



EPA

United States
Environmental Protection
Agency

TSCA Chemical Action Plans

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Office of Pollution Prevention and Toxics

Action Plans

- Part of Administrator Jackson's plan to enhance EPA's chemical management program:
 - Identify chemicals that pose concern to the public
 - Move quickly to evaluate and determine what actions need to be taken to address risks
 - Initiate appropriate action
- Selection Criteria:
 - Chemicals identified as persistent, bioaccumulative, and toxic
 - High production volume chemicals
 - Chemicals in consumer products
 - Chemicals potentially of concern for children's health because of reproductive or developmental effects
 - Chemicals subject to review and potential action in international forums
 - Chemicals found in human biomonitoring programs
- Actions may include initiating regulatory action to label, restrict, or ban a chemical, or to require the submission of additional data needed to determine the risk.

Action Plans

- Eight Action Plans Released to date:
 - Eight phthalates – 12/30/09
 - Penta, octa, and decaBDE – 12/30/09
 - Hundreds of perfluorinated chemicals – 12/30/09
 - Range of short-chain chlorinated paraffins – 12/30/09
 - BPA – 3/29/10
 - 48 benzidine dyes – 8/18/10
 - Hexabromocyclododecane (HBCD) – 8/18/10
 - Range of NP/NPE mixtures – 8/18/10
- Under development:
 - Diisocyanates
 - Siloxanes

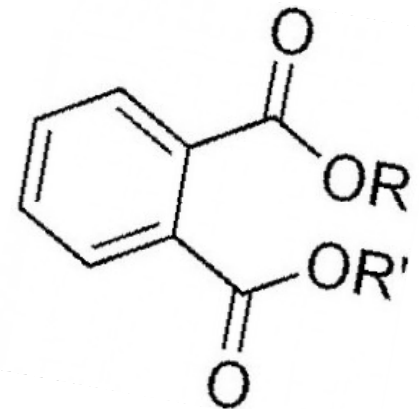
Phthalates

Uses:

- High production volume chemicals used primarily as plasticizers in polyvinylchloride (PVC) products.
- Eight chemicals are included in the action plan.

Concerns:

- Toxicity and the evidence of pervasive human and environmental exposure to these chemicals. Phthalates have been detected in food and also measured in humans.
- Adverse effects on the development of the reproductive system in male laboratory animals are the most sensitive health outcomes from phthalate exposure.
- Several studies have shown associations between phthalate exposures and human health, although no causal link has been established.



Action Plan : Phthalates

EPA Actions:

- Initiate rulemaking to establish a Chemical Concern List under TSCA section 5(b)(4).
- Initiate rulemaking to add the six phthalates not already on the Toxics Release Inventory (TRI).
- Prior to rulemaking under TSCA section 6(a), intend to cooperate with CPSC and FDA to more fully assess use, exposure and substitutes.
 - Plan to consider the results of the cumulative assessment currently being developed and due to be completed by CPSC in 2012 pursuant to the Consumer Product Safety Improvement Act of 2008, as well as the ongoing review of phthalates at FDA and the assessment for EPA's IRIS program.
- May pursue additional rulemaking under TSCA section 5(a)(2).
- EPA intends to conduct a Design for the Environment and Green Chemistry alternatives assessment.

Benzidine Dyes

Uses:

- Important precursors in the synthesis of dyes and used in the production of textiles, paints, printing inks, paper, and pharmaceuticals
- Used as reagents and biological stains in laboratories, used in the food industries, and more recent uses in laser, liquid crystal displays, ink-jet printers, and electro-optical devices.

Concerns:

- Some potential to metabolize to aromatic amines that are considered to be carcinogenic. Benzidine and dyes metabolized to benzidine are classified as known human carcinogens. Two congeners have all been classified as "reasonably anticipated to be human carcinogens."
- Potential to be leached from textiles when in prolonged contact with human skin.
- Also reviewed benzidine congener-based pigments, but determined the presence of the pigments in printing inks, paints, plastics and textiles was unlikely to present an exposure concern because the pigments are not bioavailable and are not absorbed into the body.

Action Plan : Benzidine dyes

EPA Actions:

- Initiate rulemaking to add four dyes to the existing TSCA section 5(a)(2) significant new use rule (SNUR) for benzidine-based substances.
- Initiate rulemaking to propose a new TSCA section 5(a)(2) SNUR for benzidine congener-based dyes.
- Consider initiating action under TSCA section 6, if determined that any dyes are present in imported finished textiles, or have other ongoing uses in consumer products which present concerns.

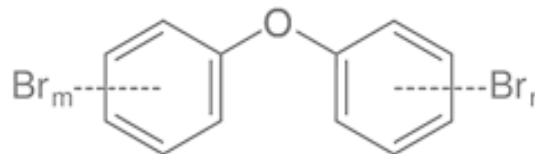
Polybrominated Diphenyl Ethers

Uses:

- Used as flame retardants in a number of applications, including textiles, plastics, wire insulation, and automobiles.

Concerns:

- Concerns that certain PBDE congeners are persistent, bioaccumulative, and toxic to both humans and the environment. Various PBDEs also studied for ecotoxicity in mammals, birds, fish, and invertebrates. In some cases, current levels of exposure for wildlife may be at or near adverse effect levels.
- Not chemically bound to plastics, foam, fabrics, or other products, making them more likely to leach out.
- Manufacture and import of penta- and octaBDE phased out in 2004, but component congeners are being detected in humans and the environment, with some reports indicating levels are increasing.



Action Plan : PBDEs

EPA Actions:

- Initiate rulemaking to add commercial PDBE mixtures and/or the congeners to the Concern List under TSCA section 5(b)(4).
- Initiate rulemaking to propose a TSCA section 5(a)(2) significant new use rule (SNUR).
- Support and encourage the voluntary phase-out of manufacture and import of c-decaBDE.
 - Commitments received from principal manufacturers and importers to initiate reductions in the manufacture, import and sales of c-decaBDE, with all sales to cease by December 31, 2013.
 - Intend to encourage other importers of c-decaBDE to join this initiative.
 - Intend to develop DfE and Green Chemistry alternatives analysis.
- Initiate rulemaking to propose a simultaneous SNUR and the previously announced test rule for c-decaBDE.
- If determined that manufacture (including import) of c-decaBDE or of articles to which c-decaBDE has been added has not ceased, EPA intends to promulgate a test rule.

Perfluorinated Chemicals (PFCs)

Uses:

- Substances with special properties that have thousands of important manufacturing and industrial applications.

Concerns:

- Found world-wide in the environment, wildlife, and humans. Bioaccumulative in wildlife and humans, and persistent in the environment.
- Toxic to laboratory animals and wildlife— producing reproductive, developmental, and systemic effects in laboratory tests.
- To date, significant adverse effects have not been found in the general human population.
- However, given the long half-life of these chemicals in humans (years), reasonably be anticipated that continued exposure could increase body burdens to levels resulting in adverse outcomes.

Action Plan : PFCs

EPA actions:

- Continue with the 2010/15 PFOA Stewardship Program to work with companies to eliminate long-chain PFCs from emissions and products.
- Consider initiating rulemaking under TSCA section 6.
- EPA will develop more detailed assessments to support the TSCA section 6 rule – potentially indicating that a different approach to risk management is appropriate.
 - Other steps might include:
 - A rule addressing the PFAS sub-category expanding reach of three Significant New Use Rules (SNURs) promulgated over the past decade.
 - A rule addressing the PFAC sub-category expanding the reach of the 2010/15 PFOA Stewardship Program beyond the eight participating companies and further addressing concerns for potential PFAC exposure through use of PFAC-containing articles.
- Also continue to evaluate alternatives under EPA's New Chemicals Program and collaborate internationally to manage PFCs.

Short-Chain Chlorinated Paraffins

Uses:

- Used as lubricants and coolants in metal cutting and metal forming operations and as secondary plasticizers and flame retardants in plastics.

Concerns:

- Shown to be persistent, bioaccumulative, and toxic to aquatic organisms at low concentrations.
- Can remain in the environment for significant amount of time and can bioaccumulate in animal tissues, increasing probability and duration of exposure.
- Even relatively small releases from individual facilities have potential to accumulate over time to higher levels and cause significant adverse impacts on the environment.
- Measured in air, sediment, surface waters, wastewater, and a variety of biota, including freshwater aquatic species, marine mammals, and avian and terrestrial wildlife.
- Also detected in samples of human breast milk from Canada and the U.K., as well as in a variety of food items from Japan and various regions of Europe.

Action Plan : SCCPs

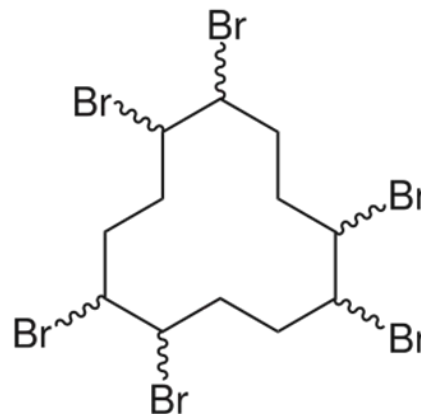
EPA Actions:

- Intend to require submission of Pre-Manufacture Notices for the SCCP, MCCP, and LCCP fractions not on the TSCA Inventory and, if appropriate, initiate action under TSCA section 5.
- Intend to initiate action under TSCA section 6(a) to ban or restrict the manufacture, import, processing or distribution in commerce, export, and use.
- Intend to further evaluate whether the manufacturing, processing, distribution in commerce, use and/or disposal of MCCPs and LCCPs should also be addressed under TSCA section 6(a).
- Intend to evaluate the potential for disproportionate impact on children and other sensitive sub-populations.

Hexabromocyclododecane (HBCD)

Uses:

- Category of brominated flame retardants used in expanded polystyrene foam (EPS) in the building and construction industry, and in consumer products.



Concerns:

- Exposure to HBCD from products and dust in the home and workplace, as well as in the environment.
- Found world-wide in the environment and wildlife. Also found in human breast milk, adipose tissue, and blood.
- Shown to bioaccumulate in living organisms and biomagnify in the food chain. Persistent in the environment and transported long distances.
- Highly toxic to aquatic organisms. Also presents human health concerns based on animal test results indicating potential reproductive, developmental and neurological effects.

Action Plan : HBCD

EPA Actions:

- Consider initiating rulemaking under TSCA section 5(b)(4) to add to the Concern List..
- Initiate rulemaking under TSCA section 5(a)(2) to designate manufacture or processing of HBCD for use as a flame retardant in consumer textiles as a significant new use. Would also apply to imports of consumer textiles articles containing HBCD.
- Consider initiating rulemaking under TSCA section 6(a) for potentially comprehensive ban on manufacturing, processing, distribution in commerce and use, or a more targeted regulation to address specific activities.
- Initiate rulemaking to add HBCD to the Toxics Release Inventory (TRI).
- Conduct Design for the Environment (DfE) alternatives assessment of HBCD.



Nonylphenol/Nonylphenol Ethoxylates

Uses:

- NPEs are nonionic surfactants that are used in a wide variety of industrial applications and consumer products such as laundry detergents, or “down-the-drain” applications, as well as dust-control agents and deicers. Main use of NP is in manufacture of NPEs.

Concerns:

- Produced in large volumes, with uses that lead to widespread release to the aquatic environment.
- NP is persistent in the aquatic environment, moderately bioaccumulative, and extremely toxic to aquatic organisms. Also shown to exhibit estrogenic properties in *in vitro* and *in vivo* assays.
- NPEs, though less toxic and persistent than NP, are also highly toxic to aquatic organisms, and, in the environment, degrade into NP.
- Found in samples taken from freshwater, saltwater, groundwater, sediment, soil and aquatic biota. NP also detected in human breast milk, blood, and urine, and associated with reproductive and developmental effects in rodents.

Action Plan : NPE/NPs

EPA Actions:

- Support and encourage voluntary phase-out of NPEs in industrial laundry detergents
 - Expand the scope of Safe Detergent Stewardship Initiative, and encourage those industries to make commitments under SDSI.
- Develop an alternatives analysis and encourage elimination of NPE in other industries that discharge NPEs to water (i.e. the pulp and paper processing and textile processing sectors)
- Initiate rulemaking to simultaneously propose a significant new use rule (SNUR) under TSCA section 5(a) and a test rule for NP and NPEs under TSCA section 4
- Issued an advance notice of proposed rulemaking (ANPRM) for NP and NPEs on June 17, 2009.
- Consider rulemaking under TSCA section 5(b)(4) to add to the Concern List
- Initiate rulemaking to add to the Toxics Release Inventory (TRI)

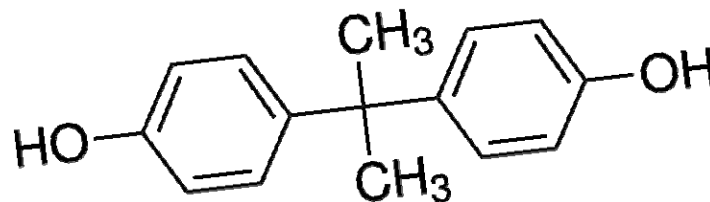
Bisphenol A

Uses:

- High production volume (HPV) chemical used in manufacturing polycarbonate plastics and epoxy resins used in nearly every industry.

Concerns:

- Humans appear to be exposed primarily through food packaging, although those products account for less than 5 percent of the BPA used in this country. Food packaging is under the jurisdiction of FDA, not EPA.
- Because BPA is a reproductive, developmental, and systemic toxicant in animal studies and is weakly estrogenic, there are questions about its potential impact particularly on children's health and the environment.
- Currently there is no scientific consensus regarding the risks of BPA exposure, however, since the low-dose studies do raise questions and concerns, some authorities have taken action to protect sensitive populations, particularly infants and young children.



Action Plan : BPA

EPA Actions:

- Initiate rulemaking under TSCA section 5(b)(4) to add to the Concern List.
- Consider initiating rulemaking under TSCA section 4(a) to develop data on environmental effects relevant to a further determination that BPA either does or does not present an unreasonable risk of injury to the environment.
- Initiate alternatives assessment activities under DfE program to encourage reductions in BPA releases and exposures.
 - One activity, initiated in April 2010, will address thermal paper coatings used in applications such as cash register receipts.
 - Additionally, intend to initiate alternatives analyses for BPA used in foundry castings since they have large TRI releases, and in pipe linings due to potential for human and environmental exposure.
- Will continue to consult and coordinate closely with FDA, CDC, and the National Institute of Environmental Health Sciences to better determine and evaluate the potential health consequences.

Resources

- To learn more about TSCA and EPA's Enhanced Chemical Management Program:
<http://www.epa.gov/opptintr/>