

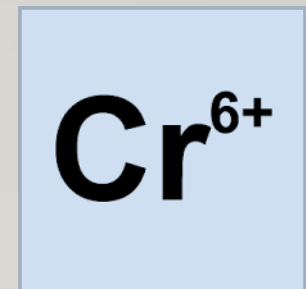
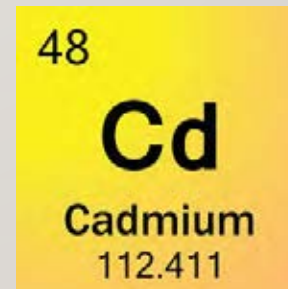
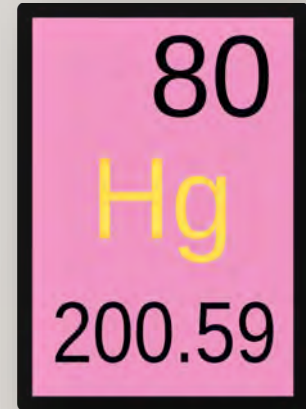
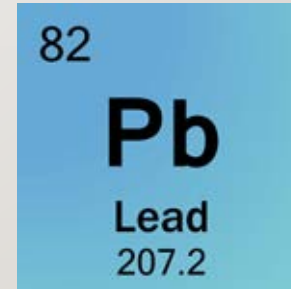
FOOD  
CONTACT  
REGULATIONS  
USA 2023

TPCH Efforts on  
Harmonization  
and Guidance for  
the Regulated  
Community

Presented by Melissa Lavoie, TPCH Program Manager

# TOXICS IN PACKAGING!

- Lead
- Cadmium
- Mercury
- Hexavalent Chromium



# ORIGINAL MODEL LEGISLATION

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Prohibits **intentional introduction** of *any amount* of the four regulated metals

Limits **incidental presence** of the four metals to **100 ppm (0.01%)** total concentration

Applies to finished packaging and each individual packaging component

Exemptions were available for a limited period, e.g., recycled content, certain reusable packaging

Model approved by CONEG Governors Jan. 3, 1990; enacted in Maine April 17 and New Hampshire April 19, 1990



- Maintains/Updates the model law
- Coordinates implementation of state laws to promote consistency among states
- Single point of contact for companies
- Packaging screening projects



# HOW DO THE LAWS WORK?



Creates **supply chain responsibility**



**Producer** companies self-certify  
based on:

analytic tests

supplier certification



Provide Certificate of Compliance to customers (downstream producers), and states on request



Most laws provide state with authority to levy monetary penalties against packaging and product producers and distributors





# SCREENING PROJECTS & PUBLICATIONS

- 2006-2007:
- Screened 355 packages; 16% overall failure, average Cadmium 449 ppm, Lead 1,740 ppm
- 2009:
- Screened 409 packages;
- 14% overall failure, 52% of imported PVC

2011:

Laboratory Round Robin Testing: Assessing Performance in Measuring Toxics in Packaging – 16% of testing for Pb and Cd > 25% off

2012:

Testing of packaging “Cheap Junk from China” showed a “propensity” (almost 40%) to contain the restricted metals.

919 ppm lead in zipper pull!





## Plastic Bag

### Screening (2012):



Screening of Inks & Colorants in plastic bags (screened 125 bags; 3 failed big-time compared to 17% failure rate in 2007)

## Glass Screening (2014):



Evaluated test methods for determining total conc. of regulated metals in glass matrix packaging (need SW-846 Method 3052, hydrofluoric acid)

# 2014-2017 GLASS FINDINGS DURING SCREENING



- Lead found in high % of green bottles from Argentina - Malbec! (plus other countries)
- Purchased at the New Hampshire State Liquor Store! (WA, IA have state stores too)
- Sources of lead? CRT glass?
- Information shared with the TPCH Member Glass Packaging Institute

## 2017 PVC BULLETIN

- Products purchased/tested in 2015
- Approximately 20 products found with PVC packaging that contained Cadmium; no Lead detected
- Included five suppliers to one major retailer
- Home furnishings, housewares, pet toy and pet chew packaging made overseas
- Several companies withdrew significant inventory from stores and their distribution chain

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# SUCCESS STORIES

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Lead foil wine bottle wrappers (not addressed by FDA as food contact issue)

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Major manufacturer: cadmium pigment in yellow plastic container

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Lead solder in non-food cans (e.g., paint)

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Electronics and batteries in product packaging and displays

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Lead and cadmium in flexible plastic film



# 2021 TPCH MODEL LEGISLATION UPDATE

## DISCUSSIONS BEGAN IN 2016

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a new state member active in emerging chemical and safe product testing asked ‘isn’t it time to think about other chemicals that should be in the law, or how chemicals could be added?’



Walmart Sustainable Packaging Playbook released, targets packaging chemicals for elimination



Members reviewed existing state laws and 1994/98 evaluation reports for process and criteria – there’s mention, little guidance



Growing body of evidence of other chemical impacts on human & environmental health



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# LISTS OF CHEMICALS OF CONCERN

Feb. 2017: full meeting discussion, created subcommittee to research issues, subcommittee members reviewed state, federal, NGO, EU, other lists of chemicals of concern, and health/environment criteria for chemicals to be placed on those lists

June-Nov 2017: findings brought to membership for review and discussion, 'New Chemicals Table' draft for review, summarizing chemicals found on multiple lists, criteria for listing

Late 2017: CEH finds high fluorine levels in 'PFAS-free' compostable foodware

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TPCH produced 1<sup>st</sup> and 2<sup>nd</sup> Drafts of ‘Criteria used to select new chemicals of concern’

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Washington’s Legislature amended their toxics in packaging law – PFAS chemicals banned from fiber food packaging 2 years after an alternatives analysis finding of safer alternative for application

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2018

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2019

- Maine's Legislature amended its toxics in packaging law to:
  - Allow Maine DEP to ban PFAS from food packaging by rule 2 years after finding that an alternative is available, not restricted to fiber packaging, and
  - Ban ortho-phthalates in food packaging, effective 1/1/22.
- Maine's Legislature enacted a new law establishing criteria and process for identifying and listing 'packaging chemicals of high concern' and processes for phasing out sale and use in packaging sold in the state
- Washington and Maine enacted laws that provided a road map for TPCH

# TPCH CONSIDERATIONS IN 2020

- Adapt enacted laws for PFAS, ortho-phthalates, process and criteria for new chemicals into new Toxics in Packaging Model Legislation
- Remove expired/obsolete exemptions and allowances from current model





## ADDITIONAL CONSIDERATIONS

- Utilize the pollution prevention (P2) model for all packaging, due to human and environmental health concerns throughout entire life cycle of the chemical and the package, and the long tail of recycling and recycled content, not just direct contact
- Review suggested model legislation changes with Advisory Members of TPCH (Associations) before posting for public comment




Placing toxics in commerce includes an obligation for end-of-life recovery. This can be done with some 'high value' durable goods that are easy to track and identify in their life cycle.

Packaging is inherently short lived, high volume, low value, heterogenous, and difficult to recover in a dedicated stream...TPCH member states work toward packaging that is free of 'forever chemicals' and toxics.

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2020



# POLICY CONSIDERATIONS

- Address PFAS chemicals as a class, or allow some uses based on risk analysis, characterization as ‘essential use,’ conditional on other use or end of life management concerns?
- There are thousands of PFAS chemicals/breakdown products, with poor or non-existent analytical methods to assess risk or compliance with any specific use allowance...few chemicals characterized for risk

# POLICY CONSIDERATIONS (CONTINUED)

- TPCCH members decided that properties of the class require PFAS to be addressed as a class
- During the public comment period, NO commenters requested either an exemption process or an alternatives analysis process for PFAS chemicals or ortho-phthalates.

# PFAS: PARALLELS TO OTHER TOXICS

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- April 2020:
  - “Researchers discover ‘forever chemicals’ around summit of Mount Everest”  
*Portland Press Herald, Washington Post*
  - Atmospheric transport, multi-media mobility, and polar condensation/distillation of PMT and PBT chemicals
  - Complex and poorly understood impacts on human, wildlife, ecosystem health, globally





# PFAS PARALLELS TO MERCURY

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- Mercury: ~1970 discovery by Swedish scientists of mechanisms of bio-accumulation, biochemical and multi-media mobility of mercury as a PBT
  - National Geographic October 1972: “Mercury, Man’s Deadly Servant; Quicksilver and Slow Death”
  - Paper, food contact, food crop pesticide and other uses rapidly phased out (sound familiar?)
  - Many publications on sources and environmental cycling, range of impacts







## PFAS PARALLELS TO LEAD

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- Lead – Pervasive environmental contamination of the planet from gasoline, other human uses
- Scope of global contamination caused by humans was established with Greenland ice cores and clean lab techniques invented by Clair Patterson
  - “The most important scientist you’ve never heard of”
  - <https://www.mentalfloss.com/article/94569/clair-patterson-scientist-who-determined-age-earth-and-then-saved-it>

The background of the slide is a photograph of an industrial facility, possibly a refinery or chemical plant, at dusk or dawn. The sky is a deep blue, and the facility's structures, including tall distillation columns and a network of pipes, are silhouetted against the light. Some lights are visible on the facility, suggesting it is still operational. The overall tone is somber and industrial.

# TOXIC TRIO

- Leaded gasoline, PCBs, and CFC's were all developed by the same people for the purpose of gaining economic and technology monopolies in three industries: motor vehicles, refrigeration, and certain sectors of the electrical industry
- PCBs and CFCs have similar environmental impacts but were contained in their products versus dispersed in use
- Parallels in fluorine and chlorine chemistries

**MAJOR 2021  
ADDITIONS TO  
THE TPCH  
MODEL  
LEGISLATION  
INCLUDE:**

- The addition of the class of perfluoroalkyl and polyfluoroalkyl substances (PFAS) and ortho-phthalates as regulated chemicals
- New processes and criteria for identifying and regulating additional chemicals of high concern in packaging.

# 2021 TPCH UPDATE TO MODEL LEGISLATION

- Link to background materials, comments received, response to comments and the full legislative language on TPCH website:  
<https://toxicsinpackaging.org/2021-update/>
- Link to model legislation Fact Sheet on TPCH website:  
<https://toxicsinpackaging.org/model-legislation/fact-sheet/>

**2021 TPCH  
UPDATE TO  
MODEL  
LEGISLATION**

***It is up to each state to decide to adopt changes to their existing toxics in packaging law or adopt a new law to address toxics in packaging.***



# DEVELOPMENT OF TESTING GUIDANCE FOR REGULATORS AND THE REGULATED COMMUNITY

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- Technical Testing Workgroup formed in 2021
- Meetings with chemists, labs to gather information
- Finalizing guidance by Summer 2023

# COLLABORATION WITH THE INTERSTATE CHEMICALS CLEARINGHOUSE (IC2)

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- WA Ecology initiated discussion on harmonizing legislative definitions
- Meetings with interested members of the Interstate Chemicals Clearinghouse (IC2) and TPCH to discuss harmonizing definitions in PFAS in packaging laws (18 participants on average)
- Group moved to an existing workgroup in TPCH

# TPCH MEMBERSHIP INFORMATION

[HTTPS://TOXICSINPACKAGING.  
ORG/THE-  
CLEARINGHOUSE/BECOME-A-  
MEMBER/](https://toxicsinpackaging.org/the-clearinghouse/become-a-member/)

- State members (voting) – States with toxics in packaging legislation
- Advisory members (non-voting) - Industry, Associations, Companies, NGO's, Individual subject matter experts
- Affiliate members (non-voting) – State that has not passed legislation consistent with that of the Model Legislation, Foreign governments

# TPCH CONTACT INFO

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<https://toxicsinpackaging.org/>

Questions? Email Melissa Lavoie at  
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