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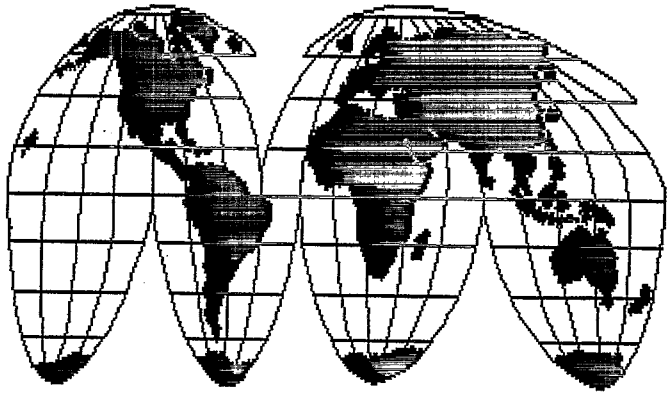
International Chemicals Management



U.S. EPA Leadership Strengthens International Environmental Safeguards

Lynn R. Goldman, M.D., *Assistant Administrator*
U.S. EPA Office of Prevention, Pesticides and Toxic Substances

In the global village of ecology and trade, the U.S. Environmental Protection Agency (EPA) is taking a lead role in strengthening safeguards for human health and the environment.

U.S. leadership is vital. Pollution knows no boundaries, jeopardizing the Earth's interconnected support system of air, water, and land. A world with a depleted stratospheric ozone layer, significant climate change, water shortages, contaminated drinking water, overpopulation, overdependence on fossil fuels, desertification, and loss of biodiversity is inherently unstable.

International work on chemicals occurs within this context. The pace of development worldwide, including the use of chemicals, is accelerating many of these processes. Chemicals can provide many benefits and are part of development, but there are risks when the management and use are not sustainable. As the largest net exporter of chemicals in the world, the United States has a responsibility to share its expertise on toxic chemicals with other nations as a matter of public health and environmental protection and national security.

The agreement signed April 7 by EPA Administrator Carol M. Browner and Canadian Minister of the Environment Sergio Marchi to coordinate plans to virtually eliminate persistent toxic substances in the Great Lakes is the latest in a series of international measures to increase public health and environmental protection.

In concert with the State Department and other U.S. agencies, EPA is contributing to significant environmental advances through an array of international efforts, including the Intergovernmental Forum on Chemical Safety (IFCS), created in 1994 in response to a recommendation by the U.N. Conference on Environment and Development (UNCED) in Rio de Janeiro. The IFCS serves as the over-arching global body for promoting the environmentally sound management of chemicals.

Contents

Chemicals in the Environment: Public Access Information is published by EPA's Office of Pollution Prevention and Toxics (OPPT) to increase public awareness of and access to information on toxic chemicals and pollution prevention available through OPPT. This resource is also available on the World Wide Web at: **http://www.epa.gov/cie/**

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OPPTS is the National Focal Point for Chemicals Management in the United States

EPA's Office of Prevention, Pesticides and Toxic Substances (OPPTS) led the U.S. delegation at the creation of IFCS and serves on its Intersessional Group and Standing Committee, which help guide its actions. The Department of State has identified OPPTS as the National Focal Point for chemicals management in the United States, giving this office the responsibility for coordination of technical issues across all U.S. agencies that are responsible for chemicals management.

Coordinated international action is critical for dealing with international problems, and important strides are being made. In January, the Governing Council of the United Nations Environment Program (UNEP), with strong support from the U.S., voted to begin negotiations on a binding global convention, initially on twelve persistent organic chemicals.

The U.N. Economic Commission for Europe (UN/ECE) is developing a protocol under its Convention on Long-Range Transboundary Air Pollution (LRTAP) to control persistent organic pollutants, including pesticides and industrial chemicals and byproducts. It is developing a second protocol on heavy metals, focusing on lead, mercury, and cadmium.

OPPTS has the responsibility for coordinating technical issues across all U.S. agencies that are responsible for chemicals management.

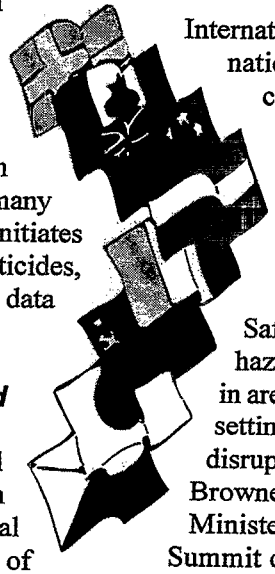
The United States is working with other member countries of the Organization for Economic Cooperation and Development (OECD) and international organizations to encourage firm commitments and specific action to reduce unnecessary risks from lead, especially those involving children. The United States is also exploring ways through IFCS members to expand lead reduction globally on a country or regional basis.

With U.S. participation, the international community is moving to make the voluntary Prior Informed Consent procedures for banned or severely restricted substances a legally binding instrument. The procedures are carried out by UNEP and the U.N. Food and Agriculture Organization (FAO). They enable all importing countries to have the opportunity to make an

informed decision before accepting or rejecting pesticides or industrial chemicals on the UNEP/FAO list of banned or severely restricted chemicals. Developing countries, in particular, stand to benefit.

International harmonization of programs

Harmonization efforts, such as OECD's Environmental Health and Safety Program, are bearing fruit. EPA, through OPPTS, heads the U.S. delegation, and, because of the Agency's longstanding involvement, the United States is experiencing environmental and economic benefits from harmonizing chemical testing guidelines, promoting Good Laboratory Practices, sharing testing costs and safety data, and experiencing faster chemical approvals in some instances — while respecting concerns for animal rights.



The OECD Pesticide Forum, created in 1994, ties national pesticide regulators into many of these ongoing chemical activities and initiates new harmonization projects specific to pesticides, including harmonized data submission and data review formats and risk reduction.

Chemical industry support is needed

But responsibility for sound international management of chemicals does not rest with governments alone. The U.S. chemical industry, as the world's largest exporter of chemicals, has a responsibility to build global capacity for protecting public health and the environment commensurate with its economic impact. In 1995, U.S. chemical exports worldwide totaled more than $61 billion, according to U.S. Commerce Department data, up 17.6 percent from 1994.

The industry's support for OECD's testing program for high-volume-industrial chemicals and participation in the Chemical Manufacturers Association's Responsible Care™ program are examples of steps needed.

Action by industry and others to prevent pollution, reduce risk, and share environmental data to enable public participation and informed decisionmaking is key to building the necessary international infrastructure for sound environmental management and facilitation of trade.

EPA responded to the recommendation made at UNCED to strengthen national capacities and capabilities by working with the IFCS and U.S. agencies to develop a National Profile on Management of Chemicals in the United States. The U.S. National Profile brings together information on all U.S. chemical safety programs, as well as representative state and non-governmental activities. The profile is available on EPA's Web site at: **http://www.epa.gov/opppsps1/profile**

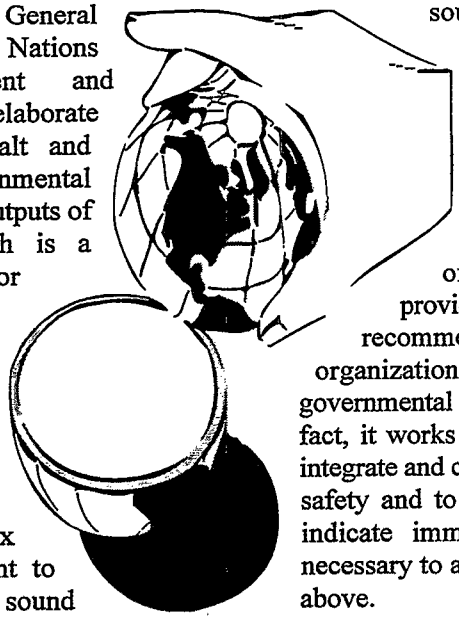
International environmental protection underpins national and international security. It is vital for continuing growth of environmentally responsible trade. With EPA engagement in international efforts discussed in this issue of *Chemicals in the Environment*, the United States is on the right path for sustainable development and a secure future.

Safeguarding children from environmental health hazards also needs to be an international priority in areas ranging from risk assessment and standard-setting to lead, drinking water, and endocrine-disrupting chemicals. EPA Administrator Carol Browner carried this message to the Environment Ministers' meeting held in advance of the Denver Summit of the Eight — the G-7 countries and Russia. The Environment Ministers adopted a resolution endorsing steps to protect children's environmental health and urged support by Summit leaders, who, for the first time, made an explicit commitment to safeguarding children's health.

The well-being of children living today and generations to come is at the heart of sustainable development. The Clinton Administration is strongly committed to environmental and public health protection, particularly for children, and this commitment encompasses not only children in the United States but children around the world. The direction supported by EPA Administrator Browner and other Environment Ministers will contribute to a safer, healthier future for children.

A Global Strategy for Chemical Safety

Diane D. Beal, Ph.D., *Deputy Counselor for International Affairs, OPPTS*



In June 1992, the United Nations General Assembly convened the United Nations Conference on Environment and Development (UNCED) to elaborate strategies and measures to halt and reverse the effects of environmental degradation. Among the major outputs of UNCED is Agenda 21 which is a blueprint for action in all major areas affecting the relationship between the environment and economy.

Chapter 19 of Agenda 21 lays out the current global strategy to promote chemical safety. Specifically, it contains six program areas which are meant to ensure the environmentally sound management of chemicals and calls for the establishment of an intergovernmental forum on chemical safety and coordination of the efforts between international organizations working on chemicals.

The six program areas recommended in Chapter 19 are:

(1) the expansion and acceleration of international assessment of chemical risks;
(2) the harmonization of classification and labeling of chemicals;
(3) information exchange on toxic chemicals and chemical risks;
(4) establishment of risk reduction programs;
(5) the strengthening of national capabilities and capacities for management of chemicals; and
(6) the prevention of illegal international traffic in toxic and dangerous products.

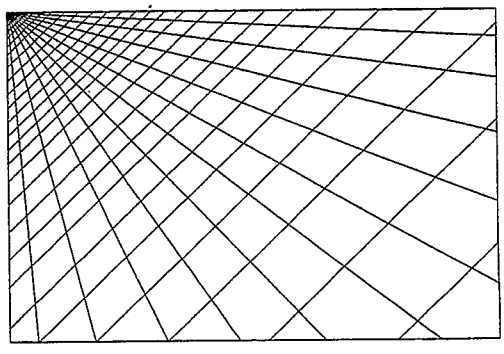
UNCED recognized that the successful implementation of these six program areas is dependent upon intensive international work and improved coordination of international activities.

IFCS

The Intergovernmental Forum for Chemical Safety (IFCS), or Forum, was created in April of 1994 as the mechanism for cooperation among governments for the promotion of chemical risk assessment and the environmentally sound management of chemicals. The International Program on Chemical Safety (IPCS) of the World Health Organization (WHO) serves as its Secretariat.

The Forum is a non-institutional arrangement whereby representatives of governments meet to consider and to provide advice and, where appropriate, make recommendation to governments, international organizations, intergovernmental bodies, and non-governmental organizations involved in chemicals. In fact, it works closely with these different bodies to integrate and consolidate efforts to promote chemical safety and to establish Priorities for Action which indicate immediate actions and long-term goals necessary to accomplish the six program areas listed above.

The Inter-Organization Programme for the Sound Management of Chemicals (IOMC) was established in 1995 by the United Nations Environment Programme, International Labor Organization, World Health Organization, Food and Agriculture Organization, United Nations Industrial Development Organization, and Organization for Economic Cooperation and Development following recommendations made by UNCED. Later, the United Nations Institute for Training and Research became a participating member. The purpose of the IOMC is to strengthen cooperation and increase international coordination in the field of chemical safety. These organizations working together help implement the recommendations in Chapter 19 of Agenda 21 as laid out in the Priorities for Action.



Abbreviations Used in This Issue

CEC	Commission for Environmental Cooperation
CG/HCCS	Coordinating Group for the Harmonization of Chemicals Classification Systems
EMSs	Environmental Management Standards
EPOC	Environmental Policy Committee, OECD
EU	European Union
FAO	United Nations Food and Agricultural Organization
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)
GDP	Gross Domestic Product
GLPs	Good Laboratory Practices
IADN	Integrated Atmospheric Deposition Network
IFCS	Intergovernmental Forum on Chemical Safety
ILO	International Labor Organization
IOMC	Inter-Organization Programme for the Sound Management of Chemicals
IPCS	International Program on Chemical Safety, World Health Organization
IRPTC	International Register of Potentially Toxic Chemicals, UNEP
LRTAP	Long Range Transboundary Air Pollution
MAD	Mutual Acceptance of Data
MAI	Multilateral Agreement on Investment
MRA	Mutual Recognition Agreement
MSWG	Multi-State Work Group
NAAEC	North American Agreement for Environmental Cooperation
NAFTA	North American Free Trade Agreement
NPRI	National Pollutant Release Inventory
NTTAA	National Technology Transfer and Advancement Act of 1995
OECD	Organization for Economic Cooperation and Development (*British spelling*: Organisation for Economic Co-operation and Development)
OGC	Office of General Counsel, U.S. EPA
OPP	Office of Pesticides Programs, U.S. EPA
OPPE	Office of Policy, Planning, and Evaluation, U.S. EPA
OPPT	Office of Pollution Prevention And Toxics, U.S. EPA
OPPTS	Office of Prevention, Pesticides, and Toxic Substances, U.S. EPA
PCBs	Polychlorinated Biphenyls
PIC	Prior Informed Consent
POPs	Persistent Organic Pollutants
PPD	Pollution Prevention Division
PRTRs	Pollutant Release and Transfer Registers
RETC	Registro de Emisiones y Transferencia Contaminantes
TRI	Toxics Release Inventory
TSCA	Toxic Substances Control Act
UN	United Nations
UN/ECE	United Nations Economic Commission for Europe
UNCED	United Nations Conference on Environment and Development
UNCETDG	United Nations Committee of Experts on Transportation of Dangerous Goods
UNEP	United Nations Environment Programme
UNITAR	United Nations Institute for Training and Research
WHO	World Health Organization

A "New Generation" of International Cooperation on Dangerous Chemicals

I.L. "Pep" Fuller, *Counselor for International Affairs, OPPTS*

Introduction

In recent years, policymakers have increasingly recognized the global and transboundary dimensions of harms posed by the manufacture, use and trade of dangerous chemicals and substances. These harms, which affect both humans and wildlife, result from: contamination of shared resources, such as air or watersheds; migration across boundaries of "persistent substances" such as PCBs or DDT that do not break down quickly in the environment; exposure of farmworkers to dangerous pesticides; and the possibility of pesticide residues in international food supplies.

Governments have been working together on certain chemicals issues for many years, as illustrated by the Organisation for Economic Cooperation and Development (OECD) Chemicals Programme, which began in the early 1980's, and the UNEP-FAO Voluntary Guidelines for Prior Informed Consent in the trade of chemicals, started in the late 1980's by the United Nations Environment Programme (UNEP) and the UN Food and Agriculture Organization (FAO).

The 1992 United Nations Conference on Environment and Development (UNCED), more commonly referred to as the Earth Summit, marked a major step forward in this area. In particular, Chapter 19 of the Earth Summit's Agenda 21 — the "blueprint" for action on sustainable development in the 21st century — sets forth a broad new international agenda for the environmentally sound management of chemicals.

In the years since the Earth Summit, two initiatives have risen to the top of the international chemicals agenda: the development of a legally binding international agreement on Prior Informed Consent (PIC); and the development of a legally binding international agreement on Persistent Organic Pollutants (POPs). The negotiation of these new agreements is being accompanied by a variety of parallel, and hopefully complementary, regional actions. Governments also have joined together to establish a new institutional structure to help coordinate these efforts, including the new Intergovernmental Forum for Chemical Safety (IFCS).

Negotiation of a New Agreement on Prior Informed Consent

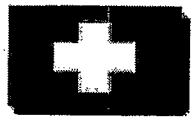
The United States and other countries have participated for many years in a voluntary system of Prior Informed Consent (PIC) for pesticides and industrial chemicals that are banned or severely restricted at the national level. In essence, the PIC system provides that the governments of countries exporting PIC-listed pesticides or chemicals must provide prior notice to, and receive consent from, the governments of countries into which those pesticides or chemicals are to be imported.

The voluntary system began in the OECD. It evolved and was later opened to all countries under the joint sponsorship of UNEP and the FAO. The system has been widely embraced and now includes some 120 countries. It is designed to enhance information flow regarding regulatory actions taken by nations, and to ensure that importing countries have the opportunity to make informed decisions on whether or not to receive a substance that has been banned or severely restricted elsewhere. This is especially important given the large volumes of international trade in dangerous pesticides and chemicals, and the lack of well-developed regulatory structures in many countries involved in this trade.

A major purpose of the PIC is to provide technical support to countries, in particular developing countries that do no yet have adequate infrastructure to perform sophisticated risk assessments. In effect, the PIC process acts as a collective risk assessment mechanism for priority substances. In addition, by calling upon exporting countries to refrain from export in the absence of notice and consent, the PIC system reinforces the ability of importing countries (that lack infrastructure) to enforce decisions they may take regarding substances entering their countries.

In May 1995, the UNEP Governing Council called for negotiations to transform the existing, voluntary PIC system into a legally binding agreement. This decision

builds upon earlier pronouncements of Agenda 21, the UN Commission on Sustainable Development, and the IFCS. To date, countries have held several negotiating sessions to develop a final PIC Agreement. These negotiations build upon technical documents developed in meetings of experts in Geneva in 1994-1995.



The negotiations have raised some important issues. These include, for example: What type of process should be required before a substance is included on the PIC-list? Is it enough if it is banned by one country only? By five countries? Does it need to be reviewed by an international expert body? Or only by the interested Parties? Under what voting procedures? What should be the balance of rights and obligations between importing and exporting countries? These and similar questions are expected to be dealt with in negotiations that should conclude within the next year.

The United States has been actively involved in the negotiations, with representation from EPA's Office of Prevention, Pesticides and Toxic Substances (OPPTS) as well as EPA's Office of General Counsel (OGC). This involvement is critical, in part because the negotiations will affect both the Toxic Substances Control Act (TSCA) and the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) since they do not require consent for export of covered products (although both laws do have certain notice provisions). Under both TSCA and FIFRA the United States has a long experience in notifying other nations of regulatory actions regarding industrial chemicals, issuing thousands of notifications. This experience suggests certain conclusions:

- For nations with inadequate infrastructure, more information can be important but does not automatically lead to better results.
- If a country does not have the capability to make its own detailed risk assessments, it may wish to rely on those assessments made by countries which possess such capabilities. In many cases, this will be an important way to support the efforts of those countries. Nevertheless, in some cases, this may not produce the best environmental or health result since different climatic or soil conditions, flora and fauna, disease vectors and conditions of use can result in different outcomes. Reliance on information from other countries cannot be a complete substitute for developing appropriate infrastructure for a country or a region..

  For example, specific requirements on continued use of a pesticide in the U.S., such as the use of protective clothing or respirators may not be available in a developing country. As a result, approval for use in that country might create risks not present in the United States.
- In view of the lack of infrastructure in many countries, it is of critical importance to concentrate the PIC process on those chemicals which pose serious threats to health or the environment. Information on chemicals which have been regulated anywhere should be made available internationally, but not necessarily as part of the mandatory PIC process. Otherwise the process could swamp a country's available resources.

As is generally the case under international agreements, the U.S. will use domestic laws and regulations as the primary basis to achieve implementation at the domestic level. Given that FIFRA and TSCA do not now require both notice and consent procedures prior to export, careful attention will be needed to ensure that sufficient domestic authority exists to implement the anticipated PIC agreement, and that actions are undertaken in a transparent and open process.

Regional actions taken on chemical safety

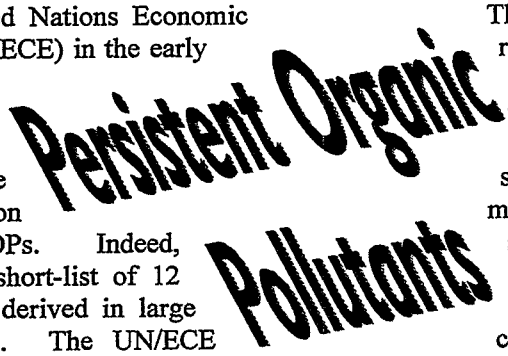
Some of the regional actions taken under international auspices include:

- the negotiation of Protocols on Persistent Organic Pollutants (POPs) and heavy metals under the United Nations Economic Commission for Europe (UN/ECE) Convention on Long Range Transport of Air Pollution (LRTAP);
- the 1995 Resolution for Environmentally Sound Management of Chemicals under the North American Commission for Environmental Cooperation (CEC); and
- the Joint U.S.-Canada Binational Strategy for Virtual Elimination of Persistent Toxic Substances in the Great Lakes Basin.

Negotiation of a New Agreement on Persistent Organic Pollutants (POPs)

In parallel to the negotiation of an agreement on Prior Informed Consent, nations have recently committed to negotiate a set of stringent controls on a short list of especially dangerous chemicals and substances known as persistent organic pollutants, or POPs.

Discussions within the United Nations Economic Commission for Europe (UN/ECE) in the early 1990's provided an important stimulus for international cooperation on POPs. Experts have undertaken much valuable work in this forum, including on criteria for selection of POPs. Indeed, the current United Nations short-list of 12 POPs for initial action was derived in large measure from these efforts. The UN/ECE countries are now negotiating a POPs Protocol to the 1979 UN/ECE Agreement on Long Range Transport of Air Pollutants (LRTAP).



In 1994, the meetings of the UN Commission for Sustainable Development helped bring these issues to a more global forum. In a key meeting in Manila in 1996, experts of the IFCS developed a series of conclusions and recommendations regarding the development of a global POPs agreement, that were forwarded on to the UNEP Governing Council. In January-February, 1997, the UNEP Governing Council formally approved the negotiation of a legally binding instrument on POPs, picking up many of the points developed at the Manila meeting.

The POPs agreement is expected to go beyond provisions for notice and consent in the context of trade, and focus more directly on production and use. At the 1996 meeting in Manila, the IFCS recommended, among other things, that the POPs instrument provide for the phasing out of the production and use of intentionally produced POPs, subject to narrow provisions relating to available alternatives and recognized uses. It also called for strong measures to be developed to address unintentionally produced POPs such as dioxins and furans.

The POPs negotiations are likely to raise a number of challenging issues, including: the precise nature of the control obligations on the initial list (for example, how to address the still existing use of DDT to combat malaria?); the criteria and voting structure for adding new substances to the list; the use of trade/export controls; provisions for technical cooperation and support to implement the agreement (especially for developing countries); and provisions to address existing stockpiles of POPs.

At the domestic level, the U.S. will need to examine closely its legislative authorities as it develops its measures and actions for implementation. One question of particular significance relates to possible production bans or controls on POPs-listed pesticides. As currently structured, FIFRA does not provide the domestic legal authority to ban the manufacture of pesticides for export.

A separate challenge — and opportunity — will be to coordinate the multilateral POPs effort with other initiatives at the regional level, including the UN ECE POPs Protocol and actions under the North American Commission for Environmental Cooperation Resolution on the Sound Management of Chemicals.

From one perspective, these initiatives will offer an opportunity to elaborate on the commitments developed at the global level, and translate them into concrete measures to achieve implementation.

Persistent Organic Pollutants (POPs) Recognized by the United Nations Environment Programme (UNEP)

Aldrin	Dioxins and furans	Mirex
Chlordane	Endrin	Polychlorinated biphenyls
DDT	Heptachlor	(PCBs)
Dieldrin	Hexachlorobenzene	Toxaphene

UNEP Chemicals: The United Nations Environment Programme's Hazardous Chemicals Management Program

James Willis, *Director, UNEP Chemicals*

UNEP Chemicals is the center for all activities undertaken by the United Nations Environment Programme (UNEP) to ensure the global sound management of hazardous chemicals. Located in Geneva, Switzerland, it is built upon the solid technical foundation of the International Register of Potentially Toxic Chemicals (IRPTC).

UNEP Chemicals' main functions are to promote chemical safety by providing countries with access to information on toxic chemicals, by assisting countries in building their capacities to produce, use, and dispose of chemicals safely, and by facilitating global actions that may be needed to reduce or eliminate chemical risks.

Chemicals are essential for continued economic development. Globally, production and trade in chemicals is measured in the trillions of dollars. Chemical production or use is a crucial component of virtually every sector of our economies, and all of us in some way come into daily contact with chemicals. While most of these chemicals are benign at the levels to which people are usually exposed, others present risks to human health and the environment.

In the case of chemicals, sustainable development means the continuation of global production and use of chemicals, while at the same time reducing or eliminating unsustainable risks from those chemicals or activities.

Sustainable development requires a global capacity for the sound management of chemicals. National capacities exist within most industrial countries, but usually to a more limited extent elsewhere. One component of building global capacity is to extend the sound management of chemicals to all countries; that is, to take steps to ensure that all countries have the needed information, expertise, and resources to manage chemicals safely under the conditions of production or use in that country.

The other facet of global capacity is ensuring that the necessary global actions are taken to address risks that are not captured by national actions alone. Certain aspects of commerce, use, or environmental release of chemicals requires concerted global action to ensure risks are sufficiently reduced. Achieving these goals requires a global chemicals program.

The most important UNEP actions during 1997 to catalyze global action for the sound management of chemicals are:

Facilitating development of a legally binding instrument for the application of the Prior Informed Consent (PIC) procedure. Negotiations have begun, convened by UNEP jointly with the Food and Agriculture Organization (FAO), and are expected to conclude by the end of 1997. The existing voluntary PIC program implemented by UNEP and FAO under the London Guidelines and the FAO Code of Conduct will continue pending development of the legally binding instrument.

Convening an intergovernmental negotiating committee for the development of a legally binding instrument to implement international action on Persistent Organic Pollutants (POPs). In addition to facilitating the development of a global POPs convention, UNEP is undertaking immediate action on a number of measures to help address persistent toxic chemicals into the environment.

> These measures include promoting the exchange of information and expertise among governments on POPs; providing guidance on alternatives to POPs; assisting countries in the identification of polychlorinated biphenyls (PCBs), including those in use, in stockpiles, and in waste, as well as helping to identify where PCBs can be destroyed safely; assisting countries in identifying sources of dioxin and furan releases; and continuing to better characterize the full extent of the global POPs problem.

In the field of capacity building, UNEP Chemicals' work is implemented in two key areas:

Promoting information access through the delivery of information and information tools for countries to use in assessing and managing the risks of chemicals. Activities in this area include:

- IRPTC's databank, which is available in a personal computer version that contains extensive safety data on over 8,000 chemicals;
- Internet and hard-copy information clearinghouses on chemical hazards, pollutant release and transfer registers (PRTRs), POPs, and PIC;
- published inventories of information sources covering international data sources on chemicals, critical reviews of chemicals, new chemical assessments (in progress), and national data on existing chemicals (in progress); and
- extensive publications in the field of chemical safety.

Direct work with countries in building capacities, including awareness raising, training, capacity building exercises, and hotline support for governments. UNEP actively sponsors or participates in over 20 capacity building workshops on chemicals management each year. These take place on the regional, sub-regional, and national level, and cover such diverse topics as risk assessment, development of national information systems, chemicals legislation, and operation of the PIC procedure.

United Nations Environment Programme
Programme des Nations Unies pour l'Environnement
UNEP

More information on the UNEP Chemicals Programme can be obtained by contacting:

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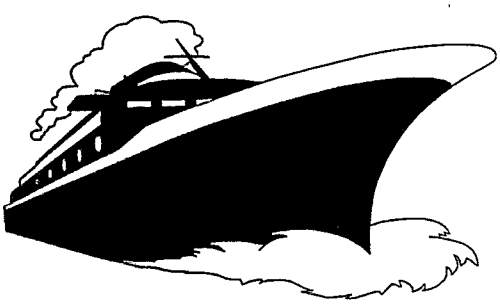
Environmental Issues Raised by International Trade Rules

Peter L. Lallas, *Office of General Counsel, International Environmental Law Office*

In recent years, a number of events have served to demonstrate the strong, and not always harmonious, connection between international trade and environmental protection. The initial catalysing event was the 1991 decision of an international dispute panel that provisions of the U.S. Marine Mammal Protection Act violated international trade rules (the so-called Tuna-Dolphin decision). The question of the relationship between trade rules and environmental protection also was prominent in the negotiation of the North American Free Trade Agreement (NAFTA) and related environmental instruments (1992-1993), and in the negotiation of a new set of world trade agreements in the so-called Uruguay Round of multilateral trade negotiations (concluding in 1994).



The new trade agreements, in particular, contain a number of important and legally-binding provisions of potential relevance to environmental policy. Subject to certain exceptions, these include the following:

- **Non-Discrimination**: A country may not "discriminate" against imported products by giving them less favorable treatment than the "like" domestic product, or less favorable treatment than

that accorded to products from "most-favored-nation" trading partners;

- **No Quantitative Restrictions**: A country may not impose restrictions on the quantity of imported products;
- **No More Trade Restrictive than Required**: A country must ensure that product standards and food safety measures are "not more trade restrictive than required" to achieve a legitimate objective (as defined);
- **Use of International Standards**: A country's product standards and food safety measures must be based on "international standards," except where the international standard fails to meet the country's own legitimate objectives (including its own chosen level of protection);
- **Science and Risk Assessment for Food Safety Measures**: A country's food safety measures must be based on a risk assessment, and not be maintained without "sufficient" scientific evidence;
- **Environmental Exception**: Both the NAFTA and the multilateral trade rules include an environmental exception that, where applicable, provides a possible defense against challenges to national measures under the various trade rules.

From an environmental policy perspective, there is concern that these and other trade rules might be applied in a manner that undercuts the ability of EPA (or other authorities) to adopt and maintain health and environmental measures that regulate products in trade. Many EPA regulations impose limits on products, and apply generally to both domestic products and imports. These include, for example, restrictions on chemicals or pesticides due to their hazardous characteristics, restrictions on foods due to pesticide residues, and restrictions on automobiles to achieve reduced emissions and improved fuel efficiency. Because the trade rules are designed to remove "barriers to trade," and impose specific legal obligations to this end, there is a potential conflict between the two sets of rules.

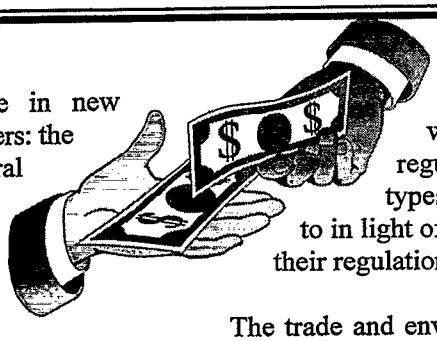
This conflict is more than just an academic possibility. In the past three years, other countries already have challenged U.S. environmental rules on fuel efficiency, gas guzzlers and reformulated fuels as violations of the trade rules, successfully in the latter case. Many questions have been raised, for example, by certain industry sectors, about the relationship between certain types of eco-labelling schemes and the trade rules.

Questions also have been raised about whether trade restrictions connected with international environmental agreements, such as the Montreal Protocol restrictions on trade with non-parties or provisions of the Basel Convention on the Transboundary Movements of Hazardous Wastes and Their Disposal, might run into conflict with the trade rules. Similar questions could arise in the context of future anticipated agreements, such as a new international agreement on Prior Informed Consent (PIC) procedures for certain traded products [*see accompanying article on PIC and POPs agreements, page six*].

Other environmental concerns with respect to trade should also be noted. One is whether increased economic growth linked to trade liberalization will be environmentally-sound (such as, for example, new economic activity in the U.S.-Mexico border area linked to NAFTA). Another is whether trade and economic integration might lead to so-called "pollution havens," where a country might relax its domestic environmental laws as a means of attracting investment.

Much dialogue has taken place in a variety of international and regional forums to try to sort out these and other issues, and determine what (if any) modifications are needed in the trade rules to address the environmental policy concerns. These forums include the Joint Experts Committee on Trade and Environment of the Organisation for Economic Cooperation and Development, the World Trade Organization Committee on Trade and Environment, and the UN Commission on Sustainable Development.

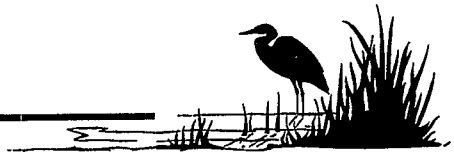
EPA officials have played key roles in these discussions. They joined directly in the negotiation of trade (and investment) agreements where they sought to inform and strengthen U.S. negotiating positions in the NAFTA and the Uruguay Round. EPA has also been instrumental in developing the overall U.S. policy framework to address these issues. Key elements have been: completion of environmental reviews of trade agreements; negotiation of provisions in trade agreeements to safeguard the integrity of environmental policy measures; development of environmental initiatives, in parallel to trade initiatives, to address the types of concerns noted above; direct involvement of environmental officials in trade discussions and negotiations; and public involvement.



EPA officials continue to engage in new initiatives. These include, among others: the negotiation of a new Multilateral Agreement on Investment (MAI) in the OECD; negotiations on the subject of Mutual Recognition Agreements between the U.S. and the European Union; and trade and environment issues relevant to the negotiation of the new PIC agreement and other international instruments.

At the domestic level, EPA has developed a greatly increased capacity to analyze and respond to environment and trade issues as they arise. There exists an Agency-wide Task Force on Environment and Trade, dedicated to addressing these issues. Several EPA offices, including the Office of Prevention, Pesticides, and Toxic Substances, participate actively in this work. Within the EPA Office of General Counsel, there is an Environment and Trade Team designed to support the activities of the Task Force and strengthen the ability of the Agency to address connections between EPA initiatives and the trade agreements. Recently, this team developed a checklist item that is now included in the EPA Regulation Tiering Form, which provides guidance to regulation-development teams on the types of questions they need to consider to in light of existing trade rules as they develop their regulations.

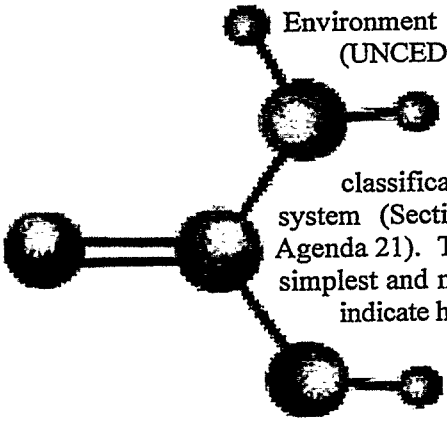
The trade and environment debate is a complex one. Internationally, important differences remain among countries in how they view the connection between environmental protection and removing barriers to trade. Many countries remain steadfastly opposed to any modifications that might "weaken" the stringency of the trade rules in response to certain environmental policy concerns. Domestically, there remains the challenge of finding the right balance to promote underlying policy objectives, of abiding by our international obligations, and of ensuring that the inexorable movement toward a more global economy, characterized by open trade and economic integration, occurs in a manner consistent with environmental policy objectives, in support of sustainable development. There has been important progress toward common ground, but it is not an easy path.



Harmonization of Classification and Labeling Systems

Diane D. Beal, Ph.D., *Deputy Counselor for International Affairs, OPPTS*

Many governments, including the U.S. Government, feel that a uniform way to communicate hazards is critical as international trade and production increases. Because of this, governments participating in the United Nations Conference on Environment and Development (UNCED) in 1992 adopted an international mandate to pursue a globally harmonized classification and labeling system (Section B, Chapter 19, Agenda 21). They thought that the simplest and most efficient way to indicate how to handle and use chemicals safely is to have proper labeling of chemicals and safety data sheets, based on assessed hazards to health and the environment. They also recognized that proper classification of chemicals is an important tool in establishing a labeling system. Their goal is to have a globally harmonized hazard classification and compatible labeling system by the year 2000.



Governments, several international organizations and many non-governmental organizations are presently working together on developing such a globally harmonized system. The Intergovernmental Forum on Chemical Safety (IFCS) is monitoring and providing broad guidance while member organizations of the Inter-Organization Program on Sound Management of Chemicals (IOMC) are involved in the process of accomplishing the work. Under the auspices of IOMC, the Coordinating Group for the Harmonization of Chemicals Classification Systems (CG/HCCS) is

managing the process and is charged with elaborating the voluntary instrument recommended by the IFCS. It has adopted a series of principles to guide the work of the various organizations involved.

The technical work on harmonization is being done by different international organizations with specific expertise in the areas involved. The International Labor Organization (ILO) and the United Nations Committee of Experts on Transportation of Dangerous Goods (UNCETDG) are responsible for developing the criteria for classifying chemicals based on their physical/ chemicals properties; the Organization for Economic Cooperation and Development (OECD) is responsible for developing criteria for health and environmental hazards; and the ILO is responsible for developing the approach to communicating the hazards.

The U.S. is playing a critical role in this international effort, including chairing the CG/HCCS. The State Department coordinates an interagency work group to develop the United States' position. Members of the work group include representatives from all of the agencies that regulate in the area of chemical safety and health: Environmental Protection Agency (lead office: OPPTS), Occupational Safety and Health Administration, Food and Drug Administration, Department of Transportation, Consumer Product Safety Commission, and the Food Safety and Inspection Service. Other agencies that are interested or involved in trade and policy aspects of the issue also participate, including the Department of Commence and the U.S. Trade Representative. The work group has adopted principles which guide the activities of the various agencies in the international harmonization process.

Over the past several years, much progress has been made with regard to the technical criteria for hazard classification. Work has also began on development of a binding instrument in which the harmonized system could be made available for adoption or ratification by countries. Consideration is also being given to how to maintain the system when it is completed. Once the international system is completed, the U.S. will have to decide on how the new system will be applied in this country. The government will need to develop and consider legal alternatives for adoption of the system. In fact, legislation may be needed to ensure that all agencies can adopt the new global system.

For more information

On April 3, 1997, a notice concerning U.S. government activities dealing with international harmonization of chemical safety and health information was published in the *Federal Register* (62 FR 15951) as State Department Public Notice 2526, "Bureau of Oceans and International Environmental and Scientific Affairs; International Harmonization of Chemical Safety and Health Information."

The notice discusses both international and interagency activities in the area of harmonization of chemical safety and health information. It lists U.S. goverment agencies' guiding principles and international principles for such harmonization. The deadline for comments was June 2, 1997.

For information regarding this notice, please contact: Trigg Talley, Office of Environmental Policy, U.S. Department of State, OES/ENV Room 4325, 2201 C Street, NW, Washington, DC, 20520; Telephone: (202) 647-9266, FAX: (202) 647-5947; E-mail: ttalley@state.gov.

For information about activities of the following groups, please contact the person listed:

Interorganization Programme for the Sound Management of Chemicals' (IOMC) Coordinating Group for the Harmonization of Chemical Classification Systems: Jennifer Silk, Directorate of Health Standards Programs, Occupational Safety and Health Administration, 200 Constitution Avenue, NW, Room N3718, Washington, DC, 20210; Telephone: (202) 219-7056; FAX: (202) 219-7068; E-mail: jsilk@osha-slc.gov.

Organization for Economic Cooperation and Development's (OECD) Advisory Group on Harmonization: Amy Rispin, Office of Pesticide Programs, Environmental Protection Agency, Washington, DC, 20460; Telephone: (703) 305-5989; FAX: (703) 305-6244; E-mail: rispin.amy@epamail.epa.gov.

United Nations' Committee of Experts on the Transport of Dangerous Goods' (UNCETDG): Frits Wybenga, Research and Special Programs Administration, Department of Transportation, 400 7th Street, SW, Washington, DC, 20590, Telephone: (202) 366-0656; FAX: (202) 366-5713; E-mail: frits.wybenga@rspa.dot.gov.

OECD'S Environmental Health and Safety Program

Charles M. Auer, *Director, Chemical Control Division, OPPT*

The Organization for Economic Cooperation and Development (OECD) is an intergovernmental organization which includes 29 democratic countries with advanced market economies in Asia, Europe, North America, and the Pacific. Founded in 1960, the OECD promotes: economic growth, employment, and social welfare in OECD countries; free trade between OECD countries and non-member countries; and economic growth in non-member countries.

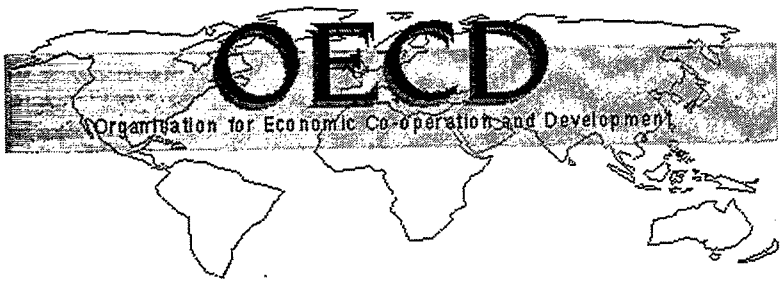
OECD's work is overseen by several policy and administrative bodies. At the highest level is the OECD Council, made up of ambassadors from OECD member countries. The Council's main role is to review and approve the OECD's budget and work program. It also has the ability to enact Council Decisions and Council Recommendations. The former legally bind Member countries to a particular course of action, while the latter strongly encourage collaborative action. OECD Decisions and Recommendations are made by its member countries operating through a consensus-based process.

At a more technical level, work in the OECD is directed by specialized committees composed of representatives from OECD member countries. The Environmental Health and Safety Program is directed by the Environment Policy Committee (EPOC) and the Joint Meeting of the Chemicals Group and Management Committee. Dr. Lynn Goldman, Assistant Administrator for the Office of Prevention, Pesticides and Toxic Substances, is the U.S. Head of Delegation at the Joint Meeting level.

OECD's Environmental Health and Safety Program has been working on chemical safety since 1971. At the outset, the OECD's program focused on specific industrial chemicals known to pose significant health or environmental problems, such as polychlorinated biphenyls (PCBs) and mercury. By the mid-1970s, however, it became clear that a more broadly-based approach was needed. The OECD countries agreed that a comprehensive, forward-looking strategy was needed to identify and manage the potential risks of both new and existing chemicals. The Program thus began developing methods and tools that countries could use to assess and manage the risks of all chemicals. Outstanding examples of these tools include the OECD Test Guidelines and the OECD Principles of Good Laboratory Practices (GLPs). In 1981, these formed the basis for the OECD Council Decision on Mutual Acceptance of Data (MAD). Under the MAD Decision, test data developed in accordance with OECD Test Guidelines and GLPs must be accepted for review by other OECD member countries.

During the 1980's, new projects were launched to develop hazard and risk assessment methods, approaches to risk management, and procedures for chemical accidents and emergency response. Member countries also undertook to facilitate information exchange among themselves.

In the early 1990's, OECD initiated projects to "share the burden" of testing and assessment of high production volume chemicals (the Screening Information Data Set or SIDS program), harmonize classification and labeling systems, and address the products of modern biotechnology. The OECD Pesticide Forum was established to allow pesticide regulatory authorities in Member countries to discuss issues of common interest.



One of the OECD's important achievements in this period was the 1996 Ministerial Declaration calling on countries to continue and strengthen efforts to reduce risks from exposure to lead. During this time, the OECD and its Member countries also joined efforts to implement the recommendations of Chapter 19 of Agenda 21 from the 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro.

Today, the Environmental Health and Safety Program continues to support OECD member countries in their testing, assessment, and management of chemicals and pesticides. As the valuable work of the program has demonstrated, harmonization and international cooperation remain effective ways to increase government efficiency, improve health and the environment, and promote free trade and a healthy global economy.

Member Countries of the Organization for Economic Cooperation and Development
(as of early 1997)

Australia	Germany	Luxembourg	Sweden
Austria	Greece	Mexico	Switzerland
Belgium	Hungary	The Netherlands	Turkey
Canada	Iceland	New Zealand	The United Kingdom
The Czech Republic	Ireland	Norway	The United States of America
Denmark	Italy	Poland	
Finland	Japan	Portugal	
France	The Republic of Korea	Spain	

The European Commission also takes part in the work of the OECD.

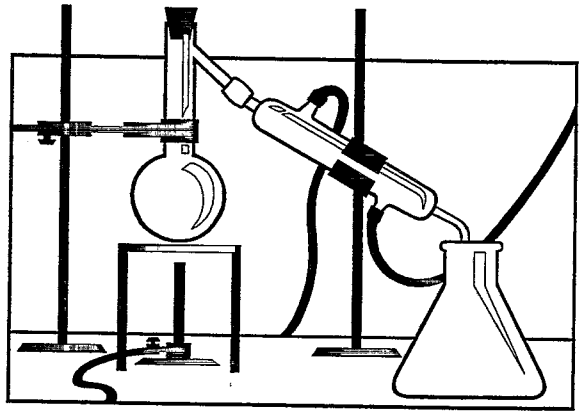
EPA/OECD Test Guidelines Harmonization

Michael C. Cimino, Ph.D., *Risk Assessment Division, OPPT*

The guidelines harmonization project is a multi-year effort to harmonize the existing test guidelines of the Office of Pollution Prevention and Toxics (OPPT) and of the Office of Pesticides Programs (OPP) into a single set of guidelines for EPA/OPPTS (Office of Prevention, Pesticides and Toxic Substances). The project then harmonizes the OPPTS guidelines with those of the Organization for Economic Cooperation and Development (OECD). These guidelines are important because they set standards for acceptable testing which EPA and our OECD counterparts may require of companies when we review chemicals.

International harmonization of test guidelines is a high priority of the Assistant Administrator for OPPTS. The goal of such harmonization is to reduce the burden of repeated testing from chemical companies to meet differing requirements and to foster international efficiency of information exchange and mutual acceptance of test data. The OPPT/OPP project began in 1991 and is nearing completion. The harmonization effort with OECD has been ongoing since 1989.

OPPT has published 97 guidelines in the areas of physical chemistry, ecotoxicity, environmental fate, and human health. OECD has published 77 guidelines in the same four areas. OPP has a total of 170 test guidelines which include guidelines for the above four areas as well as for other specific requirements for OPP's evaluation of pesticides (e.g., product identity, composition, application exposure). Presently, all of



physical/chemical properties and environmental fate guidelines, 30 health effects guidelines and six ecotoxicity test guidelines have been harmonized between EPA and OECD. Ten health effects guidelines and 13 ecotoxicity guidelines have been harmonized between OPPT and OPP to produce guidelines which are unique to OPPTS.

Significant advances in scientific knowledge and methodologies are now being incorporated into the guidelines. This is particularly true in the areas of neurotoxicity, developmental neurotoxicity, and developmental and reproductive biology. OPPT is currently leading the effort to harmonize these improved guidelines with OECD.

The OPP Scientific Advisory Panel (SAP) reviewed ecotoxicity and health effects test guidelines in May and October 1996, respectively. OPP is revising these guidelines revised in light of SAP comments. The revised guidelines will be made available to the public through the EPA web site or the Government Printing Office (GPO) web site. Diskettes or hard copy may also be purchased from GPO.

Cooperative efforts in harmonization between OPPTS and OECD, as noted above, have been underway for a number of years. In 1989, OECD gave high priority to revision of the OECD Guidelines for genetic toxicology in its "periodical review" process. Guideline proposals were circulated for review starting in July of 1991. U.S. experts in the field of genetic toxicology were given these drafts for comment. After several rounds of review at the national and international levels, proceeding concurrently with OPP/OPPT review, the final proposals were submitted to and endorsed by OECD. These genetic toxicology guidelines are currently undergoing translation into French before official release by the OECD. At that time OECD will make them available in print form and on the OECD website at: **http://www.oecd.org**

The OPPTS Harmonized Test Guidelines can be found on the EPA web site at: ***http://www.epa.gov/OPPTS_Harmonized/*** *or can be accessed through GPO Access at:* ***http://www.access.gpo.gov/*** *. To order copies from GPO, call (202) 512-1800.*

ISO 14000 Environmental Management Standards

Mary McKiel, *Pollution Prevention Division, OPPT*

The Pollution Prevention Division (PPD) of the Office of Pollution Prevention and Toxics (OPPT) is helping to lead the way for the EPA on the development and use of the ISO 14000 environmental management standards (EMSs). ISO 14000 is the name given for a series of voluntary international environmental standards, which cover environmental management systems. These systems govern environmental auditing, labeling, performance evaluation, life cycle assessment, and environmental aspects in the setting of product standards. This article will outline the potential of these standards to suppport pollution prevention goals, EPA's formal policy towards ISO 14000, and discuss the opportunities and concerns OPPT has with the ISO standards.

EPA policy regarding the development of the ISO 14000 standards

The Voluntary Standards Network was established by EPA Administrator Carol Browner in 1993 to coordinate all of the Agency's ISO 14000 activities. The Offices of Water, Research and Development, and Enforcement and Compliance Assurance partnered with the Office of Pollution Prevention and Toxics to found the Network, which OPPT administers. To date, there are over 150 members of the Network representing all of the Offices and Regions.

One of important current undertakings of the Network is the formulation of a draft EPA formal policy statement concerning ISO 14000 and EMSs. The Network's drafting committee has nearly completed its work and expects the draft policy to be available by June.

The ISO guidance standards for labeling, life cycle assessment, and environmental performance evaluation also have the attention and interest of the Agency. EPA is represented on each of the ISO 14000 subcommittees through the corresponding U.S. technical advisory subgroups (subTAGs). Several of the labeling standards, as well as the life cycle standards, are almost in the final stages prior to

publication. There are some concerns about how these standards will affect the Agency's efforts underway in Consumer Labeling as well as positions that EPA continues to take in the World Trade Organization. The Standards Network is currently working with the EPA Trade and Environment Task Force, administered through the Office of Policy, Planning, and Evaluation (OPPE), to address such concerns and provide policy guidance on these issues to program offices and to EPA members of the ISO 14000 committees.

On behalf of EPA, OPPT is participating in the development of the ISO 14000 standards. At the annual ISO 14000 Technical Committee meeting in Kyoto, Japan, OPPT representatives joined delegates from around the world who gathered to continue their work negotiating the development of the ISO 14000 standards. Some standards in the ISO 14000 series have already been set. The 14001 standards on management systems and its accompanying guidance standards, 14004, along with the auditing standards are already published and available. The 14001 standard specifies commitment to "prevention of pollution" as a required element of an organization's environmental policy.

OPPT sees ISO 14000 as a pollution prevention tool

Pollution prevention goals and the National Technology Transfer and Advancement Act of 1995 (NTTAA) drive OPPT's involvement in ISO 14000. EPA prefers innovative strategies including processes, technologies, or management practices that prevent rather than control pollution.

OPPT views environmental management standards like ISO 14000 as a potentially powerful tool to achieve pollution prevention goals. NTTAA requires all federal agencies to use voluntary standards in procurement and regulatory activities as a means of carrying out policy objectives or other actions, unless the use of these standards would be inconsistent with applicable law or impracticable. In addition, agencies must participate in the development of voluntary standards when such participation is in the public interest.

OPPT feels ISO 14000 presents the opportunity for industry to cost effectively accomplish the goals of pollution prevention via a multi-media approach that can integrate business goals and environmental objectives. OPPT is working with a variety of stakeholders to develop methods for verifying environmental performance goals in such areas as compliance and pollution prevention that result from application of an environmental management system.

In order to better represent national needs in ISO 14000 activities, EPA is coordinating with many groups to incorporate the perspectives and needs of various sectors. Two EPA representatives participate in a Multi-State Work Group (MSWG) for ISO 14001, the standard for management systems.

The MSWG is developing a matrix of performance indicators to test the impact of an ISO 14001-based EMS in a variety of pilot projects across ten states. Project designers will use the matrix to record data, which will be included in a national data base of information drawing on measurements from across media, across states and across pilot projects. Pollution prevention indicators are a major section of the matrix. In addition, the MSWG draws upon the enforcement and compliance matrix of indicators currently under development by EPA's Office of Enforcement and Compliance Assurance.

OPPT is also working with the National Pollution Prevention Roundtable to develop segments on pollution prevention that can be incorporated into ISO 14000 training courses. The Roundtable and OPPT hope to gradually introduce the pollution prevention hierarchy into the normal, accepted approach that any organization would take in order to meet the requirement of the standard. The 1990 Pollution Prevention Act defines pollution prevention as *source reduction* which is the most preferred activity in a hierarchy. The pollution prevention hierarchy affirms the principles of preventing pollution at the source rather than controlling it once it is created, and of reusing or recycling goods when possible, so that we rely upon treatment and safe disposal as a final alternative.

Pollutant Release and Transfer Registers (PRTRs): International Toxics Release Inventories

John Harman, *Environmental Assistance Division, OPPT*

The Toxics Release Inventory (TRI) has been a great success for informing the American public about the chemicals in their communities. However, the United States is not the only country with a publicly available inventory of toxic chemical releases and transfers. In fact, the number of countries which have created these systems, or which are in various stages of developing them, is growing each year.

The names of these inventories vary from country to country. While in the United States this inventory is known as the Toxics Release Inventory (TRI), in Canada it is the National Pollutant Release Inventory (NPRI), and the Registro de Emisiones y Transferencia Contaminantes (RETC) in Mexico. With so many names addressing the same type of system, a standard international name was selected, the Pollutant Release and Transfer Register (PRTR).

The international momentum on PRTRs began following the United Nation's 1992 Earth Summit (more formally known as the United Nations Conference on Environment and Development). Among the conclusions resulting from the conference was the value of PRTRs in the sound management of chemicals, and the importance of public involvement in environmental decision-making.

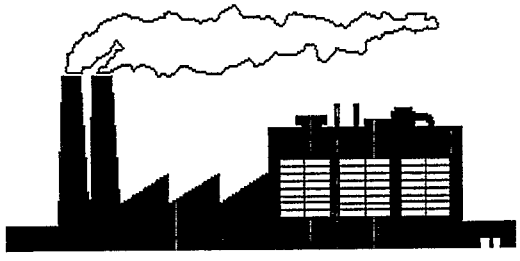
At the time, only the United States, with its TRI, collected yearly data on chemical releases and transfers and made that information available to the public. The Netherlands had been collecting air and water data on a periodic basis since the early 1980s, but only providing aggregate data to the public. Canada was in the process of creating its system.

One of the proposals from the Earth Summit was the creation of a guidance document for governments on PRTRs. The Organization for Economic Cooperation and Development (OECD), of which the United States is an active member, agreed to undertake this task. The process of developing this PRTR Guidance Manual for Governments, a document designed to facilitate the Right to Know concept, itself highlighted the benefits of public involvement. In a novel approach for the OECD, industry, and other non-governmental organizations were heavily involved in the process, providing important perspectives to the deliberations. In fact, the speed and success at which the guidance document was written prompted the environmental ministers of the OECD to issue a Council Recommendation encouraging all OECD nations to create PRTRs.

Another decision from the Earth Summit was the need to assist industrializing nations to develop PRTRs. The United Nations Institute for Training and Research (UNITAR) took on this role. UNITAR identified three industrializing nations (Czech Republic, Egypt, Mexico) to serve in a pilot project on PRTRs.

Using the OECD guidance manual, and a step by step process with accompanying documents developed by UNITAR, these countries began establishing national PRTRs. The United States provided financial and other forms of assistance to UNITAR on this project. With the lessons learned from this process, UNITAR expects to help other developing nations in the future.

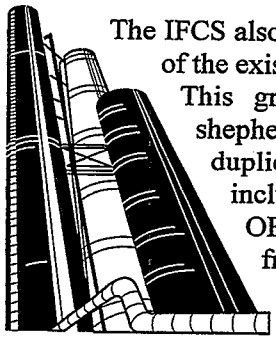
A new player is the Commission for Environmental Cooperation (CEC), an organization created by a side agreement to the North American Free Trade Agreement (NAFTA). With PRTR systems operating, or soon to be, in Canada, Mexico and the United States, North America offers groundbreaking opportunities. Release and transfer data now can be compiled between neighboring nations.



North America will be the first instance in which continent-wide PRTR data will be available. To take advantage of this, the CEC is preparing two annual documents. One analyzes the structure of the three PRTR systems. A second compiles and compares the PRTR data from the U.S. and Canada. Mexican data will be included in the future. Both of these reports

actually build on an EPA document that looks at PRTR data along the U.S.-Canada border and the U.S.-Mexico border. In addition, EPA's Region 5 and Environment Canada have prepared reports which analyze PRTR data around the Great Lakes. Beyond reports, the CEC is also coordinating tri-national meetings to discuss compatibility issues for the three PRTRs and is providing assistance to Mexico on its PRTR development.

Among the more recent events is the renewed endorsement of PRTRs at the recent meeting of the Intergovernmental Forum on Chemical Safety (IFCS). The IFCS is responsible for overseeing international progress on the action items relating to chemicals management that grew out of the Earth Summit. The U.S. and Mexico presented the IFCS with a paper on PRTRs which outlined future PRTR projects and sought recognition for the excellent work already achieved. All the proposals in the paper were accepted by the IFCS, which will probably stoke even greater interest from industrializing nations.



The IFCS also encouraged the continued work of the existing PRTR Coordination Group. This group formed in 1996 to help shepherd PRTR work and avoid a duplication of efforts. Members include the U.S. and other interested OECD nations, plus representatives from the OECD, the CEC, the European Union (EU), and UNITAR.

With the number of existing PRTRs growing from the present six (Canada, France, Netherlands, Norway, United Kingdom, U.S.), and with an increasing number of PRTRs under development (Australia, Czech Republic, EU, Egypt, Finland, Japan, Mexico, Sweden, Switzerland), or under consideration (China, Hungary, South Africa, Vietnam), this coordinating group is essential.

Future activities will take advantage of the growing experience on PRTRs. The most immediate event will be the PRTR workshop for the Americas. Mexico will host this workshop in July 1997, with the assistance of the CEC, OECD, and UNITAR. Representatives from governments and non-governmental organizations (NGOs) from the nations in the Americas will attend. Two similar workshops already have been held in Australia for Asian and Pacific countries and in the Czech Republic for the Central and Eastern European nations. In 1998, Japan will host an OECD workshop on PRTRs which will feature studies analyzing impacts to industry and the public of existing PRTRs.

UNITAR will continue to work with industrializing nations, moving from the present three pilot nations to a new, as yet unchosen, group. Other international organizations also are beginning to participate, including the United Nations Environment Programme, the World Bank, and the World Health Organization. With so many players bringing so many new ideas, the potential uses and benefits of PRTRs will continue to unfold.

The Commission for Environmental Cooperation: A North American Approach to Environmental Concerns

Lin Moos, *National Program Chemicals Division, OPPT*

The Commission for Environmental Cooperation (CEC) facilitates cooperation and public participation in fostering conservation, protection, and enhancement of the North American environment for the benefit of present and future generations. This effort is particularly important in the context of increasing economic trade and social links between Canada, Mexico, and the United States.

The CEC was established by the North American Free Trade Agreement (NAFTA) countries in 1994 to address environmental concerns in North America regardless of national boundaries. While the idea to create such a commission originated during the negotiations of the NAFTA, it derives its formal mandate from the North American Agreement for Environmental Cooperation (NAAEC, or the Agreement). The Agreement creates a North American framework whereby trade and environment-related goals can be pursued in an open and cooperative

way and helps prevent the creation of trade distortions or new trade barriers between the NAFTA partners.

In broad terms, the NAAEC sets out to protect, conserve and improve the environment for present and future generations by agreeing to a core set of actions and principles, including:

- reporting on the state of the environment;
- effective enforcement of environmental law;
- improved access to environmental information;
- striving for improvement of environmental laws and regulations; and
- promoting the use of economic instruments to achieve environmental goals.

While a number of Resolutions have been adopted under the Agreement, the Office of Prevention, Pesticides, and Toxic Substances (OPPTS) has been most actively involved in Council Resolution #95-5, Sound Management of Chemicals. The Resolution was developed because the three countries recognized that they must cooperate to protect and improve the environment and to achieve sustainable development. A major and shared concern are chemical pollutants transported across national boundaries through air and watersheds and traded products.

Given the problems and lost opportunities that can arise from the unsound use of chemicals, Canada, Mexico, and the United States agreed to work cooperatively to improve the management of chemicals while building upon their respective national, bilateral, and international commitments.

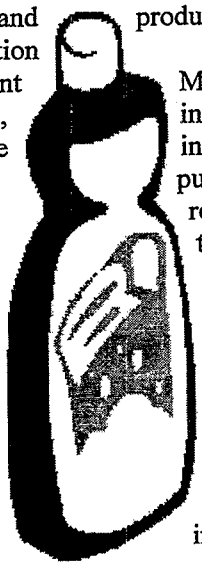
The first four substances addressed under the Sound Management of Chemicals Program were polychlorinated biphenyls (PCBs), mercury, DDT, and chlordane. Action Plans for PCBs, DDT, and chlordane are expected to be signed in June 1997 by EPA Administrator Browner, Sergio Marchi, Canada's Minister of the Environment, and Julia Carabias Lillo, Mexico's Secretary of State for the Environment, Natural Resources and Fisheries. The Action Plan for mercury will follow later in the year.

Further information on the Commission for Environmental Cooperation and ongoing activities under NAAEC can be obtained from the CEC website at: **http://www.cec.org**

Governments as Green Customers: Using Public Purchasing Power to Improve the Environment

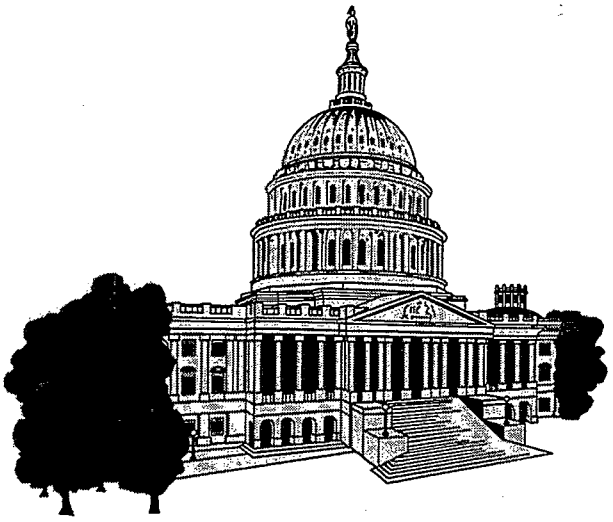
Eun-Sook Goidel, *Pollution Prevention Division, OPPT*

The Office of Pollution Prevention and Toxics (OPPT) has been playing an active role in an international forum created under the backing of the Organization for Economic Cooperation and Development (OECD) to facilitate information exchange among countries on ways government can use its purchasing power — at the Federal, state and local levels — to achieve environmental improvement.



Government purchasing represents a large portion of most countries' economies and can represent, in some cases, as much as 20% of the Gross Domestic Product (GDP). In the United States, the Federal government purchases over $200 billion worth of goods and service annually. The addition of state and local government purchases nearly triples this figure. Increasingly, policymakers in many countries are developing and implementing innovative programs aimed at leveraging the public sector's tremendous purchasing power as a means to influence the marketplace towards greener products and services.

Members of the international forum were instrumental in setting the agenda for an international conference on "greener" public purchasing which the Government of Switzerland recently sponsored. The conference brought together over 130 participants from government, industry and non-government organizations — representing over 20 countries as well as a number of international organizations, such as the United Nations Development Program — to share information on best practices internationally. The conference highlighted a variety of approaches, issues that cut across national boundaries, as well as future areas for international collaboration.



Programs to achieve environmental gains through changes in public purchasing patterns vary widely, both in terms of who initiates such activities and the types of products covered (spanning from office equipment, cleaning products, construction materials, to even services). In Denmark, for example, the central government established a national strategy to "promote sustainable product procurement." On the other hand, in Switzerland, efforts have been much more diffuse, with the cantons (similar to states) taking an active role in promoting greener public purchasing in the absence of a national policy.

The extent to which an individual country's "greener" public purchasing programs are linked to a national eco-labeling schemes also varies across national boundaries. Some countries, such as Germany with its Blue Angel eco-labeling program, have close linkages.

In the U.S., a series of Presidential Executive Orders issued by President Clinton have fueled much of the recent green purchasing activity. OPPT's own Environmentally Preferable Purchasing Program is an outgrowth of Executive Order 12873 on Federal Acquisition, Recycling and Waste Prevention. This Executive Order directs the Federal government to take a leadership role in identifying and purchasing "greener" products and services.

Pilot efforts in "greener" public purchasing are being undertaken by the Department of Defense (construction materials) and the General Services Administration (cleaning products and latex paints), both in partnership with EPA. Some very innovative programs have also cropped up at the state and local government levels (for example, by the Commonwealth of Massachusetts and the City of Santa Monica, California, respectively).

Despite the diversity of approaches among the countries, many of the programs share common challenges and issues. There is a general consensus among countries that a "greener" public purchasing program should take into account environmental impacts associated with a product's manufacture, use, and disposal, rather than just focusing on one aspect of the product's life cycle.

Though a more comprehensive approach is seen as desirable, implementing such an approach has been a challenge for most programs — including OPPT's Environmentally Preferable Products Program. However, countries are trying a variety of innovative methods to better integrate life cycle concepts into purchasing programs and much can be learned by sharing the experiences from these attempts.

Tremendous environmental gains can be made through the concerted efforts of national, state and local governments to factor in environmental considerations in their purchasing decisions. To achieve global as well as more local environmental improvements will require close collaboration among environmental and procurement experts as well as among countries so that one country's environmental improvement is not gained at the expense of another's.

Non-Regulatory Initiatives and the Use of "Clusters" for Chemical Risk Reduction: An OECD Workshop

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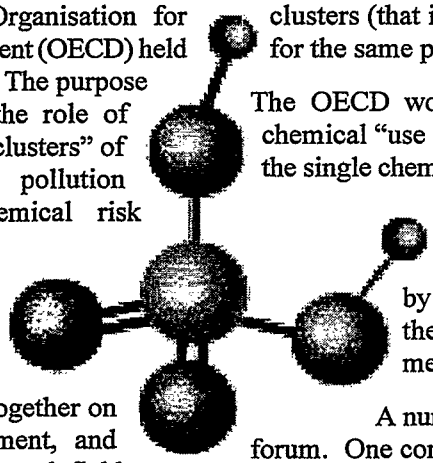
On September 10-13, 1995, the Organisation for Economic Cooperation and Development (OECD) held a workshop in Crystal City, Virginia. The purpose of this workshop was to discuss the role of voluntary initiatives and the use of "clusters" of similar chemicals to promote pollution prevention and cost-effective chemical risk management.



OECD is a group of the world's most highly industrialized and developed nations. The member countries of this organization work together on issues such as trade, the environment, and economic policy. In the environmental field, OECD has worked to promote international standards for screening level environmental information and achieved international agreements on reducing risk from certain chemicals such as lead.

Voluntary initiatives were identified as an effective way to empower private industry in pollution prevention and chemical risk management efforts. The first two and a half days of the workshop consisted of open discussions regarding voluntary initiative programs from member countries and private industry. These discussions helped to develop what the OECD thinks are important first steps in the initial development of a non-regulatory chemical risk management and pollution prevention program.

Conference participants discussed the most important steps in building a non-regulatory program, such as clearly identifying and understanding goals, involving stakeholders early, developing methods of measuring success, and ensuring a clear understanding of how a non-regulatory program can work with regulatory programs. These key ingredients were identified as necessary for the acceptance and success of voluntary pollution prevention and chemical risk management programs.

Recently, several OECD countries have expressed an interest in having an open forum to consider ways to manage chemicals through means other than chemical by chemical. One such means would be to consider clusters (that is, groups) of chemicals that are used for the same purpose, such as paint strippers.

The OECD workshop also focused on using this chemical "use cluster" approach as an alternative to the single chemical approach. The forum brought out issues regarding the cluster approach and developed a pool of information. This information will be considered by OECD member countries to improve their own chemical management methodologies.

A number of concerns surfaced during this forum. One concern addressed the need for member countries to explore the potential for pollution prevention and risk management benefits of all of a chemical's uses before taking regulatory action on a given chemical. Another concern was that the cluster approach may discourage the risk assessment of individual chemicals instead of promoting the risk assessment of cluster chemical constituents.

In response to both concerns the general feeling was that the cluster approach should be used as a means to collect information for better risk-based decision making. Member countries decided to investigate the different applications of the cluster approach and to request member countries to discuss how they are using "cluster type" approaches. They also decided to explore the possibilities of clustering as a basis for risk-based assessments and risk-based chemical management.

Sharing Information on New Chemicals: The United States/Canada Four Corners Agreement

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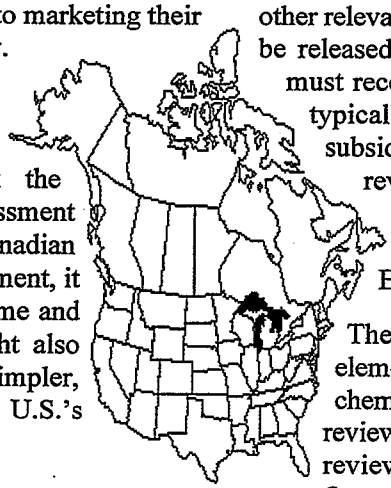
and David DiFiore, *Economics, Exposure, and Technology Division, OPPT*

Background

In an era of downsizing and belt-tightening, companies are trying to increase efficiency and save resources any way they can. When the Canadian government revised its new chemicals review program — adding a domestic substances inventory and production-based testing requirements — cost-conscious companies doing business in both the U.S. and Canada turned what first appeared as yet another hurdle to marketing their chemicals into a savings opportunity.



If a company had already sent a chemical through the U.S. new chemicals review, why not ask the Canadians to consider the U.S. assessment of its chemical? If the Canadian government accepted the U.S. assessment, it could save the company much in time and testing costs. Such a system might also make the Canadian reviewers' life simpler, since they might benefit from the U.S.'s review.

The Agreement

In 1994 the U.S., Canada and groups representing the chemical industry in both countries initiated talks to establish an information sharing system for new chemicals that have gone through the U.S. review but are not yet on the Canadian chemical inventory. After two years of discussions, the U.S. EPA and Environment Canada signed the "Four Corners Agreement" ("four corners" refers to the four principal parties involved in the negotiations and in implementing the agreement: the U.S. EPA, Environment Canada, the U.S. chemical industry, and the Canadian chemical industry).

Under the agreement, the parties began a two-year pilot program in April 1996. The goal of the pilot is to demonstrate that information sharing saves resources--for industry and government--and that through U.S. sharing of its assessment, new industrial chemicals can enter the Canadian market faster and with fewer test costs.

How It Works

Under the agreement, a new chemical manufacturer seeking entry to the Canadian market would begin the information-exchange process by submitting a request to Environment Canada. The Canadians would then notify the U.S. EPA's New Chemicals Program of the request, which would include information on the specific chemical for which information is sought and other relevant identifiers. Before any information can be released to Environment Canada, the U.S. EPA must receive a written waiver from the company, typically the U.S.-based parent of a Canadian subsidiary, that had submitted the chemical for review in the U.S. After receipt of the waiver, the EPA would send the documents from its assessment to Environment Canada.

The Canadians use this information as one element of their overall assessment of the new chemical. If they have questions about the U.S. review or need additional information, Canadian reviewers are free to contact assessors at EPA. Once the Canadians complete their review, they decide whether to allow the new chemical on their inventory, request additional information or testing, or deny the request for inventory status.

Whatever the outcome, Environment Canada informs EPA of its decision. If the Canadians have received test data on the chemical that was not part of the U.S. review, that information is sent to EPA, as well as any data Environment Canada obtains in the future.

What's Happened

To date, EPA has shared information on 25 chemicals, submitted by eleven U.S. chemical companies. Cooperative and productive interactions between EPA and Environment Canada bode well for the future of this agreement. A successful Four Corners program not only enhances commerce between the U.S. and Canada, but furthers international efforts to harmonize and streamline the assessment and introduction of new chemicals. Both the 1992 United Nations Conference

on Environment and Development in Rio de Janeiro and more recent Organization for Economic Cooperation and Development workshops in Paris sought progress on the goal of harmonizing new chemical reviews.

Ultimately, the Four Corners Agreement illustrates that government and industry can work together to find practical solutions that promote efficiency and save dollars — both American and Canadian.

Measuring Air Pollution in the Great Lakes Region

Gary Gulezian, *Acting Director, EPA Great Lakes National Program Office*

Scientists at the U.S. Environmental Protection Agency (EPA) are measuring the levels of many man-made chemicals in the air in the Great Lakes area to evaluate whether a large amount of these chemicals is getting into the waters of the Great Lakes from the air. The chemicals being measured are of concern because they are found in the fish of the Great Lakes and can pose a health hazard to people who eat Great Lakes fish.

Some of these chemicals are:

polychlorinated biphenyls (PCBs), industrial chemicals widely used until production was stopped in 1977;

DDT, an insecticide used for termite control until it was banned in 1972;

mercury, a naturally occuring element often used in electrical equipment and thermometers;

lindane, an insecticide used on food crops and forests, and to control lice and scabies in livestock and humans; most uses were restricted in 1983; and

polycyclic aromatic hydrocarbons (PAHs), compounds emitted by combustion facilities such as waste incinerators.

To measure these chemicals, EPA, in cooperation with Environment Canada, established a binational air

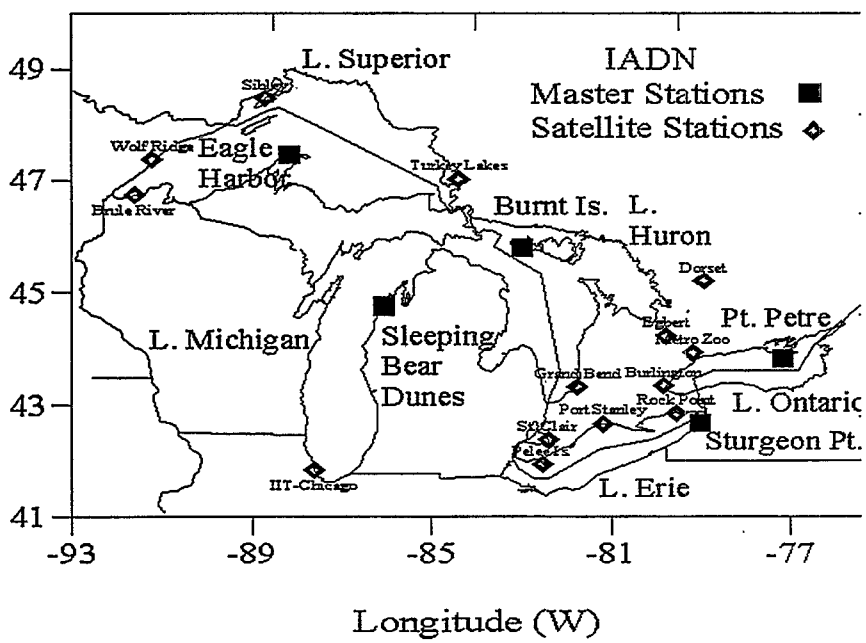


Figure: Integrated Atmospheric Deposition Network (IADN) Monitoring Stations

monitoring network called the Integrated Atmospheric Deposition Network (IADN). The IADN is made up of five primary, or "master," monitoring stations, one on each Great Lake, and fourteen supplemental, or "satellite," stations that provide additional information (see Figure, p.24). This network is required by the Great Lakes Water Quality Agreement, a binational agreement to reduce toxic chemicals in the Great Lakes.

At each IADN site, concentrations of chemicals are measured in rain and snow (also called wet deposition), airborne particles (dry deposition), and airborne vapors. From these measurements, the amount of a chemical entering the lake from the air can be estimated. Since its inception in 1990, IADN has tracked trends of chemical concentrations in air. For example, IADN data have shown that levels of lead entering the Great Lakes from the air declined from 1990 to 1994. This is probably due to the removal of lead in most vehicle fuels in the U.S. Another example is that the level of PCBs in the air of the Great Lakes region seems to remain fairly constant, perhaps showing a slight decline, but not a large one. This is of concern since PCBs were phased out in the 1970's, but are still found in our environment at elevated levels.

If you would like information on IADN, please contact the EPA project manager, Angela Bandemehr, at (312) 886-6858 or via e-mail at: *bandemehr.angela@epamail.epa.gov*.

The International Toxicological Profiles Collection of the Office of Pollution Prevention & Toxics Library

Linda Miller Poore, M.L.S., *Head Librarian, Office of Pollution Prevention and Toxics Library (operated for OPPT by Garcia Consulting, Inc.)*

The United States Centers for Disease Control & Prevention (CDC), Agency for Toxic Substances and Disease Registry (ATSDR) publishes a useful set of guides to the health effects of toxic chemicals in its *Toxicological Profiles* series. But other countries and international organizations also produce similar volumes, some of which are collected by the U.S. EPA's Office of Pollution Prevention and Toxics Library and are described below.

The Government of Canada requires under its Canadian Environmental Protection Act (CEPA), that the Minister of Environment and the Minister of Health prepare and publish assessments as to the toxicity of a Priority Substances List, which identifies chemicals, groups of chemicals, effluents, and wastes that may be harmful to the environment or a danger to human health. The Library carries the series of *Priority Substances List Assessment Reports* that seek to determine the toxicity of the substance being examined.

The next country-specific titles are the German Chemical Society Advisory Committee on Existing Chemicals of Environmental Relevance (Beratergremium für Umweltrelevante Altstoffe (BUA)) report series which utilize published scientific literature as well as data from industry. A list of available titles is included on their website. The site is in German, but Chemical Abstracts Service registry numbers are provided. The Library carries the English language versions of the BUA reports.

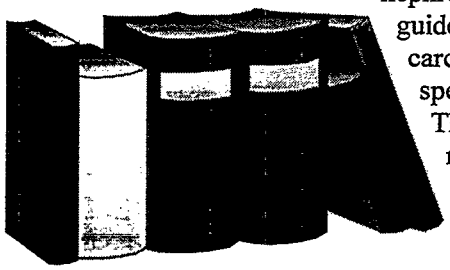
An older title is the United Nations Environment Programme's International Register of Potentially Toxic Chemicals (IRPTC) collection of the *Scientific Reviews of Soviet Literature on Toxicity and Hazards of Chemicals*. This series is aimed at "toxicologists,

Chemical Information Contained in BUA Reports (BUA-Stoffberichte)

A standard BUA report includes the following sections:

- Summary and Conclusions
- Recommendations
- Chemistry
- Physical Properties
- Emission into the Environment during Production
- Processing
- Use and Waste Disposal
- Environmental Occurrence
- Environmental Behavior
- Ecotoxicity
- Toxicity to Warm-Blooded Animals
- Substance-Specific Legal Regulations
- a Reference/Literature list

hygienists and those responsible for evaluation and control of harmful effects of chemicals to human health and the environment." Published in the 1980s, this English language series is now primarily valuable as a historical resource.



The European Centre for Ecotoxicology and Toxicology of Chemicals (ECETOC), headquartered in Brussels, Belgium, produces three peer-reviewed series: *Monographs*, *Technical Reports*, and the *Joint Assessment of Commodity Chemicals (JACC) Report* series. Commodity chemicals are defined as "those produced in large tonnage by several companies and having widespread and multiple uses." (Note: The JACC series/reports cover only the chemical itself and not products in which it may occur as an impurity.)

Finally, the International Programme on Chemical Safety (IPCS), under the joint sponsorship of the United Nations Environment Programme (UNEP), the International Labour Organisation, and World Health Organization (WHO), contributes two titles to the OPPT Library toxicological profiles collection: the *Environmental Health Criteria (EHC)* chemical profile monographs and companion *Health and Safety Guides.* Besides chemical-specific volumes, the EHC series includes titles devoted to evaluating toxicological methodologies for genetic, neurotoxic, teratogenic and nephrotoxic effects; epidemiological guidelines; evaluation of short-term tests for carcinogens; biomarkers; and effects on specific populations such as the elderly. The target audience for the EHC monographs are national and international authorities responsible for conducting risk assessments and making risk management decisions, while the less technical *Health and Safety Guides* are meant to provide practical information on how to safely use chemicals and avoid creating environmental health hazards.

For further information on borrowing any of these titles through Interlibrary Loan, contact your local library or the OPPT Library. Telephone: (202) 260-3944; FAX (202) 260-4659; E-mail: library-tsca@epamail.epa.gov

Internet addresses for organizations and publications listed above

Agency for Toxic Substances and Disease Registry (ATSDR)	**http://atsdr1.atsdr.cdc.gov:8080/atsdrhome.html**
Environment Canada	**http://www.ec.gc.ca/envhome.html**
Commercial Chemicals Website	**http://www.ec.gc.ca/cceb1/eng/ccw.htm**
Priority Substances Assessment Program	**http://www.ec.gc.ca/cceb1/eng/psap.htm**
European Centre for Ecotoxicology and Toxicology of Chemicals (ECETOC)	**http://db1.nihs.go.jp/ecetoc/**
German Chemical Society (Gesellschaft Deutscher Chemiker) Advisory Committee on Existing Chemicals of Environmental Relevance (Beratergremium für Umweltrelevante Altstoffe (BUA))	**http://www.gdch.de/projekte/stoffb.htm**
International Programme on Chemical Safety (IPCS)	**http://www.who.ch/programmes/pcs/pcs_home.htm**
Scientific Reviews of Soviet Literature on Toxicity and Hazards of Chemicals (UNEP/IRPTC)	**http://db1.nihs.go.jp/ecetoc/section/81.html**

EPA

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