

Bulletin

Getting the Lead Out

EPA Acting to Prevent Childhood Lead Poisoning

By Joseph S. Carra

Deputy Director, Office of Pollution Prevention and Toxics

Lead poisoning is a serious health problem, particularly among young children. A high blood lead level can lower a child's intelligence, impair his or her hearing, retard physical and mental growth, and cause memory loss or hyperactivity. EPA estimates that one in six U.S. children under six years old have high levels of lead in their blood.

Lead-based paint is a major source of exposure for these children. Urban soil and dust are also sometimes contaminated with lead from paint, gasoline, and industrial sources. Drinking water can contain lead from solder, brass fittings, and service lines. Most of the lead in these sources is a remnant from the past. Over the past 20 years, the nation switched to unleaded gasoline, paint manufacturers were banned from using lead in residential products, and the use of lead in the solder and pipes of public drinking water systems was banned.

Federal agencies take action

While much has been accomplished, much remains to be done. By 1989, it was clear that additional action was necessary, both to protect people from exposure to lead left in the environment from previous uses *and* to prevent exposures to lead from current uses. To tackle the number one problem—children's exposure to lead-based paint—EPA joined the Department of Housing and Urban Development (HUD) in organizing a federal interagency task force. Today, 18 federal organizations participate in the task force, cooperating on many projects and sharing information about many others.

In 1991, EPA completed a comprehensive strategy for dealing with exposures to lead from all sources, including paint. HUD also developed a lead strategy. In October 1992, Congress strengthened these efforts with passage of the Residential Lead-based Paint Hazard Reduction Act. The

Lead continued on page 14

highlights

- 2** OPPT Wants More People to Use Its Environmental Data
- 13** Public Education Campaign To Prevent Lead Poisoning Begins
- 37** OPPT Plans to Ask Companies to Give Risk Information to Chemical Users



Recycled/Recyclable
Printed on paper that contains
at least 50% recycled fiber

OPPT Is Improving Public Access to Information

EPA's Office of Pollution Prevention and Toxics (OPPT) is taking steps to improve and increase public access to data. OPPT believes that environmental data are valuable to people outside of EPA who are interested in producing safer chemicals and reducing risks posed by hazardous chemicals.

To increase public access to data, OPPT has created the Information Access Branch in the Information Management Division. In addition to public access issues, the branch will address how to integrate OPPT data with environmental information collected by other EPA offices. Development of integrated information products would be useful to EPA, federal agencies, and state agencies, all of which use environmental data to develop pollution prevention strategies.

Three federal statutes direct OPPT to collect test results, risk studies, environmental releases, and other data: the Emergency Planning and Community Right-to-Know Act (EPCRA), the Pollution Prevention Act (PPA), and the Toxic Substances Control Act (TSCA). These three statutes—cross-media in nature—encompass the complete cycle of development, production, use, and disposal of products.

Expanding information access

In improving and expanding its information products, OPPT is relying on its extensive experience in managing the Toxics Release

Information (TRI) data base. This experience has shown it is essential to do more than make data available; data must also be presented in a format that users can easily understand and apply to their needs. In managing TRI data, OPPT learned the public will use data in ways that OPPT cannot foresee. In response to this lesson, OPPT plans to make information publicly available before EPA completes its own analysis and interpretation, when appropriate.

OPPT currently disseminates information in many ways. For example, one program in which information plays a vital role is OPPT's Design for the Environment (DfE) program. This program works with a number of industries to develop safety and performance data about chemicals and processes. The result is that many industries will receive information that can be used to build environmental factors into design decisions. (See pages 9 to 12 for an update on the DfE program.)

Process for change

OPPT is interested in encouraging more people and companies to use the information it has collected. Over the next year, the Information Access Branch will work within OPPT to

- gain better knowledge of constituencies for OPPT data and understand and define information issues;

- define the kinds of interpretative information that would be most helpful to users;
- develop more useful formats for supplying information, and improve existing data;
- provide greater online capabilities to the public through publicly accessible data lines, improved access to existing EPA data bases, or other options;
- increase electronic submission of data to provide access to more data and in a more timely manner; and
- educate OPPT staff to consider information needs and products throughout the cycle of its work on chemicals, processes, and industries.

To support this process, OPPT has established a workgroup to develop a comprehensive strategy for collecting, processing, and disseminating information. OPPT is engaged in other activities to further this mission, such as minimizing TSCA confidential business information claims to increase public access to information. Development of the strategy will depend to some degree on similar activities being undertaken throughout EPA, such as integrating data from other EPA offices into OPPT data.

EPA Proposes Voluntary Program to Promote Pollution Prevention and Sustainable Development

EPA is proposing a national program that would recognize and reward long-term commitment to pollution prevention and sustainable development in the manufacturing sector. A pilot of the program is planned for one or more states prior to implementing the full program.

The objectives of the Environmental Leadership Program are to encourage companies to go beyond compliance with the law and to incorporate pollution prevention into all of their operations, including purchasing, product design, manufacturing, marketing, and distribution.

The proposal is in the early stages of development. In a *Federal Register* notice on January 15, 1993, EPA explained the program concepts, outlined the proposed criteria for participation, and asked for public reaction (58 FR 4802). Comments received from the public will be considered in shaping the final program.

Proposed structure

The Environmental Leadership Program proposed by EPA would comprise dual components.

1. One component, the Model Facility Program, would recognize individual plants that meet stringent environmental criteria by employing quality

management and pollution prevention technologies.

2. The second component would encourage corporatewide changes that are beyond the control of individual plant managers. To accomplish this, EPA would require corporations to agree to (1) conduct operations according to the Corporate Statement of Principles that will be established by EPA and (2) work toward sustainable development by setting specific goals for designing, manufacturing, marketing, and distributing their products.

Fundamental assumptions

EPA has identified eight assumptions that are fundamental to development of the program:

- Standards for the program will be stringent enough to include only the best companies and practical enough to motivate companies to strive to meet them.
- Facilities that apply to the program are expected to have excellent records of compliance with existing environmental laws and regulations and to maintain or improve those records during participation.
- Pollution prevention and sustainable development will be key components of the program.

Incentives to encourage manufacturers to strive toward both will be incorporated into the program.

- Ambitious goal setting will be incorporated into the program. However, the program seeks to avoid prescriptive judgments of measures used to attain the goals.
- Coordination with state and local regulatory and voluntary programs is critical to avoid duplicating efforts.
- Information will be available for the public to track the program's success. Information must be verifiable and quantifiable.
- Consistent measurement standards will be developed and applied in a fair and objective manner to minimize the time needed to review and process applications.

For more information

For further information about the proposed Environmental Leadership Program, contact Linda Glass-Rimer, Pollution Prevention Policy Staff (1102), U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460; telephone, (202) 260-8616.

To view comments submitted to EPA about this proposal, contact the TSCA Non-Confidential Information Center. For information about contacting the center, see page 42.

Administrator Browner: Pollution Prevention Is Becoming EPA's Guiding Principle

On April 22, 1993, EPA Administrator Carol M. Browner announced that EPA is fundamentally shifting the nation's environmental protection strategy toward pollution prevention. Excerpts of Ms. Browner's Earth Day statement follow.

"Twenty years of end-of-pipe regulation have taught us an important lesson—that the best way to clean up the environment is to prevent environmental deterioration in the first place. Taking this lesson to heart, this administration is committed to making pollution prevention the guiding principle of all our environmental efforts.

"...I am committing EPA to adopt a major policy integrating pollution prevention into every EPA activity, program, and operation. I also will appoint an EPA task force that will develop a concrete action plan to implement the new pollution prevention policy. The task force will provide opportunities for the public to have input as the action plan is developed.... By the policy I am announcing today, pollution prevention will be the central ethic in everything we do at EPA.

The policy's five key parts are summarized below.

1. Using pollution prevention in EPA's regulatory activities.

All EPA regulatory development, permitting and enforcement will

utilize pollution prevention as the principle of first choice.

2. Building a network of state, local, and tribal programs.

EPA will provide grants to state, local, and tribal governments for pollution prevention programs. The new pollution prevention task

“...Pollution prevention will be the central ethic in everything we do at EPA.”

force will help these governments apply the grants to a variety of pollution prevention activities.

3. Emphasizing cross-media prevention.

EPA will expand its environmental programs that emphasize cross-media prevention, reinforce the mutual goals of economic and environmental well-being, and represent new models for cooperation between government and the private sector. As part of the fiscal year '94 budget, EPA is proposing sig-

nificant new commitments for the Green Programs, Design for the Environment, and other pollution prevention programs. (See pages 9 to 12 for information about Design for the Environment projects.)

4. Recognizing the value of publicly accessible information.

EPA will increase its efforts to generate and share information to promote prevention and track progress through measurement systems such as the Toxics Release Inventory (TRI). To build on President Clinton's announcement that all federal agencies will begin reporting to the TRI, the pollution prevention task force will examine expanding the TRI to include additional chemicals and industrial sources. (See page 18 for a report on President Clinton's announcement.)

5. Developing partnerships in technological innovation.

EPA will develop partnerships in technological innovation with other agencies and the private sector to increase industrial competitiveness and enhance environmental stewardship. The 1994 budget proposal for EPA includes \$36 million for a new interagency environmental technology initiative. A substantial portion of these funds will be used to promote pollution prevention, particularly for small businesses.

33/50 Program Is Reducing Risks through Voluntary Action

EPA's 33/50 Program has received commitments from 1,135 companies to voluntarily reduce their releases and transfers of 17 toxic chemicals. According to the combined goals of about two-thirds of the companies, releases and transfers of the chemicals would be reduced by 354 million pounds by the end of 1995. The remaining one-third of the companies are in the process of setting reduction goals.

EPA began the 33/50 Program in January 1991 to encourage companies to prevent pollution during the manufacturing process rather than release wastes into the environment or transfer them to waste management facilities. Participation is completely voluntary. The program's objective is to cut releases and off-site transfers of 17 high-priority toxic chemical wastes by 50 percent by the end of 1995. The program is measuring progress through reports to the Toxics Release Inventory (TRI). Data from 1988 are being used as the baseline.

Seventeen Priority Chemicals Targeted By the 33/50 Program

Benzene
Cadmium and compounds
Carbon tetrachloride
Chloroform
Chromium and compounds
Cyanides
Lead and compounds
Mercury and compounds
Methyl ethyl ketone

Methyl isobutyl ketone
Methylene chloride
Nickel and compounds
Tetrachloroethylene
Toluene
Trichloroethane
Trichloroethylene
Xylenes

The program's interim goal was to achieve a 33 percent cut by the end of 1992. EPA will use TRI reports for 1992, which are due by July 1993, to determine whether this goal was met. Compilation and analysis of the data will be completed in 1994. However, TRI data from 1990 show that releases of the 17 chemicals dropped 20 percent from 1988. This downward trend indicates that it is likely the 33/50 Program met its interim goal for 1992.

The TRI data indicate that many

companies that are not participating in the 33/50 Program are also reducing releases and transfers of the 17 chemicals. The data also indicate that participating companies are achieving greater reductions than pledged.

For information on joining the 33/50 Program

To learn how to participate, contact the TSCA Assistance Information Service (TSCA hotline). See page 43 for information on contacting the hotline.

Industry Backs the Minnesota-50 Project

Releases and transfers of 17 toxic chemicals in Minnesota are expected to drop by half by the end of 1995. Manufacturing facilities in the state are voluntarily taking steps to cut their releases as part of the Minnesota-50 Project, an environmental partnership between industry and the state.

In 1988, about 300 manufacturing facilities in Minnesota released or

transferred 44.9 million pounds of 17 toxic chemicals. Over the past year, 68 facilities have pledged to reduce their annual releases of the chemicals by 22 million pounds within three years.

Among the companies participating in the project is the 3M Company, Minnesota's biggest source of toxic pollution. The 3M Company has committed to paring its emissions

by 70 percent. Boise Cascade Minnesota also signed on, saying it expects to reduce chloroform emissions at its International Falls plant by more than 80 percent.

"Nonregulatory approaches to environmental problems are effective," said Diane Wesman, Minnesota Office of Waste Management's

Minnesota-50 continued on page 6

Minnesota-50 continued from page 5

director. "The Minnesota-50 Project clearly demonstrates that voluntary approaches, where businesses prevent pollution at its source, can achieve significant benefits for Minnesotans. We will continue to ask companies to join the Minnesota-50 Project."

Modeled after EPA program

The Minnesota-50 Project is modeled on EPA's 33/50 Program. The Minnesota-50 Project targets the same 17 chemicals selected for reduction by the EPA program, and companies that agree to participate in the Minnesota-50 Project are automatically enrolled in EPA's 33/50 Program. (See page 5 for information about the 33/50 Program.)

The Minnesota Office of Waste Management and the Minnesota Chamber of Commerce are sponsoring the Minnesota-50 Project. Although the overall project goal is to reduce releases and transfers of the chemicals statewide by 50 percent, companies can establish a higher or lower goal. Participation in the project is completely voluntary, and there are no penalties for companies that do not participate.

The program promotes pollution prevention as the best way to achieve reductions in toxic releases. By not generating waste in the first place, companies save on raw materials, increase efficiency, and reduce liability costs.

Companies Participating in the Minnesota-50 Project

These companies are voluntarily taking steps to prevent pollution.

Andersen Corp., Bayport	Midwest Electric Products, Mankato
Arctco, Inc., Thief River Falls	3M Co., Maplewood
Boise Cascade Corp., International Falls	3M Co., Chemolite Center, Cottage Grove
Buckbee-Mears Corp., St. Paul	3M Co., Fairmont
Bureau of Engraving, Industrial Division, Minneapolis	3M Co., Hutchinson
Cardiac Pacemakers, Arden Hills	3M Co., Pine City
Conklin Company, Inc., Shakopee	3M Co., St. Paul
Crown Cork & Seal Company, Inc., Fairbault	3M Co., Electrical Products Division, New Ulm
Crystal Cabinet Works, Inc., Baldwin Township	Minnesota Valley Engineering, Inc., New Prague
Dresser/Rand Electric Machinery, Minneapolis	Mixon, Inc., St. Paul
Dura Supreme, Howard Lake	National Computer Systems, Owatonna
Eaton Corp. Hydraulics Division, Eden Prairie	New Dimension Plating, Inc., Hutchinson
Elf Atochem North America, Inc., Blooming Prairie	Northern Wire Products, St. Cloud
Naval Systems Division of FMC, Fridley	North Star Steel Co., Minnesota- St. Paul
Foto Mark, Inc., Eden Prairie	PDI, Inc., Blaine
Frigidaire Co. Freezer Products, St. Cloud	Polaris Industries, Inc., Roseau
Frost Paint & Oil Corp., Minneapolis	Potlatch Corp., Cloquet
Gillette Co., St. Paul	Progress Casting Group, Albert Lea
Goebel Fixture Company, Hutchinson	Progress Casting Group, Plymouth
Hartzell Manufacturing, Inc., St. Paul	Rayven Inc., St. Paul
Honeywell, Plymouth	Sheldahl, Northfield
Honeywell, Golden Valley	Smith System Manufacturing Co., Princeton
Honeywell-Military Avionics Division, St. Louis Park	Snyder General Corp., Faribault
Honeywell-Military Avionics Division, Rochester	Solvay Pharmaceuticals, Baudette
International Business Machines Corp., Rochester	Streater Store Fixtures, Plants I and II, Albert Lea
ICI Fiberite, Inc., Winona	Superior Plating Inc., Minneapolis
John Roberts Co., Minneapolis	Tapemark, West St. Paul
Joyner's, Brooklyn Park	Thermo King Corp., Bloomington
Knapp Woodworking, Inc., Ham Lake	Truth Division, SPX Corp., Owatonna
Marvin Windows and Doors, Warroad	Unisys Corp., Roseville
M.E. International, Duluth	Upsher-Smith Laboratories, Inc., Minneapolis
Micom Corp., New Brighton	Valley Craft, Inc., Lake City
	Viracon, Inc., Owatonna
	Waldorf Corp., St. Paul
	Winco, Inc., Le Center

Three Programs Provide Grants for Pollution Prevention Activities

EPA's Office of Pollution Prevention and Toxics (OPPT) participates in three grants programs that support pollution prevention.

NICE³

NICE³—National Industrial Competitiveness Through Efficiency: Energy, Environment, Economics—aims to improve the cost competitiveness of U.S. products by reducing industrial energy costs and minimizing industrial waste. The program, administered jointly by the U.S. Department of Energy (DOE) and EPA, will award \$2.5 million in grants in fiscal year 1993.

Awards are made through the states, which must match the federal grants. Any combination of state and industrial funds can be used for the matching funds.

For information about the program, contact Dave Bassett, Pollution Prevention Division (7409), U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460; telephone, (202) 260-2720; or, Alan Schroeder, Office of Industrial Technologies Office of Conservation and Renewable Energy (CE222), Department of Energy, 1000 Independence Avenue, S.W., Washington, D.C. 20585; telephone, (202) 586-1641; FAX, (202) 586-7114

ACE

ACE—Agriculture in Concert with the Environment—is a research and education grant program. The

Grants continued on page 8

ACE Program

Regional Offices

David Schlegel
Division of Agriculture and Natural Resources
University of California
300 Lakeside Drive, 6th Floor
Oakland, California 94612-3560
Telephone: (510) 987-0033

William H. Brown
Agriculture Experiment Station
P.O. Box 25055
Baton Rouge, Louisiana 70894-5055
Telephone: (504) 388-4181

Fred Magdoff
Department of Plant and Soil Science,
University of Vermont
Hills Building
Burlington, Vermont 05405
Telephone: (802) 656-0471

Steve Waller
Agricultural Experimental Station
University of Nebraska
109 Agriculture Hall
Lincoln, Nebraska 68583
Telephone: (402) 472-2046

States and U.S. Territories

Washington, Oregon, Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, California, Alaska, Hawaii, Guam

Texas, Oklahoma, Louisiana, Arkansas, Tennessee, Mississippi, Alabama, Georgia, Florida, South Carolina, North Carolina, Kentucky, Virginia

West Virginia, Pennsylvania, Maryland, Delaware, New Jersey, New York, Connecticut, Rhode Island, Vermont, Massachusetts, New Hampshire, Maine, Virgin Islands, Puerto Rico

North Dakota, South Dakota, Nebraska, Kansas, Missouri, Iowa, Minnesota, Wisconsin, Illinois, Indiana, Michigan, Ohio

Pollution Prevention Incentives for States

Regional Office

Mark Mahoney (PAS)
U.S. EPA Region 1
JFK Federal Building, Room 2203
Boston, Massachusetts 02203
Telephone: (617) 565-1155

Janet Sapadin (2-PPIB-OPM)
U.S. EPA Region 2
26 Federal Plaza
New York, New York 10278
Telephone: (212) 264-1925

States and U.S. Territories

Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont

New Jersey, New York, Puerto Rico, Virgin Islands

Table continued on page 8

Grants continued from page 7

program's goals are to help farmers adopt sustainable agriculture practices, reduce the use of highly toxic herbicides and other pesticides, and safeguard environmentally sensitive areas such as critical habitat and wetlands.

Priority issues and activities for ACE funding include, but are not limited to, nutrient management, environmentally sound multiple land uses, and animal waste management.

ACE is administered jointly by OPPT and the Sustainable Agriculture Research and Education Program (SARE) of the U.S. Agriculture Department. ACE will award \$1.89 million in fiscal year 1993. Requests for proposals will be mailed in late summer or early fall. For further information, contact the appropriate regional representative.

Pollution Prevention Incentives for States

The Pollution Prevention Incentives for States program provides funds to states and Indian tribes for reducing or eliminating pollution. The objective of the grants program is to support development and implementation of pollution prevention methodologies and approaches at the state and local levels.

In fiscal year 1993, the program will award \$4.5 million in grants. Grant recipients are required to match at least 50 percent of the federal funds.

For further information, contact the appropriate EPA regional office.

Pollution Prevention Incentives for States, cont'd.

Regional Office

States and U.S. Territories

Kathy Libertz (3ES43)
U.S. EPA Region 3
841 Chestnut Building
Philadelphia, Pennsylvania 19107
Telephone: (215) 597-0765

Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia

Carol Monell
U.S. EPA Region 4
345 Courtland Street, N.E.
Atlanta, Georgia 30365
Telephone: (404) 347-7109

Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee

Cathy Allen
U.S. EPA Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604-3590
Telephone: (312) 353-3387

Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin

Dick Watkins (6M-PP)
U.S. EPA Region 6
1445 Ross Avenue, 12th Fl., Suite 1200
Dallas, Texas 75202
Telephone: (214) 655-6580

Arkansas, Louisiana, New Mexico, Oklahoma, Texas

Steve Wurtz
U.S. EPA Region 7
726 Minnesota Avenue
Kansas City, Kansas 66101
Telephone: (913) 551-7315

Iowa, Kansas, Missouri, Nebraska

Sharon Childs (8PM-SIPO)
U.S. EPA Region 8
999 18th Street, Suite 500
Denver, Colorado 80202-2405
Telephone: (303) 293-1471

Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming

Jesse Baskir/Hilary Lauer (H-1-B)
U.S. EPA Region 9
75 Hawthorne Street
San Francisco, California 94105
Telephone: (415) 744-2190
(415) 744-2189

Arizona, California, Hawaii, Nevada, American Samoa, Guam

Robyn Meeker
U.S. EPA Region 10
1200 6th Avenue
Seattle, Washington 98101
Telephone: (206) 553-8579

Alaska, Idaho, Oregon, Washington

What Is Design for the Environment?

EPA's Design for the Environment (DfE) program promotes building the use of safer chemicals, processes, and technologies into products during their earliest design stages. The DfE program has three cornerstones: the gathering of compara-

tive risk and performance data; the development of analytical tools for assessing that data; and the dissemination of both data and analytical tools to people in various industries for use in making environmentally responsible choices.

For information on participating in the DfE program, contact Jean E. (Libby) Parker, Economics, Exposure, and Technology Division (TS-779), U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460; telephone, (202) 260-0667; FAX, (202) 260-0981.

National Science Foundation and EPA Working to Prevent Pollution in Synthesis and Manufacture of Industrial Chemicals

On January 28, 1993, EPA and the National Science Foundation agreed to work together to promote pollution prevention in industrial chemical processes. The cooperative efforts will be an integral part of EPA's Design for the Environment (DfE) initiative, which incorporates pollution prevention principles into the synthesis and manufacture of industrial chemicals. NSF has a similar effort, called Environmentally Benign Chemical Synthesis and Processing, to foster pollution prevention in its basic research grants program.

The collaboration will allow the National Science Foundation and EPA's Office of Pollution Prevention and Toxics (OPPT) to contribute their complementary scientific and technical expertise to address the difficult problems of pollution prevention through environmental design. The National Science Foundation, as one of the largest

U.S. government supporters of basic research, is well recognized for having a unique perspective on academic scientific research needs and capabilities. OPPT brings to the collaboration its unique regulatory perspective of the chemical industry and its risk assessment of those chemical substances of highest environmental and public health concern.

In a Memorandum of Understanding, EPA and the National Science Foundation agreed to use a variety of mechanisms, including grants to universities and public outreach programs, to promote pollution prevention in the design of alternative synthetic pathways for chemicals in commerce. Research proposals submitted for funding under the National Science Foundation program will be reviewed jointly by the National Science Foundation and OPPT.

Symposium scheduled for August

Representatives from the National Science Foundation are participating in the OPPT-organized symposium "Alternative Synthetic Pathways for Pollution Prevention." The symposium is scheduled for August 1993, at the American Chemical Society National Meeting in Chicago, Illinois. It is being sponsored by the American Chemical Society's Division of Environmental Chemistry.

For more information

Further information on the collaboration is available from Paul T. Anastas, Economics, Exposure, and Technology Division (TS-779), U.S. EPA, 401 M Street, S.W. Washington, D.C. 20460; telephone, (202) 260-2257. Or, from Margaret Cavanaugh, Chemistry Division, Room 340, National Science Foundation, 1800 G Street, N.W., Washington, D.C. 20550; telephone, (202) 357-7499.

New Accounting and Capital Budgeting Tools Are Highlighted

Environmental Costs Affecting Profits Are Identified

EPA and outside partners are developing accounting and budgeting tools that highlight pollution prevention. Working on the project with EPA are accounting professionals, representatives from various industries, academics, private citizens, and state and local officials.

The Design for the Environment (DfE) project is focusing on (1) managerial accounting, which is the process businesses use to collect and analyze information for internal decision making, and (2) capital budgeting, which is the process businesses use for evaluating capital investments. Financial accounting, used in providing information to people outside the company, is not being addressed.

In determining the cost of products and processes, managerial accounting practices often do not consider environmental costs. Environmental costs include money spent on waste disposal, permitting, and labeling, as well as potential future liabilities. Ignoring these costs leaves businesses without a true picture of how profitable their products are. Likewise, environmental costs are often not factored into the expense of buying new equipment and technology or operating it over the long term.

EPA's Office of Pollution Prevention and Toxics (OPPT) believes that integrating environmental costs into accounting practices and capital budgeting will demonstrate that preventing pollution is less expen-

sive than controlling it after it occurs. Moreover, innovative accounting and capital budgeting tools and processes can help reconcile the needs of business to be profitable, of communities to have jobs, and of society to protect the environment.

New tools developed

Over the past few years, EPA has developed and piloted several tools for capital budgeting, such as the total cost assessment methodology. This methodology and a number of others are explained in *Total Cost Assessment: Accelerating Industrial Pollution Prevention Through Innovative Project Financial Analysis*, prepared by the Tellus Institute, a private not-for-profit research institute. Information about obtaining the manual is provided below.

EPA is also working with the American Society for Testing and Materials (ASTM) to incorporate the total cost assessment methodology into ASTM's *Standard Guide for Pollution Prevention*. EPA has also provided funds to the World Resources Institute to develop and pilot an innovative managerial accounting methodology.

Changing corporate decision making

EPA has begun several cooperative efforts with accounting firms and industry, state and local governments, and public interest groups to

- stimulate development and adop-

tion of improved managerial cost accounting systems that reveal the environmental costs of products and processes and

- stimulate development and adoption of tools and practices for financial analysis and capital budgeting for evaluating direct and indirect benefits of pollution prevention-oriented projects.

To facilitate dialogue on these issues, EPA has solicited input from a network of experts and interested parties. A workshop, sponsored by EPA and others, is scheduled for September 1993.

For more information

- For more information about the workshop or development of new accounting or capital budgeting methods, contact the Pollution Prevention Information Clearinghouse (PM-211A), U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460; telephone, (202) 260-1023; FAX, (202) 260-0178.
- To obtain *Total Cost Assessment: Accelerating Industrial Pollution Prevention Through Innovative Project Financial Analysis*, document number EPA/741/R-92/002, contact the Pollution Prevention Information Clearinghouse.
- For information about ASTM's *Standard Guide for Pollution Prevention*, contact the organization's technical information center at (215) 299-5475.



Substitute Assessments for Printing Are Under Way

The printing industry and EPA are assessing substitutes for lithographic blanket washes, screen reclamation products, and flexographic inks. Printers are evaluating how well the substitutes perform by using them in day-to-day operations. EPA will incorporate the data supplied by the printers into an overall assessment of substitute printers' products.

The assessment, which will include comparative risk, cost, and performance information, will be provided to printers at the end of 1993. This information will help printers make environmentally informed decisions about the

chemicals, technologies, and work practices they use.

March meeting

The Design for the Environment project held a meeting in March attended by about 100 printers, products vendors, trade group representatives, and EPA staff. At the meeting, participants were informed of the status of EPA's assessments and of current EPA, regional, and state activities affecting their industry. Industry was asked to provide additional substitutes and product formulations for the assessments.

The first information product—a

case study—was distributed to attendees. The case study provided information about a lithographic printer who successfully incorporated pollution prevention into his facility and saved money doing so. The case study was developed by one of the DfE project's committees.

For more information

For more information about the March meeting or the DfE printing project, contact the Pollution Prevention Information Clearinghouse (PM-211A); U.S. EPA, 401 M Street, S.W. 20460; telephone, (202) 260-1023; FAX, (202) 260-0178.

Insurance Companies Discover A Role in Preventing Pollution

Insurance companies offer lower premiums to people who drive cars with anti-lock brakes and to those who install more secure locks on the doors to their homes. EPA is hoping that lower insurance premiums will also some day serve as an incentive for U.S. industry to implement pollution prevention practices.

EPA has started a Design for the Environment (DfE) initiative to help insurers (1) use analytical tools to assess pollution risk and (2) reward customers for taking steps to prevent pollution.

In the short run, EPA is working with the American Institute of Chartered Property and Casualty Underwriters (AICPCU) to modify the curriculum for the Associates in Risk Management program. This program reaches a large audience. AICPCU is a nonprofit organization offering education programs and professional certification to people in the property and liability insurance program.

The initial effort is to incorporate EPA's information resources and pollution prevention analytical tools into the course's text and materials. Other portions of the Associates in

Risk Management program will also be revised.

Future insurance DfE projects are under development and may include working with the insurance industry to identify industry groups that could benefit from targeted insurance products.

For more information

For more information on the DfE insurance project, contact Julie Shannon, Pollution Prevention Division (7409), 401 M Street, S.W., Washington, D.C. 20460; telephone, (202) 260-2736.

Computer Industry Joins DfE Efforts

EPA and the computer industry are working together to minimize the health and environmental risks associated with the computer industry. The goals of the Design for the Environment (DfE) project are to develop information and tools to (1) help designers of computer workstations choose chemicals, materials, and processes that prevent pollution and (2) boost the competitiveness of the U.S. computer industry by encouraging decisions that will avoid using regulated chemicals and thus avoid regulatory expenditures.

The Office of Pollution Prevention and Toxics (OPPT) began developing the DfE project in August 1992. Among the project's first steps were compilation of a list of chemicals used to manufacture computer workstations and compilation of the federal and state regulations of these chemicals. Also

prepared was a separate list of federal and state industry-specific regulations. These regulations will be compared with the regulations governing the computer industry in Japan, the European Community, and other nations that have strong computer industries.

Pilot planned for total cost assessment

Currently, the environmental costs associated with using individual chemicals are included in overhead. As a result, companies have little incentive for factoring environmental costs into individual product designs. Providing information on environmental costs—including such factors as waste disposal and potential future liabilities—will aid companies in attributing costs to particular product lines. Companies that have less-costly and less-harmful chemical alternatives, for instance,

will have an economic incentive to choose these alternatives.

Under the umbrella of total cost assessment, the DfE project is developing various analyses and methods that computer companies can use to analyze the regulatory impact and environmental costs of particular products. Plans are to implement a pilot of *Total Cost Assessment: Accelerating Industrial Pollution Prevention through Innovative Project Financial Analysis* in at least one facility by the end of 1993.

For more information

To obtain more information about the DfE computer industry project, contact Claudia O'Brien, Economics, Exposure, and Technology Division (TS-779), 401 M Street, S.W., Washington, D.C. 20460; telephone, (202) 260-0688; FAX, (202) 260-0981.

Results of Dry Cleaning Demonstration Project Are Being Evaluated

In a large-scale demonstration project, more than 1,500 garments were dry cleaned with a new method using soaps. The demonstration project was the first step in evaluating chemicals and technologies that could decrease exposures to the chlorinated solvents now used in dry cleaning.

EPA, the Neighborhood Cleaners Association, and the International Fabricare Institute conducted the

demonstration project during four weeks in November and December 1992. Two dry cleaners in Washington, D.C., and one dry cleaner in New York City participated in the project. Employees of the U.S. government and the New York Department of Environmental Protection were asked to bring their clothing to these cleaners for use in the demonstration project. All garments were sent to New

York, where they were cleaned by the Neighborhood Cleaners Association.

The Design for the Environment Project, which is part of EPA's Office of Pollution Prevention and Toxics (OPPT), and the dry cleaning industry are evaluating the data collected during the demonstration. They are also discussing other joint research for the future.

Public Service Campaign about Lead Poisoning Begins

"This campaign is essential in educating parents on the...dangers of lead poisoning...."

On May 4, 1993, EPA Administrator Carol M. Browner joined Tipper Gore, Bud Ward of the National Safety Council, Fred Krupp of the Environmental Defense Fund, and Surgeon General-Designate Joycelyn Elders in launching a national public service advertising campaign to heighten the public's awareness of the dangers of lead poisoning in children. EPA and the National Safety Council are sponsoring the campaign, which includes television, radio, and print ads.

"This campaign is essential in educating parents on the very real dangers of lead poisoning and what they can do to help protect their children," said Administrator Browner. "Lead poisoning in children is this country's most serious childhood environmental threat and the most preventable. It is our responsibility to try to make the public more aware of this."

The English-language broadcast ads feature actress Phylicia Rashad, and the Spanish-language radio ads feature Latino personality Cristina Saralegui. The ads will be used in about 50 media markets throughout the country.

Getting the right message out

It is important that the public learn about lead poisoning, which affects people of every age and race, in every geographic region, and in all socioeconomic levels. Children, however, are especially at risk. They are more vulnerable to damage because their bodies and nervous systems are developing, they engage in frequent hand-to-mouth activity, which brings them into contact with lead in paint, dust, and soil, and they absorb a higher percentage of ingested lead in proportion to their body weight than adults do.

To develop a campaign that would prompt people to call the National Lead Information Center for information on preventing lead poisoning, EPA's Office of Pollution Prevention and Toxics (OPPT) worked closely with the President's Commission on Environmental Quality. OPPT also coordinated the federal Lead-based Paint Task Force's development of public-education materials for the National Lead Information Center.

For more information

To obtain copies of the lead public service announcements, call the National Safety Council at (202) 833-1071.

To contact the National Lead Information Center, call (800) LEAD-FYI.

Lead Activities

Lead continued from page 1

act is Title X of the Housing and Community Development Act of 1992 and is also an amendment to TSCA. The new law mandates activities to reduce hazards posed by lead exposure in housing and establishes an infrastructure for a national program to eliminate childhood lead poisoning. Congress assigned EPA and HUD primary responsibility for implementing title X.

Implementing the act

Implementing the Residential Lead-based Paint Hazard Reduction Act is a high priority at EPA. EPA and other federal organizations are working together to meet the act's requirements. The Office of Pollution Prevention and Toxics (OPPT) is coordinating activities for EPA.

The act's key requirements for EPA fall into four categories, which are summarized below. In cases in which EPA, under its 1991 lead strategy, had begun work that meets the act's requirements, the agency's activities are noted.

Training, accreditation, and contractor certification

- EPA must promulgate regulations for training people who engage in lead-based paint activities, for accrediting training programs, and for certifying contractors. EPA must also set standards for performing lead-abatement activities.
- EPA must develop a model state program for accrediting and

training lead abatement professionals. This program would be adopted by states seeking to administer and enforce a training accreditation program. EPA has already developed model course materials for use in this program. (See information under "Training" on page 16.) EPA is authorized to provide grants to states to develop and carry out this program. EPA must manage accreditation and certification programs in any states that have not adopted this program within two years after final regulations are promulgated. These states will also be ineligible for HUD lead-based abatement grants.

Laboratory programs

- EPA must establish protocols for laboratory analysis of lead in paint, soil, and dust.
- EPA must establish a laboratory accreditation program, as required by the law, for laboratories analyzing lead in paint, dust, and soil. However, if EPA determines that voluntary laboratory accreditation programs are operating effectively, these voluntary programs can substitute for the federally mandated program. EPA expects the National Lead Laboratory Accreditation Program to be operating by summer 1993. The accreditation program has two components. First, laboratories seeking accreditation must participate in the Environmental Lead Proficiency Analytical Testing Program. The proficien-

cy testing program was established by EPA, the National Institute of Occupational Safety and Health, and the American Industrial Hygiene Association. Second, laboratories must undergo on-site audits and meet training and recordkeeping requirements. The audits will be performed by third-party accreditation organizations approved by EPA.

- Every three years, EPA must review how well the mandated laboratory accreditation program and voluntary laboratory accreditation programs are performing.
- EPA must publish a list of accredited laboratories.

Public education

- EPA, working with the Agency for Toxic Substance Disease Registry, the Consumer Product Safety Commission, the Centers for Disease Control, HUD, and the President's Commission on Environmental Quality, must sponsor public education and outreach activities. In April 1993, the National Clearinghouse on Lead Poisoning began full operations. A toll-free hotline to provide information about lead poisoning to the public, the first component of the clearinghouse to begin operations, opened in November 1992.
- EPA, in consultation with HUD and the Department of Health and Human Services, must publish a lead hazard information



pamphlet focusing on lead risks in housing, how to assess and avoid those risks, and recommendations for homeowners and tenants.

- EPA and HUD must promulgate rules for disclosing lead-based paint hazards to buyers and renters of housing built before 1978. This requirement calls for prospective purchasers and renters to be notified of known lead hazards, be given 10 days to have a lead inspection conducted, and be given the lead hazard information pamphlet discussed in the preceding paragraph. The purchasing contract must contain a warning to notify the buyer that the property may contain lead-based paint.

Hazard identification

- EPA must identify hazards from exposure to lead-based paint, lead-contaminated dust, and lead-contaminated soil. To do this, EPA is developing health-based standards for exposure to lead through these media. EPA will base its classifications of hazards from paint on the condition of the paint in the residence. Hazards from dust and soil in and around residential property will be described according to the levels of lead they contain and whether they could pose an adverse health threat to children and pregnant women.

Other EPA activities

The nature of EPA's authority and expertise allowed the agency to

EPA's Overall Lead Program Priorities

The activities that EPA has undertaken since establishing its lead strategy in 1990 include:

1. Eliminating or reducing the most serious past sources or uses of lead, such as lead from gasoline and interior paint.
2. Addressing any serious current uses.
3. Vigorously setting and enforcing current standards.
4. Establishing a system for preventing any undesirable new uses from entering the market.
5. Promoting public education, training, and technical improvements to reduce exposures.
6. Promoting research to better identify, assess, and abate the risks from lead.
7. Assisting state and local governments in developing appropriate infrastructures to deal with lead problems.

pursue a variety of initiatives through its 1991 Strategy for Reducing Lead Exposures. The status of both regulatory and nonregulatory initiatives are described below.

Pollution prevention activities

Lead and lead compounds are among the 17 chemicals addressed in EPA's 33/50 Program. More than 1,000 companies are voluntarily participating in the program, whose goal is to reduce releases and off-site transfers of the chemicals by 50 percent by the end of 1995. The program is measuring progress through reports to the Toxics Release Inventory (TRI). Data from 1988 are being used as the baseline.

TRI data show remarkable declines

in releases and off-site transfers in the four reporting years from 1988 to 1991.

- In 1988, 41,223 pounds of lead were released into the environment. By 1991, lead releases declined to 25,737 pounds, a 37.5 percent reduction.
- In 1988, 30.9 million pounds of lead were transferred off-site for treatment or disposal. By 1991, off-site transfers of lead had declined to 20.7 million pounds, a 33 percent reduction.

To prevent future exposures to lead, EPA is considering regulations to limit or ban current uses of lead if they present an unreasonable risk. The agency is also considering screening new uses of lead.

Lead continued on page 16

Lead Activities

Lead continued from page 15

Regulatory activities

In June 1991, EPA set new standards for concentrations of lead in drinking water. The standards require water systems that regularly serve at least 25 people to monitor their tap water for lead. Systems that serve more than 50,000 people were required to perform two rounds of monitoring—the first round by June 1992 and the second by December 31, 1992. These large water systems were also required to automatically begin using corrosion control treatment, regardless of the monitoring results. Small and medium-sized public water systems were required to complete monitoring by mid-1993. If lead levels in more than 10 percent of the monitored, high-risk household taps exceed 15 parts per billion, the system will have to install optimal corrosion control. Most corrosion control efforts will attain full effect in systems of all sizes by 1997. EPA estimates that the lead and copper rule will result in lowering the blood lead levels of about 600,000 children to an acceptable level.

Initial tests submitted to EPA's Office of Drinking Water showed that 130 of the nation's 660 largest public water systems exceeded the new standard. Many of the public water systems with elevated levels of lead have already begun addressing the problem through public education, use of corrosion-controlling

chemicals, or construction of upgraded water treatment works. States are working directly with several of the systems. EPA has issued administrative orders to 45 public water systems that missed the deadline for monitoring and reporting.

Other regulatory activities are under way. OPPT is considering several options for reducing the amount of lead in brass plumbing fittings. In some circumstances, lead leaching from brass plumbing fittings contributes to elevated blood levels in children.

OPPT is also evaluating ways to eliminate the use of lead solder in drinking water systems. One option OPPT is evaluating is the use of EPA's authority under TSCA to extend the ban on lead solder to private drinking water systems.

In June 1991, EPA concluded a six-month investigation of the risks from disposal of lead acid batteries in landfills and incinerators. EPA's objective was to gather facts to determine whether to pursue rulemaking to encourage battery recycling. However, the investigation showed that risks due to disposal of batteries not already being recycled were small: Stringent federal and state controls on smelters, landfills, and incinerators, and state regulations are already in place, as are state regulations that mandate recycling.

Studies under way

EPA is assessing a number of lead-based paint abatement methods

used by HUD in Denver and Baltimore housing.

OPPT and EPA's Office of Research and Development are evaluating methods for detecting and measuring lead.

OPPT and EPA's Office of Solid Waste have completed a study on whether lead from abatement debris is likely to fall under the definition of hazardous waste contained in the Resource Conservation and Recovery Act (RCRA). If so, the debris—which consists of such materials as windows, doors, moldings, paint chips, plaster, and wash water—must be disposed of according to RCRA regulations.

Training

EPA awarded grants in 1992 to five university-based consortia to set up the national network of regional lead-training centers. The centers will offer professionals standardized training, based on EPA's model course materials, in identifying and controlling lead in residential paint, soil, dust, and water.

Public education

EPA and the National Safety Council are sponsoring a national public service advertising campaign to heighten the public's awareness of the dangers of lead poisoning in children. The campaign includes print, television, and radio ads that will be broadcast throughout the nation. Tipper Gore, wife of Vice President Al Gore, helped launch the campaign

Lead Activities

in May. (For more information about the campaign, see the article on page 13.)

In April 1993, EPA and other federal agencies opened a clearinghouse for dissemination of technical and nontechnical lead-related information, as required by title X. The first component of the clearinghouse, a toll-free hotline, began operating in November 1992. (See information under "Public Education" on page 14.)

EPA published the brochure *Lead Poisoning and Your Children* in 1992. The brochure, which is available in Spanish or English, explains to parents how to reduce children's exposure to lead in the home.

Compliance and implementation activities

EPA is developing a cross-program initiative for ensuring compliance with existing standards for lead in drinking water, air, and soil. In this initiative, the agency plans to concentrate its resources on the geographic areas of the country in which the greatest potential problems exist.

The agency is identifying areas throughout the nation with the highest combined lead concentrations in water, air, and soil. After these areas are identified, EPA will use Census Bureau data to determine the potential levels of population exposures in each area. Based on the cumulative multimedia risk and the potential for popu-

lation exposure, EPA will rank each area for action.

EPA's program offices will coordinate their activities under federal environmental laws to effectively deal with the problems that are found. For instance, if cleaning up the soil at a facility under RCRA will better control lead risk than enforcing Clean Air Act requirements, EPA's program offices may choose to act under RCRA. Multimedia activities will increase the likelihood that the total risk will be mitigated.

Enforcement activities play a large role in this initiative. In 1990, air offices at EPA headquarters and regional offices undertook a comprehensive program to address air risk. The program includes air quality monitoring, federal inspections, and development of regulations for 29 targeted lead smelters. The objective of this approach was to minimize emissions by applying the most stringent requirements under federal laws.

EPA is using many tools

Lead is one of the nation's most toxic multimedia contaminants. To control lead pollution problems in the most effective and efficient way, EPA has engaged in a broad set of activities using various statutory authorities. In addition to traditional regulatory and enforcement programs, EPA offices are involved in nonregulatory activities, including integrated risk management, public educa-

tion, and research.

Among our most important activities are those that will reduce lead poisoning in children. Title X of the Housing and Community Development Act provides EPA with important tools for this. Under title X, the federal government is implementing a comprehensive approach for reducing exposure to lead-based paint in the nation's housing stock. This effort includes training a work force to abate lead, developing an adequate supply of laboratories for analyzing lead-contaminated paint, dust, and soil, developing appropriate lead-abatement methods, and educating the public about the dangers of exposure to lead.

Lead Hotline: Call (800) LEAD-FYI

To receive information about lead poisoning and how it can be prevented, call the U.S. government's information service at (800) LEAD-FYI (532-3394).

Clinton Announces Federal Facilities Will Report to TRI

President Clinton has announced that he plans to sign an executive order requiring federal facilities that manufacture, process, or use toxic chemicals to publicly report their wastes and releases under federal right-to-know laws.

The Emergency Planning and Community Right-to-Know Act (EPCRA) requires EPA to collect data on industry releases and transfers of more than 300 toxic chemicals and 20 chemical categories. The information is compiled in the Toxics Release Inventory (TRI), which is available to the public. EPCRA exempts federal facilities from TRI reporting, although government

facilities that are operated by contractors are required to report.

Speaking at the U.S. Botanical Gardens on Earth Day, President Clinton said he will also ask all federal facilities to voluntarily reduce their releases of toxic pollutants by 50 percent by 1999.

"This will reduce toxic releases, control costs associated with cleanups, and promote clean technologies. And it will help make our government what it should be, a positive example for the rest of the country," President Clinton said.

How to Obtain TRI Data

There are a number of ways to gain access to the Toxics Release Inventory. For information about the forms of access, contact the Emergency Planning and Community Right-to-Know (EPCRA) Hotline, U.S. EPA (OS-120), 401 M Street, Washington, D.C. 20460; telephone, (800) 535-0202 or (703) 412-9877.

SIDS Phase 1 Chemicals Test Data Almost Completed

A base set of data has nearly been completed for 38 chemicals that are produced in large quantities worldwide. The data were developed voluntarily by industry in the 13 nations participating in the Screening Information Data Set (SIDS) program; U.S. industry developed data for nine of the chemicals. The SIDS program is part of the Organization for Economic Cooperation and Development (OECD).

The SIDS program focuses on substances of potential health or environmental concern for which few test data are available publicly and that are manufactured (1) in excess of 1,000 tons a year in two or more OECD member countries or (2) in excess of 10,000 tons a year in one

OECD member country. The SIDS program has identified approximately 600 such substances and has organized testing for these substances in phases. Phase 1 contained the 38 chemicals for which testing is almost completed.

In February 1993, SIDS member countries met in Paris to review Phase 1 findings and to discuss further testing needs and other issues, including pollution prevention. Findings were presented by sponsor nations in Initial Assessment Reports and SIDS profiles.

In March 1993, SIDS member nations met again in Paris to determine testing needs for Phase 2 chemicals. About 60 chemicals will be tested in Phase 2. A meeting to decide testing needs

for 61 Phase 3 chemicals is scheduled for the summer of 1993.

Master Testing List

EPA considers the SIDS program an important component of the agency's overall activity to gather test data. EPA has included all Phase 1, 2, and 3 SIDS chemicals in its Master Testing List. (For information on the Master Testing List, see 57 FR 61240, December 23, 1992.)

For more information

SIDS materials are available for public inspection in the OECD/SIDS administrative record, located in the TSCA Non-Confidential Information Center. For information about using the center, see page 42.

Nations Begin Groundwork for Toxics Emissions Inventory

The United States is working with other countries and the United Nations (U.N.) to develop an international toxics emissions inventory. The need for such a program was a major topic at the U.N. Conference on Environment and Development, held in Rio de Janeiro in June 1992.

In February 1993, a follow-up meeting was held in Alexandria, Virginia. Attending the meeting were environmental officials from the U.N. International Program on Chemical Safety, the U.N. Institute for Training and Research, the World Health Organization, the Organization for Economic Cooperation and Development (OECD), the United States, Australia, the Netherlands, the Slovak Republic, and Canada.

At the meeting, participants agreed that one of the most important steps in establishing an international emissions inventory was persuading other nations—particularly less-developed nations—to take part. To begin to address this, participants decided to develop discussion papers for circulation and to promote the program within their own countries and constituency groups.

In a separate development, the OECD's newly formed Pollution Prevention and Control Group agreed to lead international efforts to develop a guidance document for

The international
community is
moving toward
establishing a
program to make
information
available to the
public.

governments to use in implementing environmentally sound management of toxic chemicals. The group will base its activities on the Rio Earth Summit's *Agenda 21*, which called for (1) the chemical industry to voluntarily adopt right-to-know programs based on international guidelines; (2) governments to consider adoption of right-to-know programs or other programs for providing information to the public; and (3) international organizations to develop a guidance document for establishing right-to-know programs.

Background

In the United States, the Emergency Planning and Community Right-to-Know Act (EPCRA) established the Toxics Release Inventory (TRI) in 1986. Over the past several years, the international community has moved toward establishing an international program for making information about chemical risks available to the public.

EPA's Office of Pollution Prevention and Toxics (OPPT), which collects data for the TRI and makes it available to the public, is representing the United States in the efforts to organize an international emissions inventory.

For more information

To obtain additional information about international right-to-know activities, contact Diane Beal, Special Assistant for International Activities, Office of Pollution Prevention and Toxics (TS-792), U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460; telephone, (202) 260-1822. Or, Eileen Fesco, Environmental Assistance Division (TS-799), U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460; telephone, (202) 260-7232; FAX, (202) 260-2219.

Update of Existing Chemicals Program RM1 and RM2 Activity

EPA's Existing Chemicals Program screens those chemicals currently in production or use to determine their potential health and environmental risks. If potential risks are identified, a further assessment is performed and risk reduction strategies are developed. These activities occur in two distinct stages.

- In the first stage, Risk Management One (RM1), chemicals are screened to identify those that

(1) require additional testing, (2) present potentially significant risk-management concerns, or (3) do not currently require further review.

- In the second stage, Risk Management Two (RM2), chemicals that present significant risk-management concern are further assessed. Strategies to reduce or eliminate the potential risks posed by exposure to these chemicals are developed.

For more information

The Office of Pollution Prevention and Toxics (OPPT), which administers the Existing Chemicals Program, encourages public participation throughout the RM process. RM materials are available from the RM administrative record, located in the TSCA Non-Confidential Information Center. For information about visiting or contacting the center, see page 42.

Risk Management (RM) Activity from October 1, 1992 through December 31, 1992*

Chemical Name	RM1 Activity	RM2 Activity
Benzidine and benzidine congener-based dyes		Developing voluntary agreements to eliminate benzidine and benzidine congener-based dyes from commerce
Disperse blue 79:1	Dropped from RM1 review based on data submitted under TSCA section 4	
Glycol ethers	Added to risk reduction list based on new TSCA 8(e) data	Entered into RM2 queue for assessment
N-methylpyrrolidone		Completed preliminary assessment document
Phosphoric acid waste		Identifying and evaluating possible process changes

* This is the second update of the RM chart. The first update appeared in *Chemicals-in-Progress Bulletin*, Volume 14, No. 1. A chart showing all RM1 and RM2 activity is in *Chemicals-in-Progress Bulletin*, Volume 13, No. 2.

OPPT Issues Status Report on N-methylpyrrolidone

A preliminary analysis of N-methylpyrrolidone (NMP) in paint-stripping products indicates that NMP may present a significant risk of serious or widespread harm to human beings from reproductive toxicity. EPA's Office of Pollution Prevention and Toxics (OPPT) completed the preliminary assessment in March 1993.

OPPT's assessment indicated that risks from the chemical might be greatly reduced by the use of appropriate chemical-resistant gloves. In April 1993, OPPT initiated a stakeholders' dialogue with industry to identify appropriate glove materials and address product labeling and other means of limiting any residual risk.

OPPT evaluating paint cluster

In a January 1993 letter to the Synthetic Organic Chemical Manufacturers Association (SOCMA), OPPT Director Mark A. Greenwood stated that the assessment of NMP is a first step in a broader review of many chemicals used in paint, lacquer, and wax-stripping

products. The "paint-stripping" cluster is now in risk management two (RM2), the second stage of OPPT's review. RM2 focuses on improving understanding about the potential risks from exposure to particular chemicals and on developing strategies to reduce or eliminate the potential risks. The review of the paint-stripping cluster is expected to be completed in mid-1994 and to result in publication of a comprehensive analysis and explanation of the relative risks of all the chemicals in the cluster.

CPSC raised concerns about chemical

The Consumer Product Safety Commission (CPSC) referred NMP to the EPA in the mid-1980s as a testing candidate under section 4 of the Toxic Substances Control Act (TSCA). CPSC was concerned about NMP's use as a substitute for methylene chloride in some paint strippers.

EPA published a proposed test rule in 1990. In 1991, NMP manufacturers filed a study indicating that

rats exposed to the chemical exhibited adverse reproductive effects including reduced fertility. Concerned that users of NMP-based paint strippers might be at risk, OPPT expedited its risk assessment and risk management project. OPPT expressed its concerns about NMP in a letter to the chemical's manufacturers in March 1992. In response to the letters, OPPT received detailed information from industry.

For more information

- A draft preliminary assessment document (file number AR-075) is available from the RM administrative record, located in the TSCA Non-Confidential Information Center. For information on contacting the center, see page 42.
- For additional information, contact Mary Dominiak, Chemical Control Division (TS-794), U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460; telephone, (202) 260-7768; FAX, (202) 260-8168.

EPA Considers Action on Benzidine and Benzidine Congener-Based Dyes

EPA is considering action to control potential risks of cancer from exposure to benzidine and benzidine congener-based dyes. The agency's initial focus will be to develop voluntary agreements with industry to eliminate benzidine

and benzidine congener-based dyes from commerce. The first step in this effort will be holding stakeholders' dialogues with industry, unions, and environmental groups.

EPA is also considering issuing one

or more significant new use rules (SNURs) after voluntary agreements are in place. The SNURs would allow EPA to monitor any future use of the dyes and to control potential risks, if necessary.

EPA Reviews Ethylene-based Glycol Ethers

EPA is reviewing a University of California (U.C.) at Davis study that indicates elevated rates of miscarriages in women in the semiconductor industry might be linked to exposures to ethylene-based glycol ethers. Glycol ethers are used as solvents in semiconductor fabrication and in many other industries, including printing and the manufacture of paints and coatings.

EPA's Office of Pollution Prevention and Toxics (OPPT) received the U.C. Davis study on December 11, 1992. The study was submitted by the Semiconductor Industry Association (SIA), its sponsor, under section 8(e) of the Toxic Substances Control Act (TSCA). OPPT received a second study, sponsored by IBM and performed by Johns Hopkins University, in June 1993. Both studies were prompted by animal testing results and by a smaller epidemiological study, conducted in the 1980s by Digital Equipment Corporation, that indicated glycol ethers caused adverse effects in semiconductor workers.

OPPT will perform an in-depth assessment of the potential risks from exposure to glycol ethers. The assessment and development of options to reduce potential risks from glycol ethers will occur during OPPT's Existing Chemicals Program's Risk Management Two (RM2) process. The RM2 assessment will include analysis of data that OPPT requested from

glycol ether producers and review of the two epidemiological studies. The Existing Chemicals Program is coordinating the assessment with other federal organizations, including the Occupational Health and Safety Administration (OSHA), the National Institute of Occupational Safety and Health (NIOSH), and the Consumer Product Safety Commission (CPSC).

Some caution must be used when assessing recent data: Other chemicals are present in the work environment, and a direct and specific link between glycol ethers and cited adverse effects may not be shown. In addition, EPA's concern is primarily due to the apparent adverse effects at very low levels of inhalation exposure. However, overall exposures in the study populations may have been higher because of combined inhalation exposure and dermal contact.

Background

OSHA had set preliminary permissible exposure limits for some of the glycol ethers in 1971, including ethylene glycol ethoxyethanol (EGEE), ethylene glycol ethoxyethanol acetate (EGEEA), ethylene glycol methoxyethanol (EGME), and its acetate (EGMEA).

EPA first addressed glycol ethers in the mid-1980s, when animal testing demonstrated reproductive and developmental effects

from EGEE, EGEEA, EGME, and EGMEA. In 1986, EPA formally referred these chemicals to OSHA under section 9(a) of TSCA. OSHA responded by initiating a comprehensive rulemaking.

On March 23, 1993, OSHA published the proposed rule in the *Federal Register* to revise the initial permissible exposure limits for EGEE, EGEEA, EGME, and EGMEA. These revisions would make the permissible exposure limits equivalent to NIOSH's recommended exposure limits.

RM1 letters

OPPT screened glycol ethers in its Risk Management One (RM1) process. During that process, OPPT mailed RM1 "letters of concern" to the 14 major known producers of glycol ethers. The letters alerted the producers to the new findings and requested updated information on the uses of and exposures to the chemicals.

Linda Fisher, who was assistant administrator of the Office of Pollution, Prevention, and Toxic Substances (OPPTS), sent a separate letter to the Chemical Manufacturers Association. The letter informed the association of the new study findings and requested that the association and its members develop and implement interim strategies to reduce exposures and manage risks from glycol ethers.

Aerosol Spray Paint Cluster Sent to RM2

A screening-level review of aerosol spray paints has indicated that indoor use of single-use pressurized aerosol spray paint may affect human health. As a result, EPA has placed aerosol spray paints on the list of cases for which risk reduction options will be developed.

Evaluation of aerosol spray paints began as part of OPPT's indoor air cluster project, which focused on obtaining and organizing data on the chemicals contained in consumer and commercial products. Clustering of products used in similar applications allows comparative risk assessments of both existing products and possible substitutes.

The indoor air cluster project identified more than 80 chemicals and chemical classes as constituents of aerosol spray paints. Based on this

information and the inherent exposure potential of the product, aerosol spray paints were placed in Risk Management One (RM1).

RM1 is the first phase of EPA's Existing Chemicals Program review. When potential health and environmental risks are identified during RM1, the chemical or cluster is placed on a risk reduction list. The second phase of the program begins when a chemical is selected from the risk reduction list for Risk Management Two (RM2) review. During RM2, OPPT will identify risk reduction options. Among the options that will be considered are use of safer formulations, chemicals, and alternate technologies. The Existing Chemicals Program is in EPA's Office of Pollution Prevention and Toxics (OPPT).

A market study developed during RM1 screening indicated that 119 million pounds of aerosol spray paints and 350 million aerosol spray can units were produced in the United States in 1987. EPA exposure assessments estimate that, annually, nearly 1 million workers may be exposed to aerosol spray paints in various industries and that about 68.2 million consumers in the United States may use aerosol spray paints.

Health concerns about aerosol spray paints include (1) exposure to toxic volatile chemicals such as methylene chloride, toluene, and propylene oxide and (2) exposure to toxic particulates in overspray such as pigments containing lead, chromium, and other heavy metals.

EPA Considers Amending the TSCA Inventory Update Rule

EPA is considering amending the reporting requirements of the Inventory Update Rule, which requires industry to update information for selected chemicals on the TSCA Chemical Substance Inventory. The changes would become effective in the 1994 reporting year.

The new reporting requirements would allow EPA to establish a Chemical Use Inventory for chemicals distributed in commerce. EPA's Office of Pollution Prevention and Toxics (OPPT) would use the Chemical Use Inventory in its assessment of new and existing chemicals. The inventory would

also be available to the public.

The reporting options OPPT is exploring are

- reporting chemical use data for a limited set of use categories;
- expanding the number of chemical substances for which reporting is required;
- requiring more frequent reporting than the current four-year cycle or requiring more complete reporting each four-year cycle, i.e., reporting on all intervening years of the four-year cycle;
- facilitating reporting by allowing

data transfer on computer tape and other media in addition to hard copy and floppy diskette.

Background

In 1986, EPA promulgated the Inventory Update Rule. The rule requires manufacturers and importers of selected chemical substances that are on the TSCA Chemical Substance Inventory to report current year data on the production volume, plant site, and site-limited status of these substances. The rule, promulgated under the authority of section 8(a) of the Toxic Substances Control Act, requires reporting at four year intervals that began in 1986.

Coalition Agrees to Monitor and Report Worker Exposure to Refractory Ceramic Fibers

TSCA Section 4 Consent Order Signed

Over the next five years, the three largest producers of refractory ceramic fibers (RCF) will monitor and report exposure levels of RCF for workers at every stage of the fibers' life cycle. As the Refractory Ceramic Fibers Coalition, these companies signed a consent order with EPA on May 3, 1993, to perform the monitoring.

Data from the monitoring program will enable EPA to (1) more accurately assess the potential human health risks from RCF and (2) evaluate the efficacy of the coalition's RCF stewardship program.

The three companies that signed the consent order—the Carborundum Company, Premier Refractories and Chemicals, Inc., and Thermal Ceramics, Inc.—have established a RCF stewardship program. The program was developed to help the companies' customers evaluate, control, and reduce workplace exposures to RCF. (See the article on this page.)

Background

RCF is a manmade vitreous fiber mostly used for high-temperature industrial insulation materials in steel, petrochemical, ceramic, and primary metal production. RCF is produced in various forms such as bulk, blankets, and felt.

In 1991, after reviewing animal inhalation data from RCF manufacturers, EPA's Office of Pollution

Prevention and Toxics (OPPT) determined that RCF may present an unreasonable risk of cancer to humans. Based on this finding, OPPT conducted an accelerated review of RCF under section 4(f) of TSCA. OPPT concluded that the data were insufficient for determining whether RCF poses an

unreasonable risk. To fill the information gaps, former EPA Administrator William K. Reilly directed OPPT to begin a regulatory investigation of RCF.

Section 4 of the Toxic Substances Control Act (TSCA) allows EPA to

RCF continued on page 25

EPA Commends Development of RCF Product Stewardship Program

The Refractory Ceramic Fibers Coalition is addressing the cradle-to-grave life cycle of refractory ceramic fibers (RCF) through a product stewardship program. The objective of the program is to evaluate, control, and reduce workplace exposure to RCF.

The coalition is a trade group composed of the three largest producers of RCF: the Carborundum Company, Niagara Falls, New York; Premier Refractories and Chemicals, Inc., King of Prussia, Pennsylvania; and Thermal Ceramics, Inc., Augusta, Georgia. These three companies and a number of their customers have agreed to perform

- health effects research (including animal inhalation studies and a human epidemiological study),
- workplace monitoring,
- studies of workplace controls,
- exposure assessments,
- product research, and
- special studies (e.g., waste generation rates, potential for waste reduction, exposure potential for consumer applications of RCF).

EPA believes that development and implementation of an effective product stewardship program is a significant step toward risk reduction. EPA is particularly encouraged by the Refractory Ceramic Fibers Coalition's continuing commitment to monitor workplace exposures to RCF, and to share information with its members' customers and with EPA.

EPA Plans to Negotiate TSCA Section 4 Consent Orders

Twenty-two testing proposals have been submitted to EPA for 12 chemicals and four chemical categories.

EPA plans to negotiate consent orders for the testing of a number of these chemicals and chemical categories under section 4 of the Toxic Substances Control Act (TSCA).

In 1992, EPA asked chemical manufacturers to submit testing proposals for substances that were the subject of proposed test rules (57 FR 31714, July 17, 1992). In doing so, the agency was seeking a way to make greater use of enforceable consent agreements.

EPA will establish a period for negotiation with each manufacturer.

If negotiations are unsuccessful, the agency will require testing under a rule.

Establishing tiers of chemicals

EPA has evaluated the testing proposals and prioritized them in tiers. EPA has published its decisions on the proposals and its proposed target schedules for initiating negotiations on the first tier of chemical substances (59 FR 16660, March 30, 1993). In the *Federal Register* notice, EPA also asked other interested parties who wish to monitor or participate in negotiations on first-tier chemical substances to identify themselves to EPA. The notice also provided the opportunity

for submission of supplemental information.

EPA will initiate negotiations on the second tier of cases once the first-tier actions are concluded. Solicitation for the second- and lower-tier cases will be published in a later *Federal Register* notice.

Tier I Chemicals

N-methylpyrrolidone (NMP)
Diglycidyl Ether of Bisphenol A
Aryl Phosphates
Cyclohexane

Tier II Chemicals

Phenol
Glycidyl Methacrylate
Silicone-based Glycidyl Ethers

RCF continued from page 24

enter into consent orders for development of data when existing data are insufficient for determining the health or environmental effects of a substance. In September 1992, EPA began section 4 consent order negotiations with the Refractory Ceramic Fibers Coalition, the North American Insulation Manufacturers Association, the RCF Vacuum Formers Association, the Laborers Health and Safety Fund, and other interested parties. During the 10 weeks of negotiations, participants developed workplace and worker sampling schemes, protocols for collecting and analyzing fibers, and provisions for evaluating the resulting data.

Consent order provisions

The main provisions of the final

consent order require that

- the companies collect 320 samples each year from their primary production facilities and 400 samples each year from their customers' facilities;
- these samples are randomly selected and are taken for each activity in the product's life cycle;
- the companies use established protocols to collect and analyze the fiber samples; and
- EPA and the Refractory Ceramic Fibers Coalition meet every six months for the next five years of mandatory testing to present and evaluate data, and if necessary, revise protocols.

EPA supports coalition efforts

EPA will continue to support the

Refractory Ceramic Fibers Coalition's efforts to control and reduce exposure to RCF. The partnership between EPA, RCF producers, and manufacturers using RCF is an excellent example of how industry and EPA can work cooperatively to address risks to human health and the environment.

For more information

For more information, contact Michael Mattheisen, Office of Pollution Prevention and Toxics (TS-798), U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460; telephone, (202) 260-7363; or, William P. Kelly, president, Refractory Ceramic Fibers Coalition, 1133 Connecticut Avenue, Washington, D.C. 20036.

EPA Publishes Proposed Rule for Chlordanil

EPA will publish in the *Federal Register* a proposed significant new use rule (SNUR) under Section 5 of the Toxic Substances Control Act (TSCA) for 2,3,5,6-tetrachloro-2,5-cyclohexadiene-1,4-dione (chlordanil).

The SNUR would require industry to notify EPA at least 90 days prior to the manufacture, import, or processing, for any use, of chlordanil containing certain chlorinated dibenzo-p-dioxins (CDDs) and chlorinated dibenzofurans (CDFs) in total combined amounts greater than 20 parts per billion (ppb). The advance notice required by the SNUR would allow EPA to evaluate the risks from use of chlordanil containing higher CDD and CDF levels. Certain recordkeeping and certification requirements would also apply to manufacturers, importers, and processors of all chlordanil without regard to combined CDD and CDF levels.

The group of chemicals that includes CDDs and CDFs are referred to as halogenated dibenzo-p-dioxins (HDDs) and halogenated dibenzofurans (HDFs). EPA has recognized that HDDs and HDFs have potential public health and environmental significance; the agency has developed a toxicity equivalence procedure which relates these substances to 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD). TCDD has caused cancer in animal test systems and may present a risk of cancer to humans. In some species, animal tests show noncancer effects for TCDD at lower doses than for almost all other chemicals.

In 1992, EPA negotiated agreements with importers and processors to abandon use of chlordanil containing higher CDD and CDF levels. All importers except one agreed to abandon import of this type of chlordanil. The one excep-

tion was a chlordanil importer that later signed a consent agreement with EPA agreeing to discontinue import of chlordanil containing the higher levels of CDDs and CDFs.

All chlordanil processors known to EPA agreed to abandon use of chlordanil containing CDDs and CDFs in combined amounts greater than 20 ppb by September 1, 1992, as long as chlordanil with lower levels of CDD and CDF contamination remains available. Since that date, chlordanil with lower levels of CDD and CDF has been available.

EPA will issue the final SNUR on chlordanil when U.S. stocks of chlordanil with higher levels of CDDs and CDFs are depleted and the agency is satisfied the substance is no longer in use in the United States.

Chemical Manufacturers Association and EPA to Discuss Developing Screening Profiles for 10 TRI Chemicals

The Chemical Manufacturers Association (CMA) has notified EPA that its members are willing to consider completing screening profiles on 10 chemicals from the Toxics Release Inventory (TRI). The CMA will choose the 10 chemicals from a list of 15 provid-

ed by EPA. EPA's Office of Pollution Prevention and Toxics (OPPT) will select the 15 chemicals from a list of 67 high-production, high-release TRI chemicals.

The CMA has asked that an industry-EPA dialogue be established to identify data gaps and address oth-

er testing issues. Once the screening program gets under way, CMA members will develop screening profiles similar to those used by the Organization for Economic Cooperation and Development's Screening Information Data Set (SIDS) program.

EPA Is Replicating Carpet Study

In a preliminary study made public in 1992, a private laboratory found that mice exposed to emissions from some carpets showed severe health problems and died. The study's findings were of serious concern at EPA. The agency is replicating the study, conducted by Anderson Labs, of Dedham, Massachusetts. EPA expects to complete the replication stage of its study by early summer.

Replication of Anderson Labs' study is just one part of the evaluation being conducted by EPA's Office of Research and Development (ORD). ORD will also (1) evaluate the effect of different environmental conditions, such as temperature and humidity, on the study results and (2) conduct tests to identify the contaminants that mice were exposed to during the study. Using this information, EPA will evaluate the extent to which other factors may have contributed to the severe health effects in the exposed mice. Once these factors are better understood, EPA will be able to examine the potential risk from exposure to carpet emissions under normal living and working conditions.

Summary of other activities

In 1988, EPA began receiving complaints that carpet emissions were causing health problems for some people. The agency responded to the public's concern by implementing a policy dialogue involving EPA, industry, unions,

public interest groups, and other federal agencies. Through the dialogue, the carpet industry agreed to test new carpet floor covering materials for total volatile organic chemical emissions and to explore how to lower these emissions. Carpet dialogue participants also wrote a brochure for consumers, *Indoor Air Quality and New Carpet: What You Should Know*. Information about obtaining the brochure, which was published by EPA, is provided at the end of this article. Information about some of EPA's other activities concerning carpets follows.

- In October 1992, Victor J. Kimm, EPA Deputy Assistant Administration for the Office of Prevention, Pesticides, and Toxic Substances testified on EPA's carpet activities before the Senate's Governmental Affairs Committee. In his testimony, Mr. Kimm described the steps EPA is taking to improve indoor air quality. Mr. Kimm also testified before the House of Representatives' Government Operations Committee in April 1993.
- EPA, the Consumer Product Safety Commission (CPSC), and the Federal Trade Commission (FTC) are coordinating their efforts to evaluate how consumers are interpreting the message being conveyed to them by the Carpet and Rug Institute's voluntary Green Tag Program. Carpets qualify to bear the institute's green tag if manufacturers' testing has found

that emissions do not exceed specified levels. Additionally, a point-of-sale brochure provides consumers with information on carpet emissions, the Carpet and Rug Institute's carpet testing program, and guidelines for installing and maintaining carpets.

- EPA and CPSC are working together on various carpet issues through two groups: a federal interagency task force on indoor air and a toxics and consumer products committee.

For more information

Indoor Air Quality and New Carpet: What You Should Know is available by writing to the U.S. Consumer Information Center, Department 620Y, Pueblo, Colorado 81009.

A fact sheet about carpet and indoor air quality, prepared by EPA and CPSC, is available by writing to the U.S. Consumer Information Center or by calling the Indoor Air Quality Information Clearinghouse (IAQ INFO) at (800) 438-4318.

Comments Considered on Proposed Testing Program For Formaldehyde

EPA's Office of Pollution Prevention and Toxics (OPPT) held an informal public meeting on January 28, 1993, to discuss plans for a program to test air quality in newly built conventional and manufactured homes. The proposed testing program would focus on characterizing formaldehyde concentrations in new homes and determining how rapidly these levels decrease over time. EPA proposed the testing with the publication of the 1992 Master Testing List, the agency's chemical testing agenda (57 FR 61240, December 23, 1992).

At the January meeting, OPPT asked industry representatives to indicate within 60 days whether they were willing to conduct a pilot study to resolve technical issues before they implemented a larger and longer-term field study.

More than 60 people attended the meeting, including representatives from industry, government, universities, and public interest groups. EPA is reviewing the oral

comments made by attendees before making a final decision on the testing program.

Key issues

EPA is concerned about the health effects from exposure to elevated levels of formaldehyde. Formaldehyde is emitted by particleboard, hardwood plywood and medium-density fiberboard containing urea-formaldehyde (UF) adhesive resins. Testing is needed to develop data for EPA to assess the need for further federal controls on formaldehyde emissions from UF-pressed wood products. Federal emissions standards were set in 1984 for particleboard and hardwood plywood used in manufactured home construction.

Specifically, EPA wants to use test data to

- characterize likely exposures to formaldehyde in new housing that is constructed with formaldehyde-emitting pressed wood products and

- investigate how rapidly initial formaldehyde levels dissipate in these residential settings.

EPA would also use the data to assess the reasonableness of computer models for estimating residential formaldehyde exposure from pressed wood emissions.

EPA would like industry to conduct the testing voluntarily or under a negotiated consent agreement. However, the agency is willing to require testing under section 4 of the Toxic Substances Control Act (TSCA).

For more information

Comments from the January 1993 public meeting are contained in an administrative record that has been established for this proceeding. The administrative record can be viewed in OPPT's Non-Confidential Information Center. For information about using the center, see page 42.

Reduced Protocols for Cancer Studies Are Acceptable, Panel Says

At a recent cancer bioassay workshop, expert scientists agreed that reduced protocols for carcinogenicity testing of chemicals were acceptable. Their conclusion gives EPA a basis for requiring a less expensive bioassay, when appropriate. Reducing the expense of testing makes it

more likely that industry will agree to carry out cancer studies.

In September 1992, the cancer bioassay workshop convened a group of expert scientists to evaluate the technical adequacy of the inter-species and inter-sex correlation analyses of chemicals in rodent

carcinogen databases conducted by EPA's Office of Pollution Prevention and Toxics (OPPT) and other investigators. Of particular importance was the examination of the possible redundancy of the full-scale protocol and the possible use of reduced protocols for testing

Cancer continued on page 29

Cancer continued from page 28

chemical carcinogenicity. The full-scale protocol requires testing of two sexes of two species of rodents, or four groups altogether.

The advantages and disadvantages of reduced protocols were discussed by the expert panel and about 60 other participants from other government agencies, industry, and academia. The expert panel concluded that

- given the criteria for identifying a carcinogen, a reduced protocol (e.g., using male rats and female mice) is acceptable, especially if it facilitates the screening of greater numbers of untested chemicals;
- the small number of rodent car-

cinogens missed by the reduced protocol (but identified by the full-scale protocol) are probably of less concern to humans than those identified by the reduced protocol since they are mostly single species, single site, and nongenotoxic carcinogens; and

- quantitative estimates of cancer risk should not change appreciably using the reduced protocol since the cancer potency of carcinogens based on the reduced protocol is close to that based on the full-scale protocol.

The workshop was sponsored by OPPT and the National Toxicology Program, which is part of the

National Institute of Environmental Health Sciences.

For more information

A final report on the workshop will be published in the journal *Environmental Health Perspectives* later this year. The report will include a summary report of the workshop, the papers presented by invited speakers, and a synopsis of comments and recommendations made by the expert panel of the workshop.

For information on the workshop, contact David Lai, Health and Environmental Review Division (TS-796), U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460; telephone, (202) 260-6222.

Workshop Held for Assessing Potential of Chemicals to Induce Respiratory Allergic Reactions

Scientists from academia, industry, and several EPA offices met in October 1992 to evaluate the efficacy of experimental test methods in detecting potential pulmonary allergies.

The scientists, who were experts in pulmonary hypersensitivity, immunotoxicology, and allergy, pulmonary physiology, and regulatory toxicology, concluded that the mouse local lymph node assay (LLNA) is the most promising test for screening chemicals. The LLNA shows good sensitivity and selectivity and is relatively low-cost. The test, however, requires further validation to assess its abil-

ity to distinguish between contact and respiratory sensitizers and to determine the relative potency of chemicals.

Four other tests were also evaluated and eliminated: structure-activity relationships (SAR), skin testing, repeated intratracheal challenge of guinea pigs, and inhalation challenge of guinea pigs. Workshop participants found two of these tests useful but eliminated them for various reasons: the inhalation challenge of guinea pigs was found to be too expensive for use in screening and the repeated intratracheal challenge of guinea pigs was found to cause pulmonary

toxicity. The SAR and skin tests were eliminated due to poor predictability and lack of data.

Workshop participants also discussed the tests that are available now for hypersensitivity, when to use these tests, and what validation efforts are needed to make hypersensitivity tests for chemicals more accurate and cost effective.

For more information

To obtain more information, contact Mary Henry, Health and Environmental Review Division (TS-796), U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460; telephone, (202) 260-1301.

ITC Designates Chemicals for Skin Absorption Testing

In its 31st and 32nd reports, the Toxic Substances Control Act (TSCA) Interagency Testing Committee (ITC) designated 58 chemicals for skin absorption testing. The Occupational Safety and Health Administration (OSHA), which referred the chemicals to the ITC for testing, believes the skin may be an important route of exposure to the chemicals. OSHA will use the test data to determine whether workers who handle the substances require more protection.

In September 1991, OSHA asked the ITC to evaluate the need for dermal absorption testing for 658 chemicals. The ITC has completed review of 99 of the chemicals. Designation of 58 of these chemicals starts a 12-month period in which TSCA requires EPA to act to begin rulemaking to test the chemicals

or publish its reasons for not doing so in the Federal Register.

Development of dermal absorption data

Scientists from OSHA, EPA, the Food and Drug Administration, the National Institute for Occupational Safety and Health, and the Consumer Product Safety Commission have developed a new guideline to test skin absorption.

The test protocol provides permeability constants and short-term absorption rates. It minimizes the use of animals by using skin samples from animals or people, a procedure pioneered by FDA. During the procedure, the chemical is applied to a piece of skin held in a flow-through cell. Tests are run to determine how much of the chemical passed through the skin and at what rate.

When using skin samples, the chemical being tested can usually be distinguished from other compounds that are present without using radioactive compounds. In the past, radioactive chemicals were necessary to detect the compounds being tested from other compounds already in animals. Not using radioactive compounds will avoid laboratory staff exposure to radioactive materials and obviate the need for disposal of radioactive materials.

For information about the draft protocol

The draft protocol for skin absorption testing is available from John D. Walker, ITC executive director, Office of Pollution Prevention and Toxics (TS-792), U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460; telephone, (202) 260-1820.

OSHA chemicals designated for dermal absorption testing in the 31st ITC Report

Chemical abstract number	Chemical name	Chemical abstract number	Chemical name
60-29-7	Ethyl ether	108-87-2	Methylcyclohexane
75-65-0	<i>tert</i> -Butyl alcohol	109-66-0	Pentane
76-22-2	Camphor	110-83-8	Cyclohexene
78-92-2	<i>sec</i> -Butyl alcohol	111-84-2	Nonane
79-20-9	Methyl acetate	123-92-2	Isoamyl acetate
97-77-8	Disulfiram	142-82-5	<i>n</i> -Heptane
100-25-4	<i>p</i> -Dinitrobenzene	287-92-3	Cyclopentane

Chart continued on page 31

OSHA chemicals designated for dermal absorption testing in the 31st ITC Report, cont'd.

Chemical abstract number	Chemical name	Chemical abstract number	Chemical name
105-46-4	<i>sec</i> -Butyl acetate	532-27-4	α -Chloroacetophenone
106-42-3	<i>p</i> -Xylene	540-88-5	<i>tert</i> -Butyl acetate
107-31-3	Methyl formate	628-63-7	<i>n</i> -Amyl acetate
107-66-4	Dibutyl phosphate	7631-90-5	Sodium bisulfite
108-03-2	1-Nitropropane	7681-57-4	Sodium metabisulfite

OSHA chemicals designated for dermal absorption testing in the 32nd ITC Report

Chemical abstract number	Chemical name	Chemical abstract number	Chemical name
61-82-5	Amitrole	100-44-7	Benzyl chloride
74-96-4	Ethyl bromide	100-63-0	Phenylhydrazine
75-15-0	Carbon disulfide	106-49-0	<i>p</i> -Toluidine
75-25-2	Bromoform	108-44-1	<i>m</i> -Toluidine
75-34-3	1,1-Dichloroethane	108-90-7	Chlorobenzene
77-78-1	Dimethyl sulfate	109-99-9	Tetrahydrofuran
79-46-9	2-Nitropropane	121-14-2	2,4-Dinitrotoluene
80-62-6	Methyl methacrylate	122-39-4	Diphenylamine
84-66-2	Diethyl phthalate	126-99-8	<i>beta</i> -Chloroprene
88-72-2	<i>o</i> -Nitrotoluene	150-76-5	<i>p</i> -Methoxyphenol
89-72-5	<i>o-sec</i> -Butylphenol	528-29-0	<i>o</i> -Dinitrobenzene
90-04-0	<i>o</i> -Anisidine	540-59-0	1,2-Dichloroethylene
95-13-6	Indene	626-17-5	<i>m</i> -Phthalodinitrile
95-49-8	<i>o</i> -Chlorotoluene	768-52-5	<i>N</i> -Isopropylaniline
99-65-0	<i>m</i> -Dinitrobenzene	1300-73-8	Xylidine
100-00-5	<i>p</i> -Nitrochlorobenzene	6423-43-4	Propylene glycol dinitrate
100-01-6	<i>p</i> -Nitroaniline	25013-15-4	Vinyl toluene

Pollution Prevention in New Chemicals Decision Making

The case studies discussed below illustrate how EPA's New Chemicals Program has incorporated the pollution prevention ethic into regulatory decision making. EPA's Office of Pollution Prevention and Toxics (OPPT), which administers the program, hopes these examples will encourage companies that produce new chemicals to consider source reduction and recycling measures in the early stages of synthesis and process development.

Case 1: Source Reduction Improves Yield. The chemical that was substituted for premanufacture notice (PMN) review was a waste byproduct of an existing process. The submitter added a processing step to isolate this byproduct and react it to improve the yield of the existing process by 6 percent. While a large fraction of the original byproduct still required disposal, the agency recognized that significant source reduction was attainable. The submitter provided quantitative estimates of all relevant stream flows.

This example is particularly dramatic in that the PMN chemical generated moderate concerns for human health, serious concerns for ecotoxicity, and had a large production volume. Generally, OPPT will consider negotiating a consent order under section 5(e) of the Toxic Substances Control Act (TSCA) when these concerns are present. Through consent orders, OPPT limits the conditions under which a new chemical can be manufactured. However, in this case, source reduction mitigated human

exposures and environmental releases, so a consent order was not necessary.

Case studies show how pollution prevention has been incorporated into PMN review.

Case 2: A Nonisolated Intermediate. Nonisolated intermediates are exempt from PMN review. However, this submitter found that isolating an intermediate chemical reduced the purification and waste disposal necessary for production of the final product. In this situation, source reduction was achieved downstream of the final product and thus, was only indirectly linked to isolating the intermediate.

After each manufacturing campaign, the company proposed storing excess quantities of the PMN substance for recycling in subsequent manufacturing campaigns. OPPT determined this might present an unreasonable risk to the environment. OPPT proposed a TSCA section 5(e) consent order to legally obligate the company to

(1) perform the recycling and (2) limit the quantity of the PMN substance that could be released. The section 5(e) consent order also identified the testing that would be necessary to eliminate the release control requirement. In acknowledgement of the source reduction benefits achieved by the company, however, the section 5(e) consent order did not require toxicity testing at a specified production volume.

Case 3: Toxic Use Reduction. The PMN chemical was a monomer and a clear substitute for three other chemicals that the agency felt were substantially more toxic to human health. Since the exposures were comparable, OPPT concluded that use of the PMN chemical resulted in risk reduction and dropped the case from regulatory consideration.

Case 4: Moving up the Pollution Prevention Hierarchy. The engineering assessment for this new chemical included a large filter cake laden with the PMN chemical. The submitter intended to dispose of the filter cake in a landfill governed by the Resource Conservation and Recovery Act (RCRA). To address OPPT concerns, the submitter was willing to test wash the filter cake. However, during section 5(e) consent order negotiations with OPPT, the submitter developed a plan for (1) incorporating the filter cake in the marketed product and (2) testing customer acceptance of the product. In case the customer acceptance tests failed, the section

5(e) consent order included a requirement for filter cake solvent washing. However, washing would merely substitute the PMN chemical with a slightly less toxic solvent; it would not reduce the amount of waste generated. In view of this, the section 5(e) consent order also required landfill fate testing.

If the solvent wash step and data from fate testing do not mitigate OPPT's concerns, certain toxicity testing would be required. Pending development of these data, the section 5(e) consent order would limit releases of the PMN substance to water and would limit the company to disposal of the substance by incineration or in a RCRA landfill.

Case 5: Pollution Prevention Plan. OPPT recently received a PMN with a large production volume and serious concerns for ecotoxicity. It is possible that the submitter can demonstrate that on-site carbon bed treatment would mitigate OPPT's concerns. However, the carbon bed effluent is to be directly discharged to surface waters; no publicly-owned treatment works (POTW) is available for backup treatment. As an alternative to wastewater treatment, OPPT is requesting a pollution prevention plan from the submitter. This will encourage the submitter to explore whether any potential process modifications would adequately reduce the quantity of the PMN substance released to the environment.

Some Consent Orders to Require Notification of State Water Authorities

EPA is proposing to include a new provision in some consent orders issued under section 5(e) of the Toxic Substances Control Act (TSCA). The new provision would require the company entering into the consent order to notify state water authorities prior to releasing the regulated chemical substance into waters within the state's jurisdiction.

EPA's New Chemicals Program plans to include the provision in section 5(e) consent orders when EPA determines that unregulated discharge of a new chemical substance may present unreasonable risk of injury to aquatic environments.

Environmental experts at the state level worked with EPA regional and headquarters staff to shape the new provision. The groups were brought together by FOSTTA—the Forum on State and Tribal Toxics Action—to work on many environmental issues, including new chemical policy. FOSTTA was organized to provide a way for officials at all levels of government to address toxics-related issues.

Requirements of new provision

The section 5(e) consent order will require the company signing it to provide written notification to (1) state authorities regulating point source discharges in the states in which the new chemical substance or its wastes will be released or

discharged and to (2) the EPA regional office that has jurisdiction over the waters in which the new chemical substance or its wastes will be released.

The section 5(e) consent order will also require the company to provide certain information to the appropriate state and federal authorities before selling or transferring the new chemical substance.

Background on section 5(e) consent orders

Any person who plans to manufacture or import a new chemical substance is required to provide EPA with a premanufacture notice (PMN) prior to beginning the activity. If the New Chemicals Program determines that the new substance may pose an unreasonable risk to human health or to the environment, EPA is authorized by TSCA section 5(e) to enter into a consent order permitting the submitter to manufacture or import the new substance under specified conditions. The Office of Pollution Prevention and Toxics administers the New Chemicals Program.

For more information

For further information about the new section 5(e) consent order provision, contact Heidi Siegelbaum, Chemical Control Division (TS-794), U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460; telephone, (202) 260-8262; FAX, (202) 260-0118.

PMN Forms Can Now Be Prepared on Computers

EPA has approved the use of several software packages for duplicating premanufacture notice (PMN) forms that are submitted to the agency for new chemical review. Working on computers to prepare PMNs, rather than filling out paper forms, is expected to save submitters' time.

EPA has approved software packages for use on personal computers and Macintosh computers. Among these packages are Wordperfect Windows, Microsoft Word, and Smartform.

Prior to being put into use, computerized PMN forms must be submitted for approval to EPA's Office of Pollution Prevention and Toxics.

To obtain approval of a computerized PMN form, submit the form to the Document Processing Center (TS-790), EPA, 401 M Street, S.W., Washington, D.C. 20460, ATTENTION: Computerized PMN Form.

The Chemical Manufacturers Association has submitted a computerized PMN form to OPPT and has received approval for its use. To obtain a copy of the form, contact Charles Walton, Chemical Manufacturers Association, 2501 M Street, N.W., Washington, D.C. 20037; telephone, (202) 887-1365.

For more information

- For information about preparing or submitting a computerized

PMN form, contact Tony Cheatham, Information Management Division (TS-798), 401 M Street, S.W., Washington, D.C. 20460; telephone, (202) 260-1553.

- See the amendments to the PMN rule, section 720.40 of 58 FR 7675, February 8, 1993, which discusses the process for seeking EPA's approval to use a computerized PMN form.
- To view comments submitted to EPA on the use of computerized PMN forms, contact the TSCA Non-Confidential Information Center. For information on contacting the center, see page 42.

Biotechnology Conference Held

A biotechnology conference was held on June 8 and 9, 1993, in Washington, D.C. The Keystone Center, a nonprofit science, educational, and public policy organization, sponsored the conference with a grant from EPA.

The conference provided a forum for exchanging information about development of new products and for discussing scientific and public policy issues that these new products may present. Participants were from all sectors of the biotechnology community: biotechnology companies, federal and state regulatory agencies, universities, the environmental community, EPA headquarters, and EPA regional offices.

In the next five to 10 years, EPA expects industry to develop many new biotechnology products that will be subject to the Toxic Substances Control Act (TSCA). New biotechnology products are expected to fall into three broad categories: (1) bioremediation products for cleaning up toxic chemicals in the environment; (2) specialty chemicals, such as enzymes; and (3) diagnostic kits for testing contaminants in soil and, ground water.

EPA's biotechnology program is part of the New Chemicals Program, in the Office of Pollution Prevention and Toxics (OPPT). The OPPT biotechnology program focuses on intergeneric microorgan-

isms, which are those microorganisms that are modified to contain genetic material from different genera.

For more information

- To obtain a summary report from the conference, contact David Giamporcaro, Chemical Control Division (TS-794), U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460; telephone, (202) 260-6362.
- To obtain the brochure *EPA's Biotechnology Oversight Program under the Toxic Substances Control Act*, contact the TSCA Assistance Information Service (TSCA hotline). See page 43 for information on contacting the hotline.

Categories Provide Guidelines for Premanufacture Notice Submitters

Because EPA receives few premanufacture notice (PMN) submissions that contain data on health or environmental effects of the substance, the agency relies on structural analogues for information about the potential toxicity of the PMN substance. In 1988, EPA's Office of Pollution Prevention and Toxics (OPPT) began to group PMN chemicals with shared properties into categories. OPPT's New Chemicals Program then identified potential health and environmental concerns for the substances in each category and made this information publicly available.

Establishing these categories has streamlined the process for reviewing new chemical substances: As soon as a new substance is identified as being a member of a category, the *New Chemicals Program* begins addressing the potential health or environmental concerns identified for that category.

If the New Chemicals Program concludes that the new substance may pose an unreasonable risk to human health or the environment, testing and restrictions may be required. However, the list of categories is not comprehensive. Submitters should be aware that the

Chemical Categories

Category	Type of Concern	
	Health	Environment
Acid Chlorides		X
Acid Dyes		X
Acrylamides	X	X
Acrylates/Methacrylates	X	X
Aliphatic Amines		X
Alkoxysilanes	X	X
Aminobenzothiazole Azo Dyes	X	X
Amphoteric Dyes		X
Anhydrides, Carboxylic Acid		X
Anilines		X
Anionic Surfactants		X
Benzotriazoles		X
Borates		X
Cationic Dyes		X
Cationic (quaternary ammonium) surfactants		X
Dianilines		X
Diazoniums		X
Dithiocarbamates		X
Epoxides	X	X
Esters		X
Ethylene Glycol Ethers	X	
Hydrazines and Related Compounds	X	X
Hindered Amines	X	
Imides		X
Isocyanates	X	
β -Naphthylamines, Monosulfonated	X	
Neutral Organics		X
Nickel Compounds	X	X
Nonionic Surfactants		X
Peroxides	X	
Phenols		X
Polyanionic Polymers (& Monomers)		X
Polycationic Polymers		X
Polynitroaromatics		X
Stilbene, derivatives of		
4,4-bis(triazin-2-ylamino)-Substituted Triazines	X	X
Vinyl Esters	X	
Vinyl Sulfones	X	
Soluble complexes of Zinc		X
Zirconium Compounds		X

Categories continued on page 36

New Chemicals Program

Categories continued from page 35

New Chemicals Program may require additional testing or restrictions on substances that fall outside of recognized categories.

A guide for submitters

EPA encourages companies that are submitting PMNs for new chemical substances to consult the list of categories. The information provided about each category may help the submitter to identify EPA's concerns about a new substance. For each category, the New Chemicals Program provides (1) a description of the category, (2) the basic chemical group that has raised concern, (3) typical testing requirements, and (4) boundaries of health and environmental concerns—e.g., carbon chain length, molecular weight, or octanol/water coefficient. The boundaries for these category

concerns tend to be broad, especially for environmental effects, which are often described as being from low to high toxicity. The New Chemicals Program uses test data that are available to EPA or in public literature to establish these boundaries. As the program acquires more data on PMN substances or structurally related compounds, it is able to further define category boundaries and gain more insight into the categories.

Working toward development of safer chemicals

The New Chemicals Program has established 40 categories thus far. This is a dynamic process. As part of the program's efforts to encourage development of safer chemicals, OPPT is continuing to (1) develop new categories, (2) refine the definitions and properties of existing categories, and (3) engage

in dialogue with PMN submitters. Periodically, OPPT also sends detailed summaries of chemical category definitions, hazard concerns, boundaries, and testing recommendations to the Chemical Manufacturers Association and the Synthetic Organic Chemicals Manufacturers Association.

For more information

- Detailed summaries of the chemical categories are available from the TSCA Assistance Information Service (TSCA hotline). See page 43 for information on contacting the hotline.
- For information about the chemical categories, contact Ken Moss, Chemical Control Division (TS-794), U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460; telephone, (202) 260-3725.

TSCA PMN Rule Amendments Are Published

EPA has published for public comment four proposed amendments to new chemical rules (58 FR 7646-7701, February 8, 1993). The rules that would be affected are the pre-manufacture notice (PMN) rule, the polymer and low-volume exemption rules, and the generic significant new use rule (SNUR).

The proposed amendments would reduce the number of lower-risk substances requiring full PMN review. For EPA, the shorter period would allow the New Chemicals Program to concentrate limited resources on identifying and controlling those chemical substances most likely to

present an unreasonable risk of injury to health and the environment.

For industry, a shorter PMN review would (1) reduce the costs and time required for development of substances and (2) increase industry flexibility in responding to the market.

To view comments

EPA held a public hearing on the proposed rules on April 26 and 27, 1993. It also solicited written comments. The public can view the comments in the TSCA Non-Confidential Information Center. For information on the center, see page 42.

For more information

A copy of the *Federal Register* notice is available three ways.

- By calling the TSCA Assistance Information Service (TSCA hotline). See page 43.
- By accessing the Federal Bulletin Board electronic file in Postscript, Wordperfect, and ASCII. The number to dial on a modem is (202) 512-1387.
- By calling the U.S. Government Printing Office Electronic Information Dissemination Services at (202) 512-1530 to obtain a diskette containing the notice.

OPPT to Ask Industry to Voluntarily Provide Information About Environmental Hazards to Customers

EPA is beginning a program to encourage chemical manufacturers to provide information about their products' environmental hazards to the companies and people who will use them. The program's objective is to prevent pollution and reduce environmental risks by fully informing chemical users who want to be environmentally responsible when selecting, handling, using, storing, and disposing of chemicals.

EPA is also participating in international efforts to develop standard criteria for assessing chemical hazards and communicating them to chemical users. This would assure participating nations that imported products meet agreed-on criteria and would ease the number of regulations that companies in the international marketplace must meet.

Voluntary three-part program

EPA's Office of Pollution Prevention and Toxics (OPPT) is structuring the program around three activities.

1. OPPT plans to publish a discussion guide to identify the underlying principles of communicating environmental hazard information.
2. OPPT will hold a series of public meetings to discuss concepts and methods of communicating the information and to lay the groundwork for voluntary implementation of the program.
3. OPPT will standardize the environmental toxicity and fate criteria used to categorize chemicals according to their ecological hazards.

Background

Chemical companies make information about the human health hazards posed by their products broadly available through labeling and material safety data sheets. Environmental hazards are not as well communicated. The reason for this is that environmental toxicity testing is very new and environmental toxicity and fate data have not been assembled for many chemicals. However, companies have not consistently disseminated information on potential environmental hazards in cases where potential environmental hazards have been identified.

EPA believes that environmental hazard information should be provided to chemical users as it is developed and that a clear distinction should be drawn between chemicals that do not pose a hazard and chemicals for which hazard data are unavailable.

Communicating environmental hazard information

Several issues must be considered in providing effective environmental hazard information to chemical users. One issue is the complexity of environmental hazard information, which often consists of highly

technical toxicological data.

Another issue is how information should be presented. Possible formats include labels that instruct consumers on proper chemical use and disposal, material safety data sheets, brochures, and advisories. There is also the issue of defining who will use the information. For instance, technical data may suit large companies and sophisticated industries, but other companies and most consumers might prefer simple cautionary language or color- or number-coded symbols. Furthermore, different use and disposal warnings may be required for different states, counties, or municipalities.

The discussion guide raises these issues. OPPT intends to follow publication of the guide with a public meeting in the late summer or early fall of 1993.

How the program will fit into other OPPT activities

OPPT's Existing Chemicals Program screens chemicals currently in use to identify potential hazards. OPPT employs objective screening criteria to determine the degree of hazard posed by various chemicals. Using these criteria, OPPT identifies chemicals that may present risks that EPA should address.

Existing chemicals that are identified as potential risks enter OPPT's

Hazards continued on page 38

Hazards continued from page 37

risk management (RM) process.

During the RM process, the chemicals are assessed, and strategies for reducing risk are investigated and implemented. The risk management strategy could include environmental hazard communications.

Many of the criteria OPPT uses to screen chemicals are based on human health concerns. Adding criteria for environmental toxicity and environmental fate would allow OPPT to screen chemicals simultaneously for both human health and ecological hazards. This is important because some chemicals may be more toxic to fish, birds, or wildlife than they are to human beings. The hazard may be particularly great for toxic chemicals that persist in the environment or accumulate in living organisms.

For more information

- OPPT anticipates publishing the discussion paper in the summer of 1993, with the first public discussion meetings to be scheduled in late summer or early fall. Notice of the availability of the discussion paper will appear in the *Federal Register*.
- To obtain more information about the environmental hazard communications program, contact Mary Dominiak, Chemical Control Division (TS-794), U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460; telephone, (202) 260-7768; FAX, (202) 260-8168.

OPPT Programs Affected by FY '93 Budget

Congress directed EPA to spend \$110 million of its fiscal 1993 base extramural funds on congressional priorities. To accomplish this, EPA is reducing programs in the Office of Pollution Prevention and Toxics (OPPT) and other parts of the agency.

OPPT received \$39.1 million—\$11.6 million less than requested—in base extramural funds, which cover spending for contracts and grants. The reduction affects only contract funds; Congress recommended that state and local grants be exempted from cuts.

To operate within its budget, OPPT is postponing implementation of new policy initiatives, reducing some base programs, and delaying development of new scientific tools. It is impractical to provide a full accounting of OPPT program cuts; however, a few examples of how OPPT's program will be affected are listed here.

- OPPT is delaying the start of a program to stimulate development of chemicals that are safer alternatives to chemicals currently in commerce.
- OPPT is deleting two years of Toxics Release Inventory (TRI) data from the National Library of Medicine's TOXNET (the reporting years for which data

will be deleted have not been decided). OPPT will have fewer resources available to enter TRI data corrections.

- OPPT has fewer resources available to screen and assess chemicals in its Existing Chemicals Program's risk management program.
- OPPT is delaying use of an optical scanning system for screening incoming premanufacture notices (PMNs).

Increased funding for priority programs

Some OPPT programs received increases in funds. Congressional add-ons were provided for lead abatement activities, asbestos worker training, pollution prevention initiatives, and the asbestos loan and grant program. In addition, the EPA administrator provided additional funds for two of the agency's priority programs administered by OPPT: (1) lead activities related to implementation of Title X of the Residential Lead-based Paint Hazard Reduction Act of 1992 and (2) implementation of the Design for the Environment program.

Fiscal 1993 will end on September 30. EPA's fiscal 1994 budget is currently being considered by Congress.

OPPTS Issues Final Recommendations for Inspector Training

TSCA, EPCRA, FIFRA Inspectors Would Be Affected

The Office of Prevention, Pesticides, and Toxic Substances (OPPTS) has proposed a new training plan for inspectors who investigate compliance with

- the Toxic Substances Control Act (TSCA),
- section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA), and
- the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

The training plan is contained in the *Final Report on the Recommendations of the OPPTS Inspector Training Strategy Group*, which was issued by OPPTS's Office of Compliance Monitoring on March 29, 1993. The inspectors who will be affected by the new training plan are employed by EPA and work in the agency's regional offices or for states or Indian tribes that have received cooperative enforcement agreement funds from EPA. In developing the training plan, the Office of Compliance Monitoring received input from nine EPA regional offices and 43 states.

Summary of training recommendations

Inspector training is provided by EPA headquarters and regional offices. In making the training recommendations, the Office of

Compliance Monitoring is seeking to standardize the training received by inspectors. The plan recommends three curricula for introductory, advanced technical, and advanced professional inspector training. In addition, the plan also emphasizes program-specific training.

The plan
recommends three
curricula for
introductory,
advanced
technical, and
advanced
professional
inspector training.

Currently, new inspectors complete a basic inspector training course, basic health and safety training, and program-specific self-study modules. The training plan recommends that new inspectors also participate in (1) on-the-job and developmental training

and (2) courses developed specifically for TSCA, FIFRA, and section 313 of EPCRA.

The program-specific training recommended by the report for all TSCA, EPCRA, and FIFRA inspectors is intended to (1) better prepare new inspectors for their work and (2) provide additional technical and professional training for experienced inspectors. The report does not recommend certifying or accrediting inspectors.

After inspectors complete basic training, the report recommends they receive advanced technical training for complex, difficult, or new components of inspections, and then, advanced professional training focusing on such areas as risk communications, negotiations, and administrative hearings.

The report recommends that training be developed and put into place over three years. New courses and training materials are expected to be in use by the end of 1995.

For more information

Copies of the *Final Report on the Recommendations of the OPPTS Inspector Training Strategy Group* are available from Philip Milton, Compliance Division (EN-342), Office of Compliance Monitoring, U.S. EPA, 410 M Street, S.W., Washington, D.C. 20460; telephone, (202) 260-8598.

Four Jailed for Illegal Disposal of PCBs

Weaver Electric Pleads Guilty to Violations

Four people were incarcerated for illegally disposing of polychlorinated biphenyls (PCBs) at a Colorado horse ranch and in some trailers in Texas. The PCBs came from Weaver Electric Company, which was fined \$200,000 for its role in the case.

Weaver Electric buys, refurbishes, and sells used electric equipment. In this business, Weaver Electric accumulated transformers and capacitors, which contain PCBs, and PCB-containing liquids. In 1988, Larry Pizer, president of Weaver Electric, directed plant manager Clayton Regier to ask the owners of a nearby horse ranch to remove PCBs from the company's Denver plant. Ranch owners Michael and Martha Slusser agreed to do so and hired a salvage operator to transport about 576 capacitors and 176 55-gallon drums of PCB liquids to their ranch. Mr. Pizer directed Mr. Regier to remove the drums' PCB markings prior to their transport.

The salvage operator and Mr. Slusser buried the capacitors on the ranch. The drums, which contained liquids with PCB concentrations of 500 parts per million or more, were stored for a time in a barn with a dirt floor. Some of the liquids spilled and leaked onto the ground. Later, Mrs. Slusser arranged for the drums to be transported to El Paso, Texas, where they were left in trailers at two sites.

Wrongdoing uncovered

These activities were uncovered by an EPA investigation begun after an employee of Weaver Electric revealed the company had submitted false reports to the agency about disposal of PCBs.

In July 1990, EPA's regional office in Denver began removing the PCBs and remediating the ranch site. In October 1990, EPA's regional office in Dallas, Texas, started cleaning up one of the trailer sites. EPA has spent almost \$1 million on the cleanups.

As a result of EPA's investigation into Weaver Electric's illegal handling of PCBs, the federal government in 1989 suspended Mr. Pizer and Weaver Electric from submitting bids for federal government surplus equipment. The company had purchased about 20 percent of its electrical equipment for refurbishing and resale from the federal government. In 1990, however, Weaver Electric, under Mr. Pizer's direction, bid for equipment using the name of a fictitious company. Weaver Electric was successful in purchasing surplus equipment in this way on two occasions.

Guilty pleas entered

This case involved violations of PCB regulations under the Toxic Substances Control Act (TSCA) and reporting violations under the Comprehensive Environmental Response, Compensation, and Lia-

bility Act (CERCLA). TSCA requires that PCBs be disposed of properly. CERCLA requires that the release of PCBs into the environment be reported to the government.

On November 6, 1992, in the U.S. District Court in Colorado, all the defendants pleaded guilty to charges of illegally disposing of PCBs. Michael Slusser also pleaded guilty to failure to report the release of a hazardous substance. Clayton Regier and Weaver Electric pleaded guilty to failure to mark PCB containers and capacitors. Weaver Electric also pleaded guilty to making false statements and creating a false document for the purpose of defrauding the United States. Weaver Electric president Larry Pizer died before the case went to court. The other defendants' sentences follow.

- Plant manager Clayton Regier and salvage operator Bud Rupe were each sentenced to five months in a federal institution and one year of supervised release, of which they will each spend five months in electronically monitored home detention. The defendants were also ordered to each pay \$5,000 to EPA's Superfund Fund for the costs incurred in the PCB cleanups.
- Ranch owner Martha Slusser received two sentences of 90

PCBs continued on page 43

TSCA Section 8(e) Notices

Under section 8(e) of the Toxic Substances Control Act (TSCA), anyone who obtains information that indicates a chemical may pose a substantial risk of injury to human health or to the environment must report that information to EPA within 15 working days of obtaining it.

From October 1991 to April 1993, about 7,300 TSCA section 8(e) notices were submitted to EPA's Office of Pollution Prevention and Toxics (OPPT). Six hundred of these notices were regular section 8(e) notices; 6,700 were submitted by companies participating in EPA's Compliance Audit Program (CAP).

EPA screens CAP submissions

CAP was a one-time, voluntary program that encouraged companies to audit their files for information required by TSCA section 8(e). CAP provided greatly reduced monetary penalties for companies that submitted studies they should have provided earlier to EPA under TSCA section 8(e).

OPPT screens CAP submissions and assigns a level of hazard concern to

each study. The results of this initial screening are shown in the accompanying table. This ranking will be used with other factors, such as exposure potential and regulatory status, to set priorities for further assessment and outreach activities.

FYI submissions

EPA received one For Your Information (FYI) submission from October 1, 1992, to March 31, 1993.

FYIs are voluntary submissions and may include data on chemical toxicity and exposure, epidemiology, monitoring, and environmental fate. FYIs are submitted by chemical manufacturers, chemical processors, federal, state, and local agencies, foreign governments, academic institutions, public interest and environmental groups, and the general public. EPA established the FYI classification to distinguish voluntary submissions from notices submitted formally under section 8(e) of TSCA. Processing of CAP submissions has caused delays in FYI submission processing. A small number of FYI submissions await processing at present.

How to obtain 8(e) notices and FYI submissions

- Section 8(e) and FYI submissions can be reviewed and photocopied at EPA headquarters, in the TSCA Non-Confidential Information Center. For information on using the center, see page 42.
- A copy of a full section 8(e) or FYI submission can be obtained by writing to Freedom of Information Office (A101), U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460. Duplication of the first 166 pages of any document is free. At the 167th page, there is a \$25 fee and an additional \$0.15 charge for each page.
- Chronological indices of section 8(e) and FYI notices are available from the TSCA Assistance Information Service (TSCA hotline) two to three months after the end of each fiscal quarter. The fiscal quarters end on September 30, December 31, March 31, and June 30. See page 43 for information about contacting the hotline.

Overview of TSCA Section 8(e) Notices

October 1, 1991 to April 9, 1993

Total number received	Number entering initial screening	Number completing initial screening	Hazard concern			Number on TSCA Inventory*
			Low	Medium	High	
7,340	4,304	3,056	702	1,137	1,217	2,129

*Once a CAP submission enters initial screening, OPPT determines whether the chemical substance is listed on the TSCA Inventory. Thus, the numbers in this column do not include submissions that have not entered screening.

Publications Available from the TSCA Hotline

Single copies of these publications can be obtained by calling or sending a FAX to the TSCA hotline or by filling out and mailing the form on page 43.

- *The TSCA Report to Congress for Fiscal Years 1990 and 1991*
- *EPA's 33/50 Program: Third Progress Report*
- Copies of the Residential Lead-based Paint Hazard Reduction Act. The act is Title X of the Housing and Community Development Act of 1992 and Title IV of the Toxic Substances Control Act.
- The Chemicals on Reporting Rules Database Supplement, updated as of December 31, 1992. The previous supplement was updated as of October 31, 1991. The data base was issued on June 30, 1990.

From the American Chemical Society

Pollution Prevention in Industrial Processes: The Role of Process Analytical Chemistry discusses successful applications of modern process analytical chemistry to problems of waste minimization, source reduction, and pollution prevention. The book was developed from a symposium sponsored by the Division of Environmental Chemistry at the 1991 national meeting of the American Chemical Society. Joseph J. Breen and Michael J. Dellarco, both of EPA, edited the book, which is available by calling the American Chemical Society at (800) 227-5558.

TSCA Non-Confidential Information Center

The Office of Pollution Prevention and Toxics (OPPT) makes data available to the public through the TSCA Non-Confidential Information Center. The center houses

- data submitted to EPA under sections 5, 8(d), and 8(e) of the Toxic Substances Control Act (TSCA),
- the administrative record for all TSCA rulemaking, and
- dockets for TSCA, the Toxics Release Inventory, the Emergency Planning and Community Right-to-Know Act, the

Design for the Environment program, and the Environmental Leadership Program.

The public can obtain information from the Non-Confidential Information Center in person, by telephone, or by requesting information in writing under the Freedom of Information Act.

A reading room and photocopiers are available for the public to use when visiting the center.

New location and hours

The TSCA Non-Confidential Information Center has moved to

Room G-102, in the East Tower tunnel, at EPA headquarters. The center is open to the public from 8 a.m. to noon and from 1 p.m. to 4 p.m. every weekday except Thursday. Thursday hours are 8 a.m. to 11:30 a.m. and 1 p.m. to 4 p.m.

To request documents, call (202) 260-7099 or (202) 260-0660. Or, write to U.S. EPA, TSCA Non-Confidential Information Center (TS-793), 401 M Street, S.W., Washington, D.C. 20460. In the future, it will also be possible to FAX requests for documents to the center.

Send All Correspondence to

Environmental Assistance Division (TS-799)
Office of Pollution Prevention and Toxics
U.S. EPA
401 M Street, S.W.
Washington, D.C. 20460
Editor: Jane Gurin

Would You Like to Receive the *Chemicals-in-Progress Bulletin*?

The *Chemicals-in-Progress Bulletin* is published by EPA's Office of Pollution Prevention and Toxics. If you are not currently receiving the *Bulletin* and would like to become a subscriber, or if you would like to stop receiving the *Bulletin*, please fill out this form or tape a mailing label onto it, and mail it to the address on this page.

- ☐ Please add my name to the mailing list for the *Chemicals-in-Progress Bulletin*.
- ☐ I no longer want to receive the *Chemicals-in-Progress Bulletin*.
- ☐ I'd like a copy of the following publication(s):

_____ Name	_____ Title	
_____ Company or Organization Name	_____ Type of Business	
_____ Street Address		
_____ City	_____ State	_____ Zip Code

TSCA Hotline: Call (202) 554-1404

The TSCA Assistance Information Service (TSCA hotline) operates Monday through Friday, from 8:30 a.m. to 5 p.m., Eastern time. To speak to an information specialist, call (202) 554-1404. FAX requests for documents are received every day, at all times, on (202) 554-5603. Documents can also be requested by deaf persons who have TDD equipment by calling (202) 554-0551.

To request assistance by mail, write to the Environmental Assistance Division at the address provided at the left.

PCBs continued from page 40

days, to be served concurrently, and one-year of supervised release. She was also ordered to pay \$5,000 to EPA's Superfund Fund. Her husband, Michael Slusser, received two sentences of one year and one day, to be served concurrently.

- Weaver Electric Company was ordered to pay a \$200,000 fine and was placed on five years' probation. Weaver Electric was also ordered to spend an additional \$300,000 for environmental remediation for its Denver facilities and to pay \$1,025 in special assessment fees.

TSCA Hotline: Question & Answer

What Fees Are Required for PMN Review?

Q: I am preparing to submit a pre-manufacture notice (PMN) to EPA for review of a new chemical substance. I understand that I need to pay a user fee before EPA will review my notice, but I don't see any instructions for this in the *Code of Federal Regulations*. How much do I pay, and where do I send it?

A: Information about paying a PMN user fee is found in 40 CFR 700. Discussion of the PMN application is found in 40 CFR 720 and 40 CFR 723.

The standard fee of \$2,500 is required for each submission of a

- PMN,
- consolidated PMN,
- polymer exemption application,
- significant new use notice, and
- photographic film article exemption.

Lesser fees

Small businesses are required to pay a lesser fee of \$100 for each PMN submitted. Annual sales of the company and its parent company (including overseas companies) must be less than \$40 million for the submitter to qualify as a small business. The \$100 fee is allowed for joint submissions when each company that is part of the submission meets the definition of small business.

A \$1,000 fee is required for a PMN that is submitted for a chemical intermediate when a PMN is also submitted for the final product and the \$2,500 fee is paid.

Applications for low-volume exemptions and test-marketing exemptions do not currently require a fee, although EPA is proposing to charge a fee in the

future (58 FR 7646, February 8, 1993).

How to pay the fee

EPA requires that fees be submitted by money order, bank draft, or certified check. Whatever form the submitter uses, it should be made out to the U.S. Environmental Protection Agency and include the submitters' PMN identification number (TS number), so EPA can apply the payment to the proper submission.

Fees and PMNs are processed in different locations and should be mailed separately. Fees should be mailed to:

HQ Accounting Operations
Branch (PM-226)
P.O. 360399M
Pittsburg, PA 15251-6399
Attn: TSCA User Fee



United States
Environmental Protection Agency
(TS-799)
Washington, D.C. 20460

Official Business
Penalty for Private Use \$300

Address Correction Requested

Bulk Rate
Postage and Fees
Paid
EPA
Permit No. G-35

077635
EPA LIBRARY
REG 5
230 S DEARBORN ST #142L
CHICAGO, IL 60604

L18