



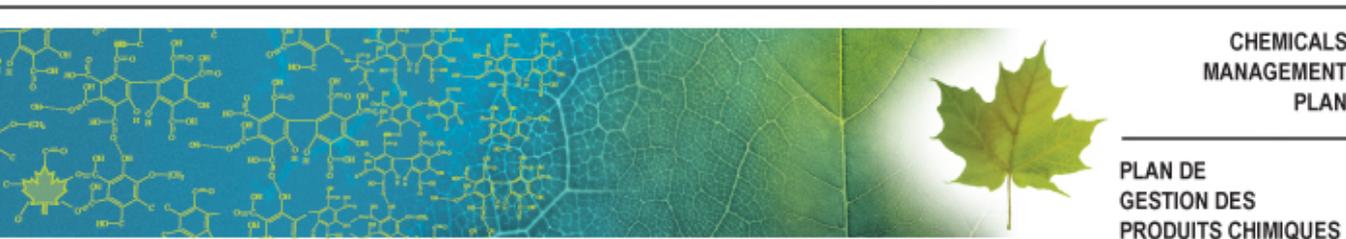
Government
of Canada

Gouvernement
du Canada

Government of Canada's Multi-Stakeholder Workshop on Regulations Respecting Formaldehyde Emissions from Composite Wood Products

Shaw Centre, Ottawa

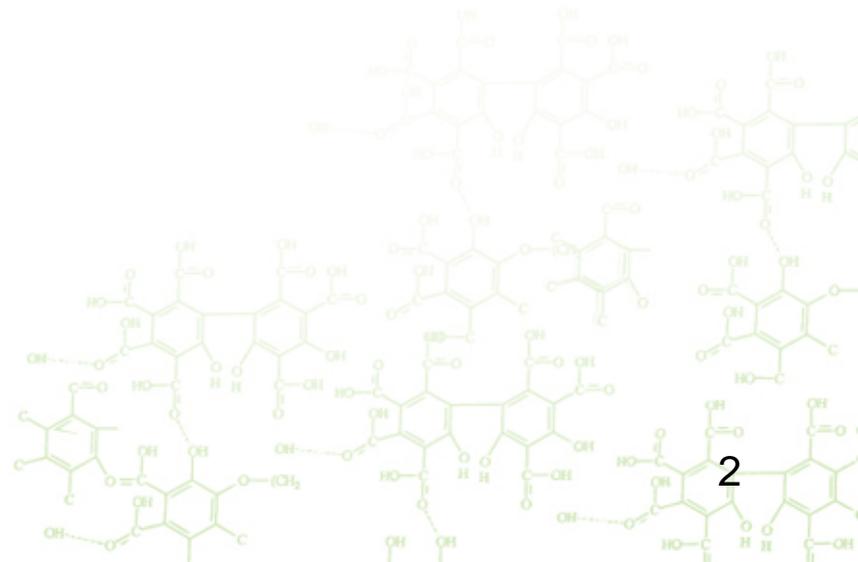
September 6, 2017



Canada

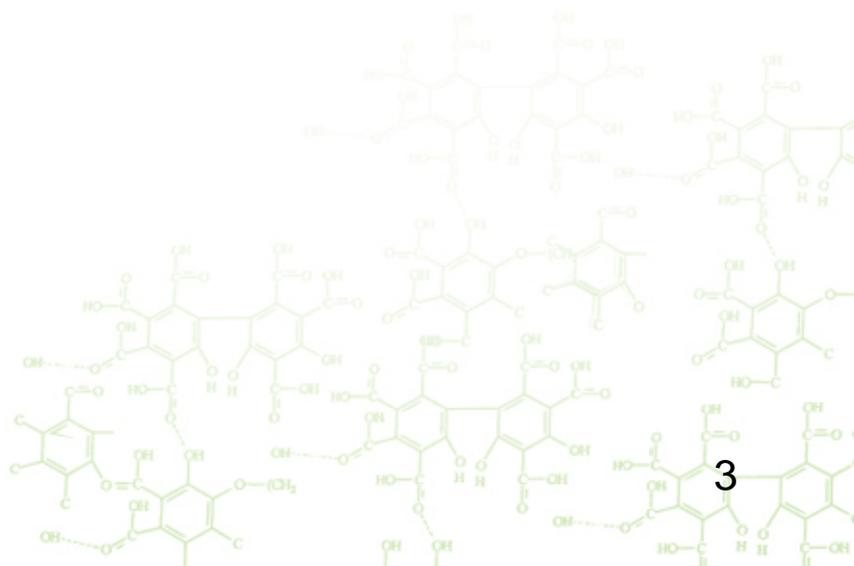
Outline

- Workshop objective
- Information on formaldehyde
- North American regulatory landscape
- Overview of data gathering
- Proposed regulations
- Timelines
- Your feedback

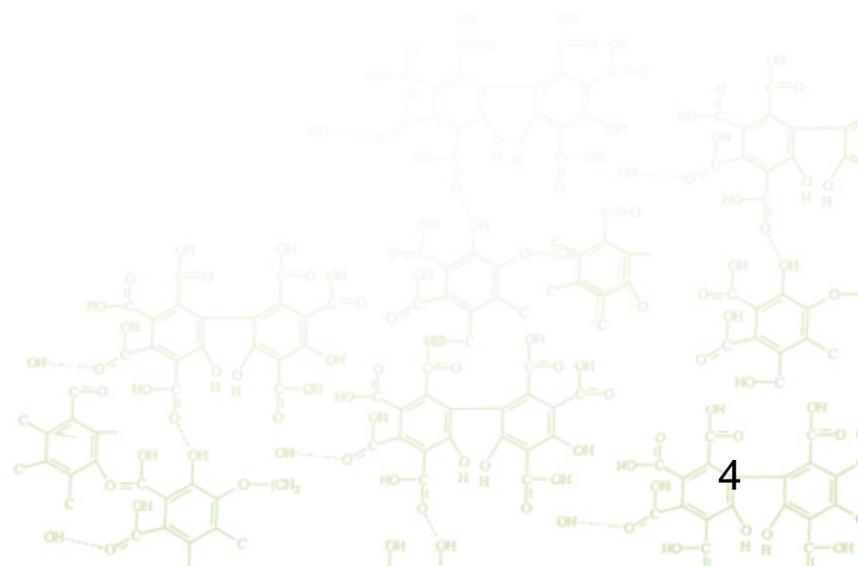


WORKSHOP OBJECTIVE

Inform stakeholders about the Government of Canada's intentions to develop regulations to reduce emissions of formaldehyde from composite wood products and to solicit feedback to guide the regulatory approach



INFORMATION ON FORMALDEHYDE INDOOR AIR HEALTH RISKS

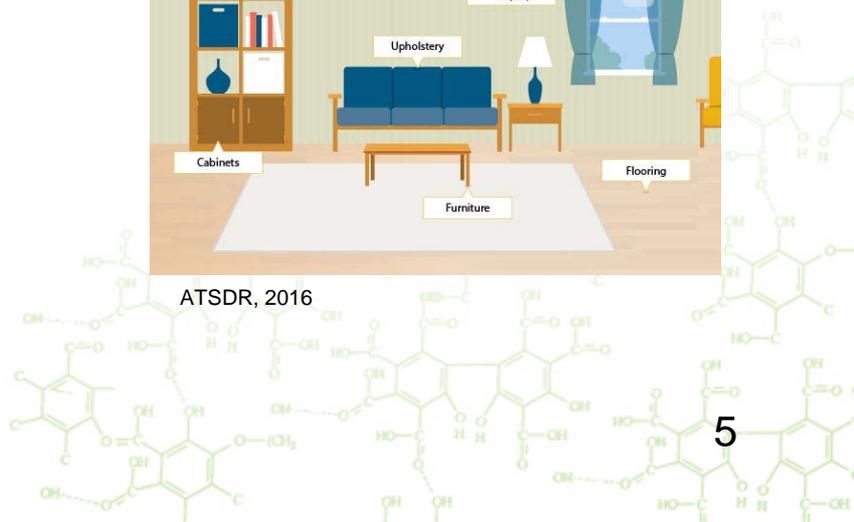


Sources of formaldehyde in air

- Colourless gas commonly found in the indoor air of homes
- Significant component in resins used as adhesives/binders in composite wood products
- Also released from smoking, fireplace use and cooking
- Outdoor sources include combustion (e.g. on-road vehicles, forest fires), industrial processes, and secondary atmospheric formation
- Other uses include fungicide, germicide, and disinfectant, and preservative in mortuaries and medical laboratories

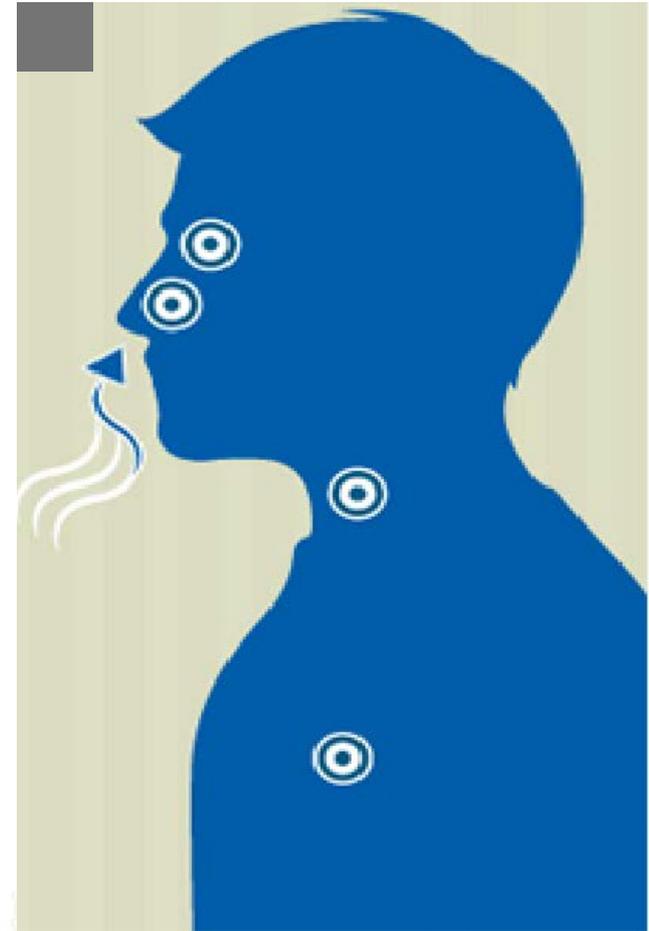


ATSDR, 2016

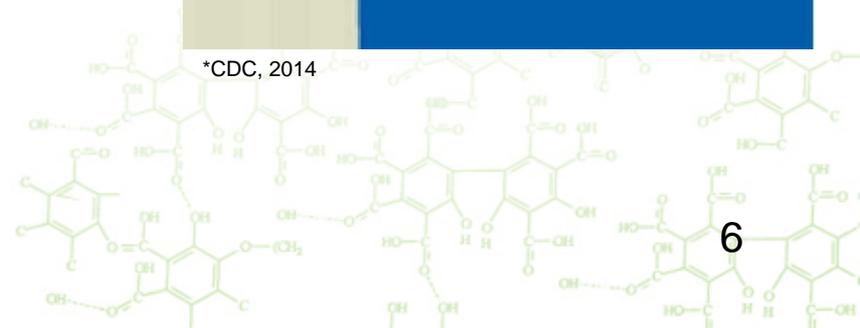


Health effects of formaldehyde

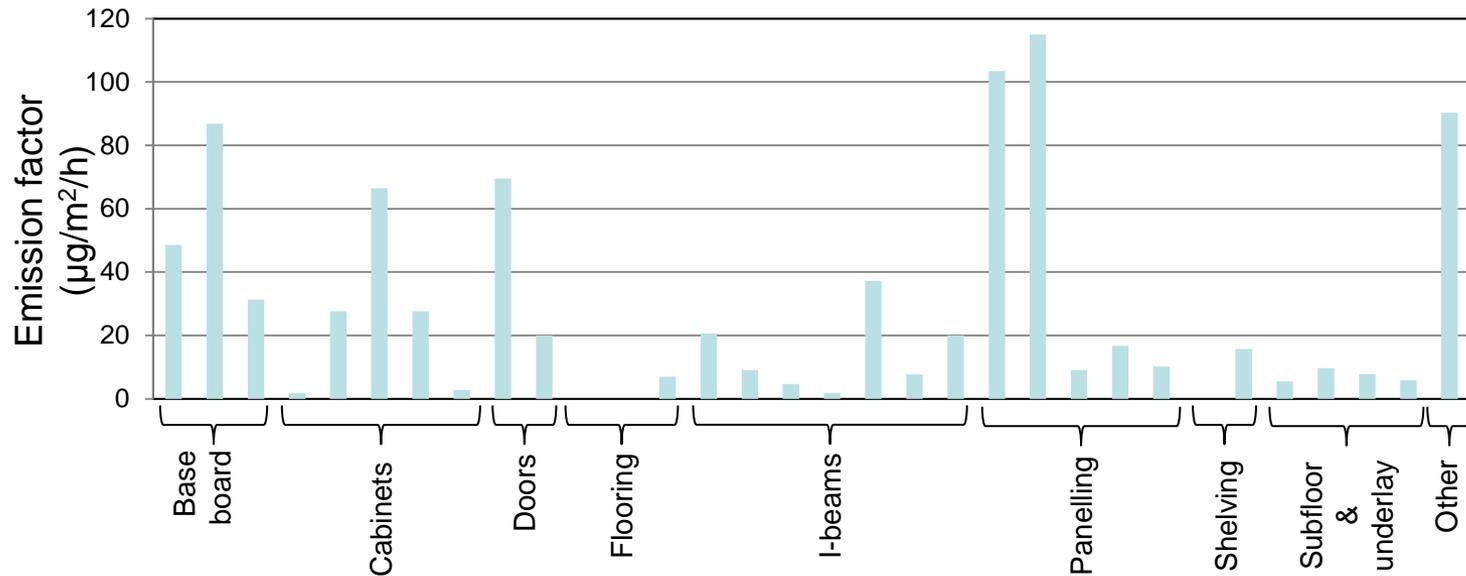
- Short-term exposures:
 - Irritation of eyes, nose and throat; worsens asthma symptoms, particularly in children
 - Health Canada Residential Indoor Air Quality Guideline (1 hour): $123 \mu\text{g}/\text{m}^3$ (100 ppb)
- Longer-term exposures:
 - respiratory symptoms and allergic sensitivity in children
 - Health Canada Residential Indoor Air Quality Guideline (8 hour): $50 \mu\text{g}/\text{m}^3$ (40 ppb)
- Can cause cancer of the nasal passageway
 - at levels above those that cause irritation and inflammation
 - IARC Group 1 carcinogen



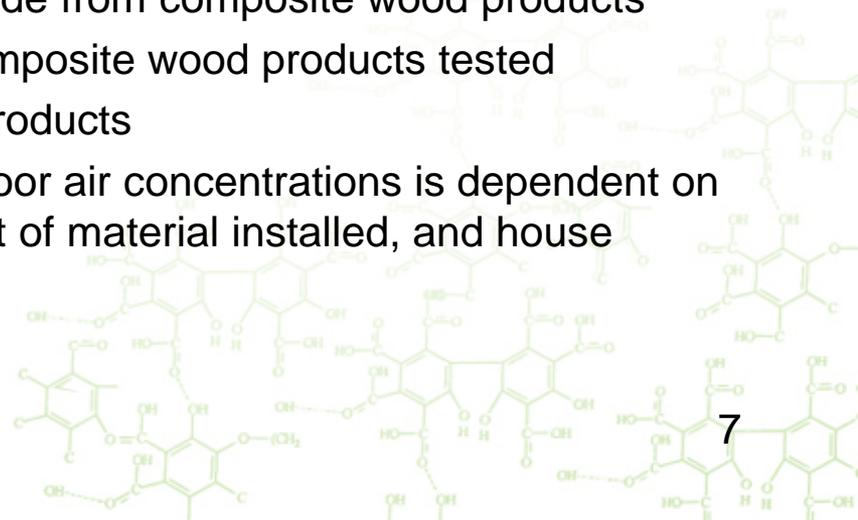
*CDC, 2014



Formaldehyde emissions from composite wood products

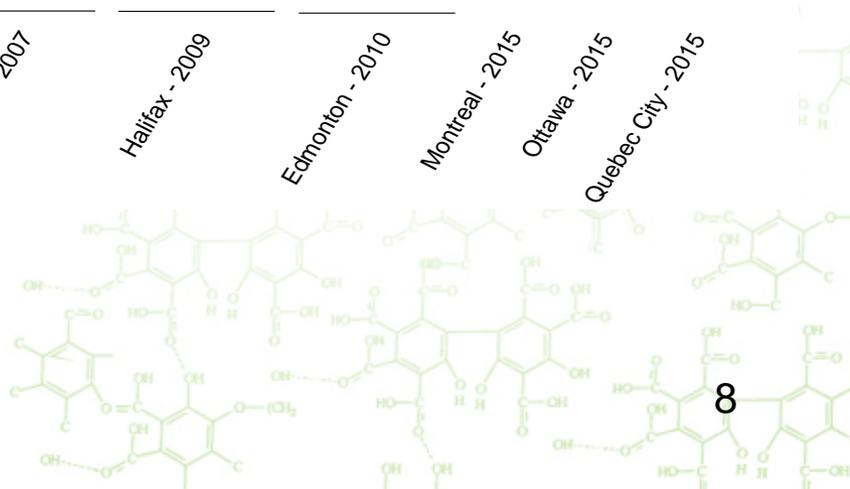
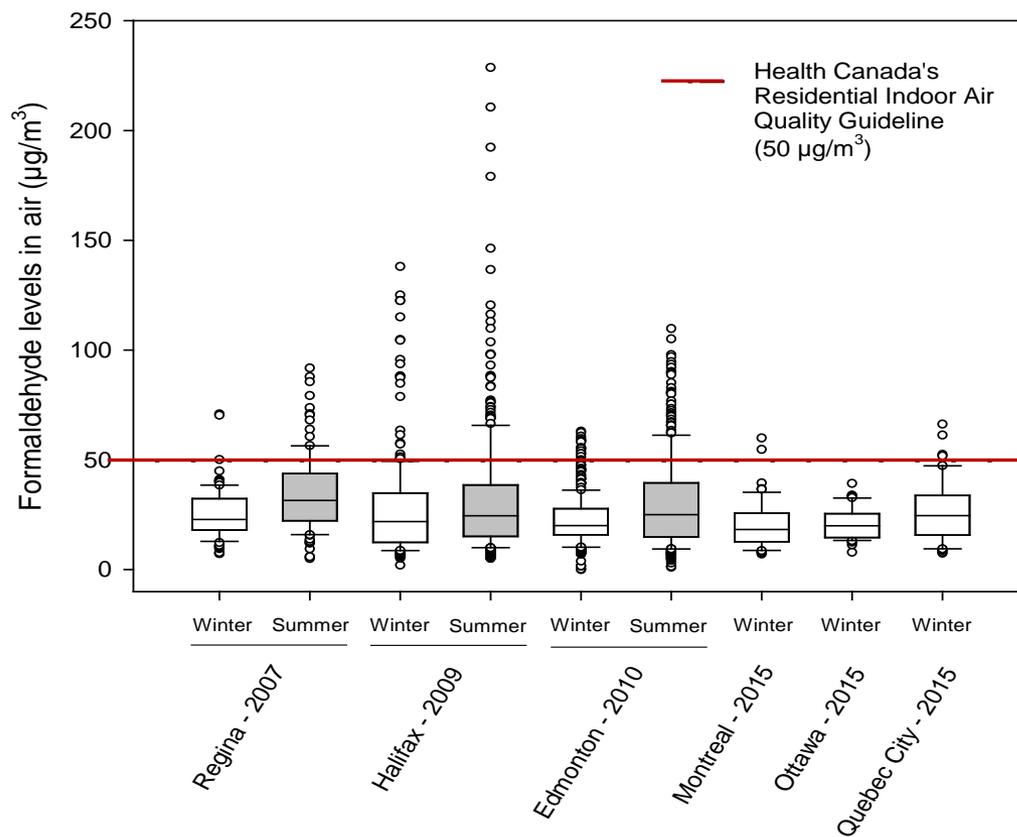


- Health Canada and the National Research Council of Canada conducted several studies to examine emissions of formaldehyde from composite wood products
- Formaldehyde was emitted from 91% of composite wood products tested
- Emission factors varied depending on the products
- Contribution of emitted formaldehyde to indoor air concentrations is dependent on emission rates, number of products, amount of material installed, and house characteristics



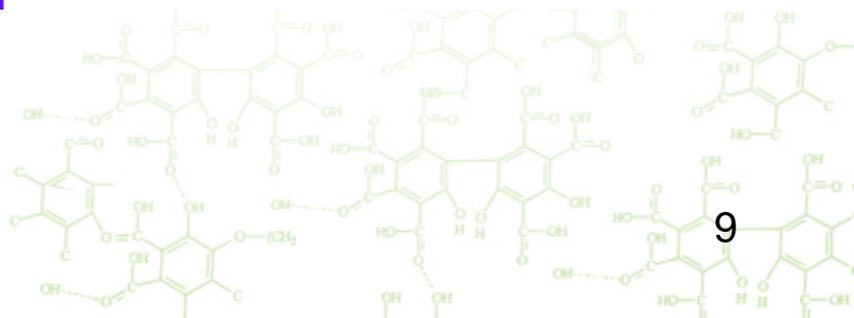
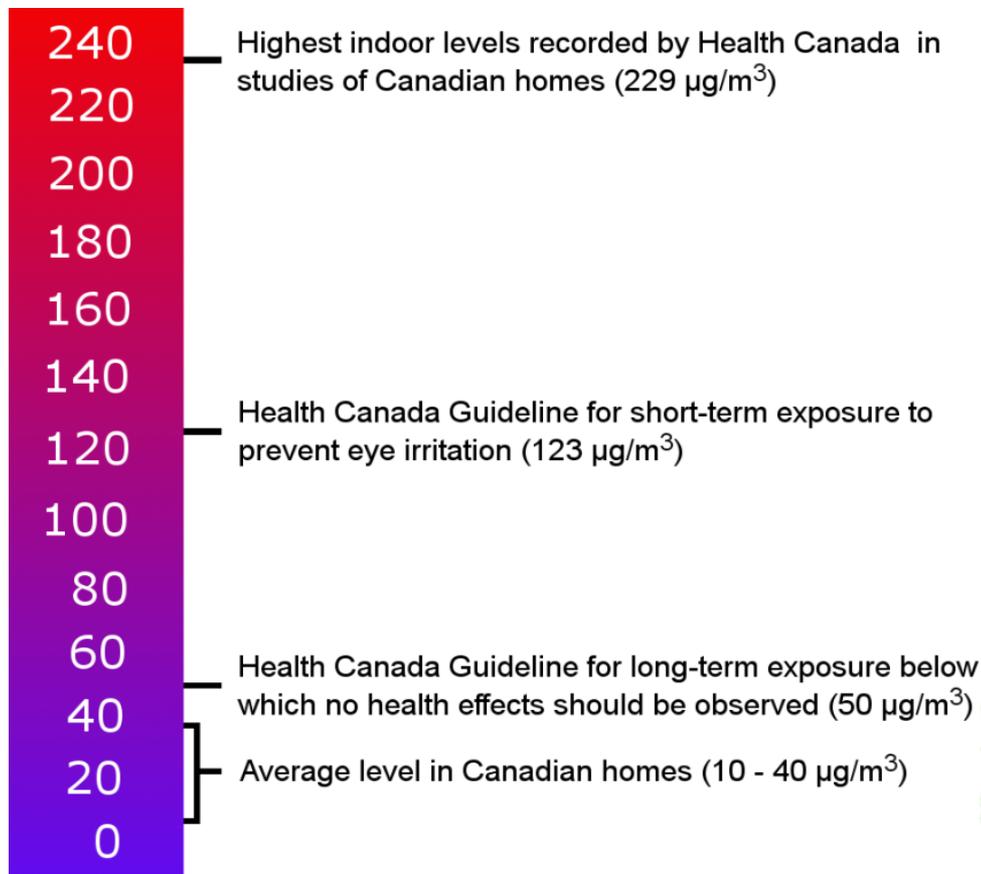
Indoor formaldehyde levels can exceed Health Canada Guideline

- Concentrations measured in Canadian homes range from 0.3 to 228.7 $\mu\text{g}/\text{m}^3$
- 8% of homes tested had household average concentrations that exceeded Health Canada's long-term exposure limit of 50 $\mu\text{g}/\text{m}^3$ (40 ppb)
- During the summer, 22.5% of homes had at least one measurement that exceeded the Health Canada guideline (winter = 5.5%)

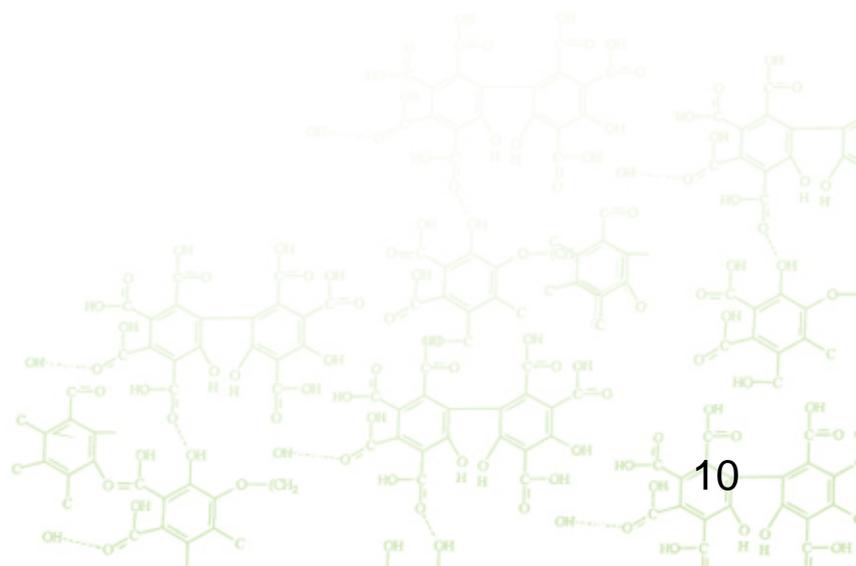


Need for action

- An increased concentration of formaldehyde is associated with increased health risks
- Formaldehyde concentrations in some Canadian homes exceed health-based guidelines
- Composite wood products are a source of formaldehyde in indoor air
- **Limiting formaldehyde emissions from composite wood products will help prevent higher exposures in Canadian homes and thus reduce the risk of adverse health effects**



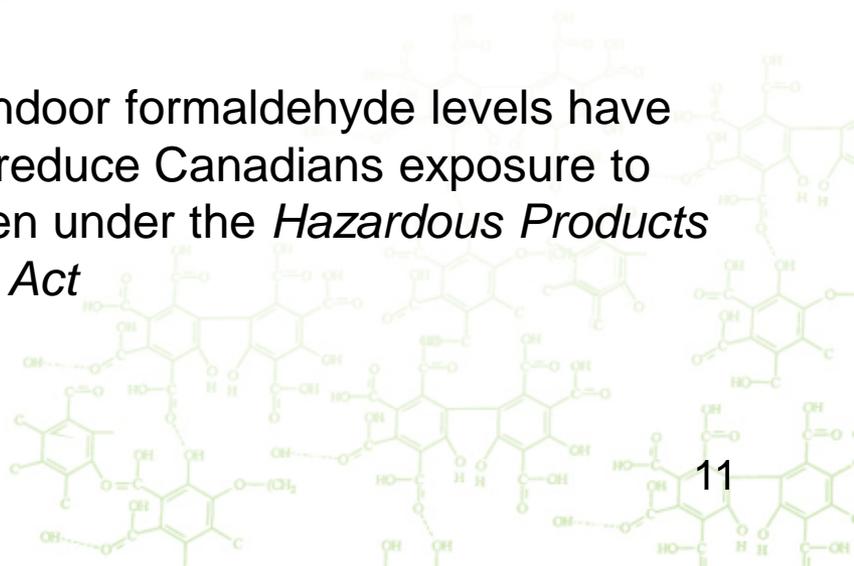
NORTH AMERICAN REGULATORY LANDSCAPE



Canadian regulatory background under CEPA

2001 Measures under the *Canadian Environmental Protection Act, 1999 (CEPA)*

- Formaldehyde was identified as a priority substance in 1995 and a screening level risk assessment was completed by Environment Canada and Health Canada in 2001 (Priority Substance List 2)
- Environment Canada and Health Canada concluded that formaldehyde is harmful to human health and the environment under CEPA and it was added to the *List of Toxic Substances* in Schedule 1 of CEPA
- Current CEPA controls focus on reducing formaldehyde emissions to outdoor air in various ways (<https://www.ec.gc.ca/lcpe-cepa/eng/regulations/default.cfm/>)
- No regulatory actions specific to reducing indoor formaldehyde levels have been taken under CEPA however steps to reduce Canadians exposure to formaldehyde while indoors have been taken under the *Hazardous Products Act* and *Canada Consumer Product Safety Act*



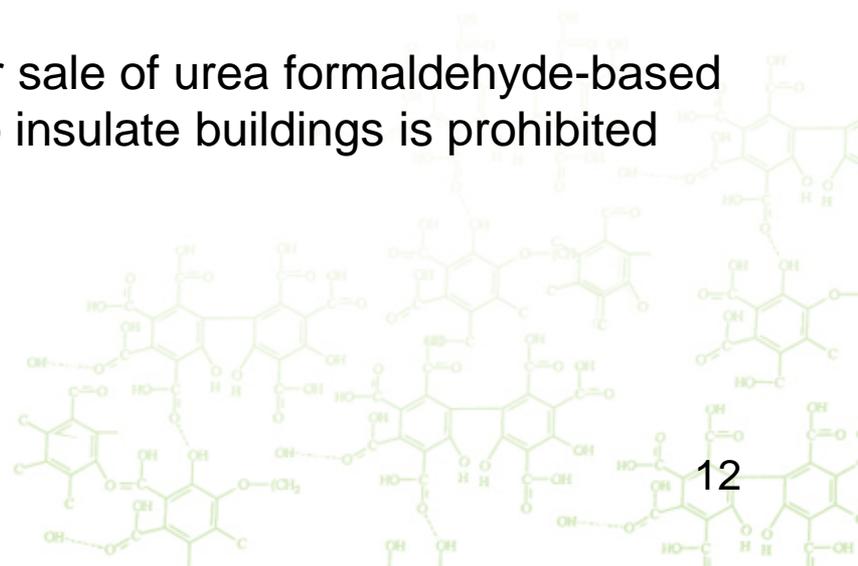
Canadian regulatory actions

1980 - 2011 Prohibition under the *Hazardous Products Act (HPA)*

- Advertisement, importation and sale of urea formaldehyde-based thermal insulation, foamed in place, used to insulate buildings, were prohibited in Canada under the HPA
- The prohibition was due to the high levels of formaldehyde that were given off during the installation process, as well as the continued off-gassing from poorly installed insulation

2011 Prohibition under the *Canada Consumer Product Safety Act (CCPSA)*

- Manufacture, importation, advertisement, or sale of urea formaldehyde-based thermal insulation, foamed in place, used to insulate buildings is prohibited under the CCPSA



Non-regulatory actions in Canada

2006 Residential Indoor Air Quality Guideline for Formaldehyde

- Health Canada developed short-term and long-term indoor air exposure limits for formaldehyde in homes
- Health Canada air guidelines are recommendations only and are not an enforceable standard under any regulation
- They are meant to serve as a scientific basis for activities to reduce the risk from indoor air contaminants

2016 Canadian Standards Association (CSA) Voluntary Standard CAN/CSA-O160-16

- A voluntary standard on formaldehyde emissions for composite wood products manufactured in Canada was developed. Its emission limits are harmonized with measures that were already in place in California (California Air Resources Board - CARB)
- Health Canada initiated, participated in and financed the development of this standard
- This standard may not capture imported or finished products made from composite wood



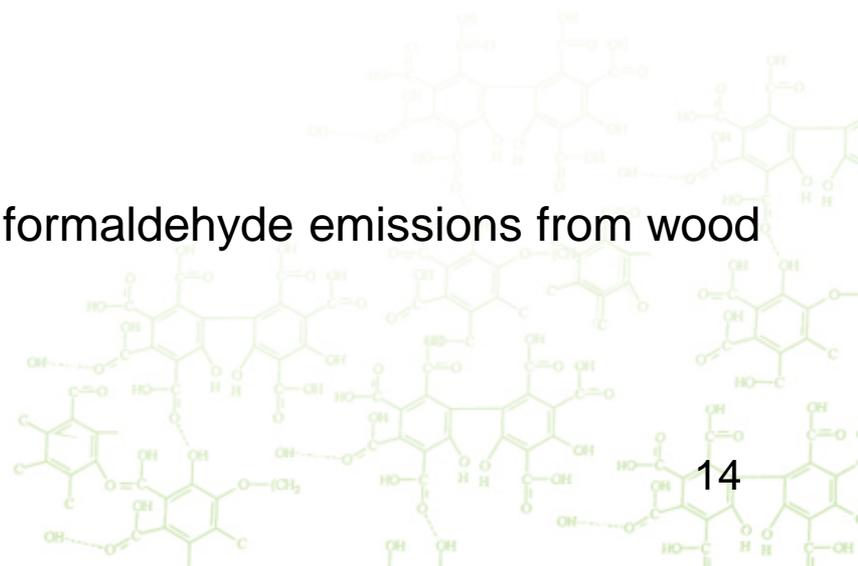
North American regulatory actions

United States

- In 2010, U.S. Congress tasked the U.S. Environmental Protection Agency (EPA) with developing national regulations to manage formaldehyde emissions
- The proposed rule, *Formaldehyde Emissions Standards for Composite Wood Products* (TSCA Title VI), was published July 2016 and finalized in December 2016
- Requires composite wood products sold or imported in the U.S. to comply with the CARB *Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products* Phase 2 emissions limits (CARB2; 2010) formaldehyde emission requirements and with other requirements such as traceability and certification

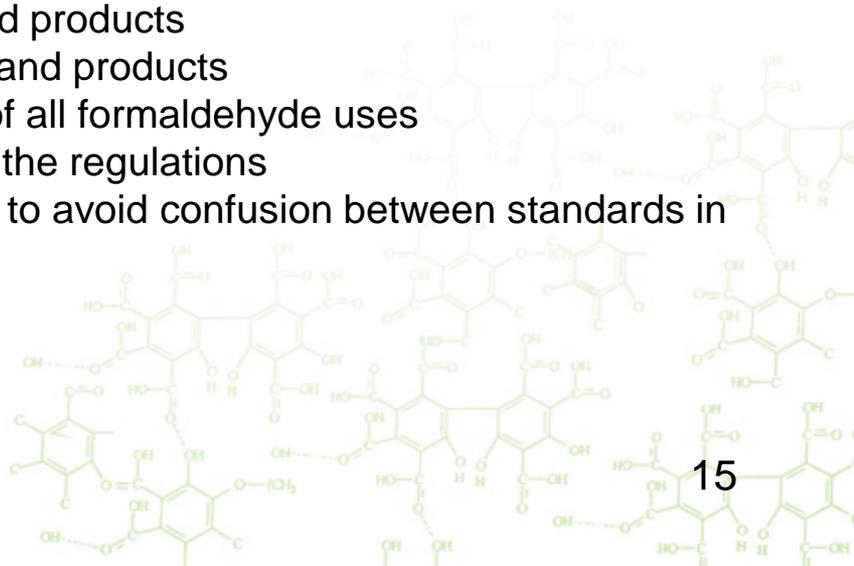
Mexico

- Proposed a similar standard that would limit formaldehyde emissions from wood products

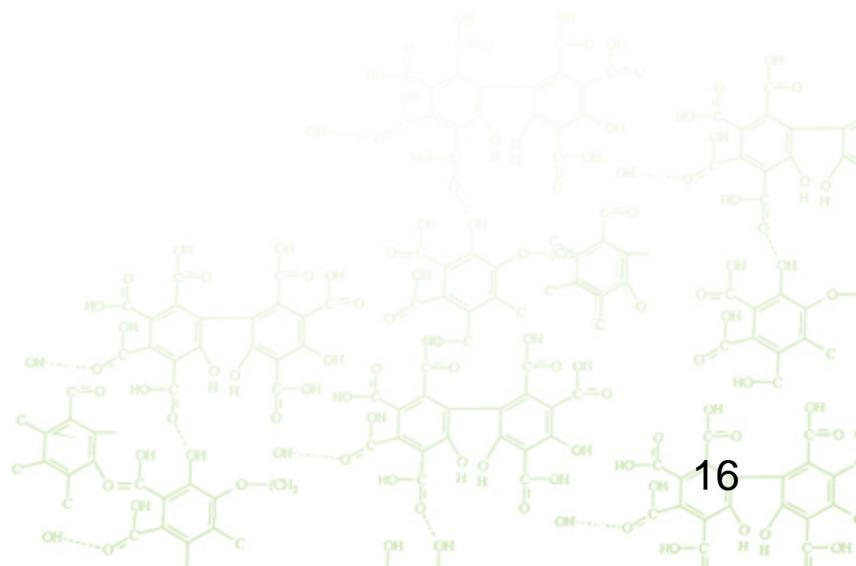


Government of Canada Notice of Intent

- On March 18, 2017, a **Notice of Intent** to develop regulations was published in the Canada Gazette (<http://gazette.gc.ca/rp-pr/p1/2017/2017-03-18/html/notice-avis-eng.php>)
- Proposed regulations under CEPA will aim to reduce formaldehyde emissions from composite wood products produced domestically or imported into Canada
- Six comments were received on behalf of two industry associations, three non-governmental organizations, and one federal crown corporation. All submissions were supportive of the development of formaldehyde regulations, suggesting alignment with the U.S. EPA TSCA Title VI and/or applying the requirements outlined in CARB2
- Additional recommendations included:
 - taking a precautionary approach in considering alternatives to formaldehyde based resins
 - effective provisions for management of stockpiled products
 - third-party labelling and tracking of components and products
 - drafting a phase-in period for eventual removal of all formaldehyde uses
 - clearly outlining the inclusions and exclusions in the regulations
 - clearly defining terms for the consumer products to avoid confusion between standards in other jurisdictions and to increase compliance

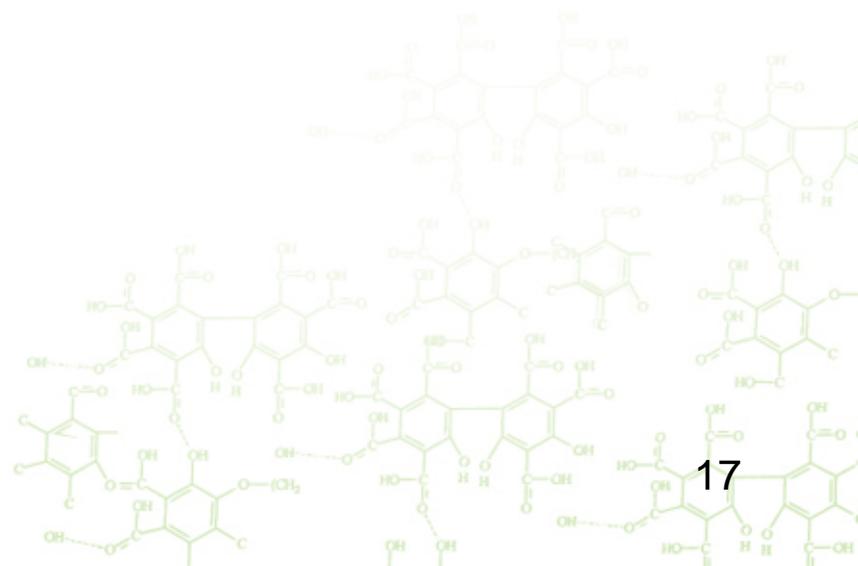


OVERVIEW SUMMARY OF DATA GATHERING



Composite wood products manufacturing

- In Canada, there are 12 composite wood panel mills that produce particleboard and fibreboard in six provinces
 - Five of these mills are located in Quebec, mostly in rural areas
- There are 10 hardwood plywood mills with nine located in Quebec
- Canadian composite wood panel mills employ approximately 11,500 workers, and pay nearly \$724 million in wages annually resulting in a total impact on the Canadian economy of about \$3.41 billion



Composite wood products activity

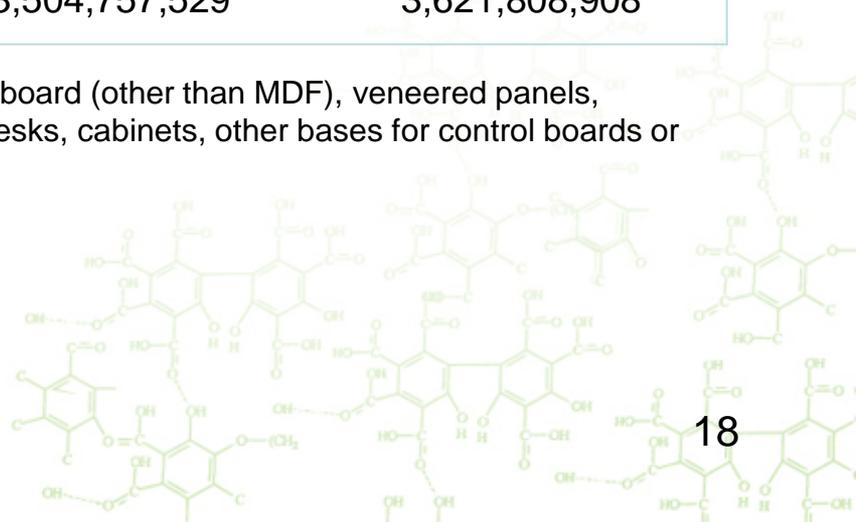
Exports to the U.S. in 2015

	% of exports (volume exported to the U.S./total production)
Structural panels	61.6%
Wood panels	56.7%

Total Canadian exports and imports

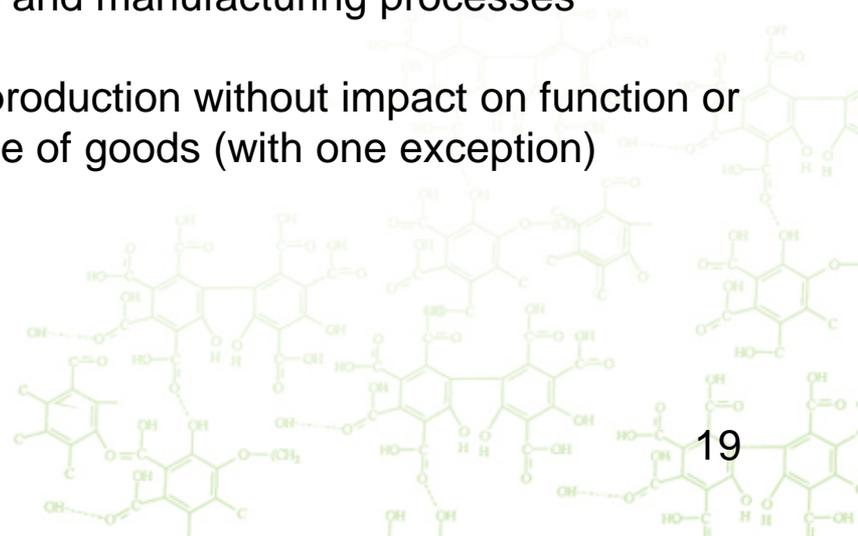
	Value in Canadian dollars (\$)		
	2014	2015	2016
Total exports*	2,959,758,508	3,701,159,248	4,171,917,902
Total imports*	3,260,719,536	3,504,757,529	3,621,808,908

*Veneer/plywood sheets, particleboard, waferboard, MDF, fibreboard (other than MDF), veneered panels, laminated wood, wooden furniture, boards, panels, consoles, desks, cabinets, other bases for control boards or panels

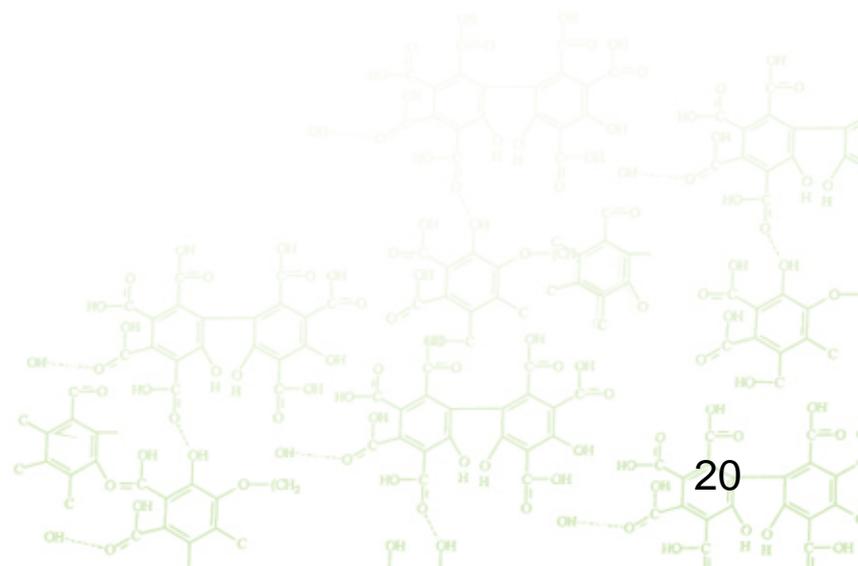


Voluntary data gathering questionnaire

- Launched on April 5, 2017, during the initial webinar, to solicit information pertaining to:
 - Activity with composite wood products
 - Compliance and non-compliance with CARB2/TSCA Title VI requirements
 - Third-party certification
 - Cost of compliance
- Submissions from industry were received (mills and wholesale sectors) indicating:
 - Use, import and export of composite wood products
 - Reported goods compliant with CARB1/2, including particleboard panels, composite wood products, composite wood panels, cabinets, tables, laminate flooring, etc.
 - Goods compliant by use of alternative resins and manufacturing processes
 - Third-party certifiers were identified
 - Compliance reportedly reduced throughput production without impact on function or quality of goods; reported no increase in price of goods (with one exception)



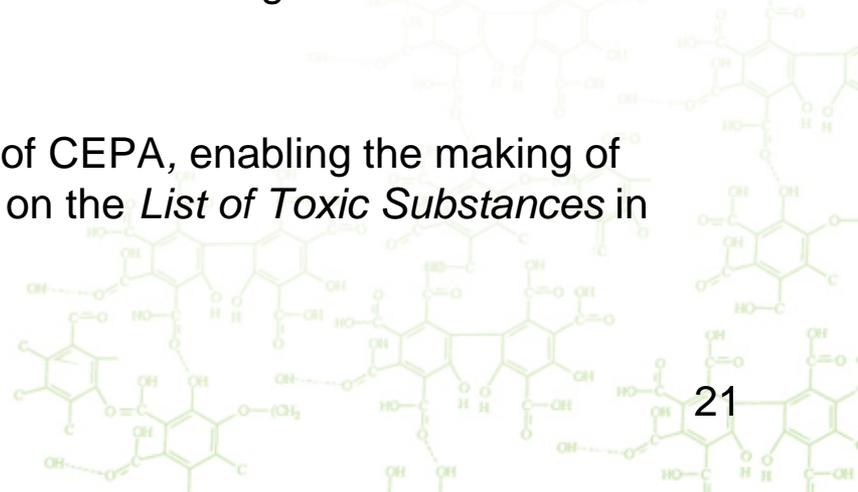
PROPOSED REGULATIONS



Proposed Regulatory Approach

Regulations limiting the use of formaldehyde in composite wood products would reduce exposure of Canadians to formaldehyde from these products by reducing levels in the indoor air:

- All composite wood products **manufactured, used, processed, sold, offered for sale, or imported** into Canada, including laminated products and finished goods made from composite wood products, would be required to comply with emission standards for formaldehyde set out in regulations after the regulations come into force
- The new regulations would not apply to products or articles that are in Canada before the coming into force date
- The CSA standard (CAN/CSA-O160-16) and regulatory approaches taken in the U.S. (namely CARB2/TSCA Title VI) and other jurisdictions are being considered as models for designing the proposed federal regulations
- Proposed regulations will be under section 93(1) of CEPA, enabling the making of regulations with respect to a substance specified on the *List of Toxic Substances* in Schedule 1



What products may be implicated?

Engineered wood products
Finished goods
Hardwood plywood
Laminated products
Medium density fiberboards (MDF)
Oriented strandboards
Particleboards
Softwood plywood
Thin MDF
Waferboards



Who may be implicated by regulations?

Accreditation bodies

Distributors

Fabricators

Importers

Laminated product producers

Panel producers

Retailers

Third-party certifiers



Proposed Exemptions

- General exemption:
 - naturally occurring traces of formaldehyde
 - composite wood products containing formaldehyde that were manufactured or imported before the day on which the proposed regulations would come into force
- **Sell-through provisions:** non-complying products manufactured or imported before the coming into force date may be sold for specified time periods after this date. However, **stockpiling provisions** for composite wood products manufactured or imported before regulations come into force will also be considered to prevent the accumulation of large stocks of composite wood products for the purposes of circumventing the emissions standards or for other reasons

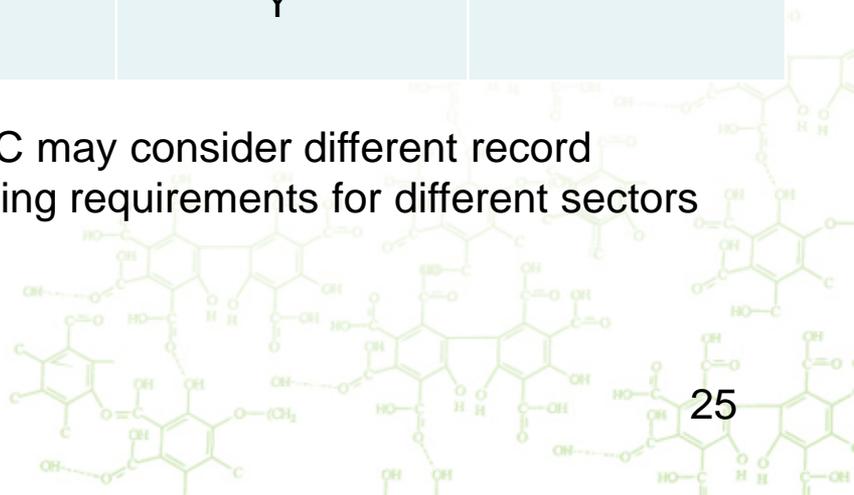
Stakeholders are invited to provide a rationale pertaining to the inclusion or exclusion of certain composite wood products from the proposed regulations



Proposed Regulatory Requirements

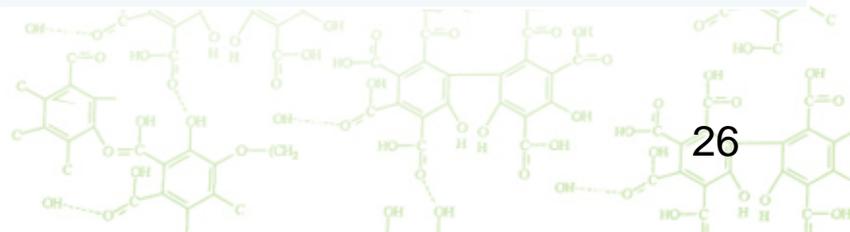
Regulated Sector	Proposed Regulatory Requirements			
	Testing (via third-party certifiers; verified and accredited by a GoC recognized accreditation body)	Labelling (in both official languages)	Record keeping (i.e. bills of lading, invoices, statements from suppliers, QC testing, production records)	Reporting
Composite Wood Product Producers and Fabricators	Y	Y	Y*	Y
Importers, Distributors and Retailers		Y	Y*	

* GoC may consider different record keeping requirements for different sectors



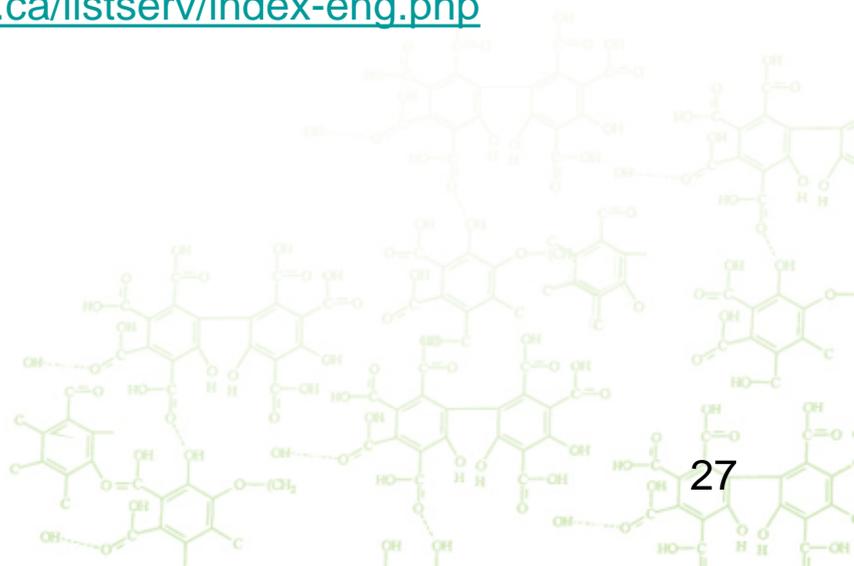
Timelines

March 18, 2017	Publication of Notice of Intent to develop proposed regulations (comment period ended on May 17)
April 2017	Initial webinar (April 5 and April 19) Launch of the voluntary data gathering questionnaire (April 5; ended on July 31)
July 31, 2017	Publication of the consultation document outlining the proposed regulatory approach (comment period ended on September 1)
August 1, 2017	Online pre-consultation engagement launch to collect preliminary stakeholder input on the proposed regulations to inform the agenda for the multi-stakeholder workshop (ended on August 16)
September 6, 2017	A multi-stakeholder workshop in Ottawa to discuss development of proposed regulations
Fall 2017	Drafting of proposed regulations
Fall 2018 [Proposed]	Publication of the proposed regulations in the Canada Gazette, Part I followed by a public comment period



Inquiry Line

- All inquiries can be directed to the Substance Management Information Line, citing “**Formaldehyde Inquiry**” at eccc.substances.eccc@canada.ca
- Web/Email Updates:
 - **Chemical Substances:**
<https://www.canada.ca/en/health-canada/services/chemical-substances/other-chemical-substances-interest/formaldehyde.html>
 - **Latest News subscription:**
<http://www.chemicalsubstanceschimiques.gc.ca/listserv/index-eng.php>



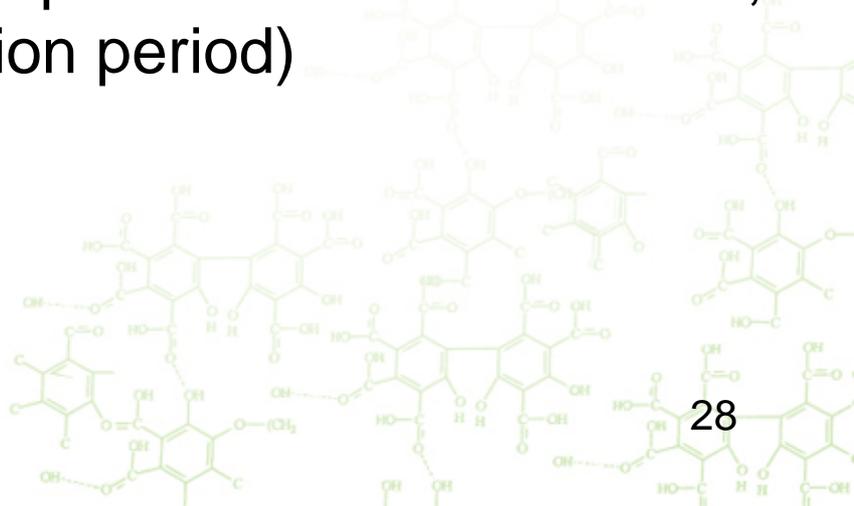
Your Feedback!

Information sharing

(e.g. resin and manufacturing alternatives, certification and reporting requirements, benefits of regulation, the Canadian context)

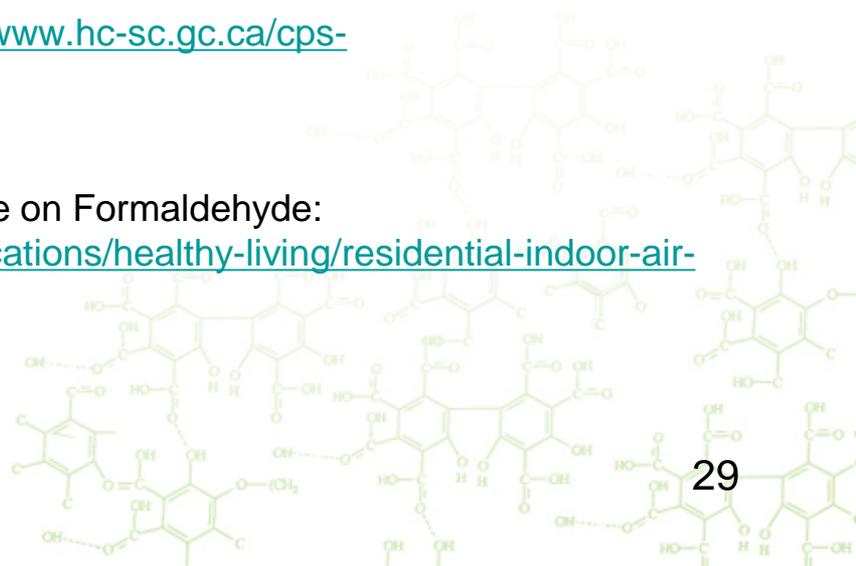
Considerations during development of the regulations

(e.g. exemptions, challenges in compliance and enforcement, reasonable transition period)



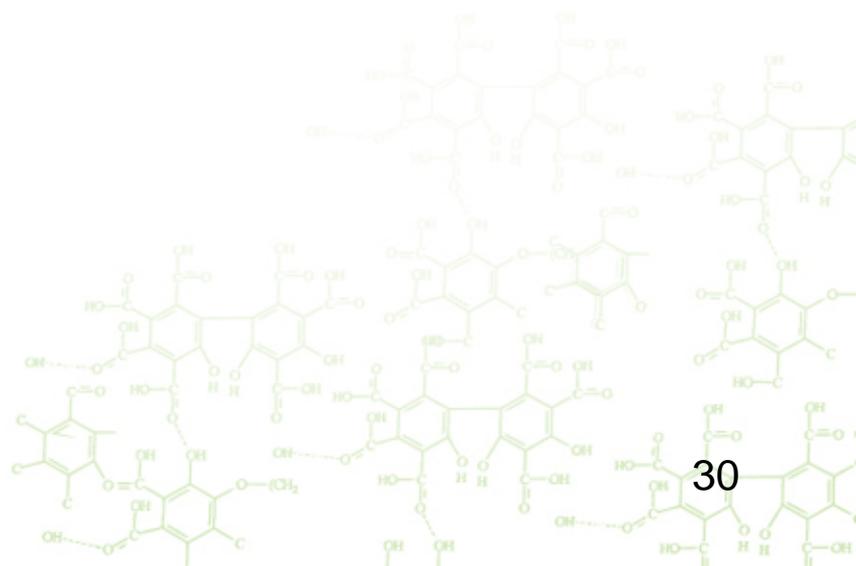
References

- The *Canadian Environmental Protection Act, 1999* (CEPA): What it is, what it does, how it works: <http://publications.gc.ca/collections/Collection/En84-27-2005E.pdf>.
- U.S. EPA TSCA VI Final Rule on Formaldehyde Emission Standards for Composite Wood Products: <https://www.epa.gov/formaldehyde/formaldehyde-emission-standards-composite-wood-products>.
- California Environmental Protection Agency Air Resources Board (CARB) Composite Wood Products and Formaldehyde: <https://www.arb.ca.gov/toxics/compwood/compwood.htm>.
- Canadian Standards Association (CSA) Formaldehyde emissions standard for composite wood products: <http://shop.csa.ca/en/canada/wood/canca-s-o160-16/inv/27039632016>.
- *Canada Consumer Product Safety Act* (CCPSA): http://www.hc-sc.gc.ca/cps-spc/pubs/indust/ccpsa_ref-lcspc/index-eng.php.
- Health Canada's Residential Indoor Air Quality Guideline on Formaldehyde: <https://www.canada.ca/en/health-canada/services/publications/healthy-living/residential-indoor-air-quality-guideline-formaldehyde.html>.



First Table Discussion

- Key Issues
- How to Address it



Second Table Discussion

Specific Questions:

- 1) **Alternatives** to formaldehyde as a resin in composite wood products (Who uses alternatives? Relative cost? Availability and effectiveness of alternatives?)
- 2) The **US EPA TSCA Title VI Rule**; likes and concerns
- 3) **Becoming compliant** – What is involved? How long will it take?
- 4) Costs related to compliance – What are they? How significant?
- 5) Specific advice and ways of reaching out to small businesses?
- 6) What is a reasonable transition period?
- 7) **Stockpiling** - The US EPA has stockpiling provisions defined where purchase of non-compliant material in between July 2010 and June 2017 above 20% of "normal business" levels is prohibited. Do Canadian stakeholders feel this level (and dates) are reasonable? Any challenges to compliance? Is the Government missing any potential gaps in this regard?

