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Evolving State Green Chemistry Initiatives

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States continue to enact new laws and implement a diverse array of programs and requirements seeking to regulate the manufacture, sale, and use of chemicals in products. Some state requirements have a narrow scope limited to particular chemicals or products (e.g., children's products), whereas others, such as California, have instituted comprehensive regulatory frameworks that govern the use of chemicals in a broad range of products. Amidst all of this state activity, Congress is nearing passage of a bill that would overhaul the federal Toxic Substances Control Act (TSCA) and strengthen the national program for reviewing and regulating chemicals.

The number of state green chemistry laws is growing. In the past two years, Vermont and Oregon joined California, Washington, Maine, and Minnesota by adopting green chemistry laws. The existing laws in these states authorize state agencies to regulate chemicals in products through different approaches. Some laws simply require notification and reporting of substances, while others require alternatives analyses and authorize far-reaching restrictions. Additional states are considering new legislation, as evidenced by the current flood of bills related to chemical restrictions in over 20 U.S. states, which are detailed in [this companion report](#).

California

California's landmark green chemistry law is the most extensive state chemicals management framework in the country. Passed in 2008, the law requires the Department of Toxic Substances Control (DTSC) to identify and prioritize chemicals of concern, and to evaluate products containing chemicals of concern to limit exposure to or reduce the hazards of the chemical in the product.

The law applies broadly to all consumer products placed in the stream of commerce in California, which include any "product or part of the product that is used, brought, or leased for use by a person for any purposes." In other words, the law gives DTSC the authority to regulate any consumer or industrial product or component of any such product in the state.

After a prolonged rulemaking, DTSC promulgated the final implementing regulations—termed the [Safer Consumer Products \(SCP\) regulations](#)—on October 1, 2013. The SCP regulations establish a regulatory framework with four key components:

1. DTSC identifies a list of chemicals of concern from a broader [list](#) of candidate chemicals. These chemicals of concern serve as the basis for selecting priority products.
2. DTSC identifies and lists priority products that contain one or more candidate chemicals of concern. DTSC must list priority products by rulemaking under the California Administrative Procedure Act.
3. Responsible entities are required to notify DTSC if they produce, assemble, import, or sell a priority product, and to then conduct an alternatives analysis. The alternatives analysis requires responsible entities to evaluate and compare a priority product and one or more alternatives to determine whether a safer, feasible alternative exists. After conducting the alternative analysis, responsible entities must submit an Alternatives Analysis Report to DTSC.
4. Based on the results of the alternatives analysis for the priority product, DTSC can impose a range of regulatory responses to address the hazard or potential exposure. According to the SCP regulations,



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DTSC may: require additional product information for consumers; impose use restrictions on chemicals and products; prohibit the sale of a product; require engineering controls; require end-of-life management; or order funding for green chemistry research.

Since finalizing the SCP regulations, DTSC has made little progress listing priority products or moving forward with the program. DTSC issued a draft list of initial priority products on March 13, 2014 that included the following product/chemical combinations:

- Spray polyurethane foam systems containing unreacted diisocyanates
- Children's foam padded sleeping products containing tris(1,3-dichloro-2-propyl) phosphate (TDCPP)
- Paint and varnish strippers containing methylene chloride

DTSC conducted a series of workshops in 2014 and accepted comments on the draft priority products. Since the announcement of the first three draft priority products, the agency has not taken any further action or issued a proposed rule to formally list these priority products.

On April 16, 2015, DTSC released its [Priority Product Work Plan](#), which identifies seven product categories and a list of potential chemicals that DTSC will consider when selecting priority products under the SCP program over the next three years. The Priority Product Work Plan sends a signal to manufacturers of listed products that contain candidate chemicals. The Work Plan does not, however, impose or introduce any new regulatory requirements. The seven categories identified in the Work Plan include:

- Beauty, personal care, and hygiene products
- Building products such as paint, coatings, adhesives, sealants, and flooring
- Household, office furniture and furnishings
- Cleaning products
- Clothing
- Fishing and angling equipment
- Office machinery

For each of these categories, DTSC identifies a list of potential chemicals or chemical classes for listing. DTSC can, however, consider any candidate chemicals as it evaluates these product categories for listing.

On September 24, 2015, DTSC released its draft Stage 1 Alternatives Analysis Guide for public comment. The guidance is intended to provide useful approaches, methods, resources, tools, and examples to help responsible entities conduct Stage 1 of the alternatives analysis process under the SCP regulations. The comment period for the Stage 1 Alternatives Analysis Guide ended on November 16, 2015. DTSC has yet to release the final Stage 1 Guide. DTSC has also indicated it plans to release a draft of its Stage 2 Alternatives Analysis Guide in the first quarter of 2016.

Washington

Washington's Children's Safe Products Act of 2008 established a green chemistry program focusing on children's products in the state. The Act gives the Washington Department of Ecology (DOE) the authority to create a list of chemicals of high concern to children and implement a reporting program.

DOE created the first [Reporting List of Chemicals of High Concern to Children](#) in 2011. In 2013, DOE promulgated the [Children's Safe Products-Reporting Rule](#), establishing a reporting system for manufacturers of children's products containing chemicals of high concern to children. Manufacturers of children's products containing chemicals of high concern above the reporting thresholds must report to DOE annually. The threshold for intentionally-added chemicals is the practical quantitation limit, and the threshold for trace contaminants is 100 parts per million (ppm). DOE publishes a report compiling all of the disclosures. The report is available on DOE's website, and is searchable by chemical, company, or product.

Under its Rule, DOE created a phased-in reporting schedule for manufacturers based on the size of the manufacturer and the types of products they sell. This schedule requires different reporting dates for every manufacturer category (divided by size) and every product tier (divided by exposure levels). For example, the next reporting deadline is August 2016 for "Smaller" manufacturers that produced Tier 2 Products, and "Tiny" manufacturers that produce Tier 1 Products. The schedule is included in the [Reporting Rule](#).

Maine

The Toxic Chemicals in Children's Products Law regulates chemicals in children's products in the state. Under the law, the Maine Department of Environmental Protection (DEP) identifies and prioritizes chemicals subject to notification requirements. Under limited circumstances, DEP is also authorized to impose use restrictions.

The law establishes a tiered prioritization scheme for chemicals. DEP first established a [list](#) of chemicals of concern pursuant to the law that contains approximately 1,400 compounds. From this list, DEP, in coordination with the Maine Department of Health and Human Services and the Maine Center for Disease Control and Prevention, must narrow the broader list down to up to 70 chemicals of *high* concern. To date, DEP has identified 36 [chemicals of high concern](#). DEP then designates certain chemicals of high concern as “Priority Chemicals.”

Children’s products containing a Priority Chemical are subject to regulation. Maine has designated several chemicals as [Priority Chemicals](#), including, most recently, four phthalates and formaldehyde. Manufacturers selling children’s products in Maine that contain a Priority Chemical above specified thresholds must notify DEP. The threshold levels in Maine’s Safer Chemicals in Children’s Products regulations are the same as those in Washington: the practical quantification limit for intentionally-added chemicals and 100 ppm for trace contaminants or residuals. Manufacturers only need to report one time.

DEP requires notification and, in one case, imposes use restrictions for the following Priority Chemicals when used in children’s products sold in the state:

- **Bisphenol A:** The sale of reusable food, beverage containers, baby food packaging, and infant formula packaging made with BPA is prohibited. Manufacturers using BPA in toys, child care articles, and tableware sold in Maine must file a report with DEP within 30 days of the product’s availability in Maine.
- **Nonylphenol and Nonylphenol Ethoxylates:** Manufacturers using NP/NPE in household and commercial cleaning products, cosmetics and personal care products, and home maintenance products sold in Maine must file a report with DEP within 30 days of the product’s availability in Maine.
- **Cadmium:** Manufacturers using cadmium in certain children’s products sold in Maine must file a report with DEP within 30 days of the product’s availability in Maine.
- **Mercury:** Manufacturers using mercury in certain children’s products sold in Maine must file a report with DEP within 30 days of the product’s availability in Maine.
- **Arsenic:** Manufacturers using arsenic in certain children’s products sold in Maine must file a report with DEP within 30 days of the product’s availability in Maine.
- **Phthalates (DEHP, DBP, BBP, and DEP):** Manufacturers using any of the four listed phthalates in certain children’s products sold in Maine must file a report with DEP within 30 days of the product’s availability in Maine.
- **Formaldehyde:** Manufacturers using formaldehyde in certain children’s products sold in Maine must file a report with DEP within 30 days of the product’s availability in Maine.

Minnesota

Adopted in 2009, Minnesota’s Toxic Free Kids Act is solely a listing statute. The Act requires the Minnesota Department of Health (DoH) to establish and update two lists of chemicals: a [Chemicals of High Concern list](#) and a [Priority Chemicals list](#). DoH is required to review and, if needed, revise the Chemicals of High Concern list every three years. DoH published the first Chemicals of High Concern list in 2010 and updated it most recently on July 1, 2013. The Act does not require DoH to update the Priority Chemicals list.

DoH designates selected chemicals of high concern that pose an elevated risk to the public as Priority Chemicals. A chemical of high concern must meet one of three technical requirements under the [statute](#) to be added to the Priority Chemicals list:

- The chemical has been found through biomonitoring to be present in human blood, including umbilical cord blood, breast milk, urine, or other bodily tissues or fluids
- The chemical has been found through sampling and analysis to be present in household dust, indoor air, drinking water, or elsewhere in the home environment
- The chemical has been found through monitoring to be present in fish, wildlife, or the natural environment

The Priority Chemicals [list](#) includes the following chemicals:

- Bisphenol A (BPA)
- Cadmium
- Decabromodiphenyl ether (decaBDE)
- Formaldehyde
- Hexabromocyclododecane (HBCD)
- Lead
- Phthalates (BBP, DBP, and DEHP)

On July 1, 2013, DoH issued a Minnesota Chemicals of High Concern [Report](#) on the progress and future plans of the Minnesota Chemicals of High Concern list. In the Report, DoH stated that it was considering the addition of a candidate chemical and a candidate chemical group for the Priority Chemicals list: tris(1, 3-dichloro-2-

propyl)phosphate (TDCPP) and nonylphenol, including its ethoxylates. Over three years later, DoH has not finalized its decisions to designate these chemicals as Priority Chemicals.

Oregon

Oregon recently passed the Toxic-Free Kids Act, a chemical reporting statute with a strong regulatory component. The Act was signed on July 27, 2015, and became effective immediately. The Act requires the Oregon Health Authority (OHA) to establish a list of high priority chemicals of concern, and requires manufacturers of children's products that contain any of these chemicals of concern to submit biennial reports. Unlike the green chemistry laws in Washington, Maine, Vermont, and Minnesota, Oregon's statute eventually forces manufacturers to remove chemicals of concern from certain products or substitute other chemicals.

According to the statute, OHA must establish a list of High Priority Chemicals of Concern, and revise the list every three years. OHA may remove chemicals from the list and add up to five new chemicals during the review cycle. In early 2016, OHA published its first [list](#) of 66 High Priority Chemicals of Concern for Children's Health, which includes eight phthalates, five flame retardants, bisphenol A, cadmium, formaldehyde, mercury, and vinyl chloride, among other chemicals. OHA also promulgated [regulations](#) defining "children's product" and detailing the criteria for adding or removing high priority chemicals of concern from the list.

Manufacturers of children's products sold in Oregon that contain any listed chemical of concern above a specified threshold must submit biennial reports to OHA. A catalog of all the disclosure reports will be published in a searchable form on OHA's website. Manufacturers must submit their first reports for the use of chemicals included in the High Priority Chemicals of Concern for Children's Health list by January 1, 2018. OHA will convene advisory committee meetings in Spring 2016 and begin developing regulations detailing the reporting requirements for manufacturers.

The biennial reporting is just the first phase of the regulations. After two reporting cycles (beginning in 2022 at the earliest), a manufacturer of a product containing a high priority chemical of concern must: (a) remove the listed chemical from its product; (b) make a substitution for the chemical; or (c) seek a waiver under the Act. This requirement only applies to products that are mouthable, marketed for use by or to children less than 3 years of age, or are a children's cosmetic.

If a manufacturer decides to remove the listed chemical, it must provide notice to OHA that its products no longer contain the chemical above de minimis levels. If a manufacturer decides to make a substitution for a listed chemical, it must submit a Hazard Assessment to OHA "that explains how the children's product, and any substitute chemical the children's product contains, is inherently less hazardous than before the substitution was made." Manufacturers can apply for a waiver of the Act's removal/substitution requirements by submitting an adequate alternatives assessment or quantitative exposure assessment.

OHA intends to initiate the rule development process to establish requirements for the removal or substitution of chemicals of concern in 2019. These regulations will also define the waiver requirements and approved methods for alternatives assessment.

Vermont

Enacted in 2014, Act 188 establishes the Chemical Disclosure Program for Children's Products. The Program covers the disclosure, and potential regulation, of toxic chemicals in children's products in Vermont. The Vermont Department of Health (DoH) established a [list](#) of Chemicals of High Concern to Children. The Act empowers DoH to add or remove chemicals from the list through rulemaking.

Manufacturers of children's products containing a listed chemical of high concern above the reporting threshold must submit a report to DoH by July 1, 2016. Manufacturers must disclose and report chemicals of concern intentionally added to a children's product above the practical quantitation limit or as a trace contaminant above 100 ppm. DoH has established a [table](#) of practical quantification limit reporting thresholds for chemicals of high concern. Manufacturers must submit reports to DoH every two years after the first reporting deadline of July 1, 2016.

On December 10, 2015, DoH promulgated the [Chemicals of High Concern in Children's Products Rule](#) outlining the reporting procedures and required information for manufacturer notifications. According to the reporting rule, manufacturers must disclose the presence of chemicals of high concern in children's products sold in the state, the concentration of the chemical in the product, and the function of the chemical in the product, among other details. The rule allows manufacturers to disclose concentration ranges in lieu of the exact concentration of the chemical; the ranges are stipulated in the text of the rule. The manufacturer must also provide any other information the manufacturer deems relevant to the use of the product.

On February 16, 2016, DoH released a draft [Chemical Disclosure Program Guidance Document](#) for public comment. The Guidance Document explains the applicability of the reporting rules and outlines what information must be reported. The Guidance Document also explains the available exemptions from the reporting requirements. The comment period closed on March 15, 2016.

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