IMERC Mercury Use in Products
2001 – 2010 Data Analysis

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Mercury Products Campaign Summit
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Launched in 2001 by Northeast states to serve as single point of contact for public & industry.

States passed enabling legislation over next 6 – 10 years, including labeling, collection, notification, & phase-out.

2013: 15 states
More than 600 companies reporting thousands of product listings

Data focuses on OEM products and components used in larger products – analysis accounts for “double counting”

E-filing system & Mercury-added Products Database launched in 2011 – more reliable data, more rapidly accessible

Database available on EPA’s Environmental Information Exchange Network; seeking data flow partner
### Total Mercury Sold in Products in the US (draft)
#### 2001 – 2010 (Tons)

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>All Categories</td>
<td>129.53</td>
<td>111.52</td>
<td>71.70</td>
<td>56.71</td>
<td>-56%</td>
</tr>
<tr>
<td>Switches &amp; Relays</td>
<td>60.07</td>
<td>51.44</td>
<td>29.93</td>
<td>19.43</td>
<td>-68%</td>
</tr>
<tr>
<td>Dental Amalgam</td>
<td>30.77</td>
<td>26.61</td>
<td>19.96</td>
<td>17.08</td>
<td>-44%</td>
</tr>
<tr>
<td>Thermostats</td>
<td>14.63</td>
<td>14.45</td>
<td>3.74</td>
<td>0.17</td>
<td>-99%</td>
</tr>
<tr>
<td>Lamps</td>
<td>10.71</td>
<td>10.07</td>
<td>10.65</td>
<td>8.40</td>
<td>-22%</td>
</tr>
<tr>
<td>Batteries</td>
<td>2.79</td>
<td>2.47</td>
<td>2.07</td>
<td>7.12</td>
<td>+155%</td>
</tr>
<tr>
<td>Measuring Devices</td>
<td>5.12</td>
<td>3.05</td>
<td>1.13</td>
<td>0.77</td>
<td>-85%</td>
</tr>
<tr>
<td>Formulated Products</td>
<td>1.20</td>
<td>1.04</td>
<td>1.45</td>
<td>1.37</td>
<td>+14%</td>
</tr>
<tr>
<td>Misc.</td>
<td>4.25</td>
<td>2.40</td>
<td>2.78</td>
<td>2.38</td>
<td>-44%</td>
</tr>
</tbody>
</table>
Total Mercury Use In Products: 2001

Total Mercury Use: 259,059 pounds (129.53 tons)
**Total Mercury Use In Products: 2004**

- **Switches & Relays**: 102,877 pounds
- **Dental Amalgam**: 53,213 pounds
- **Lamps**: 20,132 pounds
- **Thermostats**: 28,901 pounds
- **Thermometers & Measuring Devices**: 6,090 pounds
- **Batteries**: 4,948 pounds
- **Formulated Products**: 2,076 pounds
- **Other**: 4,806 pounds

**Total Mercury Use:** 223,043 pounds (111.52 tons)
Total Mercury Use In Products: 2007

- Switches & Relays: 59,866 pounds
- Dental Amalgam: 39,913 pounds
- Lamps: 21,292 pounds
- Thermostats: 7,485 pounds
- Thermometers & Measuring Devices: 2,256 pounds
- Batteries: 4,132 pounds
- Formulated Products: 2,906 pounds
- Other: 5,563 pounds

Total Mercury Use: 143,413 pounds (71.70 tons)
Total Mercury Use In Products: 2010

- Switches & Relays: 38,869 pounds
- Dental Amalgam: 34,163 pounds
- Lamps: 16,793 pounds
- Thermostats: 330 pounds
- Thermometers & Measuring Devices: 1,530 pounds
- Batteries: 14,244 pounds
- Formulated Products: 2,737 pounds
- Other: 4,759 pounds

Total Mercury Use: 113,425 pounds (56.71 tons)
Switches & Relays

Product Sales Bans
11 IMERC states
1 non-member state

2010 Reporting Compliance
N/A - All notification states currently ban sales without exemption application

Additional Analysis
• 2010 total is “unofficial” due to product bans
• Companies reporting in 2010 accounted for 95% of 2007 total
• 2007 – 2010 submitted data shows 37% decrease
• Actual percentage decrease used on 2010 estimated data would yield additional 0.58 ton decrease
Product Sales Bans
None

2010 Reporting Compliance
All known reporting companies entered notification data

Additional Analysis
• 2007 total revised based on new company data – 3.52 ton increase from previously published data
• Five companies report in this category
Thermostats

Product Sales Bans
12 IMERC states
7 non-member state

2010 Reporting
Compliance
Missing data from 2 previous reporters

Additional Analysis
• 2010 total includes estimate for 2 companies – Lux Products & PSG Controls
• PSG Controls catalog still show mercury thermostats for sale
Lamps

Product Sales Bans
4 IMERC states:
CT, RI, LA (high content)
VT (neon)

2010 Reporting Compliance
~65% of previous reporters submitted data

Additional Analysis
• Largest reporting category – more than 150 companies
• Companies reporting in 2010 accounted for 94% of 2007 total
• 2007 – 2010 submitted data shows 21% decrease
• Actual percentage decrease used on 2010 estimated data would yield additional 0.08 ton decrease
Product Sales Bans
4 IMERC states:
CT, RI, ME
LA (high content)

2010 Reporting Compliance
~70% of previous reporters submitted data

Additional Analysis
• Substantial increase due to NEMA – Battery reporting
• NEMA confirmed 2010 total as correct & valid
• 2007 – 2010 non-NEMA submitted data shows 59% decrease
• Companies reporting in 2010 accounted for 75% of 2007 total
Batteries Data Analysis

NEMA reported for Duracell, Eastman Kodak, Energizer, Renata, & Rayovac

- 2001 – 3,975 pounds
- 2004 – 2,215 pounds
- 2007 – 1,991 pounds
- 2010 – 13,795 pounds

State Legislation

- **CT** – July 1, 2011: all Hg button cell batteries banned
- **RI** – July 1, 2011: all Hg button cell batteries banned
- **ME** – January 1, 2012: all banned except 10 silver oxide types; remaining types banned beginning in 2015
- **LA** – July 1, 2012: products with content >10 mg banned
Most notable increases between 2007 & 2010

Alkaline Manganese (stacked cell; 0 – 5 mg)
   5 pounds to 7,126 pounds

Silver Oxide (single cell; 0 – 5 mg)
   271 pounds to 3,432 pounds

Zinc Air (single cell; 0 – 5 mg)
   516 pounds to 2,890 pounds

Note: All other manufacturers reporting in 2010 noted decrease or complete phase-out

NEMA publicly committed to eliminating mercury in button cells by 2011
Measuring Devices

Product Sales Bans
Thermometers:  
12 IMERC states  
2 non-member states

Measuring Devices:  
13 IMERC states  
1 non-member state

2010 Reporting Compliance
Missing data from 1 previous reporter

Additional Analysis
• 2 sphygmomanometer companies – 1 w/ 266 lb. increase; other w/ 948 lb. decrease
• Sphygs account for 64% of 2010 total
• Submitted thermometer data shows 16% decrease from 2007 – 2010
**Product Sales Bans**

3 IMERC states: CT, RI, LA (high content)

**2010 Reporting Compliance**

~75% of previous reporters submitted data

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**Additional Analysis**

- Companies reporting in 2010 accounted for 34% of 2007 total
- Company representing 54% of 2007 total is out of compliance for 2010
- 2007 – 2010 submitted data shows 17% decrease
- Actual percentage decrease used on 2010 estimated data would yield additional 0.16 ton decrease
Miscellaneous Products

Product Sales Bans
3 IMERC states: CT, RI, LA (high content)

2010 Reporting Compliance
~50% of previous reporters submitted data

Additional Analysis
• Products include pressure transducers, mercury recoil units, rotating connectors, & sensors
• Mercury wheel weights are not included – IMERC outreach has been unsuccessful
• Most products have unique and specific applications – most not banned
Additional Information

IMERC Mercury-added Products Database
www.newmoa.org/prevention/mercury/imerc/Notification

IMERC E-filing System
https://imerc.newmoa.org/Public

Mercury-added Product Fact Sheets
www.newmoa.org/prevention/mercury/imerc/FactSheets