518000
China

MPCA sent the metal portion of the toy to Legend Technical Services in St. Paul, Minnesota for analysis.

Legend conducted total metals analysis of the metal portion as directed by ASTM F963 Standard.
Consumer Safety Specification for Toy Safety, finding total lead at 560 parts per million (PPM), and total cadmium at 95 PPM. “Totals” testing determines concentrations by weight throughout the component, including its coating layer. For comparison, in many children’s products lead is limited to 100 or 90 PPM, and cadmium to 75 PPM.

At MPCA’s direction, Legend then attempted to remove the coating layer (apparently electroplated) and test it separately, again using ASTM-963 total metals analysis. They were unable to generate a sample, however, some very small fragments did come off. This suggests that both metals may be readily available to be breathed or ingested by children as dust or flakes separate from the toy when it bangs into other toys (as is intended in “battles”).

The full report from Legend Technical Services can be provided for your reference.

Thank you for your assistance.

Al Innes
Safer Product Chemistry Coordinator
Minnesota Pollution Control Agency
F. Lead
CAS Number 7439-92-1

1. Overview
Lead is a soft metal that is found naturally in the earth’s crust. Before 1978, lead was frequently used in paints. Lead paint can still be found in many older residential structures. Other examples of uses of lead are in gasoline (formerly), piping, solder, coatings, glazes, leaded crystal, jewelry and toys.

Lead, a neurotoxin, is a danger for young children when it is ingested. Lead in household dust, paint chips, toys or jewelry may be ingested by young children when they chew, mouth, or swallow items or crawl on the floor and mouth their hands.

There are standards in the U.S. for the amount of lead that can be used in children’s toys, but in some cases products are not in compliance and children are exposed to lead. An example of this occurred in 2006 when a young boy in Minnesota died from acute lead poisoning after ingesting a charm that did not comply with lead standards. In 2010, the Consumer Product Safety Commission (CPSC), which is responsible for monitoring compliance with federal consumer safety product standards, made 24 recalls of infant and children’s products that contained more than permitted levels of lead. Often the recalls involved imported items, though some products were manufactured in the U.S. (Consumer Product Safety Commission [CPSC], 2010b).

Because of its toxicity, pervasiveness, and continued effect on children despite regulatory action, lead is being named a Minnesota Priority Chemical.

Further information about exposure, toxicity, and regulation are described below.

2. Exposure and Environmental Disposition
(Note: This section includes examples of exposure and environmental information. This summary is not intended to be comprehensive.)

a. Centers for Disease Control and Prevention
(1) Agency for Toxic Substances and Disease Registry (ATSDR)
People can be exposed to lead from contaminated soil, dust, drinking water that has been transported in lead pipes, and lead paint chips. Jewelry can also contain lead that can be transferred to the skin, but the skin does not absorb lead readily (Agency for Toxic Substances and Disease Registry [ATSDR], 2007). Other potential sources of exposure, particularly for infants and children, are breast milk, toys, hair dyes, cosmetics and some home remedies.

(2) National Health and Nutrition Examination Survey (NHANES)
Sources of exposure to lead can include lead paint chips, water transported in lead pipes, ceramics coated with lead-based glaze, stained glass window framing, toys and trinkets,
lead on the clothing of workers in certain occupations, lead-containing cosmetics and home remedies (Centers for Disease Control and Prevention [CDC], 2010a).

For adults, NHANES reports that blood lead levels (BLLs) have been declining over the past decade, with the U.S. adult BLLs similar or slightly lower than in other developed countries. In the 2005-2006 data, the geometric mean of the adult BLL was 1.41 μg/dL (CDC, 2010b).

For children, lead levels have also been decreasing over time. In the 2005-2006 data, the geometric mean for children age less than 5, the geometric mean was 1.46 μg/dL (CDC, 2010b) However, children with certain risk factors, such as non-white minority race, urban residence, or low family income tend to have higher BLLs (CDC, 2010a).

b. Consumer Product Safety Commission (CPSC)
In 2010, there were 24 recalls of children’s or infant products listed on the CPSC website. Some of the recalled items were children’s jewelry (CPSC, 2010b). Most, but not all, of these recalls involved materials produced outside of the U.S. At least one of the recalled products involved the need to treat a child for high lead levels (CPSC, 2010c).

c. Environmental Protection Agency (EPA)
(1) Inventory Update Reporting (IUR)
Lead was produced or imported into the U.S. at quantities of 1 billion pounds or more in the 2006 EPA Inventory Update Reporting (IUR) data (Environmental Protection Agency [EPA], 2010a). No use information was available for inorganic chemicals in this inventory, but usage information for inorganic chemicals will be required in the 2011 inventory.

(2) Toxic Release Inventory (TRI)
In 2009, there were about 14.3 million pounds of lead reportedly released to the environment in the U.S. (EPA, 2010d). In Minnesota in 2009, there were 12,973 pounds of lead released from 109 sites throughout the state (EPA, 2010c). The primary release method was disposal to off-site storage for an indefinite time and to landfills. This is an increase from the amounts reported released annually in Minnesota from 2002 - 2008, but a decrease from the peak in 1998, when 293,303 pounds of lead were released (EPA, 2010e).

d. Minnesota Department of Health (MDH)
In 2009, there were 778 children with high BLLs reported in Minnesota (Minnesota Department of Health [MDH], 2010a). While the BLLs in children have been decreasing, the goal is to eliminate this preventable condition. Lead poisoning in children often is related to ingestion of paint chips in older homes, though exposure to toys and other products containing lead can also result in lead exposure.
e. National Institutes of Health
(1) Hazardous Substances Data Bank (HSDB)
Lead has been found in wildlife (Hazardous Substances Data Bank [HSDB], 2010) and may appear in food.

Maternal milk might be a source of lead for offspring, particularly when the mother has elevated BLLs (HSDB, 2010).

(2) Household Products Database
In the Household Products Database, there are currently eight products containing lead. Six of these products are solder, one is ceramic glaze, and one is a colorant for landscaping concrete. The lead content listed for these items ranges from 0 to 100%, with some at 30-60% (National Library of Medicine [NLM], 2010). Because the Household Product Database provides information found in material safety data sheets (MSDS), if an MSDS is not required for the product, it is unlikely the product will appear this database.

3. Toxicity
(Note: This section provides examples of toxicity information from several sources. This summary is not intended to be comprehensive.)

a. Centers for Disease Control and Prevention
(1) Agency for Toxic Substances and Disease Registry (ATSDR)
Lead targets the nervous system in humans. It can result in weakness, increased blood pressure, anemia, and brain and kidney damage. High exposure levels can result in miscarriage or affect sperm production. Exposures to lead can affect development and behavior in children (ATSDR, 2007).

(2) National Health and Nutrition Exposure Survey (NHANES)
Lead can interfere with actions of nutrients, enzymes, regulatory proteins, and other physiological mechanisms in the body, as well as gene expression. Lead poisoning can result in anemia, kidney damage, seizures, abdominal pain, and neurocognitive effects (CDC, 2010a).

b. Environmental Protection Agency
(1) Integrated Risk Information System (IRIS)

(2) Office of Pollution Prevention and Toxics (OPPT)
Lead is known to be toxic to the neurological system, with manifestations of conditions such as lowered intelligence, decreased coordination, behavioral and learning problems, slowed growth, and hearing problems (EPA, 2010b).

c. National Institutes of Health
National Toxicology Program (NTP)
For carcinogenic potential, lead has been classified as: Reasonably anticipated to be a human carcinogen (National Toxicology Program [NTP], 2004).

d. World Health Organization

International Agency for Research on Cancer (IARC)

Lead is classified as a Group 2A carcinogen: Probably carcinogenic to humans (International Agency for Research on Cancer [IARC], 2006).

4. Statutory Requirements

In relation to Minn. Stat. 2010 116.9401-116.907, lead meets the following criteria:

<table>
<thead>
<tr>
<th>Statute</th>
<th>Information</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Minn. Stat. 2010 116.9401</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subd. (e)(1)</td>
<td>harm the normal development of a fetus or child or cause other developmental toxicity</td>
<td>Developmental effects</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ATSDR 2007</td>
</tr>
<tr>
<td>Subd. (e)(2)</td>
<td>cause cancer, genetic damage, or reproductive harm</td>
<td>Reproductive effects</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ATSDR 2007</td>
</tr>
<tr>
<td></td>
<td>Cancer: IARC: Probably carcinogenic to humans (Group 2A).</td>
<td>IARC 2006</td>
</tr>
<tr>
<td></td>
<td>Cancer: NTP: Reasonably anticipated to be a human carcinogen</td>
<td>NTP 2004</td>
</tr>
<tr>
<td>Subd. (e)(3)</td>
<td>disrupt the endocrine or hormone system</td>
<td>Disruption at high blood lead levels</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ATDSR 2007</td>
</tr>
<tr>
<td>Subd. (e)(4)</td>
<td>damage the nervous system, immune system, or organs, or cause other systemic toxicity</td>
<td>Neurotoxicity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ATSDR 2007</td>
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<tr>
<td></td>
<td>Kidney damage</td>
<td>ATSDR 2007</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CDC 2010a</td>
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<tr>
<td>Subd. (e)(5)</td>
<td>be persistent, bioaccumulative, and toxic;</td>
<td>(The EPA has designated lead as a PBT for the Toxic Release Inventory program.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EPA 2001</td>
</tr>
<tr>
<td>Subd. (e)(6)</td>
<td>be very persistent and very bioaccumulative</td>
<td></td>
</tr>
<tr>
<td><strong>Minn. Stat. 2010 116.9403</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subd. (a)(1):</td>
<td>has been identified as a high-production volume chemical by the United States Environmental Protection Agency</td>
<td>1 billion pounds or greater</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EPA 2010a</td>
</tr>
<tr>
<td>Subd. (2):</td>
<td>Meets any of the following criteria:</td>
<td></td>
</tr>
<tr>
<td>Subd. (a)(2)(i):</td>
<td>the chemical has been found through biomonitoring to be present in human blood, including umbilical cord blood, breast milk, urine, or other bodily tissues or fluids</td>
<td>Blood, tissue, breast milk</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ATSDR 2007</td>
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<td></td>
<td></td>
<td>CDC 2010a</td>
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<td>HSDB 2010</td>
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5. Current Regulations

a. Federal

(1) Consumer Product Safety Commission (CPSC)
Standards related to lead in children's toys have been in place for many years. In 2008, the Consumer Product Safety Improvement Act (CPSIA) lowered the limits allowable in children's toys. During a phase-in period, the allowable levels of total lead by weight for any part of a children's toy dropped from 600 ppm in February 2009 to 300 ppm in August 2009. In August 2011, the limit is scheduled to drop to 100 ppm. However, the CPSC is yet determining if the 100 ppm level is feasible. After August 2009, a limit of 90 ppm on the surface coatings on consumer products went into effect (CPSC, 2010a). There have been several recent recalls related to children's products for unacceptably high lead content.

(2) Environmental Protection Agency
In 2010, EPA enacted a rule intended to minimize potential hazards related to lead during renovation. This rule has requirements for contractors performing renovation to ensure that homeowners and tenants are informed about lead in the home. Contractors are also required to complete certification concerning knowledge of safe lead practices (MDH, 2010b). For more information, please see http://www.health.state.mn.us/divs/eh/lead/prof/pre/index.html or http://www.epa.gov/lead/pubs/lscp-press-materials.htm.

b. States
Several states have enacted regulations to reduce lead use and/or exposure. Many states have laws prohibiting certain metals from packaging and restricting lead components in automobiles and recreational equipment. Because most of these products are excluded from the requirements of Minn. Stat. 2010 116.9401-116.9407, these items are not included here.

Aside from packaging, automobile and recreational equipment-related legislation, the following information, taken from The Lowell Center for Sustainable Production, US State Chemicals Policy database at http://www.chemicalspolicy.org/chemicalspolicy.us.state.database.php, describes state-level legislation related to lead for uses that could pertain to children.
Minnesota
Year: 2007
Restricts the sale or manufacturing of any jewelry that is offered for sale in Minnesota unless the jewelry is made entirely from a Class 1, Class 2, or Class 3 material. Prohibits the sale of any jewelry as children's jewelry or body piercing jewelry represented to contain safe levels of lead, unless the jewelry meets certain requirements. (Became effective August 30 and 31, 2009)

California
Year: 2010 (Amendment)
Prohibits the manufacture or sale of any toy contaminated with any toxic substance, coated with paints and lacquers containing compounds of lead, or coated with soluble compounds of antimony, arsenic, cadmium, mercury, selenium or barium.

Year: 2006
Cal. Health & Safety Code §§ 25214.1-25214.4.2
Prohibits a person, on and after March 1, 2008, from manufacturing, shipping, selling, or offering for sale jewelry, body piercing jewelry and children's jewelry for retail sale in the state, unless it contains less than 200 or 600 parts per million of lead by weight (standard varies by material). Includes civil and criminal penalties for a person who violates the prohibitions. Specifies the testing methods and protocols for determining compliance with the prohibitions.

Year: 1997
Concerns prohibitions on the use of lead in water pipes
Prohibits the use of any pipe, pipe or plumbing fitting or fixture, solder, or flux that is not lead free (not more than 0.2% lead with respect to solder and flux and not more than 8% lead with respect to pipes and pipe fittings) in the installation or repair of any public water system or any plumbing in a facility providing water for human consumption. Prohibits the introduction into commerce of any pipe, pipe or plumbing fitting, or fixture that is not lead free. Prohibits people engaged in the business of selling plumbing supplies, except manufacturers, from selling solder or flux that is not lead free. Requires labeling of solder and flux that is not lead free.

Connecticut
Year: 2008
Requires the Commissioners of Public Health and Environmental Protection to compile a list of toxic substances and the recommended maximum amount of such toxic substances that may exist in children's products. Requires the Commissioner of Consumer Protection to compile a list of safer alternatives to using said toxic substances. Requires certain consumer products determined by the Commissioner of Consumer Protection that bear lead-containing paint or that have lead in any part of the product and that a child may
reasonably or foreseeably come into contact with, to carry a warning label. Permits the Commissioner of Consumer Protection to adopt a stricter standard than one hundred parts per million total lead content by weight for any part of a children's product if the Administrator determines that a stricter standard is feasible. Permits the Commissioner of Environmental Protection to participate in an interstate clearinghouse to (1) prioritize chemicals existing in commercial goods; (2) organize and manage available data on chemicals; (3) produce and inventory information on safer alternatives for specific uses of chemicals and model policies and programs related to such alternatives; and (4) provide technical assistance to businesses and consumers relating to safer chemicals.

**Delaware**  
Year: 2008  
Prohibits the sale of a toy that contains a toxic substance (defined as lead or a coating on an item that contains lead or a substance that has been deemed toxic or harmful to the health of children by the U.S. Consumer Product Safety Commission).

**Illinois**  
Year: 2007 (Amendment)  
Amends existing legislation to strengthen protection from lead poisoning in children. Prohibits the addition of lead to surfaces children occupy, or which children could put in their mouths, including toys, jewelry, furniture.

**Louisiana**  
Year: 1998 (Amendment)  
Prohibits the sale or application of lead-based paint or similar surface coating material on toys or articles intended for use by children, residential furniture and fixtures that can be readily chewed by children, and cooking, eating, and drinking utensils. Prohibits the sale of any toy or other article intended for use by children, residential furniture, cooking, drinking or eating utensils to which any lead-based paint or similar surface coating material has been applied.

**Maine**  
Year: 2008  
Restricts the sale, manufacture or distribution of lead-containing children's products.

Year: 2006  
Exec. Order Promoting Safer Chemicals in Consumer Products and Services (February 22, 2006)  
Requires the Department of Environmental Protection to incorporate readily available information on source reduction and safer alternatives to hazardous chemicals in consumer products into their public education efforts. Requires the Department to continue to virtually eliminate mercury from human caused sources, assess lead-free
alternatives to the current use of lead in consumer products, and review emerging information related to the availability of alternatives to brominated flame retardants. Requires executive branch agencies to avoid products and services that contain, use, or release chemicals that are PBTs or carcinogens whenever safer alternatives are available, effective, and affordable. Creates the Governor's Task Force to Promote Safer Chemicals. Requires the Task Force to identify and promote the use and development of safer alternatives to hazardous chemicals in consumer goods and services made, provided, or sold in Maine.

Maryland
Year: 2010
Requires the use of lead-free pipes, pipe fittings, plumbing fittings, fixtures, solder, or flux in the installation or repair of plumbing intended to dispense water for human consumption. Prohibits the sale of pipes, pipe fittings, plumbing fittings, or fixtures that will be used in the installation or repair of any plumbing that dispenses water for human consumption unless they are lead-free. Prohibits the sale of solder or flux that is not lead-free unless the solder or flux bears a label stating that it is illegal to use the solder or flux in the installation or repair of any plumbing that dispenses water for human consumption.

Year: 2009
Amends existing legislation prohibiting lead-containing children's products (See H.B. 62). Clarifies the manufacturers and importers that are required to perform certain testing and the children's products to be tested to determine whether they are lead-containing products.

Year: 2008
Prohibits the manufacture, sale, offer for sale, importation, or distribution of specified lead-containing children's products by any means, including through a sales outlet or the Internet.

Massachusetts
Year: 2009
Exec. Order No. 515 (Oct. 27, 2009)
Requires the Executive Department of the Commonwealth of Massachusetts and its agencies to reduce their impact on the environment and enhance public health by procuring environmentally preferable products and services whenever such products and services are readily available, perform to satisfactory standards, and represent best value. Environmentally preferable products include, but are not limited to, products and services that are less toxic and hazardous. Establishes a Toxic Reduction Task Force to provide guidance on and assist agencies with identifying and eliminating purchases of products that contain toxic chemicals. Requires the EPP Program and agencies to, wherever feasible, eliminate products procured by the Commonwealth that contain toxic chemicals in concentrations that pose a significant threat to the environment and/or public health.
Year: 2008 (Amendment)
Prohibits the sale, delivery, or possession with intent to sell, deliver or give away any toy, furniture, cooking, drinking or eating utensil to which any lead-based paint, glaze or other substance has been applied.

Year: 2008 (Amendment)
Prohibits any person from selling, delivering, giving away, or introducing into commerce any misbranded hazardous substance or banned hazardous substance. Permits the Commissioner of Public Health to declare any substance or mixture of substances, which meet certain requirements, to be a hazardous substance. Under this authority, the Commissioner has declared formaldehyde, urea-formaldehyde foamed in-place insulation, and children's leaded jewelry to be hazardous substances. The Commissioner has declared urea-formaldehyde foamed in-place insulation and children's leaded jewelry to be banned hazardous substances. Requires urea-formaldehyde foamed in-place insulation and children's leaded jewelry to be removed from commerce. (105 CMR 650)

Michigan
Year: 2007
Prohibits a lead-bearing substance from being used in or on any children's jewelry. Prohibits the sale of children's jewelry containing a lead-bearing substance. Makes information about the hazards of lead-bearing substances and any programs offered to educate individuals about those hazards available via the internet.

Year: 2007
Prohibits the sale of lunch boxes that contain a lead-bearing substance.

Year: 2007
Prohibits use or application of a toxic substance (i.e. substance that contains lead, or a coating on an item that contains lead) in or on any toy or child care article. Prohibits the sale, or transfer of a toy or child care article in this state that contains a toxic substance.

Vermont
Year: 2008
Prohibits the sale of any children's product that contains lead. Prohibits the sale of any jewelry that contains lead. Requires phase out of wheel weights containing lead. Requires labels on all plumbing equipment for sale that contains lead. Prohibits the sale of solder or flux for plumbing that contains lead. Requires a warning on all nonresidential paints and primers containing lead. Requires warning labels on salvaged building materials for sale stating that these products may contain lead.
6. Conclusion
Lead continues to pose a threat to children, despite attempts to control it. However, there is evidence that human BLLs are decreasing. Because of its toxicity and pervasiveness, lead is being named a Minnesota Priority Chemical. Information on any changes in federal or state policy, as well new information as health impacts and exposure routes, especially in children, will be monitored.

7. References


B. Cadmium
CAS Number 7440-43-9

1. Overview
Cadmium, a natural metal found in the earth’s crust, is extracted during the refining of other metals, including zinc, lead, and copper (Centers for Disease Control and Prevention [CDC], 2010). According to the U.S. Agency for Toxic Substances and Disease Registry (ATSDR), 83% of extracted cadmium is used in batteries, 8% in pigments, 7% in plating and coatings, and the remainder in plastics and other applications (Agency for Toxic Substances and Disease Registry [ATSDR], 2008).

Cadmium enters the body through ingestion or inhalation. Cadmium levels in blood reflect recent exposures, while levels of cadmium in urine reflect body burden from longer term exposures (Organisation for Economic Co-operation and Development [OECD], 2004). With repeated exposure, cadmium can accumulate in the body, especially in the kidney and liver, with potential of remaining in the body for several decades (ATSDR, 2008; OECD, 2004). The kidney can be damaged after over-exposure to cadmium (ATSDR, 2008; CDC, 2010). Cadmium can also cause malformation of bone, bone loss, or decrease in bone strength. Further, there is some limited evidence that cadmium is a neurotoxin and an endocrine disruptor (ATSDR, 2008). In animal laboratory studies, cadmium has been found to be absorbed more readily by younger animals (ATSDR, 2008). Children have more years to accumulate cadmium and to manifest related health effects, making cadmium in children’s products a concern.

Cadmium has been found to cause lung cancer in some workers who have been exposed to it occupationally. It has been named a known carcinogen by the Department of Health and Human Services’ National Toxicology Program (NTP) (National Toxicology Program [NTP], 2005), as well as being named a Group 1 carcinogen by the International Agency for Research on Cancer (IARC) (International Agency for Research on Cancer [IARC], 1997), and a probable carcinogen by the Environmental Protection Agency (EPA) (Environmental Protection Agency [EPA], 1992).

Because cadmium has some properties that are similar to lead, cadmium could be used as a substitute for lead in products. After the Consumer Product Safety Improvement Act (CPSIA) of 2008 lowered the limit of lead allowable in children’s products, there was concern that cadmium would be used as an alternative. In the early part of 2010, the Consumer Product Safety Commission (CPSC) issued six recalls related to cadmium in children’s products. A survey of children’s products by the Associated Press, and later by the Canadian government, reported finding some children’s products with high cadmium content, sometimes topping 90% (Health Canada, 2010; Pesce, 2010). While currently no federal standard related to cadmium in children products exists, an industry standard is under development. In the interim, four state governments, including Minnesota, have attempted to limit children’s exposure to cadmium through state law. Federal and state policies related to cadmium will be discussed further below in Section 5 “Regulations” and Section 6 “Action Plans”.

Site Assessment and Consultation Unit January 31, 2011
P.O. Box 64975, St. Paul, MN 55164
651-201-4897, TTY 651-201-5797, health.hazard@state.mn.us
Cadmium is being named a Priority Chemical by Minnesota Department of Health (MDH) because of its potential health effects, including kidney and bone damage, its ability to accumulate and remain in the body, and its use in products intended for children.

Further information about toxicity, potential exposure pathways, and current state and federal actions is provided below.

2. Exposure and Environmental Disposition
(Note: This section includes examples of exposure and environmental information for cadmium. This summary is not intended to be comprehensive.)

a. Centers for Disease Control and Prevention (CDC)
   (1) Agency for Toxic Substances and Disease Registry (ATSDR)
   Cadmium that enters the body tends to accumulate in the kidney and liver. Cadmium in the kidneys can have a half-life of several decades. Cadmium in the blood indicates recent exposures, while cadmium in the urine is related to the concentration of cadmium in the kidneys (ATSDR, 2008).

   (2) National Health and Nutrition Examination Survey (NHANES)
   NHANES data show levels of cadmium detected in humans have been declining since 2001. People of age 20 years and older had higher blood cadmium levels than people of younger ages. Females had slightly higher levels than males (CDC, 2010).

b. Consumer Product Safety Commission (CPSC)
   A report by the CPSC determined that a test method for chemicals such as cadmium migrating from small swallowed items should be based on solubility in an acidic solution for 24 hours. CPSC has requested that an industry trade group make recommendations about voluntary cadmium standards (Consumer Product Safety Commission [CPSC], 2010a).

c. Environmental Protection Agency (EPA)
   (1) Inventory Update Reporting (IUR)
   Data from the 2006 IUR indicate that cadmium was produced or imported into the U.S. in a range of 1 million to 10 million pounds. EPA rules in place during the 2006 inventory did not require use information to be reported for inorganic chemicals like cadmium. Cadmium usage information will be required in the 2011 reporting period under current EPA rules (EPA, 2010a).

   (2) Office of Pollution Prevention and Toxics (OPPT)
   Products containing cadmium, such as jewelry, can be put in a child’s mouth and result in oral exposure (EPA, 2010c).
(3) Toxic Release Inventory (TRI)
There were no cadmium or cadmium compound releases reported for Minnesota in 2009 (EPA, 2010d). Cadmium was reported released in Minnesota from 1988-1994, with the highest release in 1990 of 1,612 pounds. This release was a transfer to a landfill (EPA, 2010e). For cadmium compounds, there were releases reported in 1988-1995 and 2005. The greatest release was 4,693 pounds reported in 1991. This release was primarily to landfills (EPA, 2010e).

d. National Institutes of Health (NIH)
National Library of Medicine (NLM)
(a) Hazardous Substances Data Bank (HSDB)
Cadmium has been found in fish (Hazardous Substance Data Bank [HSDB], 2010).

(b) Household Product Database
This database shows only two products, a glaze with less than 1% cadmium and a concrete material with an unspecified amount of cadmium. However, as noted in the Household Product Database background information, products for which a material safety data sheet (MSDS) is not created are not included. Therefore, jewelry and novelty glassware would not likely be listed (NLM, 2010a; NLM, 2010b).

3. Toxicity
(Note: This section provides examples of toxicity information from several sources. This summary is not intended to be comprehensive.)

a. Centers for Disease Control and Prevention (CDC)
(1) Agency for Toxic Substances and Disease Registry (ATSDR)
Cadmium can cause tissue damage leading to decreased function of the kidney. The effects of low level cadmium exposure over time on the kidney not are entirely understood. However, it is possible that adults exposed to cadmium as children might be at higher risk for the renal toxicity of cadmium than people exposed only as adults. Exposure to cadmium can also cause bones to weaken (ATSDR, 2008).

(2) National Health and Nutrition Examination Survey (NHANES)
NHANES reports that the kidney is the critical target of cadmium exposure. At high exposures, such as those encountered occupationally, irreversible proteinuria signals renal damage. Indicators of renal damage from environmental exposure levels are not as well understood. Effects on bone density have been reported from exposure to cadmium in areas with soil contamination (CDC, 2010).

b. Environmental Protection Agency (EPA)
Integrated Risk Information System (IRIS)
EPA Reference Dose:
$5 \times 10^{-4}$ mg/kg/day (water) (proteinuria)
$1 \times 10^{-3}$ mg/kg/day (food) (proteinuria) (EPA, 1994).
Cadmium is a probable human carcinogen (EPA, 1992).

c. National Institutes of Health (NIH)
National Toxicology Program (NTP)
NTP has determined that cadmium is a known human carcinogen via inhalation.

d. World Health Organization (WHO)
International Agency for Cancer Research (IARC)
Cadmium is classified as a Group I carcinogen: carcinogenic to humans (IARC, 1997).

### 4. Statutory Requirements

In relation to Minn. Stat. 2010 116.9401-116.907, cadmium met the following criteria:

<table>
<thead>
<tr>
<th>Statute</th>
<th>Information</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Minn. Stat. 2010 116.9401</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subd. (e)(1) harm the normal development of a fetus or child or cause other developmental toxicity</td>
<td>Development: Nervous system and skeletal system</td>
<td>ATSDR 2008</td>
</tr>
<tr>
<td>Subd. (e)(3) disrupt the endocrine or hormone system</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subd. (e)(4) damage the nervous system, immune system, or organs, or cause other systemic toxicity</td>
<td>Neurobehavioral Bones, kidney</td>
<td>ATSDR 2008 ATSDR 2008 CDC 2010</td>
</tr>
<tr>
<td>Subd. (e)(5) be persistent, bioaccumulative, and toxic</td>
<td>(Designated as a Persistent Bioaccumulative and Toxic (PBT) Priority Chemical in the EPA National Waste Minimization Program)</td>
<td>EPA 2009</td>
</tr>
<tr>
<td>Subd. (e)(6) be very persistent and very bioaccumulative</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **Minn. Stat. 2010 116.9403** | | |
| Subd. (a) (1): has been identified as a high-production volume chemical by the United States Environmental Protection Agency | 1 to 10 million pounds | EPA 2010b |
| Subd (2) Meets any of the following criteria: | | |
| Subd. (a)(2)(i): the chemical has been found through biomonitoring to be present in human blood, including umbilical cord blood, breast milk, urine, or other bodily tissues or fluids | Blood, kidney, liver, umbilical cord blood | CDC 2010 HSDB 2010 |
Statute | Information | References
---|---|---
Subd. (a)(2)(ii): the chemical has been found through sampling and analysis to be present in household dust, indoor air, drinking water, or elsewhere in the home environment | | 
Subd. (a)(2)(iii): the chemical has been found through monitoring to be present in fish, wildlife, or the natural environment | Fish (also a naturally occurring element) | HSDB 2010

5. Current Regulations

a. Federal

There are currently no mandatory federal regulations for cadmium in children's products, though the CPSIA requires a standard, which is currently under development. Progress is described below in Section V “Planned Actions”.

b. States

Minnesota

During the 2010 Minnesota Legislative Session, a law (Minn. Stat. 2010 325E.3891) limiting the amount of cadmium permitted in jewelry intended for children age 6 or younger was passed. The law states:

Cadmium in any surface coating or accessible substrate material of metal or plastic components of children's jewelry shall not exceed 75 parts per million, as determined through solubility testing for heavy metals defined in the ASTM International Safety Specification on Toy Safety, ASTM standard F-963 and subsequent versions of this standard, if the product is sold in this state unless this requirement is superseded by a federal standard regulating cadmium in children's jewelry. (Minn. Stat. 2010 325E.3891, Sub.2)

This Minnesota law takes effect on January 1, 2011.

Many states have laws prohibiting certain metals, including cadmium, in packaging. The following states have legislation related to cadmium in other products to which children might be exposed. (Most information below was obtained from the Lowell Center for Sustainable Production’s US State Chemicals Policy database, available from http://www.chemicalspolicy.org/chemicalspolicy.us.state.database.php.)

California

Year: 2010

S.B. 929, 2009-10 Leg., Reg. Sess. (Cal. 2010)

In fall 2010, the governor of the State of California signed a bill that will limit cadmium levels in jewelry intended for children 6 years of age or younger. Under the new law, cadmium can comprise no more than 0.03% of total composition. This law will go into effect in January 2012 (California Department of Toxic Substances Control, 2011).
Because California has a large market share in the United States, standards passed in California are usually also applied to products sold outside of California. The effect is to apply the standard throughout the United States.

Year: 2010 (Amendment)
Prohibits the manufacture or sale of any toy contaminated with any toxic substance, coated with paints and lacquers containing compounds of lead, or coated with soluble compounds of antimony, arsenic, cadmium, mercury, selenium or barium.

Connecticut
Year: 2010
Prohibits the manufacture, sale, or distribution of any children's jewelry that contains cadmium at more than .004 percent by weight.

Illinois
Year: 2010
Prohibits the manufacture, sale, or distribution of children's jewelry containing cadmium. Authorizes the Illinois Environmental Protection Agency to participate in an interstate clearinghouse to promote safer chemicals in consumer products.

Washington
Year: 2008
Contains limits on lead, cadmium, or phthalates in children's products. (Largely preempted by the Federal Consumer Product Safety Improvement Act of 2008.)

(Lowell Institute for Sustainable Production, 2010)

6. Planned Actions
a. Federal
The CPSIA referred to industry standards under ASTM F963-08 to limit cadmium in coatings or accessible substrates of children’s products. However, in August 2010 there was a petition from the Empire State Consumer Project, Sierra Club, and others, requesting the CPSC issue a ban of cadmium in toy metal jewelry containing more than trace amounts of the substance (Federal Register, 2010). Petitioners also requested that the CPSC ban cadmium at levels applicable to lead if there is currently insufficient information available to determine appropriate levels of cadmium in products. This petition was open for comment until October 18, 2010.

In October 2010, the CPSC announced that it would defer regulation of cadmium in children’s products and allow a voluntary industry standard to be developed and implemented. The CPSC also announced an acceptable daily intake (ADI) for cadmium of 0.1 ug/kg/day (CPSC, 2010a).
The Environmental Protection Agency also received a petition from this group requesting that EPA use its authority under the Toxic Substances Control Act (TSCA) to require submission of health and safety studies. EPA has granted the petition and plans to collect information and to work with CPSC. If CPSC does not act, EPA announced that it intends to publish a rule under TSCA section 6 (EPA, 2010c).

The CPSC made six recalls of consumer products, including five jewelry items for children and one type of glassware in 2010 (CPSC, 2010b). Many of the recalled items were manufactured outside of the U.S.

b. Retailers
Some retailers have begun requiring manufacturers to meet standards for cadmium set by the European Union (Pritchard, 2010; Walmart Stores, 2010). The standard passed by California in 2010 (see above) will take effect in 2012. This standard is stricter than the European Union standard because it limits total cadmium; not only cadmium in the coating or accessible substrate. Because California standards sometimes are applied nationally, this might affect retailer policy on cadmium.

7. Conclusion
Cadmium is being named a Minnesota Priority Chemical because of its potential health effects, including kidney and bone damage, its ability to accumulate and remain in the body, and its use in products intended for children. After Minnesota’s statute related to cadmium in children’s jewelry takes effect January 1, 2011 and national standards are developed, cadmium will be limited in children’s products, but assurance of compliance will be needed. It will also be important to ensure that cadmium in products not covered by the regulations or guidance do not pose a threat to children.

New findings on cadmium toxicity and exposure routes will be monitored, as will developments in federal and state policy.

8. References


