Averting toxic exposures and avoiding future costs is the smartest, cheapest and healthiest approach.

**Green Chemistry**

**Safer Alternatives**

**Phase out PBTs**

- Identify Chemicals of Concern
- Bans, Limits, Reporting
- Gather data

**Benign design**

- Kids & environment protected
- Manufacturers share the responsibility
### Ecology’s Efforts

#### BANS
- PBDEs, including deca-BDE in certain products
- Bisphenol A in children’s bottles/cups, sports bottles
- Copper in brake pads, boat paint
- Toxics in packaging
- Lead in wheel weights
- Coal tar sealants

#### DATA COLLECTION
- Children’s Safe Product Act reporting rule
- Product testing
- Brake pad law

#### STAKEHOLDER PROCESSES
- Chemical Action Plans for Persistent, Bioaccumulative Toxics (PBTs)
- Alternatives assessment guidance
- Green Chemistry Center
Children’s Safe Products Act

- Passed in 2008
- Established limits for lead, cadmium and phthalates in children’s products
  - Substantially preempted by CPSIA
- Requires reporting on Chemicals of High Concern to Children (CHCCs) in children’s products
- Law: RCW 70.240
CSPA- Reporting Rule

- Adopted August 2011
- Addresses reporting on Chemicals of High Concern to Children (CHCCs) in children’s products
- CHCC list contains 66 chemicals or chemical groups
- CHCC list amended in 2013 to remove n-butanol and add TDCPP [Tris(1,3-dichloro-2propyl) phosphate]
  - Begin reporting TDCPP in February, 2015
- Rule: WAC 173-334
Children’s Safe Product Act

Definition of “children’s product”
• Toys
• Children’s Cosmetics
• Children’s Jewelry
• Children’s Clothing
• Child car seats
• Products intended to help a child with sucking or teething, to facilitate sleep, relaxation, or the feeding of a child
Development of the CHCC list

Toxicity

Developmental Reproductive
Endocrine Disruption
Cancer

CHCCs

Presence in child product
Individual exposure
Population exposure

Exposure
Development of the CHCC list
Development of the CHCC list

Toxicity
- Developmental Reproductive
- Endocrine Disruption
- Cancer

Exposure
- Danish EPA
- Dutch studies
- EU RA
- Presence in child product
- Individual exposure
- Population exposure
- NHANES
- PBT
- HPV
## CSPA – phased-in reporting

<table>
<thead>
<tr>
<th>Manufacturer Categories (US Aggregate Gross Sales)</th>
<th>Product Tier 1</th>
<th>Product Tier 2</th>
<th>Product Tier 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intended to be put in mouth</td>
<td>Intended for prolonged skin contact (&gt;1hr)</td>
<td>Intended for short skin contact (&lt;1 hr)</td>
</tr>
<tr>
<td></td>
<td>Intended for on skin</td>
<td>Clothing, jewelry</td>
<td>Toys</td>
</tr>
<tr>
<td></td>
<td>Mouthable &amp; for under 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Largest ($1 billion+)</td>
<td>August 2012</td>
<td>February 2013</td>
<td>August 2013</td>
</tr>
<tr>
<td>Larger ($250 million-$1 billion)</td>
<td>February 2013</td>
<td>August 2013</td>
<td>August 2014</td>
</tr>
<tr>
<td>Medium ($100 million-$250 million)</td>
<td>August 2013</td>
<td>August 2014</td>
<td>August 2015</td>
</tr>
<tr>
<td>Small ($5 million-$100 million)</td>
<td>August 2014</td>
<td>August 2015</td>
<td>August 2016</td>
</tr>
<tr>
<td>Smaller ($100,000-$5 million)</td>
<td>August 2015</td>
<td>August 2016</td>
<td>August 2017</td>
</tr>
<tr>
<td>Tiny (&gt;100,000)</td>
<td>August 2016</td>
<td>August 2017</td>
<td>August 2018</td>
</tr>
</tbody>
</table>
Manufacturers report presence of CHCCs by product category and product component.

<table>
<thead>
<tr>
<th>Segment</th>
<th>Example bricks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts/crafts/needlework</td>
<td>Artists paints/dyes, Artists pastels/crayons, Jewelry craft materials, Sand art supplies</td>
</tr>
<tr>
<td>Baby care</td>
<td>Pacifiers/teething rings, Baby bath safety products, Baby changing mats, Baby furniture/transportation/safety</td>
</tr>
<tr>
<td>Beauty/personal care</td>
<td>Cosmetic aids/accessories, Fragrances, Hair-shampoo, Dental cleansing, Lip Balms</td>
</tr>
<tr>
<td>Clothing</td>
<td>Handwear, Headwear, Skirts, Socks, Trousers/Shorts, Sleepwear Variety Packs</td>
</tr>
<tr>
<td>Footwear</td>
<td>Athletic footwear, Boots, Shoes</td>
</tr>
<tr>
<td>Household</td>
<td>Cushions, Bed sheets/valances, Pillow cases</td>
</tr>
<tr>
<td>Personal accessories</td>
<td>Anklets, Earrings, Necklaces, Rings, Tiaras</td>
</tr>
<tr>
<td>Toys/games</td>
<td>Board games, Practical jokes, Puppets, Developmental/educational toys, Outdoor games, Toy vehicles, Role play – kitchen toys</td>
</tr>
</tbody>
</table>
Manufacturers report presence of CHCCs by product category and product component.

- Bio-based Materials (Animal or Plant based) ex. leather, horn, silk, wool
- Glass, Ceramic and Siliceous material
- Homogenous Mixtures (gels, creams, powders, liquids, adhesives, synthetic fragrances)
- Inks/Dyes/Pigments
- Metals (Including alloys)
- Surface coatings (paints, plating, waterproofing etc.)
- Synthetic Polymers (synthetic rubber, plastics, foams etc.)
- Textiles (synthetic fibers and blends)
- Other
Manufacturers must report the function of the CHCC and in what amount it is present.

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Component</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accelerator</td>
<td>Dispersant</td>
<td>Manufacturing additive</td>
</tr>
<tr>
<td>Adhesive</td>
<td>Emulsifier</td>
<td>Mold/press release</td>
</tr>
<tr>
<td>Antioxidant</td>
<td>Flame retardant</td>
<td>No function – contaminant</td>
</tr>
<tr>
<td>Antistatic agent</td>
<td>Flavored</td>
<td>pH adjustment</td>
</tr>
<tr>
<td>Binding agent</td>
<td>Fragrance</td>
<td>Physical characteristics</td>
</tr>
<tr>
<td>Catalyst</td>
<td>Germicidal</td>
<td>Plasticizer/softener</td>
</tr>
<tr>
<td>Coloration/Pigments/</td>
<td>Hardening</td>
<td>Preservative</td>
</tr>
<tr>
<td>Dyes/Inks</td>
<td></td>
<td>UV stabilizer/absorber</td>
</tr>
<tr>
<td>Component of plastic</td>
<td>Inactive ingredient</td>
<td>Protective coating</td>
</tr>
<tr>
<td>resin or polymer process</td>
<td></td>
<td>Water proofing</td>
</tr>
<tr>
<td>Conductive material</td>
<td>Lubricant</td>
<td>Reinforcement/strength</td>
</tr>
</tbody>
</table>
Manufacturers must report the function of the CHCC and in what amount it is present.

**Reporting Ranges**

- **Range 1**: $< 100 \text{ ppm and } \geq \text{ PQL}$
- **Range 2**: $< 500 \text{ ppm and } \geq 100 \text{ ppm}$
- **Range 3**: $< 1000 \text{ ppm and } \geq 500 \text{ ppm}$
- **Range 4**: $< 5000 \text{ ppm and } \geq 1000 \text{ ppm}$
- **Range 5**: $< 10,000 \text{ ppm and } \geq 5000 \text{ ppm}$
- **Range 6**: $\geq 10000 \text{ ppm}$
CSPA – contaminants

- **No reporting required**
  - NO
    - Is it present at a concentration above the PQL?
      - YES
        - Report the chemical
      - NO
        - Intentionally Added Chemical
  - YES
    - Is it present as a ...
CSPA – contaminants

Does your organization use a manufacturing control program to minimize the presence of the contaminant? Can you document that program to Ecology?

- Yes: No reporting required
- No or Unknown: Report the chemical
Reports per chemical

Top reported chemicals:
1. Cobalt & cobalt compounds
2. Ethylene glycol
3. Antimony & antimony compounds
4. Methyl ethyl ketone
5. Octamethylcyclotetrasiloxane
6. Styrene
7. Molybdenum & molybdenum compounds
8-14. Phthalates
Reports per chemical

- Cobalt & compounds
- Ethylene glycol
- Antimony & compounds
- Methyl ethyl ketone
- Octamethylcyclotetrasiloxane
- Molybdenum & compounds
- Styrene
- ALL Parabens
- Formaldehyde
- Cadmium & compounds
- Arsenic & compounds
- Toluene
- Ethylbenzene
- Cl. solvent yellow 14
- Mercury & compounds

Number of Reports
Reports per function

- No function - Contaminant: 61%
- Coloration/Pigments/Dyes/Inks: 21%
- Component of plastic resin or polymer process: 2%
- Plasticizer/Softener: 8%
- Preservative: 2%
- Source contaminant: 1%
- All other functions: 5%
Reports per function minus contaminants

- Coloration/Pigments/Dyes/Inks: 54%
- Plasticizer/Softener: 20%
- Preservative: 6%
- Solvent: 2%
- Protective coating: 1%
- Source contaminant: 2%
- Stabilizers: 2%
- All other functions: 4%
- Catalyst: 2%
- Flame Retardant: 1%
- Component of plastic resin or polymer process: 6%
Reports per concentration category

- PQL less than 100 ppm
- Equal to or greater than 100 but less than 500 ppm
- Equal to or greater than 500 but less than 1,000 ppm
- Equal to or greater than 1,000 but less than 5,000 ppm
- Equal to or greater than 5,000 but less than 10,000 ppm
- Equal to or greater than 10,000 ppm
Reports per concentration category by function
Commonly reported chemicals by top functions

Top 7 reported chemicals by function

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Coloration/Pigments/Dyes/Inks</th>
<th>No function - Contaminant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cobalt &amp; cobalt compounds</td>
<td>2086</td>
<td>577</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>14</td>
<td>2371</td>
</tr>
<tr>
<td>Antimony &amp; Antimonoy compounds</td>
<td>149</td>
<td>822</td>
</tr>
<tr>
<td>Methyl ethyl ketone</td>
<td>2</td>
<td>975</td>
</tr>
<tr>
<td>Octamethylcyclotetrasiloxane</td>
<td>859</td>
<td>607</td>
</tr>
<tr>
<td>Styrene</td>
<td>4</td>
<td>67</td>
</tr>
<tr>
<td>Molybdenum &amp; molybdenum compounds</td>
<td>67</td>
<td>515</td>
</tr>
</tbody>
</table>
Phthalates by top functions

<table>
<thead>
<tr>
<th>Phthalate</th>
<th>Component of plastic resin or polymer process</th>
<th>No function - Contaminant</th>
<th>Plasticizer /Softener</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butyl benzyl phthalate (BBP)</td>
<td>16</td>
<td>35</td>
<td>114</td>
</tr>
<tr>
<td>Di-2-ethylhexyl phthalate</td>
<td>21</td>
<td>51</td>
<td>200</td>
</tr>
<tr>
<td>Dibutyl phthalate</td>
<td>17</td>
<td>52</td>
<td>173</td>
</tr>
<tr>
<td>Diethyl phthalate</td>
<td>6</td>
<td>24</td>
<td>121</td>
</tr>
<tr>
<td>Diisodecyl phthalate (DIDP)</td>
<td>21</td>
<td>33</td>
<td>48</td>
</tr>
<tr>
<td>Diisononyl phthalate (DINP)</td>
<td>20</td>
<td>37</td>
<td>137</td>
</tr>
<tr>
<td>Di-n-Hexyl phthalate</td>
<td>2</td>
<td>35</td>
<td>29</td>
</tr>
<tr>
<td>Di-n-octyl phthalate (DnOP)</td>
<td>19</td>
<td>34</td>
<td>91</td>
</tr>
<tr>
<td>Phthalic anhydride</td>
<td>5</td>
<td>2</td>
<td>8</td>
</tr>
</tbody>
</table>
Reports per segment

- Arts/Crafts/Needlework: 0
- Baby Care: 0
- Beauty/Personal Care/Hygiene: 0
- Camping: 0
- Clothing: 6000
- Footwear: 1000
- Household/Office Furniture/Furnishings: 1000
- Kitchen Merchandise: 500
- Personal Accessories: 500
- Stationery/Office Machinery/Occasion Supplies: 500
- Toys/Games: 2000
Top 3 chemicals reported at high levels

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Number of Reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diethyl phthalate</td>
<td>56</td>
</tr>
<tr>
<td>Diisonyl phthalate (DINP)</td>
<td>85</td>
</tr>
<tr>
<td>Molybdenum &amp; molybdenum compounds</td>
<td>23</td>
</tr>
</tbody>
</table>
Compliance Assurance

- Purchase and test products
- Compare our results to what has been reported
- Provide opportunity for the responsible party to explain any discrepancy
- No further action if the agency accepts the explanation
- Issue administrative penalty if the explanation is unacceptable including press release
- Appeal provisions available
Testing children’s products to assure compliance with the Children’s Safe Product Act Reporting Rule

(WAC 173-334; Ch. 70.240 RCW)

<table>
<thead>
<tr>
<th>Lab budget</th>
<th>$168,000 (~600 samples) Grant funding from Attorney General settlement with Mattel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target chemicals</td>
<td>Parabens, phthalates, metals, formaldehyde, volatile organic compounds</td>
</tr>
<tr>
<td>Target products</td>
<td>Children’s cosmetic &amp; personal care products, children’s toys, children’s jewelry, packaging from consumer and children’s products</td>
</tr>
<tr>
<td>Final reports</td>
<td>January 2014</td>
</tr>
</tbody>
</table>
Parabens are the most widely used preservatives in cosmetic products. Various parabens and paraben mixtures are intentionally added to thousands of cosmetic products.

All five parabens on the list of Chemicals of High Concern to Children have been classified as Category 1 endocrine disruptors by the European Union.

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baby and bath accessories</td>
<td>16</td>
<td>37.2%</td>
</tr>
<tr>
<td>Cosmetics &amp; fragrances</td>
<td>5</td>
<td>11.6%</td>
</tr>
<tr>
<td>Lip balm &amp; gloss</td>
<td>13</td>
<td>30.2%</td>
</tr>
<tr>
<td>Halloween (makeup)</td>
<td>7</td>
<td>16.3%</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>2</td>
<td>4.7%</td>
</tr>
</tbody>
</table>
Parabens – baby & bath

- **Baby lotion**
  - CT005-c01: 560 ppm
  - FM001-c01: 520 ppm
  - RA003-c01: 2.3 ppm
  - SF002-c01: 740 ppm
  - TG001-c01: 1,200 ppm
  - TC004-c01: 110 ppm
  - TR002-c01: 0.6 ppm
  - TR003-c01: 0.6 ppm
  - TR014-c01: 0.7 ppm
  - WG001-c01: 110 ppm
  - WG002-c01: 370 ppm
  - WM004-c01: 0 ppm
  - WM007-c01: 590 ppm
  - WM037-c01: 320 ppm

- **Watermelon body wash**
  - CT005-c01: 560 ppm
  - FM001-c01: 520 ppm
  - RA003-c01: 2.3 ppm
  - SF002-c01: 740 ppm
  - TG001-c01: 1,200 ppm
  - TC004-c01: 110 ppm
  - TR002-c01: 0.6 ppm
  - TR003-c01: 0.6 ppm
  - TR014-c01: 0.7 ppm
  - WG001-c01: 110 ppm
  - WG002-c01: 370 ppm
  - WM004-c01: 0 ppm
  - WM007-c01: 590 ppm
  - WM037-c01: 320 ppm

**Legend**:
- Methyl
- Ethyl
- Propyl
- Butyl
- Isobutyl
### Parabens – cosmetics/fragrances

<table>
<thead>
<tr>
<th>Component</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CL002-c01</td>
<td>480</td>
</tr>
<tr>
<td>CL002-c05</td>
<td>1,700</td>
</tr>
<tr>
<td>CL007-c01</td>
<td>1,600</td>
</tr>
<tr>
<td>CL007-c02</td>
<td>0</td>
</tr>
<tr>
<td>HC000-c01</td>
<td>45</td>
</tr>
<tr>
<td>PF000-c01</td>
<td>0</td>
</tr>
<tr>
<td>PF000-c02</td>
<td>0</td>
</tr>
<tr>
<td>SF001-c01</td>
<td>0</td>
</tr>
</tbody>
</table>

**Diagram:**
- **Eyeshadow composite**
- **Y-axis:** parts per million in product component
- **X-axis:** product component codes
- **Legend:**
  - Methyl
  - Ethyl
  - Propyl
  - Butyl
  - Isobutyl
Parabens – lip balm/gloss

Make your own lip gloss kit - Color/flavoring

- Methyl
- Ethyl
- Propyl
- Butyl
- Isobutyl

parts per million in product component

CL001-c01
CL001-c03
CL001-c07
CL009-c01
CL010-c01
CL011-c01
DT001-c01
DT001-c01
FM007-c01
FM007-c01
SK018-c02
SK018-c03
SK019-c01
TG011-c01
WM010-c01
WM011-c01
WM014-c01
WM053-c01
Parabens – Halloween makeup

White face powder

Parts per million in product component

- Methyl
- Ethyl
- Propyl
- Butyl
- Isobutyl
Conclusions:
• Parabens can be analyzed at low levels in a wide variety of products
• Found in appreciable levels in many products mouthed by children or applied to their skin
• Halloween makeup contained highest levels and greatest incidence of detection
Phthalates are widely used as plasticizers to soften plastics. There are 9 phthalates on the list of Chemicals of High Concern to Children. They are listed for concerns about developmental toxicity, reproductive toxicity, endocrine disruption. Only 6 of these phthalates are restricted by federal law above 1000ppm.

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art</td>
<td>5</td>
<td>5.8%</td>
</tr>
<tr>
<td>Baby</td>
<td>35</td>
<td>40.7%</td>
</tr>
<tr>
<td>Bath</td>
<td>15</td>
<td>17.4%</td>
</tr>
<tr>
<td>Cosmetics</td>
<td>7</td>
<td>8.1%</td>
</tr>
<tr>
<td>Fragrance</td>
<td>12</td>
<td>14.0%</td>
</tr>
<tr>
<td>Halloween items</td>
<td>5</td>
<td>5.8%</td>
</tr>
<tr>
<td>Shoes</td>
<td>7</td>
<td>8.1%</td>
</tr>
</tbody>
</table>
Phthalates – baby products

Baby Products

parts per million in product component

0 100 200 300

AM000-c01 AM001-c01 AM002-c01 AM003-c01 AM004-c01 AM005-c01 DT000-c01 DT002-c01 DT005-c01 DT033-b01 FM000-c01 FM001-c01 FM010-c01 SP002-c01 TG000-c01 TG008-c05 TG009-c01 TG010-c01 TG012-c01 TG013-c01 TG014-c01 TG016-c01 TG017-c01 TG018-c01 TR000-c01 TR005-b01 TR001-c01 TR009-b01 TR012-c01 TR022-c02 TR035-b01 TR05-c01 TR05-b01 TR05-c02 TR07-c01 TR08-c01 TR09-c01 WM005-c01 WM009-c01 WM009-c03 WM012-c01 WM015-c01 WM016-c01 WM017-c01 WM018-c01 WM021-c01

DEHP BBP DEP DiDP DiNP DBP DNHP DOP

Bib

277 28.3 47.6 49.7
Phthalates in Bath Products

- DEHP
- BBP
- DEP
- DiDP
- DiNP
- DBP
- DNHP
- DOP

Parts per million in product component

- FM016-01
- RA001-001
- RA001-002
- SK015-01
- TG021-01
- TG059-01
- TG060-01
- TG061-01
- TG062-01
- TG063-01
- TG064-01
- TG066-01
- TR008-01
- TR013-01
- WM019-01
- WM047-01
- WM047-02
Phthalates in Bath Products

- **Bath toys (no CPSIA violation)**
  - DEHP: 148,000 parts per million in product component
  - BBP: 68,700
  - DEP: 4,970
  - DiDP: 1,630
- **Bath book (no CPSIA violation)**
  - DEHP: 75,000

**Materials**: FM016-01, RA001-b01, RA001-b02, SK015-b01, TG021-c01, TG059-C01, TG060-C01, TG061-C01, TG062-C01, TG063-C01, TG064-C01, TG065-C01, TG066-C01, TR008-c01, TR013-c01, WM019-c01, WM047-b01, WM047-c01, WM047-c02
Phthalates – perfumes/fragrances

Phthalates in Perfumes and Fragrances

parts per million in product component

- DEHP
- BBP
- DEP
- DiDP
- DiNP
- DBP
- DNHP
- DOP

[Graph showing concentrations of phthalates in various product components]
Phthalates in Cosmetic Products

- Parts of carrying case (no CPSIA violation)

- DEHP
- BBP
- DEP
- DiDP
- DiNP
- DBP
- DNHP
- DOP

Parts per million in product component
Phthalates – Halloween

Phthalates in Halloween Products

- Face mask (no CPSIA violation)
- Mouth glow mouthpiece (no CPSIA violation)

Parts per million in product component

<table>
<thead>
<tr>
<th>Product</th>
<th>DEHP</th>
<th>BBP</th>
<th>DEP</th>
<th>DiDP</th>
<th>DiNP</th>
<th>DBP</th>
<th>DNHP</th>
<th>DOP</th>
</tr>
</thead>
<tbody>
<tr>
<td>SH002-c01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SH005-c01</td>
<td>234</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SK021-c01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WM057-c01</td>
<td>841</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WM061-c01</td>
<td>920</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>
Phthalates in Footwear

- Baby sandal – Brown straps: 443,000 parts per million in product component
- Baby sandal – Orange sole: 18,600 parts per million in product component

**Phthalates**
- DEHP
- BBP
- DEP
- DiDP
- DiNP
- DBP
- DNHP
- DOP
Conclusions:
• Phthalates can be analyzed at low levels in a wide variety of products
• Found in appreciable levels in many products
• Found in some unexpected product types (e.g. makeup)
• High levels found in a few products (e.g. baby sandals)
Conclusions:
• A wide range of product types can be analyzed for the metals of interest.
• Metals can be detected at ppm levels in all products categories encompassing a range of different media types.
• Several products contained antimony at reportable levels.
• Cobalt was found in most clothing tested and may be tied to the use of cobalt based blue dyes.
• A majority of children’s products tested had at least one of the six metals at reportable levels.
Other product testing

Testing containers for children under 3 & sports bottles to assure compliance with restrictions on Bisphenol A (Ch. 70.280 RCW)

<table>
<thead>
<tr>
<th>Lab budget</th>
<th>$43,538 (74 samples)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecology funds</td>
<td></td>
</tr>
<tr>
<td>Target chemicals</td>
<td>Bisphenol A</td>
</tr>
<tr>
<td>Target products</td>
<td>Baby bottles, sippy cups, toddler containers (bowls and plates), and plastic &amp; metal sports bottles</td>
</tr>
</tbody>
</table>

**Results:** Only one sample contained BPA above PQL (20 ppm).
High degree of compliance with restrictions on BPA.
Other product testing

Testing products that may contain flame retardants to assure compliance with restrictions on PBDEs and investigate current use of alternatives (Ch.70.76 RCW)

<table>
<thead>
<tr>
<th>Lab budget</th>
<th>$175,000 (~300 samples) EPA National Estuary Program Puget Sound grant funds</th>
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</thead>
<tbody>
<tr>
<td>Target chemicals</td>
<td>PBDEs (penta-, octa-, &amp; deca-), polybrominated diphenyl ethanes, TCEP, TCPP, TDCPP, RDP, TPP</td>
</tr>
<tr>
<td>Target products</td>
<td>• Products containing polyurethane foam (changing mats, children’s furniture, mattresses &amp; pads)</td>
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<td></td>
<td>• Flame retardant workwear, children’s sleepwear</td>
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<td></td>
<td>• Electrical products (hair dryers, heaters, cooking implements, battery chargers)</td>
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<td></td>
<td>• Electronic products (televisions, computers)</td>
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<tr>
<td>Final report</td>
<td>March 2014</td>
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</tbody>
</table>

Initial results: Detections of bromine via X-Ray Fluorescence screening indicating likely presence of brominated flame retardants. Lab results pending.
Next Steps

- Analyze reported information
  - Opportunities for safer alternatives
- Ongoing compliance efforts
  - Product testing
  - Database development
RESOURCES

Children’s Safe Product Act:
http://www.ecy.wa.gov/programs/swfa/cspa/

RCW 70.270
http://apps.leg.wa.gov/RCW/default.aspx?cite=70.240

WAC 173-334

Listserv:
http://listserv.wa.gov/cgi-bin/wa?A0=CHILDRENS-SAFE-PRODUCTS

Search data on children’s products:
http://www.ecy.wa.gov/programs/swfa/cspa/search.html