

OPPT Accomplishments Report January 2007 – June 2008

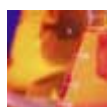
EPA's Office of Pollution Prevention and Toxics (OPPT) works to ensure that chemicals manufactured, imported or used in the United States do not pose unreasonable risks to health or the environment. It also strives to promote the prevention of pollution before it occurs and to improve environmental stewardship practices in business and government operations. This report describes OPPT's progress in accomplishing these goals, which are key components of EPA's overall Strategic Plan (<http://www.epa.gov/cfo/plan/plan.htm>). Indeed, every accomplishment is a part of a larger effort to meet one of the Agency's specific strategic objectives.



Introduction—Read how OPPT's mission and legislative authorities provide a framework for success.



Reviewing New Chemicals—Learn about the New Chemicals Program, one of the Agency's premier risk assessment and management programs. Find out about new biotechnology products, new chemical nanoscale materials, international efforts, and more.



Managing Existing Chemicals—Investigate how the Existing Chemicals Program regulates chemicals in commerce. Find out more about inventory update reporting, chemicals work on nanoscale materials, global chemical safety, the Security and Prosperity Partnership of North America, and the recently announced ChAMP.



Reducing Risks from Specific Existing Chemicals—See how OPPT protects against specific priority chemicals—lead, asbestos, polychlorinated biphenyls (PCBs), and mercury. OPPT develops regulations and policies designed to reduce risks to human health and the environment from these specific chemicals.



Working to Prevent Pollution—Read how OPPT's innovative, environmental stewardship programs encourage pollution prevention as both a critical environmental strategy and a sustainable business practice. The programs include Green Suppliers Network, Design for the Environment, and Green Chemistry, to name a few.



Cross-Cutting Programs—Use tools and models developed by OPPT to support and enhance multiple program areas. OPPT's cross-cutting accomplishments encompass a range of activities—assisting with IT support, program assessment, community-based partnerships, and risk assessment tools.

Note: As of the publication of this report, external links are current and accurate, and are offered by way of example only for reference purposes. The EPA is not responsible for content of non-EPA links.

Introduction—What We Do



Chemicals are in just about everything we use. Every day we are surrounded by chemicals—in fact, the way we live would be impossible

without them. Yet, some chemicals can be potentially dangerous to our health and the environment. It's the job of EPA's Office of Pollution Prevention and Toxics (OPPT) to ensure that commercial and industrial chemicals manufactured, imported, or used in the United States do not pose any unreasonable risks to human health or the environment. And promoting the prevention of pollution before it occurs is central to OPPT's work.

Strategic Plan

OPPT's work contributes to two of the five major goals outlined by EPA in its 2006 - 2011 Strategic Plan (<http://www.epa.gov/cfo/plan/plan.htm>):

- By 2011, prevent and reduce chemical risks to humans, communities, and ecosystems. (Goal 4; Objective 1; Sub-objective 1)
- By 2011, reduce pollution, conserve natural resources, and improve other environmental stewardship practices while reducing costs through implementation of EPA's pollution prevention programs. (Goal 5; Objective 2; Sub-objective 1)

Legislative Authorities

Tens of thousands of chemicals are manufactured, imported, or used in the United States annually. Many new chemicals are being developed each year, and emerging technologies, such as nanotechnology and biotechnology, are changing the types of materials used in commerce and in the environment. Under the Toxic Substances Control Act (TSCA) of 1976, OPPT establishes reporting, record-keeping, testing, and control-related requirements for new and existing chemicals. Read about OPPT work under TSCA to protect against risks from new, existing, and specific chemicals.

Under the Pollution Prevention Act (PPA) of 1990, the office works to reduce pollution before it occurs through innovative changes in production, operation, and use of raw materials. Read about OPPT's pollution prevention programs' accomplishments.

Two Different Roles

One of the office's major roles is to serve as a gatekeeper/guardian, using its traditional "command and control" regulatory authorities to keep potentially risky new chemicals out of the market while assessing and managing the potential risks of existing chemicals. The organization's other key role is to promote environmental stewardship and sustainability. OPPT does this through collaborative programs with stakeholders and educational initiatives. Working to eliminate sources of pollution, OPPT creates tools and makes information available to better enable industry and the public to make wise chemical choices. See the new, existing and specific chemicals sections of this report as well as the pollution prevention and cross-cutting programs sections for how OPPT uses the two roles to promote chemical safety nationally and internationally.

Report Highlights

From January 2007 through June 2008, OPPT:

- Expanded efforts to ensure the safety of existing chemicals. The United States committed to complete risk characterizations and initiate action, as appropriate, on 6,750 high- and moderate-production volume chemicals produced above 25,000 pounds per year by 2012 at the August 2007 Security and Prosperity Partnership of North America Leaders Summit. This builds on EPA's High-Volume Production Challenge, which focuses on chemicals produced above 1 million pounds per year.
- Created a new program, Chemical Assessment and Management Program, or "ChAMP," to implement the expanded commitment to assess and initiate action, where appropriate, on existing chemicals.
- Issued the first characterizations of the hazards posed by existing chemicals using toxicity data from the High Volume Production Challenge. These characterizations are being combined with use and exposure data to develop initial risk-based prioritization documents, meeting one of the SPP commitments.
- Initiated the Nanoscale Materials Stewardship Program in January 2008 to encourage companies and individuals to submit scientific information on nanoscale materials, including risk management practices. Developed during 2007, the program's goal is to provide a firmer scientific foundation for regulatory decisions.
- Required new protections that will help children avoid lead poisoning during renovations and remodeling. OPPT proposed in 2007, and in March 2008 finalized, a lead rule (<http://www.epa.gov/lead/pubs/renovation.htm>) requiring persons renovating or remodeling pre-1978 housing or child-occupied facilities to be certified to use practices that ensure against exposure to lead in paint.
- Reached a milestone in the PFOA Stewardship Program with member companies' first annual progress reports (<http://www.epa.gov/oppt/pfoa/pubs/preports.htm>) received and made publicly available in October 2007. In February 2008, OPPT released summary tables of 2007 progress reports (<http://www.epa.gov/oppt/pfoa/pubs/preports.htm#summary>).

Reviewing New Chemicals



Under the Toxic Substances Control Act (TSCA), EPA uses its traditional regulatory authorities to control or keep potentially hazardous new chemicals out of the market. EPA's New Chemicals Program (NCP) (<http://www.epa.gov/oppt/newchemicals/index.htm>) is one of the

Agency's premier risk management programs, and serves a key gatekeeper function.

Strategic Plan

One of the targets in "Goal Four" in EPA's Strategic Plan is to ensure that new chemicals introduced into commerce do not pose unreasonable risks to workers, consumers, or the environment. The plan foresees this target being met by 2011.

Specifically, under TSCA Section 5, EPA must be given notice before a new chemical substance can be manufactured or imported into the United States. This pre-manufacture notice (PMN) must be submitted at least 90 days prior to the manufacture or import of the chemical.

The New Chemicals Program reviews submissions to determine if any of the chemicals warrant prohibiting or limiting their manufacture, processing, or use. Because many PMNs include little or no toxicity or fate data, the program uses several risk screening approaches to facilitate assessment in the absence of specific data. This enables rapid evaluation of potential risks and making risk-management decisions for the new chemicals within the 90-day timeframe prescribed by TSCA.

More information on the New Chemicals Program: <http://www.epa.gov/oppt/newchemicals>.

Accomplishments

- A total of 1,724 valid Section 5 notices were received from January 2007 through June 2008. The majority of the submissions were pre-manufacture notifications (PMNs) with 1,071 received during this time period. The next largest group was low-volume exemptions with 630 received during this time period. The remaining notices were Low Release and Exposure (LoREX) Exemption (<http://www.epa.gov/oppt/newchemicals/pubs/lorexemp.htm>) notices and Test Marketing Exemption (TME) (<http://www.epa.gov/oppt/newchemicals/pubs/tmexempt.htm>) notices.
- The NCP's P2 Recognition Project recognizes, through an annual award, innovative new chemical submissions that are inherently safer than those currently in use and that reduce sources of pollution. The program is especially interested in promoting chemistries that substitute for existing chemicals that pose greater risks. The P2 Recognition Project honored three companies in 2007 (<http://www.epa.gov/oppt/newchemicals/pubs/p2.htm>) that provided new, less polluting, innovative chemistries and processes:
 - BASF Corp. (<http://www.epa.gov/oppt/newchemicals/pubs/basf.htm>)
 - Chisso America, Inc. (<http://www.epa.gov/oppt/newchemicals/pubs/chisso.htm>)
 - Clariant Corp. (<http://www.epa.gov/oppt/newchemicals/pubs/clariant.htm>)

- An innovative approach is encouraging companies to “pre-screen” their chemical submissions: Those who submit low-hazard, low-risk new chemical notices may receive an expedited review, if they have pre-screened the chemical for hazard and risk concerns using the Sustainable Futures (SF) models (<http://www.epa.gov/oppt/sf/>).

From January 2007 through June 2008, in EPA’s New Chemicals Program 114 PMNs were “self-assessed” using Sustainable Futures models, which accounted for approximately 11 percent of the 1,071 PMN submissions received during this period. More than 56,000 chemicals were screened using the PBT Profiler during this same period of time. The PBT Profiler, one of the Sustainable Futures models, estimates potential for persistence, bioconcentration potential in the environment and aquatic toxicity, and warns users when the PBT characteristics exceed Agency PBT criteria. The PBT Profiler can be used to evaluate both new and existing chemicals.

- From January 2007 through June 2008, 22 new chemical submissions for nanoscale materials were submitted to and reviewed by OPPT or are in the review process. Nanoscale materials are chemical substances at dimensions of roughly 1 to 100 nanometers that may have novel properties that enable applications that differ from the same materials at a larger scale. To assist potential PMN submitters, EPA has developed a document, TSCA Inventory Status of Nanoscale Substances—General Approach (2008) (<http://www.epa.gov/oppt/nano/nmsp-inventorypaper2008.pdf>), describing EPA’s current thinking regarding whether a nanoscale material is a “new” or “existing” chemical substance under TSCA. Read the nanoscale materials section of this report for more information on OPPT’s chemicals work on nanoscale materials.

New Biotechnology Products

The New Chemicals Program (NCP) is also home to the Toxic Substances Control Act (TSCA) Biotechnology Program (http://www.epa.gov/biotech_rule/). This program is responsible for the safe commercial introduction of new or intergeneric (http://www.epa.gov/biotech_rule/pubs/biorule.htm) microorganisms with industrial applications, such as bioremediation, or the production of specialty enzymes.

EPA published final rules on Microbial Products of Biotechnology in 1997 that fully implemented its screening program for new microorganisms under Section 5 of TSCA (http://www.epa.gov/biotech_rule/pubs/submain.htm). These regulations create a reporting vehicle specifically designed for intergeneric microorganisms, the Microbial Commercial Activity Notice (MCAN).

The rules also address microorganisms used in research and development for commercial purposes and create a vehicle for reporting on the testing of new microorganisms in the environment, a TSCA Experimental Release Application (TERA). In recognition of the needs of researchers, TERA is designed to provide a high measure of flexibility and a shorter review period.

EPA reviews MCAN and TERA submissions, working closely at times with the submitters, to ensure the microorganisms do not present an unreasonable risk to human health or the environment. Since 1997, EPA has received and reviewed 20 MCANs. Based on review of information provided in the MCANs, EPA determined that these submissions did not warrant regulation because they were not expected to pose an unreasonable risk or have substantial or significant exposure. Since 1997, EPA has also received and approved 20 TERAs.

Accomplishments

- In 2007, EPA received two MCANs for individual microorganisms—modified *Trichoderma reesei* strains with enhanced ability to synthesize cellulose-degrading and other enzymes—as well as one consolidated MCAN covering six different modified organic acid producing microorganisms. EPA determined that these submissions did not warrant regulation and as a result the companies were able to begin commercialization.
- In 2007, EPA received and approved, based on the conditions described by the submitter, one TERA for a modified *Pseudomonas putida* strain for use in a contained biosensor device for the detection of trichloroethylene in the environment, using bioluminescence.

Read more information on the TSCA Biotechnology Program:

http://www.epa.gov/biotech_rule/.

International Efforts

OPPT has continued to be involved in international chemical risk assessment and management by working with international organizations and through collaborative efforts with countries and stakeholders. OPPT provides leadership to help other governments, industry and the public make informed chemical decisions. Sharing and receiving chemical data and assessments helps leverage scarce resources here and in other countries.

OPPT scientists participate in the Organization for Economic Cooperation and Development (OECD) Test Guidelines Program (http://www.oecd.org/department/0,3355,en_2649_34377_1_1_1_1_1,00.html) to develop protocols for studies to assess physicochemical properties, environmental fate, ecotoxicity, and health effects endpoints. The OECD is an international organization consisting of 30 industrialized countries in Europe, North America, Asia, and the Pacific. A foundation of the OECD chemicals program is the Mutual Acceptance of Data (MAD) agreement among OECD countries to accept for review studies generated in accordance with OECD Test Guidelines and Principles of Good Laboratory Practice regardless of where the study is performed in or among OECD countries.

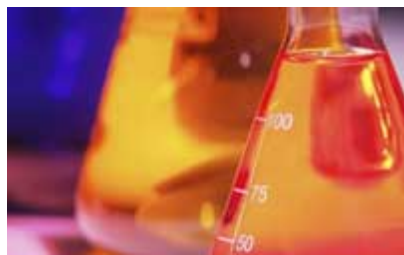
OPPT continues to participate in the work of the OECD New Chemicals Task Force (http://www.oecd.org/department/0,3355,en_2649_34799_1_1_1_1_1,00.html). This work includes further development of a database to generate a consolidated new chemicals notification form that integrates the reporting elements from all OECD countries. It also includes further work to develop a “parallel” review process with other OECD countries, development of OECD new chemicals working definitions, exemptions and reduced notification approaches.

Accomplishments

- Five OECD countries have provided their new chemicals notification forms (approximately 60 in all) to the OECD New Chemicals Task Force, the reporting elements of which will be cataloged and used to develop the OECD’s New Chemicals consolidated electronic notification software. The participating countries are Korea, Japan, Canada, Australia, and the United States.

- OPPT participated with other governments in a parallel review process of five new chemical submissions to explore the concept of Mutual Acceptance of Notifications among OECD countries. This process was created in recognition of the benefits to government, industry and the environment of efforts to better align systems for review of new chemicals in the global market.
- OPPT participated in a polymer workgroup under the OECD New Chemicals Task Force, which was convened in 2007. This workgroup collected test data on polymers of low concern from all participating countries, the results of which were included in a draft report to OECD's New Chemicals Task Force. The objective was to confirm the polymer exemption criteria used by countries such as the United States, Canada, and Australia.
- In conjunction with the Department of Commerce and U.S. industry stakeholders, EPA hosted digital videoconferences on chemical risk management to share insights and practical applications with other countries, including the Philippines' Environmental Management Bureau (EMB) in 2007.

Managing Existing Chemicals



Working under authorities and requirements of the Toxic Substances Control Act (TSCA), EPA's Existing Chemicals Program gathers and reviews data, assesses risk and regulates chemicals in commerce. For example,

under TSCA, EPA can require companies (manufacturers, importers and processors) to conduct testing on selected chemicals for which data are needed to evaluate potential health or environmental hazards. Such data development requirements may be established through a test rule (regulation) or through an Enforceable Consent Agreement (ECA), which is negotiated among interested parties and generally provides an alternative to formal rulemaking.

Strategic Plan

One of the targets in "Goal Four" of EPA's Strategic Plan is to achieve a 26 percent cumulative reduction of chronic human health risk from environmental releases of industrial chemicals in commerce since 2001, as measured by EPA's "Risk Screening Environmental Indicators" model. The plan foresees this target being met by 2011.

TSCA gives EPA responsibility to maintain the TSCA Inventory containing more than 83,000 chemicals. As new chemicals are manufactured, they are placed on the list.

Under TSCA Section 5, EPA may promulgate a Significant New Use Rule (SNUR), when it identifies a "significant new use" that could result in exposures to, or releases of, a substance of concern. Under SNURs, subject entities must give EPA a 90-day advance notice of their intent to manufacture, import, or process a chemical for a significant new use. The required notice provides EPA with the opportunity to evaluate intended new uses and associated activities and, if necessary, prohibit or limit those uses and activities before they occur.

Over the last several years, OPPT's work to ensure the safety of existing chemicals has focused on making basic hazard information available to the public on the approximately 2,200 High Production Volume (HPV) chemicals for which manufacturers and importers pledged to provide information. HPV chemicals are produced and/or imported in annual volumes of 1 million pounds or greater per year. The HPV Challenge Program (<http://www.epa.gov/hpv/>) has made chemical data and assessments accessible to the public to help industry and citizens make wise chemical choices.

This information has become the basis for a larger effort to evaluate and initiate risk management actions as appropriate on both high- and moderate-production volume chemicals—a commitment OPPT made in 2007.

Accomplishments

- EPA has broadened its efforts to ensure the safety of existing chemicals with the creation of the Chemical Assessment and Management Program (ChAMP) (<http://www.epa.gov/champ/>).

ChAMP is implementing commitments the United States made at the Security and Prosperity Partnership of North America (SPP) Leaders' Summit (<http://www.spp.gov/>), in Montebello, Canada, August 2007, which builds on EPA's

efforts under the High Production Volume (HPV) Challenge Program (<http://www.epa.gov/hpv>).

The new commitments include completing screening-level characterizations and taking action, as needed, by 2012 on high- and moderate-production volume (MPV) chemicals, which are those produced at quantities greater than or equal to 25,000 pounds per year—an estimated 6,750* chemicals.

- In announcing ChAMP at the March 2008 “Global Chemical Regulation Conference,” Administrator Stephen L. Johnson stated in his keynote speech (<http://yosemite.epa.gov/opa/admpress.nsf/8d49f7ad4bbcf4ef852573590040b7f6/a47e97b97a782c48852574100048ddd9!OpenDocument>) that EPA would engage stakeholders to discuss potential enhancements (<http://www.epa.gov/champ/pubs/programs.htm>) to ChAMP, including an HPV Challenge-type program for HPV inorganic chemicals, and “resetting” the TSCA inventory to update it to reflect the chemicals currently in use.

EPA held a series of ChAMP stakeholder meetings, including a public meeting May 2, 2008, to encourage input from stakeholders on meeting the SPP goals by 2012 and the potential program enhancements. EPA is evaluating the stakeholder input and plans to have recommendations for whether and how to proceed by the end of the summer 2008.

- By June 2008, EPA posted on its Web site hazard characterizations for 275 HPV chemicals. EPA began the effort in 2007 to give the public an objective evaluation of the quality and completeness of data gathered through the HPV Challenge Program.

In 2007, EPA also began creating screening-level exposure characterizations and risk characterizations to assemble data needed to produce initial risk-based prioritizations on HPV chemicals.

By June 2008, EPA posted initial risk-based prioritizations for 19 HPV chemicals to its Web site, and will continue to develop and post prioritizations for additional chemicals. The plan is for the ChAMP program to encompass initial prioritizations for potential actions, as needed, for both HPV and MPV chemicals.

For more information on this work, read the ChAMP section of this report. For information on the progress of these documents, visit the ChAMP Web site (<http://www.epa.gov/champ/>).

- To reach goals under SPP, OPPT also began working with counterparts in Environment Canada and Health Canada to identify areas of mutual interest in existing chemicals assessment and management. This work will continue in 2008.

The chemical cooperation agreement under SPP calls for the United States, Canada, and Mexico to develop a regional partnership to work cooperatively on science-based risk assessment and risk management of chemicals in commerce.

- On October 9, 2007, EPA issued a final SNUR (<http://www.epa.gov/fedrgstr/EPA-TOX/2007/October/Day-09/t19828.htm>) for 183 perfluoroalkyl sulfonate (PFAS) chemicals that were not included in prior perfluorooctyl sulfonate (PFOS)-related SNURs.

* Based on preliminary statistics from 2006 IUR data.

Public comments on the 2006 proposed SNUR resulted in information about ongoing uses of some PFAS chemicals in the surface-finishing industry; therefore, the final SNUR contains exclusions for those uses.

- On October 5, 2007, EPA issued a final SNUR (<http://www.epa.gov/fedrgstr/EPA-TOX/2007/October/Day-05/t19705.htm>), based on a 2006 proposal, for elemental mercury (<http://www.epa.gov/mercury/snur.htm>) used in convenience light switches, anti-lock braking system (ABS) switches, and active-ride-control-system switches in certain motor vehicles.

For related information, visit Chemical Information Collection and Data Development (<http://www.epa.gov/opptintr/chemtest/index.htm>) and the HPV Challenge Program (<http://www.epa.gov/hpv/>).

HPV Challenge Program

The purpose of the High Production Volume (HPV) Challenge Program is to ensure that basic health and environmental effects data on HPV chemicals are made available to the public. HPV chemicals are considered to be those manufactured or imported in amounts equal to or greater than 1 million pounds per year. A basic premise of the program is that the public has a right to know about the hazards associated with chemicals in their environment and that this information helps them to make wise choices in selecting which chemicals or consumer products to use.

EPA is expanding its HPV Challenge Program work and is extending its efforts to moderate production volume (MPV) chemicals. These efforts will be implemented under the new Chemical Assessment and Management Program (ChAMP) (<http://www.epa.gov/champ/>). For more information about this program, read the ChAMP section of this report.

Since the HPV Challenge Program's inception in 1998, industry chemical manufacturers and importers have participated by sponsoring nearly 2,250 chemicals.

Sponsorship involves a commitment to develop data summaries of relevant existing information and to conduct testing to fill any data gaps. More than 350 companies and 100 consortia have sponsored 1,386 chemicals directly in the program, and an additional 857 chemicals have been sponsored indirectly in an international counterpart to the HPV Challenge Program: the International Council of Chemical Associations (ICCA) HPV Initiative. EPA issued an interim report entitled Status and Future Directions of the High Production Volume (HPV) Challenge Program (<http://www.epa.gov/hpv/pubs/general/hpvstatr.htm>) in November 2004 that includes background and a description of the program.

In an effort to increase accessibility to HPV data, OPPT launched the HPV Information System (HPVIS) Web database (<http://www.epa.gov/hpvis/>) in 2006 to allow users to easily and comprehensively search for specific HPV chemical property data, and OPPT continues its effort to fully populate the Web database.

Strategic Plan
Under Goal Four of EPA's Strategic Plan, EPA has committed, by 2011, to eliminate or effectively manage risks associated with 100 percent of High Production Volume (HPV) chemicals for which unreasonable risks have been identified through EPA risk assessments. (Baseline: EPA screening of data obtained through the HPV Challenge Program commenced in 2006; actions to obtain additional information needed to assess risks will commence as chemicals are identified as priority concerns through the screening process.)

OPPT also has contributed to the development and release of the Organization for Economic Cooperation and Development's eChemPortal (<http://www.oecd.org/ehs/eChemPortal>), which also provides public access to information on the properties, hazards and risks of chemicals.

For more information on these information systems, read the HPVIS and International Work sections of this report and visit HPVIS (<http://www.epa.gov/hpvis>) and eChemPortal (<http://www.oecd.org/ehs/eChemPortal>).

Accomplishments

- In 2007, EPA began focusing its efforts on how to use the collected HPV Challenge Program data by developing screening-level hazard characterizations. These hazard characterizations give the public an objective evaluation of the quality, completeness, and significance of the data. By June 2008, the Agency posted hazard characterizations for 275 chemicals to its Web site.

In addition to hazard characterizations, in 2007, EPA began developing screening-level exposure characterizations and risk characterizations that were used to produce initial risk-based prioritization documents for HPV chemicals. By June 2008, the Agency posted risk-based prioritizations for 19 chemicals to its Web site and will continue to develop and post prioritizations for additional chemicals.

In March 2008, EPA created the Chemical Assessment and Management Program (ChAMP), broadening its HPV Challenge Program and extending its efforts to include moderate production volume chemicals, which are those produced in quantities greater than 25,000 pounds and less than 1 million pounds per year. ChAMP is the program that encompasses hazard characterizations and prioritizations on chemicals for possible risk management actions. Read the ChAMP section of this report for more information about the program. For information on the progress of these documents, visit the ChAMP Web site (<http://www.epa.gov/champ/>).

- As part of its HPV Challenge Program and HPVIS database outreach, EPA staffed a booth in 2007 at conferences, including the Society of Toxicology conference in Charlotte, N.C., and the Society of Environmental Toxicology and Chemistry conference in Milwaukee, Wisc.
- By the end of June 2008, data for 1,008 of the approximately 1,400 chemicals sponsored directly in the program had been entered into HPVIS. Read the HPVIS section of this report for more information.
- The Agency is currently addressing 15 chemicals that have been sponsored but for which test plans or completed data summaries have not been submitted to EPA.

To further address "orphan" chemicals (<http://www.epa.gov/hpv/pubs/general/regactions.htm>) that were eligible for sponsorship but are not sponsored, EPA developed a second HPV test rule in 2007, and this proposed rule is scheduled for publication in 2008.

- Data are also being developed from industry for an additional 208 orphan chemicals covered under the TSCA 8(a) Preliminary Assessment Information Reporting (PAIR) and TSCA 8(d) Health and Safety Data Reporting Rules (<http://www.epa.gov/fedrgstr/EPA-TOX/2006/August/Day-16/t13479.htm>) that were published in 2006. The Agency has received PAIR reports for 86 of the 208 chemicals, and has received

health and safety study submissions for 54 of the 208 chemical substances; for both rules, EPA is evaluating the collected information.

Read more information on the HPV Challenge Program (<http://www.epa.gov/hpv>) and on HPVIS (<http://www.epa.gov/hpvis>).

HPVIS—Making HPV Available Online

The High Production Volume Information System (HPVIS) was developed to assist in the collection, review and reporting of High Production Volume chemicals. The information contained in HPVIS provides critical basic information about the environmental fate and potential hazards associated with these chemicals.

HPVIS contains data on more than 50 endpoints organized into the following four endpoint areas:

- Physical/chemical properties (e.g., melting point, vapor pressure);
- Environmental fate and pathways (e.g., biodegradation, stability in soil);
- Ecotoxicity (e.g., fish toxicity, toxicity to terrestrial plants); and
- Mammalian health effects (e.g., reproductive toxicity, developmental toxicity).

When combined with information about exposure and uses (e.g., from the Inventory Update Reporting rule), the HPVIS data will enable EPA and others to evaluate potential health and environmental hazard and exposure and identify priorities for appropriate follow-up action.

Accomplishments

- EPA's HPVIS database has been on the Web for public use since April 2006. As of June 2008, HPVIS contained 360 submissions, representing 1,008 chemical substances, either as a single chemical submission or as a member of a chemical category.
- The first hazard characterizations (HCs) were posted in September 2007. HCs are EPA's characterization of screening-level hazard data submitted to the Agency on high-production volume chemicals through the HPV Challenge Program. While screening-level HCs provide a vehicle for public access to more than raw technical data on the hazards of HPV chemicals, they are not an evaluation of the potential risks of a chemical. Each HC includes:
 - A summary of submitted data,
 - EPA's evaluation of the quality and completeness of the data, and
 - EPA's determination of the potential hazards a chemical or chemical category may pose to human health or the environment.
- By June 2008, hazard characterizations for 275 chemicals were posted.
- EPA began developing initial risk-based prioritization documents, which are screening-level documents that summarize basic hazard and exposure information on HPV chemicals, identify potential risks, note scientific issues and uncertainties, and indicate the initial priority for potential future action by the Agency.

- In March 2008, EPA created the Chemical Assessment and Management Program (ChAMP) (<http://www.epa.gov/champ/>), broadening the efforts of the HPV Challenge Program and extending the Agency's work to encompass hazard characterizations and prioritizations for moderate production volume chemicals produced in quantities of 25,000 pound per year to 1 million pounds per year, in addition to data on HPV chemicals.

By June 2008, the Agency posted to its HPVIS Web site risk-based prioritizations for 19 chemicals, and will continue to develop and post prioritizations for additional chemicals. For more information on this work, read the ChAMP section of this report. For information on the progress of these documents, visit the ChAMP Web site (<http://www.epa.gov/champ/>).

- EPA held two regional workshops (<http://www.epa.gov/hpv/meetings/regmtgs.htm>) as a follow-up to the first HPV Data Users Conference, "Characterizing Chemicals in Commerce," held December 12-14, 2006, in Austin, Texas (<http://www.epa.gov/hpv/meetings/chemdataconf.htm>). The workshops were attended by approximately 45 attendees representing state and EPA officials, industry representatives and academic researchers.

Attendees learned about the EPA HPV Challenge Program, shared experiences about uses of HPV data and developed ideas on how agencies and programs in the EPA regions could use this data.

- The first workshop took place on June 14, 2007 in Tyngsboro, Massachusetts.
- The second workshop took place on September 27, 2007 in Atlanta, Georgia.

Read more information on the High Production Volume Information System (HPVIS): <http://www.epa.gov/hpvis>. OPPT has contributed to the development and release of a similar database, the Organization for Economic Cooperation and Development's eChemPortal (<http://www.oecd.org/ehs/eChemPortal>), which also provides public access to information on the properties, hazards and risks of chemicals. Read more information about the eChemPortal in the International Work section of this report.

Inventory Update Reporting

The aim of the Inventory Update Reporting (IUR) (<http://www.epa.gov/oppt/iur/>) program is to collect the highest quality screening-level, exposure-related information and to make that information available to EPA and the public.

Chemical manufacturing, processing and use information is reported to EPA under the IUR rule, amended in 2003 and issued under the Toxic Substance Control Act (TSCA).

Manufacturers and importers of—at current estimates—7,500 organic and inorganic chemicals report basic manufacturing information for chemicals produced in volumes of 25,000 pounds or more at a site. To put this in perspective, that is out of the more than 83,000 chemicals listed on the TSCA Chemical Substances Inventory (<http://www.epa.gov/oppt/newchemicals/pubs/invntory.htm>). For chemicals produced or imported in volumes of 300,000 pounds or more at a site, manufacturers also report processing and use information.

The most comprehensive source of basic screening-level, exposure-related information, the IUR data are used to support risk screening, assessment, priority setting and management activities.

Accomplishments

- During 2007, EPA completed the first IUR collection (called the 2006 IUR) since major amendments to the IUR were published in 2003 (<http://www.epa.gov/fedrgstr/EPA-TOX/2003/January/Day-07/t32909.pdf>). To provide additional time for industry reporting, EPA extended the 2006 IUR submission period to March 2007.

EPA received updated information for approximately, at current estimates, 7,500 organic and inorganic chemicals for the 2006 IUR. For the first time, this information included:

- Manufacturing information for inorganic chemicals,
 - Enhanced manufacturing information for organic chemicals (e.g., the physical form of the chemical and the number of potentially exposed workers), and
 - Additional screening-level exposure-related processing and use information for organic chemicals produced at 300,000 pounds or greater at a single site.
- The Agency is using 2006 IUR exposure data in conjunction with hazard and fate data received under the High Production Volume Challenge Program (<http://www.epa.gov/hpv>) to develop screening-level documents summarizing basic hazard and exposure information on HPV chemicals.

This effort, through the Chemical Assessment and Management Program (ChAMP) (<http://www.epa.gov/champ/>), is helping to fulfill EPA's commitments made in August 2007 under the Security and Prosperity Partnership (<http://www.spp.gov>). The screening-level documents will include evaluations identifying potential risks, noting scientific issues and uncertainties, and indicating the initial priority being assigned by the Agency for action, where appropriate. For more information on this effort, see the HPV, HPV Information System, and ChAMP sections of this report.

- EPA launched a new IUR information management system in 2007, consolidating information submitted to EPA online using EPA's Central Data Exchange (CDX) (<http://www.epa.gov/cdx>) on CDs and in hard copy. The new information system provides improved access to IUR information for Agency data users to make regulatory and risk management decisions. Currently, the system is only accessible to Agency users because it contains Confidential Business Information (CBI). A subset of the non-CBI data will be made available to the public in the future.

In an effort to ensure the data entered into the IUR information management system are as complete and correct as possible, EPA used rigorous quality control methods when populating this system, including contacting submitters with questions concerning their IUR reports, checking chemical names and identifying information, etc.

Read more information on the Inventory Update Reporting program (<http://www.epa.gov/oppt/iur>).

ChAMP

The Chemical Assessment and Management Program (ChAMP) (<http://www.epa.gov/champ/>) is aimed at broadening EPA's efforts to ensure the safety of existing chemicals. The program is increasing the number of chemicals for which EPA is making screening-level risk and hazard characterizations available to the public, and will be using the data to prioritize and categorize the chemicals as to whether additional control measures are needed to address potential risks.

ChAMP was created to implement commitments the United States made at the Security and Prosperity Partnership of North America (SPP) Leaders' Summit, in Montebello, Canada, in August 2007 (<http://www.spp.gov>).

These commitments build on EPA's efforts under the High Production Volume (HPV) Challenge Program (<http://www.epa.gov/hpv>), which is making health and environmental effects data publicly available on chemicals produced or imported in the United States in quantities of 1 million pounds or more per year. ChAMP extends this effort to include moderate-production volume chemicals.

ChAMP will implement the U.S. commitment under SPP to complete, by 2012, screening-level risk characterizations and initiate action, as appropriate, on high- and moderate-production volume chemicals (MPV) produced at quantities greater than or equal to 25,000 pounds per year. These are estimated to number 6,750, based on preliminary statistics from 2006 Inventory Update Reporting (<http://www.epa.gov/oppt/iur>) data.

EPA is also communicating with stakeholders regarding the possibility of initiating, through ChAMP, an HPV Challenge-type program for HPV "inorganic" chemicals, and "resetting" the Toxic Substances Control Act (TSCA) Inventory to update it to accurately reflect the chemicals that are currently being used in commerce.

EPA has developed a screening process for assessing and prioritizing HPV and MPV chemicals using hazard, exposure, and use information. Based on this evaluation, the Agency will evaluate potential risks, and then create and post to the Agency's Web site "prioritizations" that identify:

- If the chemical is a low priority and requires no further action,
- Whether additional data or testing is needed to better characterize the chemical, or
- Whether specific control measures need to be initiated to address potential risks.

EPA Administrator Stephen L. Johnson announced the creation of ChAMP in his keynote speech (<http://yosemite.epa.gov/opa/admpress.nsf/8d49f7ad4bbcf4ef852573590040b7f6/a47e97b97a782c48852574100048ddd9!OpenDocument>) at the "Global Chemical Regulation Conference" in Baltimore, MD, in March 2008. He said EPA would begin talking to a wide range of stakeholders on possible enhancements to ChAMP (<http://www.epa.gov/champ/pubs/programs.htm>), including the HPV Challenge-type program for HPV inorganic chemicals and "resetting" the TSCA inventory.

Accomplishments

- EPA held a series of stakeholder meetings, including a public meeting on May 2, 2008, to encourage input from stakeholders on development of ChAMP (<http://www.epa.gov/champ/>) initiatives, including:

- Meeting SPP goals by 2012,
- Developing an HPV Challenge-type program for “inorganic” HPV chemicals, and
- Options to potentially reset the TSCA Inventory.

EPA is evaluating the stakeholder input and plans to have recommendations for whether and how to proceed by the end of the summer 2008.

- By June 2008, the Agency posted hazard characterizations for 275 chemicals to its Web site and posted risk-based prioritizations for 19 HPV chemicals. Based on experience developing this first set of prioritizations and feedback received from stakeholders, EPA has streamlined the preparation of, and improved the presentation of, information within the prioritizations.

EPA is actively developing prioritizations for additional chemicals and expects to complete prioritizations for an additional 200 high- and moderate-production volume chemicals in 2008. For information on the progress of these documents, visit the ChAMP Web site (<http://www.epa.gov/champ/>).

Read more information on SPP (<http://www.spp.gov>) and ChAMP (<http://www.epa.gov/champ/>), as well as other sections of this report on HPV, HPVIS, International Work, and the Strategic Approach to International Chemicals Management (SAICM).

Chemical Nanoscale Materials

OPPT is evaluating and, where appropriate, managing the risks associated with engineered nanoscale materials (<http://www.epa.gov/oppt/nano/>). Nanoscale materials at dimensions of roughly 1 to 100 nanometers may exhibit novel properties that enable applications that differ from the same materials at a larger scale. A nanometer is about one ten-thousandth the diameter of a human hair.

Nanoscale materials (NMs) that are “chemical substances” as defined under the Toxic Substances Control Act (TSCA) are subject to the law unless otherwise excluded. Thus TSCA pre-manufacture notifications (PMNs) (<http://www.epa.gov/oppt/newchems/pubs/whatinfo.htm>) are required to be submitted to EPA prior to manufacturing a “new” NM, i.e., a NM that is not currently listed on the TSCA Chemical Substances Inventory (<http://www.epa.gov/oppt/newchems/pubs/invntory.htm>). The Agency will take steps to control or limit exposures to these NMs, and may require testing to generate health and environmental effects data where appropriate.

To assist potential PMN submitters, EPA has developed a document, TSCA Inventory Status of Nanoscale Substances—General Approach (2008) (<http://www.epa.gov/oppt/nano/nmsp-inventorypaper2008.pdf>), describing EPA’s current thinking regarding whether a nanoscale material is a “new” or “existing” chemical substance under TSCA. This document was published for public review and comment prior to its release in January 2008.

On January 28, 2008, OPPT initiated a Nanoscale Materials Stewardship Program (NMSP) (<http://www.epa.gov/oppt/nano/stewardship.htm>) aimed at gathering currently available information on NMs. Its goal is to help provide a firmer scientific foundation for regulatory decisions by encouraging submission and development of key scientific information, including risk-management practices for nanoscale materials. Companies that manufacture,

import, process, or use nanoscale materials for commercial purposes, as well as researchers, were invited to participate.

OPPT chairs and is actively participating in the Organization for Economic Cooperation and Development's (OECD) Working Party on Manufactured Nanomaterials (http://www.oecd.org/document/30/0,3343,en_2649_34269_40047134_1_1_1_1,00.html) and its projects to further understanding of the properties and potential risks of nanomaterials.

Accomplishments

- As of July 8, 2008, four companies submitted information, and ten companies and two trade associations committed to submit information under the basic program of the Nanoscale Materials Stewardship Program (NMSP). Read the most current information on program participants (<http://www.epa.gov/oppt/nano/stewardship.htm#participants>). EPA has encouraged participants in the basic program to submit existing data by July 28, 2008.

OPPT announced a variety of opportunities for public input (<http://www.epa.gov/oppt/nano/stewardship.htm>) on the program's development in 2007, including a request for comments on: a paper outlining the Agency's initial concept; an information collection request; and other materials connected to the program.

- OPPT and EPA's Office of Research and Development (ORD) hosted the Pollution Prevention Through Nanotechnology Conference, September 25-26, 2007 (<http://www.epa.gov/opptintr/nano/agenda.htm>), to exchange ideas and information on using nanotechnology to prevent pollution.
- OPPT and ORD co-chaired the development of an EPA Nanotechnology White Paper (<http://www.epa.gov/osa/pdfs/nanotech/epa-nanotechnology-whitepaper-0207.pdf>), which was issued in February 2007, describing why EPA is interested in nanotechnology across its programs, the Agency's statutory mandates, and risk assessment issues specific to nanotechnology across media.
- With EPA in the lead, the OECD's Working Party on Manufactured Nanomaterials (http://www.oecd.org/document/30/0,3343,en_2649_34269_40047134_1_1_1_1,00.html) launched a "sponsorship program" for countries to share testing information on the human health and environmental safety of a representative set of 14 manufactured nanomaterials. The OECD Secretariat asked delegations to sponsor or co-sponsor one or more nanomaterials and endpoints. As part of its commitments, EPA is sponsoring environmental effects and fate testing of fullerenes, single-walled carbon nanotubes, multi-walled carbon nanotubes, and cerium oxide, and is encouraging participation by other U.S. entities in the OECD work.

Managing Potential PFOA Risks

Perfluorooctanoic acid (PFOA) is a persistent, man-made chemical that animal studies have shown can cause systemic and developmental toxicity. It has been found in human blood and it remains in the body for years. The Office of Pollution Prevention and Toxics (OPPT) began investigating PFOA in 2002 to determine the risk it may pose to humans and the environment and what, if any, actions could be taken.

OPPT has taken action to help minimize the potential impact of PFOA and related chemicals on the environment. In January 2006, EPA Administrator Stephen Johnson initiated the 2010/15 PFOA Stewardship Program (<http://www.epa.gov/oppt/pfoa/pubs/pfoastewardship.htm>), in which eight major companies in the industry committed to voluntarily reduce facility emissions and product content of PFOA and related chemicals on both a domestic and a global basis by 95 percent no later than 2010, and to work toward eliminating emissions and product content of these chemicals by 2015. Companies submitted their baseline year emissions and product content data (<http://www.epa.gov/oppt/pfoa/pubs/sumrpt.htm>) in October 2006. Progress reports (<http://www.epa.gov/oppt/pfoa/pubs/preports.htm>) are due annually on October 31.

OPPT and EPA's Office of Enforcement and Compliance Assurance work together to take enforcement actions under TSCA when necessary. Two such significant actions in connection with PFOA were the \$10.25 million settlement between EPA and DuPont (<http://www.epa.gov/compliance/resources/cases/civil/tsca/dupont121405.html>) reached in December 2005 and the \$1.5 million settlement between EPA and the 3M Company (<http://www.epa.gov/compliance/resources/cases/civil/tsca/3m.html>) reached in April 2006.

OPPT is a key player in raising awareness on PFOA-related issues internationally working with the Organization for Economic Cooperation and Development (OECD). For example, the United States and Germany are developing a draft hazard assessment on PFOA. OPPT also participated in developing the OECD workshop on PFOA and related chemicals (http://www.oecd.org/document/58/0,3343,en_2649_37465_2384378_1_1_1_37465,00.html).

Accomplishments

- In August 2007, a U.S. Centers for Disease Control report (<http://www.ehponline.org/docs/2007/10598/abstract.html>) showed significant reductions in human blood levels of perfluorooctyl sulfonates (PFOS) and PFOA from 1999-2000 compared to the most recent data in 2003-2004 in a representative sample of the U.S. population. The geometric mean for PFOA in human blood was reduced by 25 percent over this period and PFOS was reduced by 32 percent. The report concluded that these reductions were most likely related to changes brought about by EPA efforts on these chemicals and other related efforts by government and industry.
- Eight major companies participating in the PFOA Stewardship Program reported significant drops in the release of PFOA and related chemicals, putting industry on target to meet the 95 percent reduction goal in PFOA emissions and product content by 2010. Further reductions are anticipated by 2015. These first annual progress reports (<http://www.epa.gov/oppt/pfoa/pubs/preports.htm>) were submitted to EPA in October 2007, and were measured against baseline data (<http://www.epa.gov/oppt/pfoa/pubs/sumrpt.htm>) submitted in October 2006. In February 2008, OPPT released summary tables of 2007 progress reports (<http://www.epa.gov/oppt/pfoa/pubs/preports.htm#summary>).
- OPPT entered into two enforceable consent agreements (ECAs) (<http://www.epa.gov/oppt/pfoa/meetings/meetings.htm>) with industry in July 2005 to determine whether incineration of telomers (<http://www.regulations.gov/fdmspublic/component/main?main=DocketDetail&d=EPA-HQ-OPPT-2004-0001>) and fluoropolymers (<http://www.regulations.gov/fdmspublic/component/>

[main?main=DocketDetail&d=EPA-HQ-OPPT-2003-0071](#)) could be a source of PFOA. Phase I of the ECA process was successfully completed for both ECAs by the end of 2007. The final reports on incineration results are expected in 2008 and 2009, respectively.

As an outgrowth of the ECA process, OPPT is working with ORD to determine whether telomeric polymers can biodegrade to PFOA and to determine whether fluoropolymer and telomer-treated articles can release PFOA as they age.

- In October 2007, OPPT issued a final Significant New Use Rule (SNUR) for 183 perfluoroalkyl sulfonate (PFAS) chemicals (<http://www.epa.gov/oppt/pfoa/pubs/related.htm>) that were not included in prior perfluorooctyl sulfonate (PFOS)-related SNURs.
- In 2007, 3M began a peer consultation process (<http://www.menziecura.com/pfoa/index.php>), developed under a Memorandum of Understanding (MOU) with the Agency to assess 3M's environmental monitoring (<http://www.regulations.gov/fdmpublic/component/main?main=DocketDetail&d=EPA-HQ-OPPT-2004-0112>) at a fluoropolymer facility. DuPont also has a similar MOU with the Agency (<http://www.regulations.gov/fdmpublic/component/main?main=DocketDetail&d=EP A-HQ-OPPT-2004-0113>), and has been conducting environmental monitoring throughout 2007. DuPont's peer consultation process is expected to commence in 2008.
- EPA continues to monitor DuPont's efforts to develop a method to purify certain fluorotelomer-based products as part of the Biodegradation Supplemental Environmental Project (SEP). The Biodegradation SEP is part of the \$10.25 million settlement with DuPont (<http://www.epa.gov/compliance/resources/cases/civil/tsca/dupont121405.html>). The Biodegradation SEP, valued at \$5 million, was designed to investigate the biodegradation potential of certain chemicals to breakdown to form PFOA. Nine of DuPont's commercial fluorotelomer-based products in commerce prior to the settlement are being evaluated. Using two types of biodegradation studies, the SEP will help the public to better understand the inherent degradation potential of fluorotelomer-based products to form PFOA and the behavior of such products when released to the environment.

Read more information on the Agency's activities concerning PFOA and related chemicals: <http://www.epa.gov/oppt/pfoa/>.

Potential Chemical Risks to Children

Developed through a public stakeholder process, the Voluntary Children's Chemical Evaluation Program (VCCEP) (<http://www.epa.gov/oppt/vccep/>) is helping the public better understand the potential health risks to children associated with certain chemical exposures.

VCCEP is a three-tiered assessment program designed to fully evaluate hazards, exposures and risks of chemicals to children and to develop information needed to adequately assess the risks to children. Under VCCEP, EPA collects three tiers of increasingly detailed information on a chemical's toxicity and exposure and resulting potential risk to children.

Strategic Plan
EPA, in its Strategic Plan, committed to completing data needs documents for 10 of these chemicals by the end of 2007; 12 were completed by December 2007.

So far EPA has asked companies to volunteer to sponsor their chemical(s) for Tier 1. After completing the evaluation of some Tier 1 chemical assessments, EPA asked companies to volunteer to sponsor higher tier testing for several chemicals. VCCEP is more an information collection program than a testing program. Rigorous chemical selection criteria were used to identify 23 chemicals for the pilot program. Companies have agreed to sponsor 20 of the 23 chemicals in the pilot.

Similar to the HPV Challenge Program, the goal of VCCEP is to make data publicly available. The implementation process builds on and models the HPV Challenge Program whenever possible.

Accomplishments

- When VCCEP was announced as a new program in December 2000, EPA committed to conducting an evaluation of the pilot program approximately mid-way in its implementation. In 2007, EPA compiled and summarized the responses to its 2006 Request for Comment on the Implementation of the VCCEP pilot, which was published in the Federal Register (<http://www.epa.gov/fedrgstr/EPA-TOX/2006/November/Day-20/t19574.htm>).

A summary of the comments (<http://www.epa.gov/oppt/vccep/pubs/summaryrpt.pdf>) was made available on the VCCEP Web site along with the options EPA is considering (<http://www.epa.gov/oppt/vccep/pubs/interim.htm>) on future changes to VCCEP, which focus on enabling VCCEP to operate more rapidly and efficiently to meet its goals. Adapting the VCCEP approach for the further evaluation of other HPV chemicals was also explored.

- From January 2007 through June 2008, EPA issued Data Needs Decisions for seven chemicals—n-dodecane, undecane, decane, benzene, m-xylene, o-xylene, and toluene—identifying whether additional hazard and/or exposure information were needed to adequately assess the potential risks to children and, where relevant, prospective parents.

In its Data Needs Decisions, EPA determined that additional information was needed for four of the seven chemicals—benzene, m-xylene, o-xylene, and toluene. By the end of 2007, the consortium of companies sponsoring benzene, the xylenes, and toluene declined to conduct the requested upper tier tests for benzene. EPA is still awaiting the consortium's decision on whether to sponsor upper tier tests for m-xylene and o-xylene and whether to provide additional occupational and general population exposure information on toluene.

For the other three chemicals—n-dodecane, undecane, and decane—EPA concluded that upper tier tests were not needed.

- In 2007, chemical sponsors submitted a Tier 1 chemical assessment for one chemical—p-dioxane—totaling 15 chemical assessments received out of the 20 chemicals.
- In 2007, the sponsors of five chemicals committed to provide additional information (not new testing) to address transparency and uncertainty issues and to complete their assessments.

- Sponsors of decabromodiphenyl ether committed to provide additional information on environmental fate and transport and on the chemical's breakdown products to complete their Tier 2 assessment.
- Sponsors of decane, undecane, and n-dodecane committed to provide additional information on environmental fate and transport to address transparency and uncertainty issues.
- Sponsors of benzene committed to provide additional information on exposure and fate to complete their Tier 1 assessment.
- In 2007, Toxicology for Excellence in Risk Assessment (TERA)—a third party organization that organizes and facilitates peer consultation meetings to evaluate VCCEP chemical assessments—held peer consultations for two more chemicals—p-dioxane and ethylbenzene—and wrote summary reports of meetings for three—toluene, p-dioxane, and ethylbenzene.
- In May 2008, EPA terminated sponsorship of decabromodiphenyl ether in VCCEP because necessary Tier 2 data were not provided.

Read more information on the Voluntary Children's Chemical Evaluation Program (VCCEP): <http://www.epa.gov/oppt/vccep/>.

Using TSCA Section 8(e)

Section 8(e) of the Toxic Substances Control Act (TSCA) states that, "Any person who manufactures, processes or distributes in commerce a chemical substance or mixture and who obtains information which reasonably supports the conclusion that such substance or mixture presents a substantial risk of injury to health or the environment shall immediately inform the [EPA] Administrator of such information unless such person has actual knowledge that the Administrator has been adequately informed of such information."

OPPT screens all TSCA §8(e) submissions, as well as voluntary "For Your Information" (FYI) submissions (<http://www.epa.gov/oppt/tscas8e/pubs/basicinformation.htm#fyi>). The latter are not required by law, but are submitted by industry and public interest groups for a variety of reasons. The purpose of EPA's review is to:

- Identify chemicals for further assessment or testing
- Refer information of interest to other regulatory authorities and stakeholders
- Follow-up with submitters regarding risk management actions
- Provide chemical hazard and exposure information to the Agency and public to aid in risk assessment and risk management of commercial chemicals
- Estimate the effects of closely related chemicals
- Promote pollution prevention through improved understanding of comparative toxicities

Information from the summaries can also be instrumental in avoiding unnecessary testing.

TSCA §8(e) and FYI submissions are entered into the TSCA Test Submissions (TSCATS) database (<http://yosemite.epa.gov/oppts/epatscat8.nsf/ReportSearch?OpenForm>), a

submission and document tracking system. EPA continues to provide TSCATS information to the National Library of Medicine for inclusion in the Toxline database and to others to maintain various databases. New TSCA §8(e) submissions are available to the public through EPA's TSCA §8(e) Web page (<http://www.epa.gov/oppt/tsca8e/>).

Accomplishments

- More than 500 initial and more than 170 supplemental TSCA §8(e) submissions were received from January 2007 through June 2008.
- A review of several hundred studies was completed in 2007 in response to a request by the Office of Enforcement to evaluate studies for possible violations of TSCA Section 8(e).
- Seventy-two voluntary FYI submissions were received and their initial screening evaluations are in progress.
- Of the more than 301 TSCA §8(e) information referrals sent from January 2007 through June 2008, 117 related primarily to EPA PFOA program activities.
- Also during 2007, OPPT continued to develop its database to improve file management and the review of new submissions.

Read more information on TSCA §8(e): <http://www.epa.gov/oppt/tsca8e/>.

TSCA 12(b) Export Notifications

The Toxic Substances Control Act (TSCA) Section 12(b) requires EPA to notify importing countries of the export or the intended export of industrial chemicals or mixtures that are subject to certain regulatory actions under U.S. law. Approximately 2,000 chemicals come under this requirement.

As a member of the Organization for Economic Cooperation and Development (OECD), the United States participates in a Complementary Information Exchange Procedure intended to help countries coordinate their chemical control activities.

On February 9, 2006 (71 FR 6733) EPA proposed amendments to the TSCA Section 12(b) export notification regulations (<http://www.epa.gov/fedrgstr/EPA-TOX/2006/February/Day-09/t1797.htm>). The final amendments to the regulations (<http://www.epa.gov/fedrgstr/EPA-TOX/2006/November/Day-14/t19182.htm>) were promulgated on November 14, 2006 (71 FR 66234) and a technical correction notice was issued on November 28, 2006 (71 FR 68750: <http://www.epa.gov/fedrgstr/EPA-TOX/2006/November/Day-28/t20148.htm>). These amendments:

- Focused importing governments' attention on chemicals for which EPA has made an "unreasonable risk" finding under TSCA
- Reduced overall burden on exporters and the Agency. Amendments include a change in the current annual notification requirement to a one-time requirement for exporters of certain chemicals, and a corresponding one-time notification of foreign governments by EPA

The Agency also issued *de minimus* concentration levels below which notification would not be required, as well as other minor amendments that update the EPA addresses to which export notifications must be sent and that clarify exporters' and EPA's obligations.

Accomplishments

- For the period of January 2007 through December 2007, 59 export notifications were sent to foreign countries.
- In 2007, OPPT conducted outreach on TSCA Section 12(b) Export Notifications, including presentations at the American Chemistry Council's Global Chemical Regulation Conference & Expo and in the Synthetic Organic Chemical Manufacturers Association's TSCA Fundamentals Webinar Series.

Read more information on TSCA Section 12(b)—"Export Notification" (<http://www.epa.gov/oppt/chemtest/pubs/imex.htm#export>) and the current list of chemical substances subject to it (<http://www.epa.gov/oppt/chemtest/pubs/main12b.htm>).

International Work

OPPT participates in an array of international work aimed at reducing risks, facilitating the sound management of chemicals and preventing pollution. Complementing OPPT's domestic mission, the work ranges from facilitating the exchange of information, for example, on chemical assessments and risk assessments, to cooperating on the scientific and technical aspects of international commitments.

A major step forward, the Security and Prosperity Partnership (SPP) of North America Leaders' Summit (<http://www.spp.gov>), resulted in commitments on behalf of the United States, Canada and Mexico to work together to ensure the safe manufacture and use of industrial chemicals. Read more about the SPP commitments on chemical cooperation (<http://www.epa.gov/champ/pubs/basic.htm#07commit>) made by the United States, Canada and Mexico.

OPPT is fulfilling U.S. commitments made under SPP through EPA's new Chemical Assessment and Management Program (ChAMP), which builds on EPA's High Production Volume (HPV) Challenge Program (<http://www.epa.gov/hpv>) and extends EPA's efforts to include moderate production volume chemicals.

ChAMP and the SPP work complement the United States' continuing work with Canada and Mexico under the Commission on Environmental Cooperation (CEC) Sound Management of Chemicals (SMOC) Working Group (http://www.cec.org/programs_projects/pollutants_health/project/index.cfm?projectID=25&varlan=english). Together, these North American efforts comprise a regional approach to implement the Strategic Approach to International Chemicals Management (SAICM) (<http://www.chem.unep.ch/saicm/>). SAICM is an international policy framework to foster the sound management of chemicals.

In addition to SAICM, countries have committed to global partnerships within the United Nations Environment Program (UNEP) to reduce releases and uses of mercury (http://www.chem.unep.ch/MERCURY/partnerships/new_partnership.htm). OPPT helped spearhead this initiative and is leading partnership efforts on mercury in products. EPA's PFOA Stewardship Program is also making significant progress toward reductions in releases and use in products both domestically and globally.

OPPT continues its technical, scientific and regulatory cooperation in the Organization for Economic Cooperation and Development (OECD) (http://www.oecd.org/department/0,3355,en_2649_34365_1_1_1_1_1,00.html). Over the years, OPPT's work in OECD has contributed in a significant way to the Screening Data Information Sets (SIDS) program, out of which grew EPA's HPV Challenge program (<http://www.epa.gov/hpv/>). Both programs are giving citizens screening-level hazard data on HPV chemicals, and are, in turn, contributing to the new ChAMP.

OPPT also provides substantial leadership and international coordination through our Nanoscale Materials Stewardship Program (NMSP) (<http://www.epa.gov/oppt/nano/stewardship.htm>) and participation in the OECD Working Party on Manufactured Nanomaterials (WPMN).

The Administration supports the United States becoming a party to the:

- Stockholm Convention on Persistent Organic Pollutants (POPs) (http://www.pops.int/documents/meetings/cop_3/meetingdocs/report/default.htm),
- 1979 Convention on Long-Range Transboundary Air Pollution (LRTAP) Protocol on POPs, a regional convention (<http://www.unece.org/env/lrtap/welcome.html>),
- 1998 Rotterdam Convention on the Prior Informed Consent (PIC) Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (<http://www.pic.int/home.php?type=t&id=5&sid=16>)

Both the Stockholm Convention on POPs and the LRTAP Protocol on POPs include provisions that require parties to eliminate or restrict the production, use and/or release of the POPs chemicals listed under the respective Agreements. In general, POPs under these Agreements are chemicals that are persistent and toxic, can bioaccumulate and be transported long distances in the environment, and are likely to affect human health or the environment in locations distant from their sources.

The United States is a party to the United Nations Economic Commission for Europe LRTAP Convention, including the Protocol on Heavy Metals, but is not yet a party to the POPs Protocol.

The 1998 Rotterdam Convention on the Prior Informed Consent (PIC) Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (<http://www.pic.int/home.php?type=t&id=5&sid=16>) was developed with strong U.S. support to promote information exchange and informed risk-based decisions in the trade of hazardous chemicals and pesticides. Among other provisions, the Convention gives force to importing country decisions on listed chemicals by prohibiting unwanted exports and requiring that exports meet conditions specified by importing governments. Legislative changes to the Toxic Substances Control Act (TSCA) and the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) that would provide the authority needed to implement the respective agreements have been considered in Congress.

Accomplishments

- At the August 2007 SPP Leaders' Summit (<http://www.spp.gov/>), the United States committed to completing by 2012 risk characterizations and taking action, as appropriate, on high- and moderate-production volume chemicals produced above

25,000 pounds per year. EPA created the Chemical Assessment and Management Program (ChAMP) to implement these commitments.

- The Commission for Environmental Cooperation (CEC) (<http://www.cec.org/home/index.cfm?varlan=english>) directed the Sound Management of Chemicals (SMOC) Working Group to create a strategy for chemicals management in North America that addresses issues of mutual concern, supports CEC's priorities, and advances shared international objectives, including implementing SAICM in the North American region. In 2007, the SMOC Working Group took initial steps to implement this strategy, which included:

- A multi-sector and stakeholder workshop to advance the development of a chemical inventory in Mexico.
- Support for a project to reduce use of mercury in the health care sector and to update an inventory of mercury use and demand, including mercury-containing products.

- The eChemPortal (<http://www.oecd.org/ehs/eChemPortal>) was released to the public in June 2007 by the OECD in collaboration with several OECD countries and global organizations, including the United States, with OPPT taking the lead in the United States. This information portal is a significant step towards achieving long-standing international commitments to improve the public availability of data on chemicals. It is an Internet gateway that provides public access to information on the properties, hazards and risks of chemicals free of charge and allows users simultaneously to search multiple databases prepared for government chemical review programs around the world. The U.S. High Production Volume Information System (HPVIS) is a key component of the health and environmental effects data that will be directly accessible from this one Web site.
- In the past year, OECD member countries have approved six test guidelines (on, for example, a sediment organism and pesticide residues) and have declassified three guidance documents (on, for example, honey bees and on pesticide residue methods), to keep OECD test guidelines (http://www.oecd.org/departement/0,3355,en_2649_34377_1_1_1_1_1,00.html) current with scientific developments.
- OPPT is currently leading or co-leading 16 projects that will result in new and updated test guidelines and guidance documents. OPPT relies on consensus-based OECD test guidelines and Good Laboratory Practices to ensure the development of high-quality, valid test data under its regulatory testing programs. This ensures that data generated in the United States are also acceptable to other OECD countries under the Mutual Acceptance of Data (MAD) agreement which combine to save governments and industry over \$85 million annually.

SMOC Working Group

The SMOC Working Group held a public meeting in March 2008 (<http://www.cec.org/calendar/details/index.cfm?varlan=english&ID=2085>) to discuss North American cooperative efforts on assessment and management of chemicals, including efforts to:

- Establish a foundation for chemicals management across North America
- Develop and implement a sustainable regional approach to monitoring, including biomonitoring
- Reduce the risk from chemicals of mutual concern in North America, as identified by the SMOC Working Group
- Improve environmental performance of sectors

- EPA participates in and provides technical support to the U.S. delegation at relevant Stockholm Convention meetings. This included the third meeting of the Conference of the Parties (http://www.pops.int/documents/meetings/cop_3/meetingdocs/report/default.htm), which took place in Dakar, Senegal, from April 30 to May 4, 2007, as well as the third meeting of the POPs Review Committee (http://www.pops.int/documents/meetings/poprc/POPRC3_report.htm), November 19 - 23, 2007, in Geneva, Switzerland.
- EPA participates in relevant Rotterdam Convention meetings including the third and fourth Chemical Review Committee (CRC) meetings, which occurred in March 2007 and 2008 respectively and took place in Rome. EPA also participated in the third Conference of the Parties.
- EPA engages in information exchange and, where feasible, technical assistance, on the above matters. Most recently, EPA contributed to and participated in a February 2008 Workshop on Continuing Polychlorinated biphenyls (PCB) Management in the Latin American and Caribbean Countries (http://www.chem.unep.ch/pops/pcb_activities/Panama2008/default.htm) and in a regional SAICM meeting (<http://www.chem.unep.ch/saicm/meeting/grulac/LAC%20Panama/default.htm>) to help facilitate chemical management activities. The SAICM regional meeting also provided an opportunity to follow up on an earlier international PCB Consultation Meeting (http://www.chem.unep.ch/pops/pcb_activities/webpage.htm) hosted by UNEP. For more information on EPA's participation in SAICM activities, read the SAICM section of this report.

Read other sections of this report for additional information on OECD Screening Information Data Sets (SIDS) program and EPA's international work with mercury.

SAICM

OPPT is taking a regional approach to implement the Strategic Approach to International Chemicals Management (SAICM) (<http://www.chem.unep.ch/saicm/>), an international policy framework to foster the sound management of chemicals through:

- The Commission on Environmental Cooperation (CEC) Sound Management of Chemicals (SMOC) Working Group (http://www.cec.org/programs_projects/pollutants_health/project/index.cfm?projectID=25&varlan=english)
- EPA's Chemical Assessment and Management Program (ChAMP) to fulfill commitments under the Security and Prosperity Partnership (SPP) (<http://www.spp.gov/>) of North America.

OPPT has been working with other EPA offices and other federal agencies, including the U.S. Department of State, to help ensure that various issues and sectors are aware of and contributing to SAICM's objectives. In addition, OPPT, in cooperation with others, has facilitated efforts toward risk reduction and information sharing.

Accomplishments

- OPPT helped create a chemicals management strategy to implement SAICM in the North American region. In 2007, in accordance with this strategy, OPPT participated in activities organized by the SMOC Working Group, including a workshop to advance

the development of a chemical inventory in Mexico and projects to inventory mercury and reduce its use.

- Helping to further implement the goals of SAICM, under SPP (<http://www.spp.gov/>), the United States has committed to complete screening-level characterizations and take action, as needed, on high- and moderate-production volume chemicals, produced above 25,000 pounds per year. OPPT will fulfill these commitments through ChAMP; read the ChAMP section of this report for more information.
- In May 2007, OPPT co-sponsored, along with SAICM's Asia-Pacific Region, a workshop in Bangkok, Thailand, on the United Nations Environment Program mercury products partnership, focusing on development of projects that promote information exchange and mercury reductions in products. Such projects include:
 - Mercury product inventory development
 - Mercury market studies and risk management plans
 - Mercury reductions in hospitals
 - Other priorities of interest to countries, geographic regions, and stakeholders
- OPPT co-sponsored a technical workshop in February 2008 on management of Polychlorinated Biphenyls (PCBs) in Latin America in response to follow-up meetings to the Stockholm Convention Conference of the Parties.
- OPPT co-sponsored the Latin America Regional SAICM Meeting in February 2008 on the region's chemicals management priorities and implementation planning. EPA's work in Mexico under the SMOC Working Group and SPP complements efforts in the Americas as Mexico is also a key participant with chemicals management activities in the Latin America region.

EPA is also providing global leadership on mercury partnerships with UNEP and on Perfluorooctanic acid (PFOA) through its PFOA Stewardship Program. For more information on these activities, read the International Work, ChAMP, HPV, PFOA and international work with mercury sections of this report.

OECD HPV Chemicals Program

The Organization for Economic Cooperation and Development (OECD) High Production Volume (HPV) Chemicals Program is an international voluntary program in which EPA is an active participant. Within the program, each participating country's government works with industry to obtain screening-level toxicity data and other basic information on HPV chemicals. Each country prepares assessments of these data for presentation at biannual meetings. In addition to presenting chemical assessments, each meeting provides a forum for technical discussions.

Under the OECD HPV Chemicals Program, EPA is sponsoring a growing number of HPV chemicals. While the United States has committed to be responsible for 25 percent of the chemicals in this program, in practice it has currently handled 45 percent and has committed to review approximately 500 chemicals between 2005 and 2010. Read the HPV Challenge section of this report for more information.

Through its participation in the OECD HPV Chemicals Program, the United States benefits from the review of HPV chemicals by a wide group of international experts. Further, the United States strengthens relationships with the international community through this cooperative effort. Publication of the final OECD screening-level assessments offers the public a concise view of the human health and ecological hazards associated with international HPV chemicals.

Accomplishments

- At the April 2007 Screening Information Data Set (SIDS) Initial Assessment Meeting, referred to as the SIAM, the United States reviewed and presented assessments for 15 chemicals and reviewed data on an additional 20 chemicals presented by other countries.
- At the October 2007 SIAM, the United States reviewed and presented assessments for 36 chemicals and reviewed data on an additional 70 chemicals presented by other countries or by the Business and Industry Advisory Committee (BIAC).
- At the April 2008 SIAM, the United States reviewed and presented assessments for 13 chemicals and reviewed an additional 9 chemicals presented by other countries or by BIAC.

View published cases on specific chemicals through the United Nations Environment Program (<http://www.chem.unep.ch/irptc/sids/OECD/SIDS/sidspub.html>) or European chemical Substances Information System (<http://ecb.jrc.it/esis/index.php?PGM=hpv>) Web sites.

Reducing Risks from Specific Chemicals



OPPT develops regulations and policies designed to reduce risks to human health and the environment from several specific priority chemicals, known as National Program Chemicals. The National Program Chemicals include chemicals that have specific statutory requirements (e.g., lead, asbestos, polychlorinated biphenyls (PCBs)) as well as other multimedia pollutants of concern (e.g., mercury and dioxin).

Accomplishments

- In March 2008 OPPT finalized, a rule (<http://www.epa.gov/lead/pubs/renovation.htm>) requiring persons engaged in renovation, repair and painting activities in pre-1978 housing and child-occupied facilities to be trained and to use lead-safe work practices for activities that disturb lead-based paint (<http://www.epa.gov/lead/>).
- EPA awarded more than \$9.2 million in grant dollars for national, tribal and local lead poisoning prevention projects to address populations at risk for elevated blood-lead levels through three grant programs (<http://www.epa.gov/lead/pubs/grantmap.htm>) in 2007.
- On April 2, 2007, EPA published the brochure, *Current Best Practices for Preventing Asbestos Exposure Among Brake and Clutch Repair Workers* (<http://www.epa.gov/asbestos/pubs/brakesbrochure.html>), giving automotive professionals and home mechanics information on preventing exposure to brake and clutch dust that may contain asbestos fibers.
- Effective October 9, 2007, EPA transferred management (<http://www.epa.gov/pcb/transfer.htm>) of most of the PCB cleanup and disposal program from OPPTS to the Office of Solid Waste and Emergency Response; however, OPPTS will continue to administer the "use" portion of the PCB program.
- In 2007, EPA hosted commodity-grade mercury stakeholder panel (<http://www.epa.gov/mercury/stocks/index.htm>) meetings to discuss options for managing non-federal supplies of mercury in the United States.
- Working with the states (<http://www.epa.gov/epaoswer/hazwaste/mercury/live.htm>), EPA promoted recycling, collection, and reduction of mercury-containing products such as mercury thermostats, industrial non-ferrous thermometers and fluorescent lamps.
- On October 5, 2007, EPA issued a final Significant New Use Rule (<http://www.epa.gov/mercury/snur.htm>) on mercury auto and convenience switches.
- EPA continued in 2007 to participate in the United Nations Environment Program (UNEP) Mercury Products Partnership to reduce mercury in products internationally by helping to build capacity for countries to take further action on mercury use in products.

Read more about EPA's lead (<http://www.epa.gov/lead/>), asbestos (<http://www.epa.gov/asbestos/>), PCBs (<http://www.epa.gov/pcbs/>), and mercury (<http://www.epa.gov/mercury/>) programs.

Lead Poisoning Prevention

Lead (<http://www.epa.gov/lead/>) is a highly toxic metal that was used for many years in products found in and around our homes. Lead may cause a range of health effects, from behavioral problems and learning disabilities to seizures and death. Children under six years of age are most at risk. Research suggests that the primary sources of lead exposure for most children are deteriorating lead-based paint, lead-contaminated dust, and lead-contaminated residential soil.

EPA has played a major role in addressing these residential lead hazards. EPA has largely completed the regulatory framework assigned to it by Congress in Title X of the Residential Lead-Based Paint Hazard Reduction Act of 1992 by:

- Issuing rules creating a training and certification program for individuals and firms engaged in lead-based paint activities;
- Establishing hazard standards for lead in paint, dust, and soil; and
- Requiring pre-renovation education and lead hazard disclosure in target housing.

In order to meet the 2010 federal government goal of eliminating childhood lead poisoning as a major public health concern, EPA is focusing funding resources on the most vulnerable populations in state, localities and tribal areas—those that have rates of lead poisoning above the national average and those in areas where sufficient screening has not yet occurred to determine rates of lead poisoning. EPA has addressed populations still at risk for elevated blood-lead levels through three competitive grant programs. The grants are available to a wide range of applicants, including state and local governments, federally-recognized Indian tribes and tribal consortia, territories, institutions of higher learning, and nonprofit organizations.

Accomplishments

- In another step to achieve the 2010 goal, in March 2008 OPPT finalized its Lead Renovation, Repair, and Painting rule (<http://www.epa.gov/lead/pubs/renovation.htm>) requiring persons engaged in renovation, repair, and painting activities in pre-1978 housing and child-occupied facilities to be trained and certified and to use lead-safe work practices for activities that disturb lead-based paint (<http://www.epa.gov/lead/>). The purpose of the rule is to reduce potential exposure to dangerous levels of lead resulting from lead-based paint in older housing. OPPT also released several outreach documents relating to the rule, including:
 - Renovate Right: Important Lead Hazard Information for Families, Child Care Providers, and Schools

Strategic Plan

Goal Four of EPA's Strategic Plan includes a goal to eliminate childhood lead poisoning in the United States as a major public health concern by the year 2010.

As a result of EPA's lead poisoning prevention programs and other efforts across the federal government, children's elevated blood-lead levels in the United States have declined dramatically. In 1978, 3-4 million children had elevated blood-lead levels. By 2002, that number had dropped to 310,000 and it continues to decline.

(<http://www.epa.gov/oppt/lead/pubs/renovaterightbrochure.pdf>; en Español: <http://www.epa.gov/oppt/lead/pubs/renovaterightbrochuresp.pdf>)

- Contractors: Lead Safety During Renovation (PDF) (http://www.epa.gov/oppt/lead/pubs/contractor_brochure.pdf; HTML version: http://www.epa.gov/oppt/lead/pubs/contractor_brochure.htm; en Español: http://www.epa.gov/oppt/lead/pubs/contractor_brochuresp.pdf)
- EPA Small Entity Compliance Guide to Renovate Right (<http://www.epa.gov/oppt/lead/pubs/sbcomplianceguide.pdf>)

Read additional information on the rule for lead-safe work requirements: <http://www.epa.gov/lead/pubs/renovation.htm>.

Throughout 2007, EPA worked to evaluate and incorporate comments received on this rule, originally proposed in January 2006. In June 2007, EPA issued a supplement (<http://www.epa.gov/fedrgstr/EPA-TOX/2007/June/Day-05/t10797.htm>) to the proposed rule (<http://www.epa.gov/fedrgstr/EPA-TOX/2006/January/Day-10/t071.htm>), extending the rule's requirements to cover renovations in child-occupied facilities in addition to pre-1978 target housing already covered in the proposed rule. Child-occupied facilities are defined by the number of hours that a child under six years of age regularly spends there, and can be homes, schools, and buildings or part of buildings where child care centers are located.

- In 2007, EPA awarded approximately 80 grants as part of three competitive grant programs aimed at promoting efforts to prevent or reduce childhood lead poisoning.

EPA awarded more than \$5.2 million in targeted grants (<http://www.epa.gov/lead/pubs/grantmap.htm#targeted>) to 49 projects in areas with high incidences of children with elevated blood-lead levels in vulnerable populations.

EPA awarded more than \$3.1 million in national community-based grants (<http://www.epa.gov/lead/pubs/grantmap.htm#national>) to 15 projects to reduce the incidence of childhood lead poisoning in communities with older housing and to support community activities such as outreach, training, and local ordinance development projects.

EPA awarded more than \$970,000 in Tribal lead grants (<http://www.epa.gov/lead/pubs/grantmap.htm#tribal>) to 15 tribes to reduce the incidence of childhood lead poisoning in tribal communities and will fund educational outreach and baseline assessments of Tribal children's lead exposure.

- EPA and the Sierra Club reached a settlement on a lawsuit that came after EPA denied a petition filed by the Sierra Club under Section 21 of the Toxic Substances Control Act (TSCA). In this petition, the Sierra Club expressed concerns about risks to children from products containing lead, such as toy jewelry (<http://www.epa.gov/oppt/lead/pubs/toyjewelry.htm>), and requested that EPA take certain actions to address these risks. Under TSCA Section 21 (<http://www.epa.gov/oppt/chemtest/pubs/sect21.htm>), any person may petition EPA to issue, amend, or repeal a rule under other sections of TSCA. On April 30, 2007, fulfilling actions agreed to in the lawsuit settlement (<http://www.epa.gov/lead/pubs/finalsettlement.pdf>) with the Sierra Club regarding lead in children's products, EPA sent:

- A letter to the U.S. Consumer Product Safety Commission (CPSC) (<http://www.epa.gov/lead/pubs/cpscletter.pdf>) describing its continuing concerns about the presence of lead in children's products
- Letters to 120 companies (<http://www.epa.gov/lead/pubs/jewelryletter.pdf>) alerting them to reporting requirements under TSCA section 8(e) (<http://www.epa.gov/oppt/tsca8e/pubs/rguide03.htm>).

Under the settlement, EPA also agreed to conduct a rulemaking to obtain existing health and safety studies on lead in children's products. The rule (<http://www.epa.gov/lead/pubs/toyjewelry.htm#jewelry>) was issued January 29, 2008.

- EPA joined the CPSC in publicizing recalls of toys containing lead to alert parents.

Read more information about EPA's lead poisoning prevention programs:

<http://www.epa.gov/lead>.

Asbestos

Asbestos (<http://www.epa.gov/asbestos/>) is the common name for a group of naturally occurring mineral fibers with high tensile strength, the ability to be woven, and resistance to heat and most chemicals. Because of these properties, asbestos fibers have been used in a wide range of manufactured goods, including construction materials and friction products such as automobile clutches and brakes.

Exposure to asbestos can be harmful to human health if fibers are released into the air when asbestos is disturbed or in poor condition. These fibers can cause serious health problems when inhaled into the lungs. Asbestos exposure has been associated with a number of serious health problems and diseases, including asbestosis, lung cancer, and mesothelioma. EPA is committed to providing the public with accurate and timely public health information and is continuing to address concerns about asbestos.

The Asbestos Model Accreditation Plan (MAP) provides training requirements (<http://www.epa.gov/asbestos/pubs/training.html>) for states to follow when developing their own state programs for training asbestos professionals. The asbestos MAP requires initial training (which includes hands-on training) and annual refresher training for the various course disciplines.

Accomplishments

- On April 2, 2007, EPA released a new brochure that provides health and safety information for professional and do-it-yourself mechanics who may work with asbestos-containing automotive components. *Current Best Practices for Preventing Asbestos Exposure Among Brake and Clutch Repair Workers* (<http://www.epa.gov/asbestos/pubs/brakesbrochure.html>) emphasizes the need to prevent asbestos fibers from escaping into the air during repair work. While it is impossible to tell if clutch and brake components contain asbestos, the brochure advises that mechanics should automatically assume the possible presence of asbestos.

The brochure:

- Emphasizes ways to avoid asbestos exposure, such as warning against blowing dust from brakes and clutches with compressed air,

- Summarizes work practices by detailing three recognized methods for containing asbestos dust in a professional automotive shop, and
- Lists do's and don'ts for do-it-yourself mechanics (e.g., not taking work-clothing inside the house to prevent exposing family members to asbestos dust).
- EPA responded to a public inquiry stating that the MAP does not prohibit online annual refresher training and that states may approve such training courses at their discretion. On July 9, 2007, EPA provided states with guidelines for evaluating online MAP annual refresher training (<http://www.epa.gov/asbestos/pubs/training.html>) courses.

View EPA's Asbestos Web site (<http://www.epa.gov/oppt/asbestos/>) for more information about specific asbestos issues. EPA has a toll-free hotline for asbestos issues (1-800-471-7127).

PCBs

Polychlorinated biphenyls (PCBs) (<http://www.epa.gov/pcb/>) are mixtures of synthetic organic chemicals with the same basic chemical structure and similar physical properties ranging from oily liquids to waxy solids. Due to their non-flammability, chemical stability, high boiling point and electrical insulating properties, PCBs were used in hundreds of industrial and commercial applications including electrical, heat transfer, and hydraulic equipment; as plasticizers in paints, plastics and rubber products; in pigments, dyes and carbonless copy paper and many other applications. More than 1.5 billion pounds of PCBs were manufactured in the United States prior to cessation of production in 1977.

PCBs have been demonstrated to cause a variety of adverse health effects, including cancer in animals, and a number of serious non-cancer health effects in animals, including effects on the immune system, reproductive system, nervous system, endocrine system and other health effects.

PCBs were specifically regulated by the Toxic Substances Control Act (TSCA) when the law passed in 1976 because Congress believed that the chemical and toxicological properties of PCBs posed unacceptable risks to public health and the environment. TSCA §6(e) specifically directs EPA to regulate the manufacturing, processing, distribution in commerce, use, and disposal of PCBs.

The law generally prohibits the use of PCBs except in a totally controlled manner; it allows EPA to authorize uses of PCBs provided that they do not present an unreasonable risk.

More than a dozen major and minor rules (<http://www.epa.gov/epaoswer/hazwaste/pcbs/pubs/laws.htm>) have been promulgated since 1978 to implement the bans, provide authorizations for use, and control the disposal of PCBs. EPA efforts regarding PCBs focus on the reduction and elimination of their use and encouraging their cleanup and safe disposal.

Accomplishments

- In March 2007, the Aberdeen Chemical Agent Disposal Facility (ABDCF) became the first chemical weapons facility in the continental United States to completely dispose of its stockpile and to decontaminate and demolish its disposal plant. ABDCF neutralized 1,623 tons of mustard agents.

- On July 6, 2007, EPA renewed the National PCB Disposal Approval for the U.S. Army Chemical Agent M55 rocket incinerators (<http://www.epa.gov/pcbs/pubs/army-inc.htm>) at Pine Bluff, Ark., and Umatilla, Ore. The approval, which allows the Army to continue to burn stockpiled chemical agent rockets containing PCBs for five years, will terminate on July 6, 2012.
- On September 18, 2007, EPA published a final rule, Polychlorinated Biphenyls: Manufacturing (Import) Exemptions (<http://www.epa.gov/fedrgstr/EPA-TOX/2007/September/Day-18/t18345.htm>), granting a petition submitted to EPA by the Defense Logistics Agency (DLA) to import 1.3 million pounds of PCBs and PCB items currently in temporary storage at U.S. military installations in Japan for environmentally sound disposal in the United States.
- To improve program and administrative efficiency, EPA transferred the management of the PCB cleanup and disposal program (<http://www.epa.gov/epaoswer/hazwaste/pcbs/transfer.htm>) to the Office of Solid Waste and Emergency Response from OPPTS. The change was effective October 1, 2007. OPPTS will continue to administer the “use” portion of the PCB program.

Read more information on PCBs (<http://www.epa.gov/pcb/>) and information and guidance on PCBs and ship scrapping (<http://www.epa.gov/Compliance/resources/publications/civil/federal/shipscrapguide.pdf>).

Reducing Risks from Mercury

Mercury is contained in some of the products we use and in some of the fish we eat. It can be found in your home, in health-care facilities and in schools. EPA’s long-term goal is to reduce risks associated with mercury. Almost all people have at least trace amounts of mercury in their tissues. Mercury can affect the nervous system. People are mainly exposed to methylmercury, an organic compound, when they eat fish and shellfish that contain methylmercury. Still developing, fetuses, infants and children are particularly sensitive to the effects of methylmercury on the nervous system.

The primary pathway of human exposure to mercury is through eating fish containing methylmercury. Fish and shellfish are an important part of a healthy diet. Research shows that most people’s fish consumption does not cause a health concern. Fish that are higher in the food chain have much higher methylmercury concentrations than fish that are lower in the food chain. Individuals may also become exposed to harmful levels of elemental mercury vapor found indoors in work places and homes. When exposed to air, elemental mercury vaporizes and can be inhaled. The number of individuals exposed in the United States in this way is very small.

Because mercury is a problem that knows no geographic boundaries, EPA’s work has an international component. Mercury can travel thousands of miles in the atmosphere before it is eventually deposited back to the Earth in rainfall or in dry gaseous forms (see Mercury Emissions: The Global Context: http://www.epa.gov/mercury/control_emissions/global.htm). Current estimates are that less than half of all mercury deposition within the United States comes from U.S. sources (see Mercury: Basic Information: <http://www.epa.gov/mercury/about.htm>).

OPPT led the development of EPA’s Roadmap for Mercury (<http://www.epa.gov/mercury/roadmap.htm>) published in July 2006. The Roadmap describes the Agency’s progress to

date in dealing with mercury issues domestically and internationally, and outlines EPA's major ongoing and planned actions to address risks associated with mercury.

Accomplishments

- EPA continued to implement key commitments in the Roadmap for Mercury (<http://www.epa.gov/mercury/roadmap.htm>). In 2007, OPPT focused on reducing mercury in domestic products and promoting stakeholders' understanding of the impacts associated with long-term management of excess commodity-grade mercury.
- OPPT, with several other federal partners, hosted four stakeholder-panel meetings (<http://www.epa.gov/mercury/stocks/index.htm>) with technical experts and interested parties to assess options for managing non-federal stocks of commodity-grade elemental mercury. Held between May and September 2007, 14 stakeholders were panel members at these public meetings, representing a balanced mix of industry, academia, non-governmental organizations, and states. An interagency workgroup assessed the input received during the stakeholder process and is initiating a separate interagency process to analyze and better understand the issues associated with a ban on the export of mercury from the United States.
- On October 5, 2007, OPPT issued a final Significant New Use Rule (SNUR) (<http://www.epa.gov/mercury/snur.htm>) to address the use of new mercury switches in motor vehicles. Automakers voluntarily discontinued use of certain mercury switches in vehicles in 2003. The SNUR will give EPA the opportunity to evaluate the potential risks of resuming the use of elemental mercury in the switches, and, if necessary, to prohibit or limit their use to prevent unreasonable risk to human health or the environment.
- OPPT began working with states to promote recycling, collection, and reduction of mercury-containing products such as mercury thermostats and non-ferrous thermometers.
- OPPT has provided continued leadership and resources to support the United Nations Environment Program (UNEP) Partnerships aimed at addressing risks associated with mercury uses, releases and exposure. Current partnerships include pilot projects in five key sectors:
 - Chlor-alkali facilities
 - Fate and transport research
 - Artisanal and small-scale gold mining
 - Coal combustion
 - Mercury products

OPPT attended the 24th session of the UNEP Governing Council in February 2007, at which UNEP encouraged continued action and support for implementing the Global Partnerships for Mercury (<http://www.chem.unep.ch/mercury/partnerships/>), among other steps.

- As the lead of the Mercury Reductions Products Partnership, OPPT made substantial progress in 2007 by developing formal partnerships with other countries to reduce

mercury in products. This partnership seeks to transfer best practices related to reducing releases from the manufacture, use, and disposal of mercury-containing products by identifying effective substitutes.

The partnership has increased in number to include:

- Mexico, China, Costa Rica, and Argentina, which are reducing mercury in hospitals.
- Burkina Faso, South Africa, Chile, Ecuador, Panama and Mexico, which are conducting mercury product inventories, market studies and mercury risk management projects.
- OPPT co-hosted “Mercury In Our World: Conference on Mercury and Other Hazardous Chemicals in Southeast Asia Schools,” in Bangkok, Thailand, April 22-24, 2008. Other conference sponsors were Thailand’s Pollution Control Department, UNEP, and Merck Thailand. The conference was designed to be a train-the-trainer session for university and high school students, teachers, and school administrators, enabling them to return to their countries and schools and share what they had learned about safe management and disposal of mercury and other hazardous chemicals. Instruction manuals aimed at teachers/administrators and students were developed and shared at the conference, emphasizing the importance of:
 - Mercury and chemical management,
 - Identification of hazardous chemicals and equipment in schools, and
 - Policies and actions for school administrators and teachers.

The student manuals also contained information for student projects and activities designed to solidify their understanding of international chemical symbols, where hazardous chemicals are typically found in schools, identifying specific hazards, scenario role playing, and student projects using various media to present the message.

Read more information on OPPT’s work on a mercury-related partnership: Partnership for Sustainable Healthcare (PSH) (<http://www.epa.gov/p2/pubs/psh.htm>).

View EPA’s Mercury Web page: <http://www.epa.gov/mercury/>.

Working to Prevent Pollution



The Pollution Prevention Act of 1990 established that prevention, or “source reduction,” is the Agency’s first priority for addressing pollution

and waste. Therefore, EPA’s guiding principle is to reduce when possible potential sources of waste and pollution rather than controlling pollution or treating or recycling waste after it is created.

The Office of Pollution Prevention and Toxics (OPPT) has been complementing traditional “command and control” approaches with innovative, collaborative programs that encourage environmental stewardship (<http://www.epa.gov/p2/>) as both a critical environmental strategy and a sustainable business practice. For example, OPPT has been using pollution prevention (P2) approaches to encourage replacement of existing chemicals of concern in the marketplace. OPPT offers incentives to create innovative technologies and substitute safer chemicals for riskier ones through programs such as Green Chemistry (<http://www.epa.gov/greenchemistry>), Design for the Environment (<http://www.epa.gov/dfe>), Sustainable Futures (<http://www.epa.gov/oppt/sf>), and the High Production Volume Challenge (<http://www.epa.gov/hpv>), to name a few. OPPT also is working to integrate pollution prevention into its traditional “command and control” regulatory activities across air, water and waste regulations.

The Environmental Assistance Network was created to coordinate activities within EPA’s Strategic Goal 5, Environmental Stewardship. Among EPA’s five major strategic goals (<http://www.epa.gov/cfo/plan/plan.htm>), EPA’s environmental stewardship goal includes OPPT’s cross-cutting coordination on P2 opportunities in enforcement and compliance, small business development, and P2 research and development.

Accomplishments

- The Presidential Green Chemistry Challenge Awards Program celebrated its 13th year at the June 2008 awards ceremony. To date the Program has given out 67 awards—14 awards to academic researchers, 13 awards to small businesses, and 40 awards to larger businesses and organizations.
- Design for the Environment’s (DfE) Formulator Safer Product Recognition Program (<http://www.epa.gov/dfe/pubs/projects/formulat/index.htm>), as of June 2008, had approximately 80 stakeholder partners and had allowed use of DfE’s label (<http://www.epa.gov/dfe/pubs/projects/formulat/label.htm>) on approximately 500 safer products, distinguishing them as having been reformulated to be environmentally safer as well as cost competitive and effective.
- Sustainable Futures (<http://www.epa.gov/oppt/sf/>) and the PBT Profiler (<http://www.epa.gov/oppt/sf/tools/pbtprofiler.htm>) provide online software enabling chemical manufacturing companies to assess and identify safer and greener

Strategic Plan

A target in Goal Five of EPA’s Strategic Plan is to reduce pollution by 4.5 billion pounds, conserve 31.5 trillion BTUs of energy and 19 billion gallons of water, and save \$791.9 million by 2011.

OPPT’s pollution prevention program received an 82.7 percent rating from the Office of Management and Budget on its Program Assessment Rating Tool (PART) (http://intranet.epa.gov/opphome/testsite/ar/2007/cross_cutting/omb.htm) effectiveness review, the third highest rating to date at the time it was assessed. In 2007, OPPT continued to implement the recommendations from its PART assessment.

chemicals early in their design phase. Approximately 11 percent of 2007 through June 2008 New Chemical pre-manufacture notifications were independently evaluated by submitters at the research and development stage using the Sustainable Futures tools.

- EPA's Green Building Workgroup, a cross-Agency group co-led by OPPT, guides EPA's development of green building policies, programs, partnerships, communications, and operations. Administrator Steve Johnson announced April 21, 2008, that EPA will be emphasizing green building as a new strategic direction. As a key partner in this strategy, OPPT committed to leading the Agency's engagement in developing green building consensus standards, including the U.S. Green Building Council's LEED Rating System and ASTM International's sustainable building standards.

In addition, OPPT further contributed to green building in 2007 through the development and expansion of the tool, Federal Green Construction Guide for Specifiers (<http://www.epa.gov/epp/tools/index.htm#b>), which was a winner of the "Beyond Green 2007 High Performance Building Awards" (http://www.wbdg.org/news/release_011608.php) from the Sustainable Building Industry Council.

- OPPT supported the Pollution Prevention Resource Exchange (P2Rx) by awarding approximately \$800,000 in grants to eight regional pollution prevention information centers, which provide pollution prevention information, networking opportunities and other services to states, local governments and technical assistance providers in their regions.
- EPA's Partnership for Sustainable Healthcare (PSH) evolved from a previous Agency partnership program to a fully independent entity, retaining the partnership program's name Hospitals for a Healthy Environment (H2E) (<http://www.h2e-online.org/>). The new H2E, a 501(c)(3) non-profit organization, is a sub-recipient of an EPA cooperative agreement with the National Center for Manufacturing Sciences (NCMS).

EPA provides technical assistance to help NCMS and the new H2E carry out the cooperative agreement in which H2E provides hands-on help and information to hospitals, in particular, to reduce mercury and other wastes, and sponsors an awards program to recognize health-care facilities as good environmental stewards.

Through the efforts of PSH, NCMS, and H2E, in 2007 through June 2008 the healthcare sector:

- Eliminated over 986,500 grams of mercury;
- Recycled over 1,811,900 tons of waste;
- Reduced nearly 373,800 tons of hazardous waste;
- Conserved 70 million gallons of water; and
- Saved more than \$28.2 million.

Read more information on EPA's Partnership for Sustainable Healthcare (PSH) (<http://www.epa.gov/p2/pubs/psch.htm>).

- OPPT helped create and now co-chairs the EPA Office Directors' Multimedia and Pollution Prevention Forum (M2P2). This is the principal venue within the Agency for

reviewing and exchanging information among media programs on activities to promote a multi-media approach to pollution prevention (e.g., rules with significant cross-media impacts, identification of regulatory/voluntary synergies, etc.).

Green Suppliers Network

The Green Suppliers Network is an OPPT program helping companies that comprise the supply chain of large manufacturers to save money while reducing pollution and preserving resources. By providing technical assistance in lean manufacturing and pollution prevention techniques, the Green Suppliers Network improves suppliers' productivity, efficiency, and environmental performance.

The Green Suppliers Network is a collaborative venture among industry, EPA, and the U.S. Department of Commerce's Manufacturing Extension Partnership (MEP). The Green Suppliers Network works with all levels of the manufacturing supply chain to improve processes and minimize waste generation. Through onsite technical reviews, suppliers continuously learn ways to increase energy efficiency, identify cost-saving opportunities, and optimize resources and technologies to eliminate waste. The result has been more effective processes and products with higher profits and fewer environmental impacts.

The program worked with the Lean and Environment Initiative in EPA's Office of Policy, Economics and Innovation to create a toolkit for companies that helps them reduce costs while reducing waste and resource use.

The Green Suppliers Network is available to any manufacturing sector. Currently, the aerospace, automotive, healthcare/pharmaceutical, office furniture and utility industries are leading the way and benefiting from the Green Suppliers Network.

Accomplishments

- Identified more than \$9 million in potential, annual cost-saving opportunities, including \$4 million from potential reduced environmental impacts, during 26 technical reviews conducted by Green Suppliers Network from January 2007 through June 2008. Also identified were opportunities to:
 - Conserve 30.1 million kWh of energy (102K MM Btu) and more than 24.9 million gallons of water
 - Reduce more than 2.4 million pounds of solid waste, more than 111,000 pounds of hazardous waste, and the use of over 177,000 pounds of toxic and hazardous chemicals
- The Green Suppliers Network conducted training sessions (<http://www.greensuppliers.gov/gsn/page.gsn?id=highlights#training>) for technical assistance providers at four conferences from January 2007 through June 2008 to share best practices and innovative approaches in lean manufacturing and pollution prevention.
- The program collaborated with EPA's Performance Track (<http://www.epa.gov/perftrac/>) program in 2007 to review a Johnson & Johnson supplier, and the company is currently scheduling two additional reviews. Performance Track has announced that it plans to reduce the cost of reviews for its members by \$2,000, and has funding in place to reduce costs for nine reviews.

- American Electric Power became the first utility company to join the Green Suppliers Network, and is paying for five of their suppliers to undergo reviews through Performance Track.
- Pacific Gas & Electric Co. has also joined the program and will fund a review.
- The Green Suppliers Network developed an environmental benefits calculator (http://www.greensuppliers.gov/gsn/page.gsn?id=program_materials#calc) in 2007 for stakeholders to quantify environmental results and future environmental savings.
- Through the Commission for Environmental Cooperation (<http://www.cec.org/home/index.cfm?varlan=english>), the Green Suppliers Network began work in 2007 to build a similar network in Mexico after the successful collaboration with Environment Canada to help them adopt the Green Suppliers Network model for its “Green Business Network.”
- The collaborative effort between Goodwill Industries International, Inc. and the Green Suppliers Network Automotive Sector (Suppliers Partnership for the Environment) has resulted, through 2007, in:
 - 1.06 million pounds of plastic remanufactured
 - 30,000 pounds of corrugated cardboard recycled per month
 - 2,336 vehicle batteries recharged/reused
 - 230,000 vehicle parts repackaged
 - over 2 million pounds of electronic waste diverted from landfills
 - 60 jobs created for the disadvantaged and disabled
- Based on an agreement made in 2007, the tools (<http://www.greensuppliers.gov/gsn/page.gsn?id=tools>) of the Green Suppliers Network program will be offered to members of the Business and Institutional Furniture Manufacturer’s Association as a resource to help meet their new sustainability standards.
- In 2007, the Green Suppliers Network incorporated environmental metrics questions into the quarterly survey conducted by the Department of Commerce’s Manufacturing Extension Partnership (MEP) to further quantify results (<http://www.greensuppliers.gov/gsn/page.gsn?id=measureresults>) from Green Suppliers Network reviews (<http://www.greensuppliers.gov/gsn/page.gsn?id=technicalreviews>).

Read more information on the Green Suppliers Network: <http://www.greensuppliers.gov/>.

Design for the Environment

OPPT's Design for the Environment (DfE) program focuses on collaborating with industries that possess the potential for chemical risk reduction and a strong motivation to make lasting changes. DfE convenes representatives from those industries and environmental groups in partnership programs that evaluate alternative technologies, materials and process improvements based on human health and environmental considerations, as well as performance and cost.

As incentives for participation and driving change, DfE offers unique technical tools, methodologies, and expertise. EPA also allows safer products to carry the Design for the Environment (DfE) label. This mark allows consumers to quickly identify and choose products that are safer for families and can help protect the environment.



Having the DfE label on a product means that an EPA scientific review team has screened each ingredient for potential human health and environmental effects and that—based on currently available information, EPA predictive models, and expert judgment—the product contains only those ingredients that pose the least concern among chemicals in their class. The DfE program has allowed use of their label on hundreds of products.

The DfE Program has reached more than 200,000 business facilities and approximately 2 million workers and is reducing the use of chemicals of concern by approximately 180 million pounds per year.

Accomplishments

- On April 21, 2007, the Institute of Scrap Recycling Industries, Inc. awarded EPA's Design for the Environment (DfE) (<http://www.epa.gov/dfe/>) Program its 2007 Design for Recycling Award. The DfE program was chosen for its overall leadership in creating innovative design partnerships and its dedication to empowering businesses and industry sectors to incorporate environmental considerations into decision-making processes.
- DfE's Formulator Safer Product Recognition Program (<http://www.epa.gov/dfe/pubs/projects/formulat/index.htm>), which by June 2008 had about 80 stakeholder partners and allowed use of DfE's label on approximately 500 safer products, distinguishes products that have been reformulated to be environmentally safer, cost competitive and effective.

By providing chemical and toxicological information and suggesting safer substitutes, the Formulator Program reduced the use of an estimated 240 million pounds of chemicals of concern from January 2007 through June 2008. Formulator Partnerships have become respected and sought-after in the industrial and institutional cleaning sector. The DfE program is now working to create partnerships in the consumer cleaning products sector. Read more information about partners and recognized products (<http://www.epa.gov/dfe/pubs/projects/formulat/formpart.htm>) authorized to use the DfE label (<http://www.epa.gov/dfe/pubs/projects/formulat/label.htm>).

- DfE created the voluntary Safer Detergents Stewardship Initiative (SDSI) (<http://www.epa.gov/dfepubs/projects/formulat/sdsi.htm>) to promote the use of safer surfactants in cleaning and other products. Safer surfactants are those that degrade quickly into non-toxic products. DfE has worked with outside parties to develop a database of safer cleaning product ingredients called CleanGredients (<http://cleangredients.org/>) that serves as a marketplace for the product formulation industry. As of 2007, a total of 12 chemical manufacturers have paid to list 87 cleaning-product chemicals in the system, and more than 200 formulators have paid to use the system.
- The DfE Wire and Cable Partnership (<http://www.epa.gov/dfepubs/projects/wire-cable/index.htm>) was formed in 2007 to evaluate the impacts of standard and alternative wire and cable formulations. The wire and cable partnership is using a life-cycle assessment approach to assess heat stabilizers, flame retardants, and polymer systems used in wire and cable insulation and jacketing. A study by the DfE Toxics Use Reduction Institute Wire & Cable Partnership will help companies make environmentally sound product and material choices and reduce overall environmental and health impacts of the products. DfE will complete a partnership report in 2008.
- The DfE Nail Salons Project (<http://www.epa.gov/dfepubs/projects/salon/index.htm>) was formed to collect and provide information on personal protective equipment and management practices that can reduce or minimize risks associated with chemical exposures in nail care activities. In March 2007, DfE published online the revised best practices guide, Protecting the Health of Nail Salon Workers (<http://www.epa.gov/dfepubs/projects/salon/nailsalonguide.pdf>). This guide is designed to educate nail salon owners and employees of potential chemical hazards and to recommend best practices to minimize health and environmental risks in their shops. Translations of this guide in Vietnamese and Korean were also made available online.

Read more information on the DfE Program (<http://www.epa.gov/dfepubs/>) and its partnership projects (<http://www.epa.gov/dfepubs/projects/index.htm>), and other sections of this report for information on DfE's collaboration with the Community Action for a Renewed Environment (CARE) Program and its work through the Resources Conservation Challenge.

Green Chemistry

OPPT's Green Chemistry Program works with the chemical community to promote the environmentally conscious design of chemical products and processes that are safer to human health and the environment. The Program's flagship activity, the annual Presidential Green Chemistry Challenge Awards, encourages and recognizes the significant scientific, economic, human health, and environmental benefits that green chemistry technologies offer.

The Presidential Green Chemistry Challenge Awards Program celebrated its 13th year at the June 2008 awards ceremony. To date the Program has given out 67 awards—14 awards to academic researchers, 13 awards to small businesses, and 40 awards to larger businesses and organizations.

Accomplishments

- Together, all Green Chemistry award-winning technologies have resulted in:

- 193 million pounds of hazardous chemicals and solvents eliminated each year—enough to fill 890 railroad tank cars or a train 11 miles long;
 - 21 billion gallons of water saved each year—the amount used by 820,000 people annually; and
 - 57 million pounds of carbon dioxide releases to air eliminated each year—equal to taking 6,000 automobiles off the road.
- More than 1,000 innovative technologies have been nominated for the Green Chemistry awards. The total benefits from all of these technologies include:
 - 1.2 billion pounds per year of hazardous chemicals eliminated;
 - 21 billion gallons of water per year saved (this includes both water used and waste water eliminated);
 - 81 million pounds of carbon dioxide emissions prevented; and
 - 120 billion Btu saved.
- **2008 Presidential Green Chemistry Challenge Award Recipients**
<http://www.epa.gov/greenchemistry/pubs/pgcc/past.html#2008>
 - **Greener Synthetic Pathways Award**
 Battelle
 “Development and Commercialization of Biobased Toners”
 - **Greener Reaction Conditions Award**
 Nalco Co.
 “3D TRASAR® Technology”
 - **Designing Greener Chemicals Award**
 Dow AgroSciences
 “Spinetoram: Enhancing a Natural Product for Insect Control”
 - **Small Business Award**
 SiGNa Chemistry, Inc.
 “New Stabilized Alkali Metals for Safer, Sustainable Syntheses”
 - **Academic Award**
 Professor Robert E. Maleczka, Jr., Michigan State University
 Professor Milton R. Smith, III, Michigan State University
 “Green Chemistry for Preparing Boronic Esters”
- **2007 Presidential Green Chemistry Challenge Award Recipients**
<http://www.epa.gov/greenchemistry/pubs/pgcc/past.html#2007>
 - **Greener Synthetic Pathways Award**
 Professor Kaichang Li, Oregon State University
 Columbia Forest Products
 Hercules Inc.
 “Development and Commercial Application of Environmentally Friendly Adhesives for Wood Composites”

- **Greener Reaction Conditions Award**
Headwaters Technology Innovation
“Direct Synthesis of Hydrogen Peroxide by Selective Nanocatalyst Technology”
- **Designing Greener Chemicals Award**
Cargill, Inc.
“BiOH™ Polyols”
- **Small Business Award**
NovaSterilis Inc.
“Environmentally Benign Medical Sterilization Using Supercritical Carbon Dioxide”
- **Academic Award**
Professor Michael J. Krische, University of Texas at Austin
“Hydrogen-Mediated Carbon–Carbon Bond Formation”

Read more information on the Green Chemistry Program:

<http://www.epa.gov/greenchemistry>.

Sustainable Futures

Sustainable Futures, a partnership among OPPT, the chemical industry, and other stakeholders, offers computerized chemical screening models that enable those developing chemicals to quickly and cost effectively screen them for hazards and/or risks early in the development process.

Because Sustainable Futures also enables comparing and contrasting hazard and risk profiles of chemicals and processes, participation in the program can allow companies to more quickly commercialize environmentally preferable new chemical products and identify safer alternatives for existing chemical products.

Training and follow-up assistance (<http://www.epa.gov/oppt/sf/meetings/train.htm>) in the proper use of these screening models is offered now on a fee-for-service basis by Agency grantees that have worked closely with EPA on the Sustainable Futures Initiative.

Accomplishments

- Interest continues in Sustainable Futures with more than 80 people, including representatives of 30 chemical companies, taking training during 2007 in the use, interpretation and applicability of Sustainable Futures chemical screening models.

Participants in the training sessions (<http://www.epa.gov/oppt/sf/meetings/train.htm>) also included government scientists from Australia, Europe (Poland, Germany, Slovakia, and the Netherlands) and Japan, and scientists from several consulting firms.

- Approximately 11 percent of 2007 through June 2008 New Chemical pre-manufacture notifications were independently evaluated by submitters at the research and development stage using the Sustainable Futures tools.
- As of December 2007, five companies participating in the Sustainable Futures Initiative have graduated and become eligible to receive regulatory relief for

prescreened low-hazard, low-risk New Chemical Notices (<http://www.epa.gov/oppt/sf/pubs/benefits.htm>).

- In 2007 a new Sustainable Futures Web site was posted at <http://www.epa.gov/oppt/sf/>, which has a straightforward front-page index with links to the SustainableFutures' models, training materials, and more.
- Since the public release of the PBT Profiler (<http://www.epa.gov/oppt/sf/tools/methods.htm#m6>) in December 2002 through June 2008 stakeholders have conducted more than 160,000 independent PBT screening assessments, making OPPT's PBT Profiler one of the most widely used chemical screening tools. Collaborating with stakeholders, OPPT created the PBT Profiler, an online computer model that allows users to receive quantitative estimates of the environmental persistence (P), bioconcentration potential (B) and toxicity (T) of chemicals.
- The Synthetic Organic Chemical Manufacturers Association (SOCMA) sponsored a training session on the Sustainable Futures models in August 2007 and additional sessions are planned as called for in the 2006 Memorandum of Understanding (MOU) between EPA and SOCMA. The goal of the MOU is to provide training and technical assistance to companies and other stakeholders interested in learning how to use Sustainable Futures tools.
- Several consultants have expressed interest in becoming providers of fee-for-service training (<http://www.epa.gov/oppt/sf/meetings/train.htm#partners>) in the Sustainable Futures risk screening methods.

AIM—New Analog Tool

OPPT is evaluating a new tool, the Analog Identification Methodology (AIM), which will help stakeholders conduct human health hazard assessments by identifying closely related structures with test data.

Accomplishments

- An initial beta test was completed in 2007 and enhancements have been made based on comments. A new version of the program has been completed with a revised user interface, additional structure entry features, and enhancements to the searching algorithm. AIM will undergo Agency review during 2008 and is expected to be released to the public in 2009.

Read more information on Sustainable Futures (<http://www.epa.gov/oppt/sf>) and AIM (<http://www.epa.gov/oppt/sf/presentations/sf/sf-aim1a.pdf>).

Resource Conservation Challenge

The Resource Conservation Challenge (RCC) (<http://www.epa.gov/epaoswer/osw/conserve/>) is a national effort to conserve natural resources and energy by managing materials more efficiently. RCC partners (<http://www.epa.gov/epaoswer/osw/conserve/partners.htm>) with government, industry, businesses, and others to find smarter, faster ways to accomplish RCC goals.

At EPA, RCC is a joint effort among OPPT, the Office of Solid Waste, and EPA Regions to work on and coordinate efforts to:

- Promote more flexible and protective ways to prevent pollution
- Promote recycling and reuse of materials
- Reduce the use of toxic chemicals
- Conserve energy and materials

OPPT has the lead on three projects that are key to achieving RCC goals:

- Reducing Toxic Chemicals of National Concern (TCNC)
- Federal Electronics Challenge (FEC) (<http://www.federalelectronicschallenge.net/>)
- Electronic Products Environmental Assessment Tool (EPEAT) (<http://www.epa.gov/epp/pubs/products/epeat.htm>)

TCNC is a key strategy to achieve RCC's overarching goal of eliminating or reducing chemicals of national concern from commercial products, waste streams, and industrial releases.

Accomplishments

- The TCNC project established a process with relevant manufacturers, processors, users, and other stakeholders to identify, implement, and realize reduction opportunities.
- As part of the TCNC project, OPPT's Design for the Environment (DfE) Program (<http://www.epa.gov/dfe/>) and EPA Region 5 created the voluntary Safer Detergents Stewardship Initiative (SDSI) (<http://www.epa.gov/dfe/pubs/projects/formulat/sdsi.htm>) to promote safer surfactants that degrade quickly into non-toxic byproducts.

As part of this project, EPA Region 5's Laboratory developed, during 2007, final high- and low-level detection methodologies and shared information with EPA Regions and states regarding monitoring/regulating Alkyl Phenol Ethoxylates (APEs), which are used as surfactants in soaps and detergents. APEs might biodegrade under anaerobic conditions to alkylphenols which persist in the environment and are considered toxic to aquatic organisms. SDSI will encourage the manufacture and use of safer surfactants, reducing the amount of APE surfactants in the environment.

- In 2007, EPA evaluated information collected as part of a TCNC project to reduce toxic pollutants in refining petrochemical processes. The project focuses on use of advanced detection technology and engineering best practices in the refinery setting to identify and prevent both continuous and episodic releases of targeted highly reactive volatile organic compounds (HRVOCs) and hazardous air pollutants (HAPs). As part of the project, a study by Dr. David Allen, of the University of Texas, under contract to EPA, found greater than expected emission levels of HRVOCs/HAPs, particularly benzene, in Texas.
- Chemical and engineering alternatives for solvents and other toxic chemicals used in pharmaceutical manufacturing were identified through the TCNC Reduction of Toxic Chemical Use and Waste in Pharmaceutical Manufacturing Project. OPPT's Green Engineering program and EPA Regions 2 and 3 participated in the project which, during 2007:

- Built a working partnership between EPA, the U.S. Food and Drug Administration (FDA), industry, and academia.
- Conducted successful workshops on solvent-use reduction.
- Hosted a video conference for an audience of pharmaceutical industry academia, and government representatives at the EPA and FDA.
- Sponsored a related conference in Puerto Rico.
- As part of the TCNC project, OPPT's DfE program began conducting combustion testing in 2007 on printed circuit board materials with different flame retardants through the Flame Retardants in Printed Circuit Boards Project. DfE also began assessing alternatives for the flame retardant Tetrabromobisphenol A, which is the largest-volume flame retardant produced, and is the primary flame retardant for printed circuit boards.

Through this project EPA has developed a partnership with electronics, board and laminate, and chemical industry, environmental groups, universities and government agencies to evaluate viable chemical substitutes for flame retardants. DfE will complete a partnership report in 2008.

Read more information on the Resource Conservation Challenge (<http://www.epa.gov/epaoswer/osw/conserva/priorities/chemical.htm>) and other sections of this report for additional information on FEC and EPEAT.

Federal Electronics Challenge

The Federal Electronics Challenge (FEC) is a partnership program that empowers federal agencies to manage their electronics in an environmentally sound manner during all three life-cycle phases—acquisition and procurement, operation and maintenance, and end-of-life management.

The FEC supports efforts to continuously improve environmental stewardship of electronic assets government-wide in order to better assist federal agencies and facilities in meeting the requirements of Executive Order 13423 (<http://www.epa.gov/epp/pubs/guidance/executiveorders.htm>). The FEC also provides resources and technical assistance to help federal agencies and facilities improve electronics management throughout the lifecycle.

OPPT manages the FEC program, and coordinates with the Office of the Federal Environmental Executive (<http://www.ofee.gov/>), EPA's Office of Solid Waste and Office of Environmental Information, and all 10 EPA Regions to develop and disseminate information on best management practices for electronics. The goals of this OPPT program are being achieved in part by assisting federal agencies and their facilities in:

- Purchasing environmentally preferable electronic equipment, including computer desktops, laptops, and monitors registered under the Electronic Product Environmental Assessment Tool (EPEAT™) (<http://www.epa.gov/epp/pubs/products/epeat/>)
- Enabling ENERGY STAR power management (<http://www.energystar.gov/powermanagement>) features on computers and monitors
- Extending the life span of equipment through internal reuse and donation

- Increasing the recovery rate and expanding the infrastructure for environmentally sound electronics recycling

Accomplishments

- As of May 2008, FEC had 16 Federal Agency Partners and 186 Facility Partners, representing more than 644,000 federal employees.
- Thirty FEC partners received a 2008 FEC Award for their accomplishments in 2007:
 - Two partners from two agencies received an FEC Gold Award
 - Ten partners from five agencies received an FEC Silver Award
 - Eighteen partners from seven agencies received an FEC Bronze Award

Twenty-seven FEC partners received a 2007 FEC Award for their accomplishments in 2006:

- Twelve partners from four agencies received an FEC Gold Award
- Seven partners from four agencies received an FEC Silver Award
- Eight partners from five agencies received an FEC Bronze Award

Award applicants were required to complete specific electronics stewardship activities in one or more electronics life cycle phases, which are designed to put partners on a path towards achieving the goals of Executive Order 13423.

- For Fiscal Year (FY) 2007, FEC partners reported the following activities:
 - 80 percent of computer desktops, laptops and monitors purchased or leased were EPEAT™ Bronze, Silver or Gold-registered
 - 71 percent of computers have at least a 4-year life span, with a weighted average life span of 47 months
 - 86 percent of monitors and 69 percent of computers had ENERGY STAR® features enabled
 - 99 percent of non-reusable computers were recycled in environmentally sound manner

These FY 2007 activities translate into the following environmental benefits, which are attributable to the work of many different EPA programs—FEC, EPEAT™ (<http://www.epa.gov/epp/pubs/products/epeat/index.htm>), ENERGY STAR® (<http://www.energystar.gov/>), and Plug-In To eCycling (<http://www.epa.gov/epaoswer/osw/consERVE/plugin/index.htm>):

- Energy savings of 210,087 megawatt-hours, enough electricity to power 18,526 U.S. households for one year
- Primary material savings of over 137,000 metric tons, equivalent to the weight of 1,069,182 refrigerators

- Air emission savings of over 860,000 metric tons, including greenhouse gas emission savings of over 16,000 metric tons of carbon equivalent, equal to removing 13,043 passenger cars from the road for one year
- Water emission savings of 1,800 metric tons
- Toxic material savings of 10 metric tons, equal to the weight of 5,317 bricks
- Municipal solid waste savings of almost 2,000 metric tons equivalent to the solid waste generated by 1,002 U.S. households in one year
- Hazardous waste savings of over 830 metric tons, equal to the weight of 415,631 bricks
- Cost savings of \$18.2 million

Read more information on the Federal Electronics Challenge:
<http://www.federalelectronicchallenge.net/>.

EPEAT—Assessing Electronics

The Electronic Products Environmental Assessment Tool (EPEAT) (<http://www.epa.gov/epp/pubs/products/epeat.htm>) includes two major elements:

- A set of environmental performance criteria for computers and monitors that have been adopted as an American National Standard by the Institute of Electrical and Electronics Engineers (IEEE) through a voluntary consensus process. The standard is IEEE 1680 (<http://www.epeat.net/Criteria.aspx>), which became final and publicly available in April 2006.
- A Web-based system that enables three things:
 - Manufacturers to declare that their product(s) meet specific environmental performance criteria;
 - The verification of the accuracy of the declarations; and
 - A listing of all registered products for purchasers.

The system is managed by the Green Electronics Council (<http://www.greenelectronicscouncil.org/>), to which EPA awarded a grant in February 2006. The grant included funding from OPPT, EPA's Office of Solid Waste, and EPA Regions 2, 5, 9, and 10. The Web site housing all vendor self-declarations that their products meet EPEAT criteria became available for institutional purchasers to access in July 2006.

Development of EPEAT was prompted by a growing demand by institutional purchasers for an easy-to-use evaluation tool that allows the selection of electronic products based on environmental performance. Supported by EPA, EPEAT was developed by a multi-stakeholder group, including government, industry, non-governmental organizations and purchasers. The electronics industry has welcomed EPEAT as a tool to provide a consistent and harmonized set of environmental criteria for all purchasers and an opportunity to gain market recognition through environmental leadership.

Accomplishments

- The second annual report quantifying the environmental benefits of EPEAT purchases (<http://www.epeat.net/FastBenefits.aspx>) was issued June 17, 2008, by the Green Electronics Council.

According to the report, over 109 million EPEAT-registered products were purchased in 2007, a 150% increase from 2006. In the United States, EPEAT-registered desktop computers accounted for almost 40% of all desktop computer sales in 2007. Worldwide purchases of EPEAT-registered desktops, notebooks, and monitors will result in the following environmental benefits when compared to conventional products:

- Reduces use of primary materials by 75.5 million metric tons, equivalent to the weight of more than 585 million refrigerators
- Reduces use of toxic materials, including mercury, by 3,220 metric tons, equivalent to the weight of 1.6 million bricks
- Eliminates use of enough mercury to fill 482,381 household fever thermometers
- Avoids the disposal of 124,000 metric tons of hazardous waste, equivalent to the weight of 62 million bricks

In addition, due to EPEAT's requirement that registered products meet ENERGY STAR specifications, these products will consume less energy throughout their useful life, resulting in:

- Savings of 42.2 billion kWh of electricity—enough to power 3.7 million U.S. homes for a year
 - Elimination of the release of 174 million metric tons of air emissions (including greenhouse gas emissions) and almost 365 thousand metric tons of water pollutant emissions
 - Reduction of 3.31 million metric tons of carbon equivalent greenhouse gas emissions—equivalent to removing 2,630,000 U.S. cars from the road for a year
- EPEAT-registered products must meet 23 mandatory environmental criteria to be included in the EPEAT Product Registry (<http://www.epeat.net/Search.aspx>). There are an additional 28 optional criteria used to determine whether products earn EPEAT Bronze, Silver, or Gold recognition. As of June 2008, there were 27 manufacturers with 591 EPEAT-registered products listed the EPEAT Product Registry Web page located at www.epeat.net, including products from the top sellers of IT products in the U.S. market. In June 2007, HP and Dell registered the first EPEAT Gold products, which included desktops and laptops, and the number of manufacturers with Gold products continues to grow.
 - OPPT assisted in developing language that was added to the Federal Acquisition Regulations (FAR) on December 26, 2007, as an interim final rule requiring all federal purchasers to buy EPEAT registered products.

Read more information on EPEAT: <http://www.epa.gov/epp/pubs/products/epeat.htm>.

Cross-Cutting Programs



The Office of Pollution Prevention and Toxic's (OPPT) accomplishments in 2007 encompass a range of activities that provide support across OPPT's individual programs and, in some cases, enhance other EPA programs. These activities have helped OPPT improve access to information about chemicals, assess progress toward achieving program goals, strengthen collaboration and partnerships with other EPA programs and stakeholders, and develop tools and models to improve risk assessment and risk management.

Accomplishments

- EPA's Community Action for a Renewed Environment Program (CARE) has been working collaboratively with the Agency's Design for the Environment (DfE) (<http://www.epa.gov/dfe/>) program and the Office of Air Quality Planning and Standards Community Air Toxics Collision Repair Campaign to promote best practices at auto body and refinishing businesses (<http://www.epa.gov/dfe/pubs/projects/auto/>) to reduce emissions of toxic chemicals. They include air toxics such as lead, chromium, diisocyanates (the leading cause of occupational asthma), ethyl benzene, toluene, xylenes, and other volatile organic compounds (VOCs). Implementation of best practices in all 50,000 auto body shops nationwide could reduce air toxics and VOCs by 174 million pounds per year, while saving businesses money by reducing paint and solvent costs, minimizing hazardous waste, and protecting the health of persons in the workplace and surrounding community.
- Information Technology (IT) Support—OPPT continues to modernize the information holdings and workflow processes to better enable staff, managers and the public to manage and evaluate risks. Proceeding under the Agency's Enterprise Architecture Program, this effort ultimately will result in data being integrated across the office and all key documents being stored and centrally accessible. The goal is for all company data submissions to be submitted and processed electronically, utilizing electronic workflow processes. Current data flows being modernized include the Inventory Update Reporting and those in the New Chemicals Program. A new environment called Managed Toxic Substances, or MTS, will be used to implement electronic processing for OPPT's New Chemicals Program during 2008.
- OPPT also processes Freedom of Information Act (FOIA) requests related to the Toxic Substances Control Act and other statutes and policies for which OPPT has responsibility. During 2007, OPPT processed 55 FOIA requests.

Read the CARE section of this report for more information.

Assessing Results—OMB's PART

The U.S. Office of Management and Budget (OMB) developed the Program Assessment Rating Tool (PART) in FY 2002 to assess the extent to which federal government programs are well-designed, well managed and are generating intended results. Fifty-three EPA programs have been evaluated through PART. Nearly all federal programs have been evaluated between FY 2002 and FY 2007 with re-evaluations completed as necessary. Three OPPT programs have undergone PART assessments and are ranked in the top 10 highest among EPA programs assessed to date:

- Pollution Prevention (2nd highest)
- Chemical Risk Review and Reduction (tied for 5th highest)
- Childhood Lead-Based Paint Risk Reduction (6th highest)

OPPT's Pollution Prevention (P2) Program received an 82.7 percent rating from OMB during its PART assessment in FY 2006. The assessment helped spur improvements in program design and integration of performance results across seven P2 programs to achieve national goals.

OPPT's Childhood Lead-based Paint Risk Reduction Program underwent its initial PART assessment in FY 2005, obtaining a 79 percent rating from OMB. As a result of the assessment, the program improved the processes of involving program partners and integrating EPA headquarters and regional office activities.

PART's continued recognition of the strength of OPPT's programs reflects the office's commitment to performance-based management—setting ambitious yet achievable outcome goals, monitoring progress towards those goals, and using performance information in making key management decisions. It also reflects the support provided to program managers from OPPT's financial management system.

Accomplishments

- In its PART review, OPPT's Chemical Risk Review and Reduction Program received an 80 percent rating from OMB in FY 2007. The Program is currently implementing several PART follow-up actions to improve performance accountability.

Read more information on PART: <http://www.whitehouse.gov/omb/part/>.

Community Action for a Renewed Environment

The Community Action for a Renewed Environment (CARE) Program (<http://www.epa.gov/care/>) helps communities address multiple sources of toxic pollutants in their environment through competitive grants and technical assistance. Through CARE, EPA works with local organizations, including non-profits, businesses, schools and governments, to create partnerships that implement local solutions to risks posed by pollutants. CARE works with communities to set priorities for risk-reduction activities and helps to create self-sustaining, community-based partnerships. Since its first round of cooperative agreement awards in 2005, CARE has funded almost 50 grants in 26 states, totaling nearly \$8 million awarded.

Responsibility for CARE rotates among EPA's media programs of air, water, waste and toxics. With primary responsibility for the program since January 2007, OPPT has sought to better support CARE grantees needing access to OPPT programs, such as the Lead program, Green Suppliers Network, Design for the Environment (DfE), as well as other EPA programs. OPPT has also increased focus on measuring programmatic results and sharing OPPT tools and models.

Accomplishments

- In December 2007, 22 U.S. communities received cooperative agreement grants (<http://www.epa.gov/care/community2007.htm>) to continue improving health and the environment at the local level through the CARE program. The CARE Program offers two levels of Cooperative Agreements to local communities; Level I is

approximately \$90,000 and Level II, \$275,000. They can effectively be thought of as grants, and are categorized as Level I or Level II based on whether the community's environmental issues have been previously identified and prioritized. In 2008, \$3.5 million will be available for cooperative agreement grants.

- In July 2007, EPA Administrator Stephen Johnson and Centers for Disease Control and Prevention Director Julie Gerberding signed a formal Memorandum of Understanding (MOU) (<http://www.epa.gov/care/collaboration.htm>) to better coordinate the efforts and resources of the agencies, and announced four pilot projects across the country. The MOU outlines a collaboration that is working with state, local, tribal and community groups to achieve the environmental and public health goals of the agencies.

Read more information on the Community Action for a Renewed Environment (CARE) program: <http://www.epa.gov/care/>.

OPPT Tribal Program

OPPT is committed to working in partnership with tribal governments to safeguard and protect the environment from toxic hazards and to promote pollution prevention in Indian country. The first priority of the OPPT Tribal Program is continuing to improve communication to better exchange information regarding environmental concerns and issues facing Indian country today.

OPPT publishes the OPPTS Tribal newsletter (<http://www.epa.gov/oppt/tribal/pubs/index.html>), which features a wide variety of environmental information, perspectives, and issues that affect American Indian Tribes. This newsletter is sent out to all federally-recognized tribes, Tribal environmental groups, Tribal colleges, Tribal news media and EPA Tribal advisory groups and other interested parties.

Accomplishments

- On February 7, 2007, OPPTS signed a Memorandum of Understanding (MOU) with Salish Kootenai College and the Confederated Salish Kootenai Tribes, Polson, Mont., to:
 - Expand opportunities for faculty enrichment, and undergraduate and graduate student training with emphasis on sciences, technology and related environmental sciences.
 - Help achieve goals in OPPTS Tribal Strategic Plan (http://www.epa.gov/oppts/pubs/tribal/tribalplan_signsep804Final.pdf).
 - Help support the President's Management Agenda for Advancing the Strategic Management of Human Capital (<http://www.whitehouse.gov/results/agenda/humancapital.html>), and Executive Order 13270 on Tribal Colleges and Universities (<http://www.whitehouse.gov/news/releases/2002/07/20020703-16.html>).
- In 2007, OPPT also developed a list of activities under consideration to implement the MOU, which was co-sponsored by EPA's Office of Administrator and Resource Management.
- In June 2008, OPPT published a two-volume newsletter on Alaska.

Read additional information on OPPT's Tribal Program: <http://www.epa.gov/oppt/tribal/>.

Risk Assessment Tools—RSEI Model

The Risk-Screening Environmental Indicators (RSEI) (<http://www.epa.gov/oppt/rsei/>) is a computer-based screening tool developed by OPPT that analyzes risk factors to put Toxics Release Inventory (TRI) (<http://www.epa.gov/tri/>) release data into a chronic health context. RSEI is often used by government regulators, communities, journalists, industry and others to examine trends, identify important emissions situations for follow-up, support community-based projects and initially screen potential impacts of emissions.

Accomplishments

- In 2007, OPPT updated the model and a new version, RSEI 2.1.5 (http://www.epa.gov/oppt/rsei/pubs/get_rsei.html), was released in January 2008, which has data covering 1996-2005 and includes new features:
 - Reporting facilities located using EPA's Locational Reference Tables (LRT)
 - Additional site-specific information
 - Chromium speciation
 - Metals and metal compounds combined
 - Updated toxicity weights
- In 2007, OPPT worked with a variety of clients to interpret and utilize risk-related information on industrial releases.
- In 2007, OPPT presented the RSEI model to various groups, including the American Petroleum Institute and at the annual TRI Conference, sponsored by EPA's Office of Environmental Information and the Environmental Council of the States.
- OPPT held workshops to train EPA regional staff on the RSEI model.
 - October 2007 for EPA Region 4
 - November 2007 for EPA Region 5

Read more information on the Risk-Screening Environmental Indicators Model: <http://www.epa.gov/oppt/rsei/>.

OPPT Exposure Models

OPPT has a number of computer-based models which are used in the absence of measured data to estimate exposure. The Estimated Programs Interface (EPI) Suite™ (<http://www.epa.gov/oppt/exposure/pubs/episuite.htm>) model is used to provide screening-level estimates of physical/chemical and environmental fate and transport properties for chemicals. These properties are important in understanding how a chemical will behave in the environment and are informative in assessing exposure. OPPT uses this information to support regulatory decisions in its New Chemicals Program and in assessing existing chemicals.

The Internet Geographic Exposure Modeling System (IGEMS) (<http://www.epa.gov/oppt/exposure/pubs/gems.htm>) brings together in one system several EPA environmental fate and transport models and some of the environmental data needed to run them.

ReachScan (<http://www.epa.gov/oppt/exposure/pubs/reachscan.htm>) estimates surface water chemical concentrations and populations served by drinking water utilities downstream from industrial facilities.

Accomplishments

- EPA received the final report of the Science Advisory Board peer review of EPI Suite™ ([http://yosemite.epa.gov/sab/sabproduct.nsf/CCF982BA9F9CFCFA8525735200739805/\\$File/sab-07-011.pdf](http://yosemite.epa.gov/sab/sabproduct.nsf/CCF982BA9F9CFCFA8525735200739805/$File/sab-07-011.pdf)) in September 2007, which included comments on current and potential uses of the software and recommendations for improvements in the software's scope, accuracy, and ease of operations. OPPT has begun to implement changes to EPI Suite™ based on comments received from the SAB.
- In 2007 OPPT worked on developing a new version of IGEMS, which will be available to the public in June 2008. The new version will include features designed to enable communities to use IGEMS for local assessments.
- OPPT has identified an existing model which can be customized to perform the functions of the old ReachScan, and is investigating approaches for using the National Hydrography Dataset (<http://nhd.usgs.gov/>).

Read more about EPI Suite™ (<http://www.epa.gov/oppt/exposure/pubs/episuite.htm>), IGEMS (<http://www.epa.gov/oppt/exposure/pubs/gems.htm>), and ReachScan (<http://www.epa.gov/oppt/exposure/pubs/reachscan.htm>) and other OPPT exposure models (<http://www.epa.gov/oppt/exposure/>).

OncoLogic™, ECOSAR and AQUATOX

Tools and models are used in the hazard, exposure and risk assessment processes to evaluate both new and existing chemicals under TSCA when certain data are missing. OPPT uses and promotes the use of these models, including OncoLogic™ for health hazard evaluation, and ECOSAR and AQUATOX for environmental effects and fate.

OncoLogic™ (<http://www.epa.gov/oppt/newchems/tools/oncologic.htm>) is a stand alone computer program that evaluates the potential that a chemical may cause cancer. OncoLogic, which provides the scientific rationale for each evaluation along with the results, has been peer reviewed and runs on a Windows® PC. EPA's Web site provides a downloadable version of OncoLogic™ along with extensive information on proper use of the method. OncoLogic analyzes a chemical structure to determine the likelihood that it may cause cancer by applying the rules of structure activity relationship (SAR) analysis and incorporating knowledge of how chemicals cause cancer in animals and humans. OncoLogic is comprised of four subsystems that evaluate fibers, metals, polymers, and organic chemicals of diverse chemical structures.

ECOSAR (Ecological Structure Activity Relationships) (<http://www.epa.gov/oppt/newchems/tools/21ecosar.htm>) is a personal computer software program that is used to estimate the toxicity of chemicals used in industry and discharged into water. The program predicts the toxicity of industrial chemicals to aquatic organisms such as fish, invertebrates, and algae by using Structure Activity Relationships (SARs). The program estimates a chemical's acute

(short-term) toxicity and, when available, chronic (long-term or delayed) toxicity. ECOSAR also allows access to hundreds of SARs developed for 48 chemical classes. The SARs contained within the program are developed using test data. Many of the SAR predictions have been validated.

AQUATOX (<http://www.epa.gov/waterscience/models/aquatox/>) is a simulation model for aquatic systems. AQUATOX predicts the fate of various pollutants, such as nutrients and organic chemicals, and their effects on the ecosystem, including fish, invertebrates, and aquatic plants. This model is a valuable tool for ecologists, biologists, water quality modelers, and anyone involved in performing ecological risk assessments for aquatic ecosystems.

Accomplishments

- OncoLogic™: OPPT is now providing a downloadable version of OncoLogic™ (<http://www.epa.gov/oppt/newchems/tools/oncologic.htm>), a powerful predictive screening method, at no cost to interested users wishing to evaluate cancer potential of chemicals. The U.S. Food and Drug Administration OncoLogic™ recently published a study affirming the model's predictive capability (http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6WPT-4PSC2BN-1&_user=14684&_coverDate=02%2F29%2F2008&_alid=729502692&_rdoc=1&_fmt=high&_orig=search&_cdi=6999&_sort=d&_docanchor=&_view=c&_ct=1&_acct=C000001678&_version=1&_urlVersion=0&_userid=14684&md5=0c9921828703907621a05e4bc790313b).

OPPT shared OncoLogic™ with the European Union. In addition, the method has been selected for future inclusion in the Organization for Economic Cooperation and Development (OECD) Quantitative Structure Activity Relationships ((Q)SAR) Application Toolbox (http://www.oecd.org/document/23/0,3343,en_2649_34365_33957015_1_1_1_1,00.html) for cancer.

- ECOSAR: OPPT scientists are working to make numerous improvements to ECOSAR (<http://www.epa.gov/oppt/newchems/tools/21ecosar.htm>) including the addition of new SARs (inorganic and organometallic chemicals, and 20 new chemical classes with excess toxicity), and enhancements for existing SARs:
 - All SARs for excess toxicity have been recalculated using the Kow value from EPI Suite™ (<http://www.epa.gov/oppt/exposure/pubs/episuite.htm>).
 - All classes now have at least six SARs for freshwater organisms.
 - Test data have been added to existing SARs.

OPPT scientists improved the ECOSAR decision tree which selects SAR(s) from “structure” and they have added “Help” screens for every SAR showing data used in SAR regression equations, data used in SAR but not in regression equations, and data for chemicals which fit the SAR class but are not used.

OPPT shared ECOSAR with the OECD, which added the method to the (Q)SAR Application Toolbox (http://www.oecd.org/document/23/0,3343,en_2649_34365_33957015_1_1_1_1,00.html) for aquatic toxicity. Work in progress includes the addition of structural alerts for herbicides, insecticides, fungicides, and other pesticides. ECOSAR version 0.99g is available as a stand-alone model and version 0.99h has been incorporated into the

EPI Suite of models. The next version of ECOSAR is expected to have over 2,000 SARs.

- AQUATOX: During 2005, 2006, and 2007, OPPT funded the development of a version of AQUATOX (<http://www.epa.gov/waterscience/models/aquatox/>) relating to estuaries, and a comparison of predictions of AQUATOX on the fate and effects of nonylphenol and pefluoralkylated surfactants. In addition, EPA's Office of Water (OW) and OPPT jointly funded the inclusion of the Office of Research and Development–Gulf Breeze Lab “Interspecies Correlation Estimations (ICE) for Acute Toxicity to Aquatic Organisms and Wildlife” into AQUATOX. These enhancements have been included in Release 3 of AQUATOX, which has been beta tested and is scheduled to be peer reviewed and released in 2008.

Read more information on OncoLogic™

(<http://www.epa.gov/oppt/newchems/tools/oncologic.htm>), ECOSAR (<http://www.epa.gov/oppt/newchems/tools/21ecosar.htm>), and AQUATOX (<http://www.epa.gov/ost/models/aquatox>) and other OPPT exposure assessment tools and models (<http://www.epa.gov/oppt/exposure/>).

A Tribute to Vince Nabholz

We honor Vince Nabholz—a cherished member of the OPPT family for over 25 years—who died in February 2008. Vince made significant contributions to the cause of protecting the environment as an expert environmental toxicologist and quantitative structure activity relationships analyst. Vince will be remembered as a trusted colleague and friend with a great sense of humor and passion for his work.