Federal Regulation of Chemicals in Commerce: An Overview of Issues for the 113th Congress

Linda-Jo Schierow
Specialist in Environmental Policy

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Summary

The useful properties of chemicals provide many benefits to consumers and bolster the U.S. economy, but these benefits may come with a price, as exposure to certain chemicals can lead to adverse effects on human health or the environment. This report briefly describes selected issues related to regulation of chemicals in commerce by the U.S. Environmental Protection Agency (EPA) that are of potential interest to the 113th Congress.

Concerns about the complexity, cost, and delays in regulating chemicals under the Toxic Substances Control Act (TSCA) have prompted proposals (such as S. 1009 in the 113th Congress) to amend the 1976 statute. Some would provide EPA with specific authority and mandates to ensure adequate management of chemical risks. Others would amend particular provisions, leaving most of the law intact. TSCA reform is a high priority for some in the 113th Congress.

Another issue is whether to expand or restrict EPA's authority to require disclosure of chemical information under the Emergency Planning and Community Right-to-Know Act (EPCRA) or TSCA. Bills in the 113th Congress, H.R. 1921, the FRAC Act, and Section 301 of S. 332 would require oil and gas producers to disclose identities of chemicals used in hydraulic fracturing. Other administrative and legislative initiatives also would mandate more public disclosure.

The integrity of scientific advice provided to EPA may be another salient issue. Some Members of Congress have expressed concern about the composition of EPA's Science Advisory Board (SAB). H.R. 1422 would require a rebalancing of “the scientific and technical points of view represented.” EPA's Integrated Risk Information System (IRIS) has been criticized by some for being out of date and incomplete, while the process of conducting chemical risk assessments is said to be slow. The National Research Council (NRC) made recommendations to improve IRIS reports in 2011, and Congress directed EPA to “incorporate, as appropriate,” NRC recommendations and to contract with the National Academy of Sciences to conduct several reviews of IRIS assessments, including one for inorganic arsenic.

Pesticides issues generally are resolved under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), which directs EPA to regulate the sale and use of pesticides through registration of products. The 112th Congress was interested in apparent overlap between FIFRA and the Clean Water Act (CWA). At issue is whether FIFRA is sufficient alone to ensure protection of water quality or whether certain pesticide applications require a CWA permit. In response to a court order, EPA issued a general permit requiring applicators to minimize pesticide discharges to waters. House-passed H.R. 872 in the 112th Congress would have exempted aerial pesticide application activities from water permit requirements. The Senate Committee on Agriculture, Nutrition, and Forestry approved the bill in June 2011. Language identical to H.R. 872 is included in the 2013 farm bill legislation (H.R. 1947) approved by the House Agriculture Committee, as well as in H.R. 935, S. 175, and S. 802.

Another issue of potential interest is whether to amend both TSCA and FIFRA to accommodate certain international agreements intended to reduce production and use of persistent organic pollutants (POPs) globally. In the 113th Congress, S. 696 would add a new section to TSCA, authorizing actions allowing U.S. implementation of the three international agreements.

Finally, as it considers appropriations, Congress may actively consider what amount of federal grant money should be made available to address lead-based paint hazards in older homes. H.R. 1282 would streamline paperwork requirements, making it easier for people to apply for a grant.
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Introduction

The useful properties of thousands of chemicals provide a wide range of benefits to American consumers and bolster the U.S. economy. These benefits occasionally come with a price, however, as exposure to certain substances, such as lead, pesticides, or asbestos, may lead to adverse effects on human health or the environment. Congress has enacted various laws to manage chemical risks associated with chemical use in industrial processes and production, agricultural practices, and residences and consumer products. Concerns about the effects of chemicals, as well as regulation of chemicals by the U.S. Environmental Protection Agency (EPA), continue to emerge, prompting additional congressional consideration.

This report briefly describes selected legislative issues related to chemical production, processing, distribution, and use (including past use)—activities that generally are regulated under chemical laws implemented by EPA.1 Such laws generally target different, often overlapping, sets of chemicals, depending on how they are used or how people might be exposed. For example,

- the Toxic Substances Control Act (TSCA) directs EPA to regulate industrial chemical processes and interstate commerce in bulk chemicals;
- the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) mandates regulation of the sale and use of chemicals intended to control pests in agriculture and other applications; and
- the Emergency Planning and Community Right-to-Know Act (EPCRA) addresses regulation of hazardous chemicals in storage or routinely or accidentally released to the environment.

Chemical risk management laws and their implementing regulations also differ in the extent to which they impose potential burdens on regulated entities and in the degree of protection afforded to human health and the environment. Congress oversees EPA’s implementation of these and other statutes and may consider new legislative proposals that would revise regulatory authority.

Selected chemical issues discussed below were considered by the 112th Congress and may be of interest to the 113th Congress. Key issues include

- the adequacy of TSCA for regulating potentially hazardous chemicals;
- whether to expand information disclosure requirements under various laws;
- how to safeguard the integrity of scientific advice;
- overlapping statutory requirements for control of pesticides applied to surface water;
- whether to provide authority to implement international treaties; and
- regulation of contractors working in older homes that contain lead-based paint.

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1 Note that the issues that are the subject of this report focus on chemicals in commerce, rather than on wastes or ambient environmental pollution; issues related to contamination of food, water, or outdoor air are beyond the scope of this report, as are issues related to areas of federal law not administered by EPA, such as those concerning potential risks of exposure to chemicals on the job, in certain buildings, in consumer products, or in defense applications.
Issues

Amendments to the Toxic Substances Control Act (TSCA)

The Toxic Substances Control Act (TSCA) authorizes EPA to identify potentially dangerous chemicals in U.S. commerce and to regulate their production (including importation), distribution, and use to prevent “unreasonable risks” to human health or the environment. EPA has rarely applied the broad authority provided by TSCA, however, even though it applies to all “chemical substances,” a term defined by the law to include lead, chlorine, plastics, and most other elements and compounds. TSCA has been difficult for EPA to implement, at least in part, because it requires EPA to justify each regulation by demonstrating that the chemical to be regulated poses an unreasonable risk. Concerns about the difficulty, cost and long delays in regulating have prompted some critics to propose statutory (as opposed to regulatory) bans of specific chemicals. Other critics of TSCA have proposed amending the statute to provide EPA with more specific authority to manage chemical risks. A few TSCA critics would rewrite TSCA to make it more closely resemble Europe’s recently adopted law, which is attempting to phase out more dangerous chemicals in favor of less risky substitutes and forcing manufacturers to prove the safety of their products. Still others would prefer a very targeted approach to TSCA reform, which would leave most of the statute intact.

Senator Lautenberg introduced S. 1009, the Chemical Safety Improvement Act, in the 113th Congress. It would rewrite TSCA, increasing EPA’s discretionary authority to gather information about chemicals in commerce and to regulate unreasonable risks. This bill has bipartisan support, including support from Senator Vitter, the ranking member of the Senate Committee on Environment and Public Works. S. 1009 probably is meant to supersede Senator Lautenberg’s earlier proposal, S. 696, the Safe Chemicals Act.

Expansion of Disclosure Requirements

Another issue that may concern the 113th Congress involves public disclosure of chemical information. Federal laws and legislative proposals aimed at reducing human exposure to potentially harmful chemicals often require some kind of information sharing between product

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3 The term explicitly excludes chemicals regulated under other laws, including pesticides, tobacco, nuclear material, firearms, shells or cartridges for firearms, food, drugs, cosmetics, and medical devices.
4 For more information about implementation of TSCA, see CRS Report RL34118, The Toxic Substances Control Act (TSCA): Implementation and New Challenges, by Linda-Jo Schierow.
5 For more information about TSCA reform proposals, see CRS Report R41937, Proposed Reform of the Toxic Substances Control Act (TSCA) in the 112th Congress: S. 847 Compared with Current Law, by Linda-Jo Schierow.

manufacturers or distributors and customers, clients, or potentially exposed bystanders. This may consist of a public announcement in some form or a product label listing ingredients or including written instructions for appropriate use, storage, or disposal. There are many ways in which information must be shared under existing federal and state laws. For example, the federal Emergency Planning and Community Right-to-Know Act (EPCRA) requires manufacturers and certain other businesses to report to EPA annually on emissions of some 600 hazardous chemicals. The intent of EPCRA disclosure is to inform communities about chemicals released into the environment and to which the public might be exposed. EPA makes these reports available to the general public in the form of a Toxic Release Inventory (TRI).

Congress enacted laws like EPCRA in part because required disclosure of information has been seen by some as a relatively benign form of regulation (compared to prohibition of production, for example). Information provision theoretically works with the free market, allowing consumers or bystanders who receive information to make informed choices. For example, disclosure may discourage consumers from using certain products containing chemicals perceived to be hazardous and promote substitution of “safer” products.

The regulated community, on the other hand, often argues that required information disclosure can imply risk where little or none exists, unfairly discouraging commerce in and use of, chemicals that are safe when used as intended. In addition, affected industries sometimes object to such requirements because the information disclosed might be useful to business competitors. Finally, tracking and reporting of releases consumes resources that might otherwise go to business development.

Under the Obama Administration EPA has expanded public access to information about chemicals in commerce. For example, in May 2012, the Bureau of Land Management (BLM) in the Department of the Interior proposed revisions to its oil and natural gas development rules in response to the increased use of hydraulic fracturing on federal and Indian lands. The proposal would require public disclosure of chemicals used during hydraulic fracturing, tighten requirements related to well-bore integrity, and add requirements for managing water used and produced in hydraulic fracturing operations. In response to extensive public comments on the proposed rule, in May 2013, BLM published a Supplemental Notice of Proposed Rulemaking (SNPR) and Request for Comment. In the SNPR, BLM requests comments on the multiple changes in the proposed rule and provides 30 days for public comment.

EPA recently reviewed and released information in its files when chemical manufacturers no longer have met EPA requirements for protection of confidential business information (CBI)

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8 Disclosure of information about chemical properties to workers is required by the Occupational Safety and Health Administration’s Hazard Communication Standard (29 CFR 1910.1200), which was promulgated under the authority of the Occupational Safety and Health Act (29 U.S.C. §651 et seq.).

9 For more information about EPCRA, see CRS Report RL32683, The Emergency Planning and Community Right-to-Know Act (EPCRA): A Summary, by Linda-Jo Schierow.

10 However, some have argued that the Administration has not always disclosed information on demand. See, for example, the article on Bloomberg.com, “Obama Cabinet Flunks Disclosure Test with 19 in 20 Ignoring Law,” by Jim Snyder and Danielle Ivory, September 27, 2012, http://www.bloomberg.com/news/2012-09-28/obama-cabinet-flunks-disclosure-test-with-19-in-20-ignoring-law.html.

11 Oil and Gas; Well Stimulation, Including Hydraulic Fracturing, on Federal and Indian Lands, 77 Federal Register 27691, May 11, 2012.

12 78 Federal Register 31636, May 24, 2013.
under TSCA. In addition, EPA responded favorably (in part) to a petition filed under TSCA Section 21, agreeing to initiate rulemaking to require submission of data on environmental or health effects and exposures to hydraulic fracturing chemicals. EPA expects that its rule “would focus on providing aggregate pictures of the chemical substances and mixtures used in hydraulic fracturing” to complement the well-by-well disclosure programs of many states.

Further information disclosure by EPA under EPCRA might be on the horizon in response to a citizen petition. Seventeen environmental advocacy groups petitioned EPA to require additional public reporting of chemical releases by the oil and gas producers. Currently, oil and gas production is not covered by the reporting requirements of EPCRA, but the growth of hydraulic fracturing as a means of oil and gas production and the use of certain chemicals in that process may make this petition and EPA deliberations more salient.

In the 113th Congress, H.R. 1921, the FRAC Act, and Section 301 of S. 332 would require a person conducting hydraulic fracturing operations to disclose to the state (or to the EPA Administrator if he or she has primary enforcement responsibility in such state) the chemicals intended for use in underground injections before the commencement of such operations and the chemicals actually used after the end of such operations, and would require a state or the Administrator to make such disclosure available to the public.

S. 1009, which would reform TSCA, would narrow the conditions under which data about chemical substances may be treated as confidential business information. In addition, S. 1009 would increase public disclosure requirements related to chemical hazards.

Safeguarding Scientific Integrity

EPA relies on input from scientists outside the agency to ensure that its regulatory decisions are based on sound science. EPA receives this input in various ways, but one common mechanism is through expert panels. Panels are formed to advise EPA staff on scientific issues and the state of knowledge and to peer review draft EPA documents, on request, for accuracy and comprehensiveness. Many panels are formed to provide advice on particular, often technical, topics, but

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14 EPA’s response to the petition is online at http://www.epa.gov/oppt/chemtest/pubs/EPA_Letter_to_Earthjustice_on_TSCA_Petition.pdf.
15 Ibid. For more information about how EPA is addressing hydraulic fracturing, see EPA’s website “Natural Gas Extraction - Hydraulic Fracturing” at http://www2.epa.gov/hydraulicfracturing.
17 For discussion of the issues surrounding one scientific panel, see CRS Report RL33807, Air Quality Standards and Sound Science: What Role for CASAC?, by James E. McCarthy.
scientific panels also may be very general, such as EPA’s Science Advisory Board (SAB) which oversees numerous more specialized panels.19

Although these panels are intended to provide scientific advice, rather than policy direction, the information they provide often has strong implications for EPA’s policy decisions. In such cases, the advice may be controversial, and some, especially critics of the policy decisions, may question whether panel members are providing objective advice in an impartial manner. For this reason, Congress requires that the SAB and most other advisory panels operate under the Federal Advisory Committee Act (FACA).20 FACA requires that committee membership be “fairly balanced in terms of the points of view represented,” and advice provided by committees be objective and accessible to the public.21 Panel members are subject to applicable ethical standards (5 Code of Federal Regulations Part 2635) and are required to file financial disclosure reports and to take annual ethics training.22

However, some Members in the 112th and 113th Congresses questioned the balance among SAB members with respect to their sources of research funding. H.R. 1422 in the 113th Congress would amend the Environmental Research, Development, and Demonstration Authorization Act of 1978,23 which created the SAB. The proposed amendment would require that “the scientific and technical points of view represented on and the functions to be performed by the Board are fairly balanced among the members of the Board.” To that end, the bill proposed to revise the nominating process and composition of the Board in several respects, the effect of which appeared intended to increase representation of state, local, and tribal governments and of potentially regulated entities, while disclosing potential financial conflicts of interest among scientists who might benefit from EPA grants, contracts, cooperative agreements, or other financial assistance.

EPA also solicits scientific input through workshops, hearings, and stakeholder meetings. The purpose of these is usually to explore a topic or to ensure input from experts with differing perspectives, often including people with practical experience as well as researchers and academics. Input often is received from such groups at several points during a deliberative process, for example, when EPA is developing a hazard or risk assessment for a chemical, as it does for its Integrated Risk Information System (IRIS). IRIS stores and integrates scientific information relevant to human health risk assessment for chemicals of particular regulatory interest.24 Originally intended for internal use, IRIS now is widely cited and underpins many federal, state, and local regulations.25 Many criticize IRIS, however, for being scientifically out of date and incomplete.26 In addition, critics agree that the IRIS process for developing definitive

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21 For more information about how the Federal Advisory Committee Act constrains operations of advisory committees, see CRS Report R40520, Federal Advisory Committees: An Overview, by Wendy Ginsberg.
23 42 U.S.C. 4365.
24 For basic information about IRIS, see EPA’s website at http://www.epa.gov/iris/.
25 Paul Anastas, EPA Assistant Administrator of Research and Development, testimony before the Subcommittee on Oversight, Committee on Science, Space and Technology, U.S. House of Representatives, July 14, 2011.
toxicity assessments of chemicals is too slow and needs to be streamlined. Some reportedly would prefer fewer reviews of IRIS assessments by other federal agencies, while others prefer earlier involvement of stakeholders, to “get it right the first time.” The Natural Resources Defense Council (NRDC) and the Science and Environmental Health Network released an issue paper that calls for greater emphasis in IRIS risk assessments on other recommendations of the NAS:

- incorporation of human variability with respect to vulnerability to harm from toxic chemicals;
- reliance on science-based assumptions when information is absent;
- consideration of risks due to multiple chemical exposures; and
- assumption that low levels of exposure impart risks, unless there is good evidence otherwise.

The House Subcommittee on Oversight, Committee on Science, Space and Technology, held a hearing on the issue July 14, 2011. At that hearing, the EPA Assistant Administrator for Research and Development testified that

The IRIS program is now entirely managed by EPA and EPA strives to ensure that all of its science assessments undergo rigorous, open and independent external peer review and that multiple opportunities exist for public review and comment. Additionally, changes in IRIS assessments that occur during the interagency and public process are documented and explained, ensuring a transparent final product.

Nevertheless, EPA continues to revise its process to meet criticisms leveled by the National Academy of Sciences (NAS) in its April 2011 response to EPA’s draft assessment of formaldehyde. NAS indicated that the draft assessment “was not prepared in a logically consistent fashion, lacks clear links to an underlying conceptual framework, and does not sufficiently document methods and criteria used to identify evidence for selecting and evaluating studies.” The National Research Council (NRC) recommended that EPA

- more rigorously edit its assessment documents;
- more fully discuss its methods;
- develop concise statements of its criteria for identifying, selecting, excluding, or emphasizing particular studies for hazard assessment and deriving toxicity values, using uniform approaches to evaluate the strengths and weaknesses of critical studies; and

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27 Ibid.
31 News from the National Academies, April 8, 2011.
• prepare standardized evidence tables to accompany descriptions of the studies used.32

The 112th Congress addressed this issue in the conference report for the Consolidated Appropriations Act, P.L. 112-74, which directed EPA to “incorporate, as appropriate” the NRC recommendations into the IRIS risk assessment process.33 In addition, EPA was required to include documentation describing how those recommendations were addressed in draft assessments released in FY2012, and to contract with the National Academies to conduct up to three reviews of IRIS assessments that EPA proposed to make final, including an assessment of inorganic arsenic. Congress directed NAS to complete its reviews within 18 months of the contracted date. Finally, the conference report expressed the view that “future IRIS assessments must not only be grounded in sound, objective, and peer-reviewed science and methodologies but should also provide risk managers with realistic values that will result in enhanced protection of human health.”34 The National Academies Committee on Inorganic Arsenic held a meeting to discuss EPA’s draft inorganic arsenic assessment on May 29 and 30, 2013.

Congress may oversee EPA’s implementation of these requirements or might otherwise revisit this issue in the 113th Congress.

Overlapping Authorities for Pesticide Discharges to Water

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requires EPA to regulate the sale and use of pesticides in the United States through registration and labeling and to restrict usage of pesticides as necessary to prevent unreasonable adverse effects on people and the environment, taking into account the costs and benefits of various pesticide uses. The sale of any pesticide is prohibited in the United States unless it is registered (licensed) and labeled to indicate approved uses and restrictions. It is a violation of the law to use a pesticide in a manner that is inconsistent with the label instructions. The 113th Congress may continue to examine apparent overlapping jurisdiction between provisions of FIFRA and the Clean Water Act (CWA). The CWA is the principal federal law governing pollution in the nation’s surface waters.

In recent years, federal courts have held that aerial application of a pesticide over and into U.S. waters requires authorization under the CWA’s National Pollutant Discharge Elimination System (NPDES) permit program, even when the pesticide use meets other requirements of federal law, including FIFRA. These decisions drew the attention of many pesticide applicators, including public health entities (such as mosquito control districts), concerned with how the rulings might affect their need to control pests associated with diseases such as the West Nile virus. In November 2006, EPA finalized a rule seeking to resolve the conflict over the regulatory scope of the CWA and FIFRA related to pesticide use, in light of the recent litigation, by promulgating clarifying circumstances under which a CWA permit is or is not required for activities carried out pursuant to FIFRA. However, in 2009, a federal court rejected EPA’s argument that residual and

32 Thomas A. Burke, Chair of the National Academy of Sciences Committee on Improving Risk Analysis Approaches Used by the U.S. EPA, testimony before the Subcommittee on Environment and the Economy, Committee on Energy and Commerce, U.S. House of Representatives, October 6, 2011.


34 Ibid.
excess pesticides do not require a CWA permit because they are adequately regulated by FIFRA, and the court vacated the rule. In June 2009, the federal court granted an EPA request for a delay in the effective date of the court’s ruling. In response, EPA developed a general CWA permit for pesticide applications covered by the ruling. General permits minimize regulatory burdens on pesticide applicators and state permitting officials, but there still is significant concern about the impact of EPA’s actions.

EPA issued the pesticide general permit on October 31, 2011, as required by the court. EPA estimated that the universe of affected activities subject to CWA permits initially would be approximately 5.6 million applications annually, which would be performed by 365,000 applicators covering four use patterns: (1) mosquito and other flying insect pest control; (2) aquatic weed and algae control; (3) aquatic nuisance animal control; and (4) forest canopy pest control. Under the final permit, pesticide discharges that occurred before January 12, 2012, were automatically covered, but those occurring after that date have to apply for coverage. EPA and states are now implementing the permit requirements.

In spite of EPA’s general permit in response to the 2009 court ruling, Congress has considered legislation to affirm that a CWA permit is not required for use of FIFRA-approved pesticides. In the 112th Congress, the House passed H.R. 872, a bill that would amend FIFRA and the CWA to provide that neither EPA nor a state may require a CWA permit for discharge of a pesticide whose use has been authorized pursuant to FIFRA. The Senate Agriculture Committee approved the bill without amendment in June 2011. Language identical to H.R. 872 is included in the 2013 farm bill legislation (H.R. 1947) approved by the House Agriculture Committee. Similar proposals have been introduced in the 113th Congress (H.R. 935, S. 175, and S. 802).

**International Treaties**

Some older pesticides are persistent organic pollutants (POPs) that are global contaminants of concern to many nations. The United States has signed three international agreements to reduce the production and use of POPs and to regulate their trade and disposal. President George W. Bush submitted two of these agreements, which are formal treaties, to the Senate for advice and consent, where they will remain pending Senate action. If the Senate consents, and if Congress passes legislation needed to implement the treaties and the executive agreement in the United States, then the treaties could be ratified and the agreements would become binding U.S. law. President Obama also supports ratification, but two U.S. statutes are inconsistent with the agreements: TSCA and FIFRA. Congress has considered but has not enacted proposals to amend

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37 The EPA pesticide general permit applies in six states where EPA is the permitting authority (Alaska, Idaho, Massachusetts, New Hampshire, New Mexico, and Oklahoma), the District of Columbia, most U.S. territories, and on Indian tribal lands. Elsewhere, states have developed permits comparable to the federal permit.
38 For more information on this issue, see CRS Report RL32884, *Pesticide Use and Water Quality: Are the Laws Complementary or in Conflict?*, by Claudia Copeland.
the statutes. S. 696 in the 113th Congress would add a new section to TSCA authorizing actions that would allow U.S. implementation of the three international agreements.

**Lead-Based Paint**

Another issue before Congress relates to chemical contamination from lead-based paint, which is banned by the Consumer Product Safety Commission but remains in older homes, where it may be hazardous to young children. Congress amended TSCA to establish a grant program in 1992 to assist states in reducing lead-based paint hazards in private and federally assisted residences. The problem of lead-based paint hazards, although improved, has not been eliminated. Thus, Congress annually appropriates more than $100 million to the grant program, which is administered through the Department of Housing and Urban Development. Congress annually adjusts the parameters of grant programs to reflect its priorities and is likely to do so again in the 113th Congress.

A bill introduced in the 113th Congress, H.R. 1282, would extend the categories of eligible grant recipients to include families living in all housing, including efficiency apartments, and to streamline paperwork requirements, making it easier to apply for a grant.

**Author Contact Information**

Linda-Jo Schierow  
Specialist in Environmental Policy  
lschierow@crs.loc.gov, 7-7279

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40 For more information about these international treaties, see CRS Report RS22379, *Persistent Organic Pollutants (POPs): Fact Sheet on Three International Agreements*, by Linda-Jo Schierow.