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Status of US Substance Restrictions that Impact Electronic Products


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Training Symposium

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Presentation Overview

1. Issue Background
 2. Types of Substance Restrictions that Impact Electronic Products
 3. Current/Proposed Substance Restrictions
 4. Impact on Global Electronics Industry
 5. Need for Harmonization
 6. Conclusion
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Background: US Substance Restrictions

- Regulation of substances contained in electronic products represents new legal trend:
 - 1970s: media specific regulation– Clean Air, Clean Water, Solid Waste
 - 1980s: pollution remediation (CERCLA)
 - 1990s: pollution prevention (Pollution Prevention Act)
 - 2000s: regulation is focused on substances contained in products put on market (California Electronics Recycling Law)

Why New Focus?



- Perception that products themselves may cause environmental harm when discarded
- “Precautionary principle”
 - “Environmental damage should...be rectified at the source and that the polluter should pay.”

Substance Restrictions that Impact Electronic Products

1. Brominated
Flame Retardant
Bans

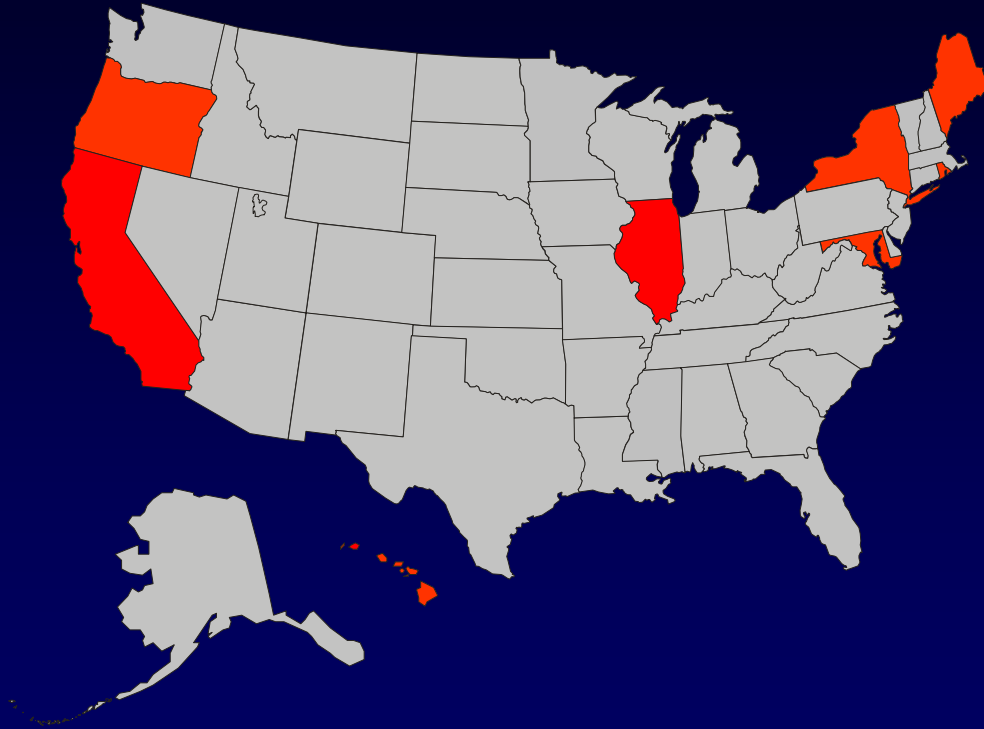
2. Mercury-
Containing
Product
Restrictions

3. “RoHS”
Substance
Restrictions

Brominated Flame Retardant Bans

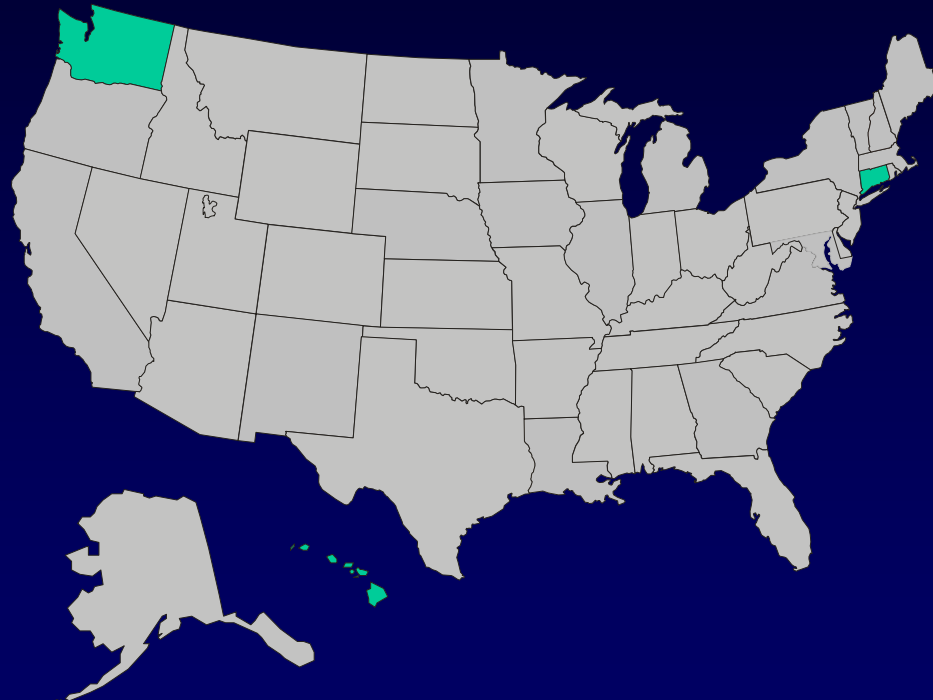
- Currently, in effect in 8 US States.
- Prohibit use of certain brominated flame retardants in electronics sold in state.
- Rationale – classification of certain BFRs as persistent bioaccumulative toxins (“PBT”).
- Current bans target octa and penta BDEs, which have been phased out of global production.
- Deca BDE and TBBPA, which are still used in industry, have come under recent scrutiny.
- Risk assessments have concluded that deca BDE and TPPBA do not pose health risks - however, future status remains uncertain.

US States - Enacted BFR Restrictions



8 US States (CA, OR, HI, IL, NY, MD, ME, RI) currently prohibit sale of products that contain Octa and Penta Brominated Flame Retardants – some leave open possibility that deca BDE will be added in future.

US States - Proposed BFR Restrictions

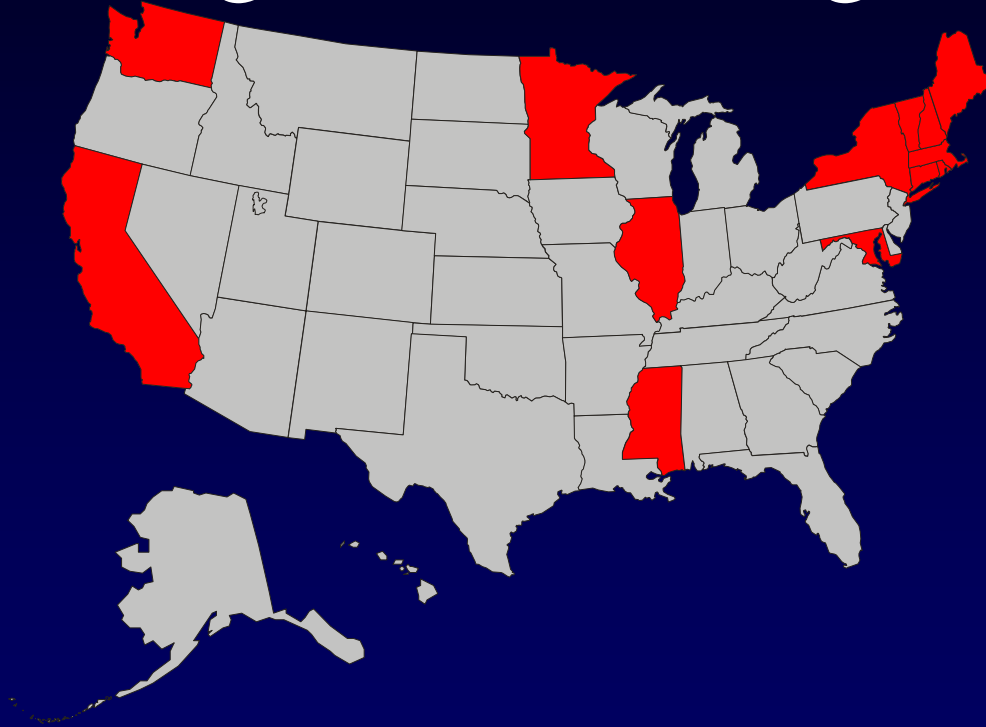


Legislation is pending in Washington State, Hawaii and Connecticut to restrict BFRs in products – HI bills target deca BDE in computers and TVs.

Mercury-Containing Product Restrictions

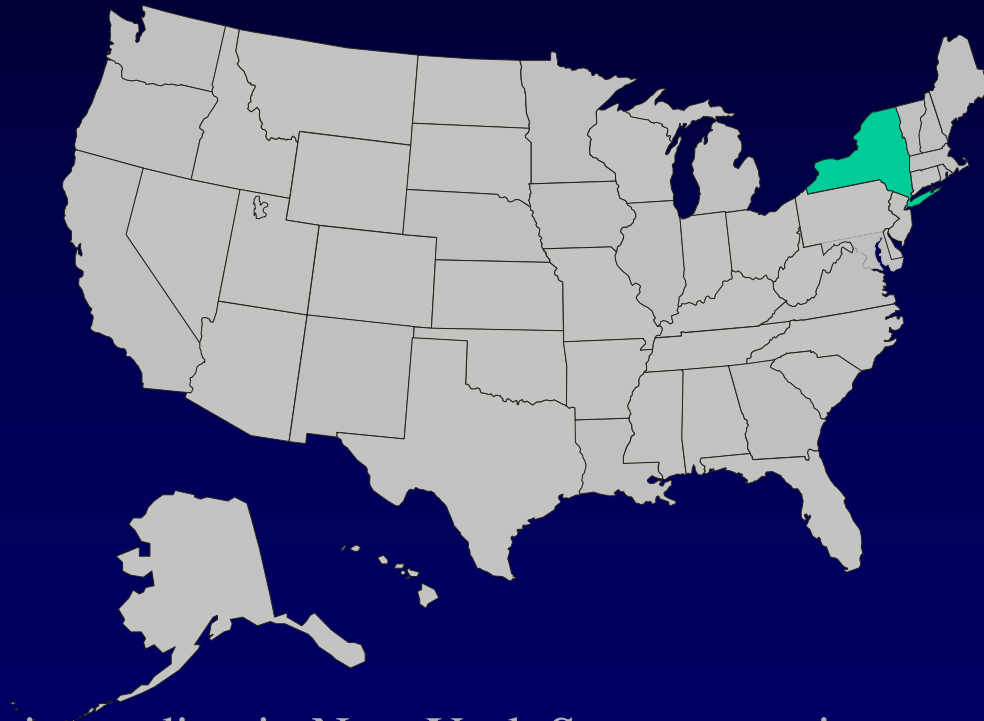
- Currently, in effect in 14 US States
- Ban/phase-out non-essential applications of mercury in products (e.g., thermometers)
- Restrict other uses of mercury in products (e.g., fluorescent lamps)
- Typically require producers to:
 - Notify state before sale
 - Label products with statement regarding presence of mercury in product
 - “Enable collection” in some states (e.g. CT).

US States - Enacted Mercury-Containing Product Legislation



14 US States (CA, CT, IL, LA, MA, ME, MD, MN, NH, NJ, NY, RI, VT, and WA) have enacted restrictions that apply to electronic products that contain mercury-added switches, relays, and lamps.

US States - Proposed Mercury-Containing Product Legislation

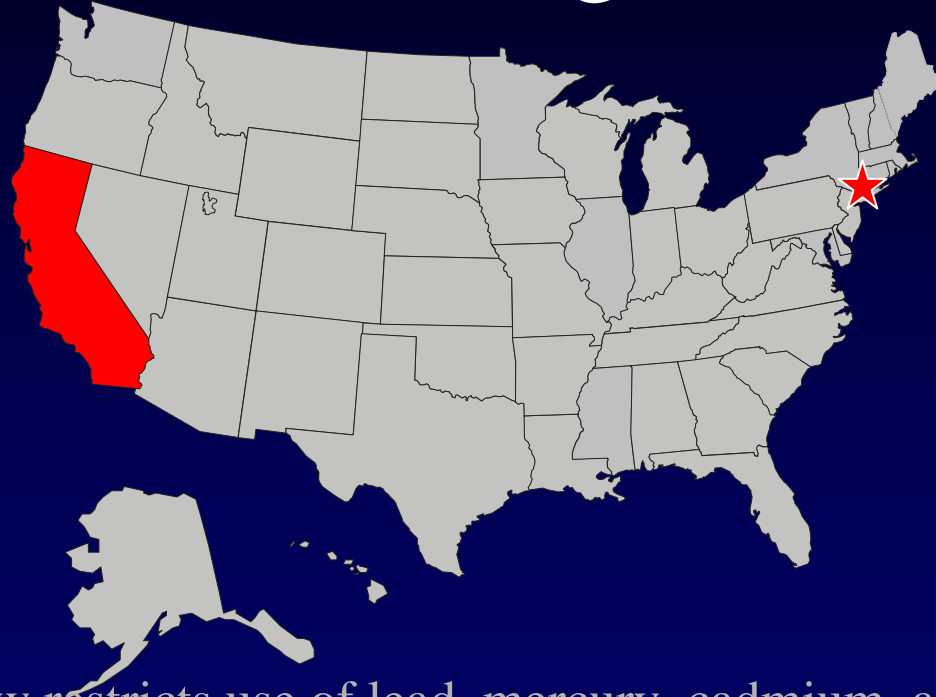


Legislation is pending in New York State to restrict use of mercury in products, including electronics.

US Enacted “RoHS” Restrictions

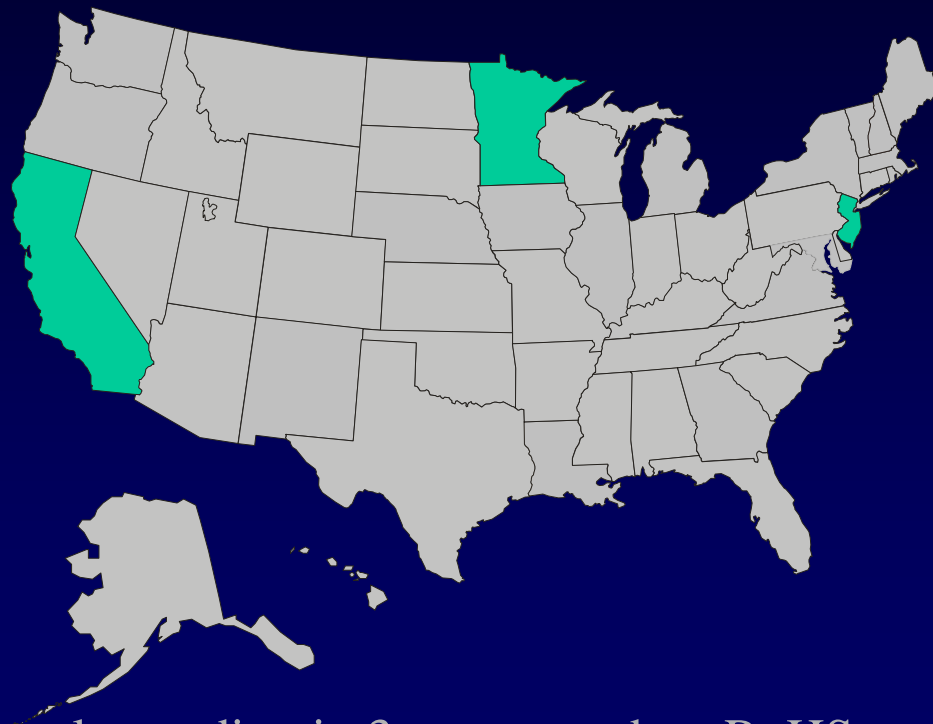
- Modeled on EU Restriction of Hazardous Substances (“RoHS”) Directive
 - Restricts use of lead, mercury, cadmium, hexavalent chromium and certain brominated flame retardants in most electrical and electronic equipment “put on” European market after July 1, 2006.
- One US State has enacted a “RoHS” restriction
 - California (SB 20/SB 50) - Applies only to video displays greater than 4” in diameter and only restricts heavy metals.
- NYC enacted ordinance last year that requires city agencies to purchase “RoHS” compliant electronics.

US States – Enacted RoHS Restriction Legislation



California law restricts use of lead, mercury, cadmium, and hexavalent chromium in covered video display devices sold in California after January 1, 2007. New York City ordinance restricts City from purchasing electronic equipment that is prohibited from sale in the EU due to RoHS Directive.

US States – Proposed RoHS Restriction Legislation



Bills are currently pending in 3 states to adopt RoHS restrictions for electronic products – all are broader than current California law.

State-by-State Substance Restrictions Create Inefficiencies

- Different product scope
- Different substance scope
- Inconsistent regulatory requirements
- Redundant regulatory requirements
- Product design impacts
 - Chemical restrictions may impact reliability, safety, and environmental impact
- Acknowledgement that national regulation may be necessary to achieve consistent implementation.

National Harmonization is Needed!

- Industry is working to ensure that whenever new substance restrictions are proposed, they are revised to follow existing requirements.
- Although industry is not pursuing national substance restriction legislation, that strategy may be helpful if state substance restrictions continue to proliferate.
- Industry is likely to see more substance restriction legislation introduced in US in 2007.
- Recent Democratic wins boost chances for enactment.

Conclusions

- State substance restrictions will continue to proliferate.
- Restrictions will target BFRs, mercury and heavy metals used in electronics although PVC and other substances may be added.
- Because electronics industry is a global industry, substance restrictions must be harmonized to facilitate design, manufacture, and sale.
- Continued enactment of conflicting state requirements may prompt industry to push for national solution.
- National legislation could establish uniform rules and reduce inefficiencies through preemption.



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