National Implementation of SAICM:

A Guide to Resource, Guidance, and Training Materials of IOMC Participating Organizations

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IOMC

INTER-ORGANIZATION PROGRAMME FOR THE SOUND MANAGEMENT OF CHEMICALS

A cooperative agreement among FAO, ILO, UNDP, UNEP, UNIDO, UNITAR, WHO, World Bank and OECD

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United Nations Institute for Training and Research

This publication was developed in the IOMC context. The contents do not necessarily reflect the views or stated policies of individual IOMC Participating Organizations.

The Inter-Organization Programme for the Sound Management of Chemicals (IOMC) was established in 1995 following recommendations made by the 1992 UN Conference on Environment and Development to strengthen cooperation and increase international coordination in the field of chemical safety. The Participating Organizations are FAO, ILO, UNDP, UNEP, UNIDO, UNITAR, WHO, World Bank and OECD. The purpose of the IOMC is to promote coordination of the policies and activities pursued by the Participating Organizations, jointly or separately, to achieve the sound management of chemicals in relation to human health and the environment.

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1. PURPOSE AND OVERVIEW OF THE DOCUMENT

Following adoption of the Strategic Approach to International Chemicals Management (SAICM) at the International Conference on Chemicals Management (ICCM) in February 2006, countries have initiated implementation of SAICM, including development of national SAICM implementation plans. To inform country deliberations and related capacity building initiatives, the participating organizations (POs) of the Inter-Organization Programme for the Sound Management of Chemicals (IOMC) have prepared this Guide. It raises issues countries may want to consider in preparing for, developing, and implementing their SAICM implementation plans and points to existing resources, guidance and training materials available through IOMC POs for particular SAICM work areas.[1]

The IOMC recognizes that countries are starting from different stages of development with regards to their national programmes for the sound management of chemicals and will therefore have different requirements for guidance materials and tools to assist the implementation process. Furthermore, countries will have different priorities for strengthening their capacities for the sound management of chemicals, priorities that may be captured under the specific work areas. These factors generate a demand for a flexible resource guide that allows countries to identify and access a portfolio of materials tailored to suit their specific needs in planning for the implementation of SAICM.

The structure of the document is as follows. Following this introduction, section 2 summarizes relevant programmes of the IOMC organizations. Section 3 provides a brief summary of SAICM, including a review of the main outcomes of SAICM as contained in the three key texts agreed upon at the ICCM, the Dubai Declaration, the Overarching Policy Strategy (OPS) and the Global Plan of Action (GPA). Section 4 points to resource documents relevant to developing an enabling platform—or governance framework—at the national level for effective and coordinated SAICM implementation. Issues addressed in this section include: integrating chemicals management into national development priorities; developing a sound institutional and programmatic national framework; effective project planning, implementation, monitoring and evaluation; legislation and enforcement; and involvement of the private sector and civil society. Finally, section 5 focuses on specific substantive topics for strengthening chemicals management issues included in SAICM.

[1] The materials included in this document have been developed by the participating organizations of the IOMC. This 2012 edition is an update of the original 2008 edition. The participating organizations are the Food and Agriculture Organization (FAO), the International Labour Organization (ILO), the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), the United Nations Industrial Development Organization (UNIDO), the United Nations Institute for Training and Research (UNITAR), the World Health Organization (WHO), the World Bank and the Organisation for Economic Co-operation and Development (OECD).

2. OVERVIEW OF RELEVANT PROGRAMMES OF IOMC PARTICIPATING ORGANIZATIONS

2.1 FAO[2]

The FAO has a mandate for international cooperation to raise levels of nutrition and standards of living, to improve agricultural productivity, and to better the condition of rural people. The FAO Conference, which meets every two years, is the supreme governing body of the FAO. FAO has a system of regional and country offices that play an important role in the design and delivery of capacity building activities. Plant Protection posts exist in the Regional Offices in Africa (Ghana), Asia and the Pacific (Thailand), Latin America (Chile), and the Near East (Cairo), and in the sub-regional offices in Addis Ababa, Ankara, Barbados, Budapest, Harare, Libreville, Panama, Western Samoa, and Tunis. At FAO Headquarters in Rome, of particular relevance are FAO's Plant Protection Service (which also hosts the Joint Rotterdam Convention Secretariat with UNEP Chemicals, Geneva) and FAO's Legal Office, as well as its Technical Co-operation Department which facilitates direct assistance/capacity building to developing countries through its Technical Cooperation Programme (TCP).

2.1.1 Pesticide Risk Reduction Group, AGPMC[3]

The Pesticide Risk Reduction Group (AGPMC), part of the Plant Production and Protection Division of the Agriculture Department, addresses international aspects of plant protection and closely cooperates with regional and national plant protection organizations and programmes. The programme addresses plant quarantine in the *Secretariat to the International Plant Protection Convention*, setting standards, exchanging information and fostering cooperation. Concerning pesticide management, the programme promotes the implementation of the *International Code of Conduct on the Distribution and Use of Pesticides*; it implements with UNEP the *Rotterdam Convention* and, with WHO, makes recommendations for maximum residue levels as well as for pesticide specifications. On pest management, the Service supports the establishment of Integrated Pest Management (IPM) strategies and hosts the Global IPM-Facility consisting of FAO, UNDP, UNEP and the World Bank.

Pesticide Management and Implementation of the Code of Conduct: The Pesticide Risk Reduction Group (PRRG) covers a wide range of capacity building activities, which include development of national pesticide registration and control schemes; strengthening of national technical and physical facilities to enforce pesticide regulatory schemes more effectively; provision of various types of training on the appropriate and efficient use of pesticides for farmers, extension workers, retailers and medical personnel; facilitating computerised exchange of information and networking on pesticides, regulatory issues and on other technical matters among cooperating countries; and undertaking national and regional survey missions on laboratory infrastructures for pesticide analysis and helping to establish/ strengthen such infrastructures.

PRRG also provides, through standard setting bodies on pesticides, references for countries on limits of pesticide residues and for pesticide product quality. The Joint FAO/WHO Meeting on Pesticide Residues (JMPR) is the scientific body for the establishment of

[2] See http://www.fao.org
[3] See http://www.fao.org/ag/agp/agpp/Default.htm

CODEX maximum residue limits for pesticides. The Joint FAO/WHO Meeting on Pesticide Specifications (JMPS) develops international quality criteria for pesticides used in agriculture and public health so that the quality of products can be judged either for regulatory purposes or in commercial dealings. Thus the specifications help to reduce the trade, sale and use of inferior pesticide products Many countries, industrialized and developing ones, adopt these international standards as their national standards.

Prevention and Disposal of Obsolete Pesticides: FAO is the only UN-agency with a programme aiming at enabling countries to dispose of obsolete pesticide (chemical) stocks and to prevent further accumulation of such stocks. The FAO Obsolete Pesticides Project, initiated through Dutch trust funds, maintains the world-wide inventory on obsolete pesticides, which today is estimated to amount to 500.000t. FAO/AGPP has executed various disposal operations in Africa, Latin America and the Near East supported by various donor countries and agencies. This unit was instrumental in the creation and implementation of the African Stockpiles Programme (ASP) and is continuing the programme of support to African countries, Eastern Europe, Caucuses and Central Asia, Caribbean and Pacific and Asia for the elimination and prevention of obsolete pesticides, with GEF, EU and bilateral donor support.

Integrated Pest Management (IPM): AGPP supports the establishment of IPM programmes, including the application of biological control and weed management. IPM increases the sustainability of farming systems, and IPM programmes are considered economically sustainable as they reduce farmers' dependence on procured inputs such as pesticides. FAO promotes IPM through awareness raising and support to the development of field programs and policy reform.

IPM is a key element of FAO's approach to Sustainable Crop Production Intensification (SCPI) which is encompassed in the publication Save and Grow.[4] This approach promotes production systems that conserve natural resources and use agricultural methods that build on ecological processes. Substantial IPM based programmes are currently being implemented in South East Asia, the Near East and North Africa and West Africa, with national projects in many other countries.

Secretariat of the Rotterdam Convention: The Secretariat for the Rotterdam Convention is collocated at FAO AGPMR in Rome and with UNEP Chemicals in Geneva.[5]

2.1.2 FAO Legal Office[6]

FAO's Legal Office provides legal advisory services to governments on a range of issues, including plant protection and pesticides registration. Working with the technical services of FAO, it helps governments prepare laws, regulations, agreements and other legal texts, advises on institutional structures and compliance with international law. An element of most advisory projects is capacity building through participatory training of national officials and consultants.

[4] See www.fao.org/ag/save-and-grow
[5] See http://www.pic.int
[6] See http://www.fao.org/Legal/index_en.htm

2.1.3 FAO Technical Cooperation Department[7]

Through its Technical Cooperation Programme (TCP), FAO allocates limited resources to its member states to meet the most pressing development needs in agriculture. On pesticide matters technical assistance has been provided for various areas supporting capacity building, such as drafting pesticide legislation, strengthening pesticide management and control capacities, building laboratory capacity or facilitating pesticide disposal operations. The Technical Cooperation Programme also liaises with donors from governments, international institutions and the private sector to mobilize and direct resources to prioritized country needs. In many situations such projects include elements on pesticide management in the context of sustainable crop production intensification.

2.2 ILO[8]

The International Labour Organization is a UN specialised agency that seeks the promotion of social justice and internationally recognised human and labour rights. The ILO formulates international labour standards in the form of Conventions and Recommendations, setting minimum standards of basic labour rights. The member States of the ILO meet at the International Labour Conference in June of each year in Geneva. The Conference establishes and adopts international labour standards, and elects the Governing Body which is the executive council of the ILO.

ILO capacity building activities for sound chemicals management are integrated within its overall activities for occupational safety and health and are undertaken in the context of the ILO Infocus Programme on Safety and Health at Work and the Environment (Safework).

2.2.1 Safework[9]

While based in Geneva, Safework works through a decentralised network of occupational safety and health experts in the field to facilitate cooperation and elaborate international standards and instruments to establish the minimum levels that should be reached and maintained (e.g. ILO Convention 170). Regional and country field programmes and offices are in place in all regions of the world. For practical improvements for workplace chemical safety, the participation of workers and employers at the national level in the formulation of national policy is essential. Also at the enterprise level, worker-management collaboration is critical. SafeWork promotes such collaboration at the national and enterprise levels. Safework technical cooperation activities assist to implement these instruments at the national level with the aim to improve working conditions at the work place.

Technical cooperation projects, and regional training seminars and symposia, have been held in all the developing and transition regions. Assistance is provided, for example, to:

- Promote and aid in the implementation of the globally harmonised systems for classification and labelling (GHS) as part of the UNITAR/ILO Global GHS Capacity Building Programme;
- Develop legislation, strengthen national institutions through training;
- Translate documentation related to occupational safety and health into local languages;

[7] See http://www.fao.org/tc
[8] See http://www.ilo.org
[9] See http://www.ilo.org/public/english/protection/safework/standard.htm

- Promote the use of international chemical safety cards (ICSCs);
- Use Training Modules on Chemical Safety in order to introduce safe use of chemicals at places of work, to present classification systems for the labelling and transport of dangerous goods, to allow the reading and use of chemical safety cards, to give a basic overview of toxicology, and to disseminate information on selected, widely-used hazardous substances; and
- Provide special support to developing countries in the form of technical cooperation projects, as well as the provision of safety and health information, via the International Occupational Safety and Health Information Centre's (CIS) network.

2.3 UNDP[10]

UNDP promotes the sound management of chemicals as an important component of the global poverty reduction effort. In line with its role as the UN's development network, UNDP advocates the importance of addressing issues related to chemicals management and chemically linked pollution in developing countries by encouraging integration of rigorous chemicals management schemes into MDG-based national development policies and plans. UNDP also works with countries to identify necessary resources and sources of funding to improve their chemicals management regimes to achieve desired results.

Within the framework of the Strategic Approach to International Chemicals Management (SAICM), UNDP advocates for the integration of sound chemicals management priorities into national environmental and poverty reduction planning frameworks and helps countries access resources to improve their chemical and waste regimes.

UNDP uses a global network on the ground in 177 countries to help the UN system and its partners to raise awareness and track progress, while it connects countries to the knowledge and resources needed to achieve MDGs. The UNDP Executive Board is made up of representatives from 36 countries around the world, who serve on a rotating basis and meet three times per year.

With the support of the Global Environment Facility (GEF), the Multilateral Fund (MLF) for the Implementation of the Montreal Protocol, UNDP's Environment and Energy Thematic Trust Fund, the SAICM Quick Start Programme Trust Fund (QSPTF) and various other donors and partners, UNDP helps countries reduce the vulnerability of their poor to health and environmental stresses; facilitates the integration of environmental issues into national environmental and poverty reduction planning frameworks; and helps increase access to the best available and affordable alternative technologies.

UNDP chemicals-related capacity building activities are mainly coordinated by the Energy and Environment Group, more specifically by the Montreal Protocol Unit / Chemicals. Chemicals Management activities are implemented in close cooperation with UNDP's Country Offices.

UNDP helps countries to improve their chemicals management and attain the MDGs by providing assistance in the following areas:

- Integrate the sound management of chemicals into national development plans and policies;

[10] See http://www.undp.org

- Manage chemicals of particular concern for pro-poor policies (POPs, ODS, heavy metals and others); and
- Strengthen national capacities on integrated waste management, including waste prevention, reuse and recycling, and disposing a range of waste streams.

2.3.1 Integrating Sound Management of Chemicals into National Development Planning

To improve their chemicals management regime, UNDP assists countries to integrate the Sound Management of Chemicals (SMC) into national development plans and strategies through:

- Provision of technical guidance, and
- Assistance in catalyzing environmental finance.

The UNDP Guide for Integrating the Sound Management of Chemicals into MDG-Based Development Planning[11] provides a systematic approach to countries to help assess their capacity for sound management of chemicals, identify needs, and ultimately integrate identified priorities into national MDG-based development policies and plans. The UNDP Guide is based on applied, practical experience accumulated in a number of pilot countries under the UNDP-UNEP Partnership Initiative.

UNDP-supported activities entail:

- Baseline analysis to determine the degree of integration of SMC into national development planning and to assess the adequacy of such strategies in terms of protecting the environment and human health;
- In-depth assessment of national chemical management issues relevant to national development planning;
- Identification of chemicals management opportunities likely to result in concrete environmental, health and economic benefits as a result of introducing sound management practices and determination to what extent these could be integrated into national MDG-based development planning;
- Determination of economic costs and benefits of SMC interventions (such as policy/regulatory options, SMC practices, etc.);
- Developing policy and regulatory frameworks to facilitate the implementation of selected priorities and their subsequent integration; and
- Improving the integration of chemicals management priorities into national discussions, development processes, policies and plans.

These activities are not only targeted at influencing national plans, but also at sector strategies and local level implementation. The overall aim is to establish enduring institutional processes within government ministries and the wider stakeholder community to bring about the sound management of chemicals – focusing on the government bodies responsible for poverty reduction and growth policies, while strengthening the role of environmental agencies and non-governmental actors. The process also entails fostering national budget commitments, in partnership with donor assistance, following the integration of chemical management priorities into national policy and planning documents.

[11] See http://www.undp.org/content/undp/en/home/librarypage/environment-energy/chemicals_management/integrating-sound-management-of-chemicals-into-mdg-based-development-planning.html

2.3.2 Managing Chemicals of Concern (Persistent Organic Pollutants, Ozone Depleting Substances, Heavy Metals)

There is an established link between poverty and the increased risk of exposure to toxic and hazardous chemicals. Exposure of poor people to toxic chemicals is often strongly correlated to geography. In urban settings, low-income or minority populations typically reside in neighbourhoods considered undesirable, such as areas adjacent to industrial zones. These places can be major sources of environmental exposure to toxic chemicals, originating from factories, landfill sites, incinerators, and/or hazardous waste dumps (with controlled or uncontrolled leakage).

In rural areas, where three-quarters of the world's poor live, most chemical exposure is linked to pollution brought by waterways as well as the use of pesticides in agriculture. The improper use, management, and storage of pesticides and chemical fertilizers can result in contamination of air, food, soil, and drinking water (e.g. through pesticide and nitrate run-off), leading to increased human exposure and associated health risks.

Certain groups of chemical substances are of particular concern for poor and vulnerable population groups as well as the environment which provides these communities with livelihoods.

UNDP's work prioritizes the sound management of such groups of substances including:

Persistent Organic Pollutants

With grants from the Global Environment Facility (GEF), UNDP is supporting the implementation of POPs projects in more than 50 countries world-wide, addressing a variety of national and Stockholm Convention on Persistent Organic Pollutants priorities, as well as GEF Strategic Objectives.

UNDP supports the reduction and elimination of all types of POPs contaminants included under the Stockholm Convention, covering a multitude of sectors and activities:

- Updating of National Implementation Plans (NIPs);
- Sound management and disposal of POPs pesticides, including the promotion and introduction of POPs-free alternatives;
- Sound management of PCB stockpiles, including inventories, sound disposal, strengthening of legal frameworks and enforcement capacity;
- Reducing releases of unintentional POPs (UPOPs) and brominated flame-retardants resulting from unsound waste management processes/practices as well as recycling operations (e.g. e-waste, health-care and municipal waste etc.);
- Gradual implementation of best available techniques (BAT) and best environmental practices (BEP) for existing as well as new POPs sources; and
- Minimization of exposure levels of communities living close to contaminated areas.
- Incorporating POPs issues into national development planning processes, and analyzing country development strategies to ensure that there is no increased POPs burden.

Wherever possible and appropriate, UNDP POPs activities are undertaken within a country's framework for sound management of chemicals, to ensure national coordination among chemicals-related activities in support of regional or global conventions and agreements on chemicals.

Ozone Depleting Substances

UNDP provides financial and technical assistance to developing countries and countries with economies in transition to protect the ozone layer and safeguard the global climate.

With the financial support of the Multilateral Fund for the Implementation of the Montreal Protocol (MLF), the Global Environment Facility (GEF) and bi-lateral donors, UNDP helps countries to meet their commitments under the Montreal Protocol on Substances that Deplete the Ozone Layer, phase-out HCFCs and introduce Ozone and Climate friendly alternatives through:

- Institutional capacity development;
- Policy and regulatory interventions;
- Validation and demonstration of alternative technologies (low carbon, zero ODP); and.
- Setting-up national financial mechanisms to access, combine and sequence different sources of environmental financing funding to meet Montreal Protocol compliance and address climate co-benefits.

Since 1992, UNDP has implemented 2,200 projects in 124 countries. UNDP's portfolio of ozone-related projects has a cumulative total value exceeding US$ 643 million and to date has prevented the release of over 68,000 tonnes of ODS into the atmosphere.

Heavy Metals

To protect public health and the global environment from the impacts of heavy metals, such as mercury and lead, UNDP, with financial support from the Multilateral Fund, GEF and bi-lateral donors, is supporting countries through the following means:

- Advocating for and supporting the phase-out of mercury containing products from the healthcare sector (e.g. thermometers and sphygmomanometers) in Argentina, India, Latvia, Lebanon, Philippines, Senegal and Vietnam, among other countries;
- Conducting country-specific assessments of electronic and electric waste streams and its processing, including waste components of particular concern, such as mercury and lead, and subsequently putting in place plans to manage this waste in an environmentally sound manner;
- Introducing management schemes that support the waste aspects of obsolete equipment (including mercury waste stream), which arise when more environmentally friendly and energy efficient appliances are being introduced (e.g. as a result of refrigerator replacement programmes);
- Introduction of Best Environmental Practices (BEP) and Best Available Technologies (BAT) to e-waste processing to avoid harmful releases of heavy metals and other hazardous substances; and
- Policy and regulatory interventions.

2.3.3 Chemicals Waste Management

Reducing UPOPs Emissions from Uncontrolled Waste Burning

With GEF grants and in support of the Stockholm Convention, UNDP supports initiatives in the field of non-hazardous waste management that aim to reduce releases of Unintentional Persistent Organic Pollutants (UPOPs). Such emissions result from the uncontrolled and

indiscriminate burning of household waste posing significant threats to human and environmental health.

Particularly in countries where large volumes of municipal waste are generated on a daily basis and where sound waste management systems do not exist or are limited, municipal waste is often uncontrollably burned at dump sites and landfills in order to recuperate valuable waste streams (e.g. metals) as well as to compact waste volumes.

To address challenges with respect to waste management and to reduce UPOPS emissions, UNDP provides developing countries and their cities with planning and policy advice as well as technical assistance focusing on UPOPs reduction from uncontrolled burning. As a part of national efforts to establish Integrated Waste Management Strategies, the recuperation, recycling and marketing of valuable waste streams is an integral part.

Programmes on Hazardous Waste Streams

In addition to the overall support for general waste management, mostly with grants from the Global Environment Facility (GEF), UNDP implements programmes managing a number of hazardous waste streams that are particularly problematic due to their human health and environmental consequences. Such waste streams often concern past environmental liabilities, stockpiles of hazardous waste or highly contaminated sites, but also address obsolete consumer appliances and other special waste streams. In particular UNDP programmes cover:

Management of PCB Containing Waste

In spite of the cessation of production, PCBs continue to be a pollutant of major concern on an international scale. There are a substantial amount of PCBs still in use due to the long lifetime of power equipment, such as transformers, and the exemption made in many countries for their contained use until end-of-life of the equipment.

To ensure that PCBs are managed in a way minimizing human exposure and environmental releases, UNDP supports sizeable PCB management programmes in the following ten countries: Argentina, Brazil, Ghana, Kazakhstan, Kyrgyzstan, Latvia, Mexico, Morocco, Slovak Republic and Uruguay.

Obsolete Pesticides

UNDP assists countries in the implementation of obsolete pesticides projects through building countries' capacity to soundly manage and dispose of obsolete pesticides. UNDP is currently assisting a handful of countries, including China, Georgia, Honduras, Mauritius, Nicaragua and Vietnam with pesticide waste management initiatives. There are several multi-contaminant projects implemented by UNDP that include important obsolete pesticide components.

Healthcare Waste Management

A partnership between UNDP, the World Health Organization (WHO), and other major donors and stakeholders, is assisting several countries (including Argentina, India, Latvia, Lebanon, Philippines, Senegal and Vietnam, among others) in developing and maintaining

best healthcare waste management practices in ways that are both locally appropriate and globally replicable. The programme's ultimate goal is protection of public health at the local level as well as the protecting the global environment from the impacts of dioxin and mercury releases.

2.4 UNEP[12]

UNEP is a programme of the UN General Assembly and has a mandate for coordination, and integration, of actions within the UN with respect to problems relating to the environment and for integrating a large number of separate efforts by intergovernmental, non-governmental, national and regional bodies. The UNEP Governing Council is the principle governing and legislative body for UNEP and usually meets every two years.

UNEP's activities on chemicals and waste are covered under its subprogramme on harmful substances and hazardous waste. The subprogramme assists countries and regions in managing the life cycles of chemicals substances and waste that could pose a threat to the environment and human health. For more than 30 years, UNEP's work has supported initiatives related to specific chemicals or to critical elements of their life cycles. UNEP's work includes efforts to reduce risks from mercury, heavy metals, pesticides, persistent organic pollutants (POPs) and other chemicals of global concern.

The activities are centred on the following three expected accomplishments:

1. Increased capacities of States and other stakeholders to assess, manage and reduce risks to human health and the environment posed by chemicals and hazardous waste;
2. Coherent international policy and technical advice provided to States and other stakeholders for managing chemicals and hazardous waste in a more environmentally sound manner, including through better technology and best practices; and
3. Appropriate policy and control systems for harmful substances of global concern are developed and being implemented in line with international obligations of States and mandates of relevant entities.

2.4.1 Increased capacities of States and other stakeholders to assess, manage and reduce risks to human health and the environment posed by chemicals and hazardous waste

The aim is to help countries to increase their capacities for sound management of chemicals and hazardous waste within a life cycle approach. It covers data collection, the assessment and management of chemicals, the implementation of scientifically designed hazardous waste management systems and the strengthening of chemical and hazardous waste legislation and regulatory frameworks. In collaboration with UNDP and other United Nations entities through relevant inter-agency processes, it will promote the mainstreaming of chemical safety in development agendas and the active involvement of all relevant sectors to achieve coherent and effective regulatory, voluntary and market-based policies at the national level and, when relevant, at the sub-regional level. It will also promote and facilitate public access to information and knowledge on chemicals and hazardous waste, including impacts on human health and the environment.

[12] See http://www.unep.org

The activities under this expected accomplishment covers:

- Mainstreaming of sound management of chemicals in order to ensure attention and sustainable financing for sound management of chemicals and hazardous waste as part of development policies and plans;
- Information access and exchange in order to strengthening capacity to access and exchange national, regional and international information;
- Sound production and use of chemicals through developing, testing and transferring the technical tools, methodologies and frameworks necessary for the environmentally sound and safe production and use of chemicals;
- Small and medium sized enterprises (SME) partnerships for sound management of chemicals in order to build capacity of SMEs to manage the harmful substances they use and the hazardous waste they produce; and
- Environmentally sound management of chemicals through provision of technical tools for the environmentally sound management of hazardous waste.

2.4.2 Coherent international policy and technical advice is provided to States and other stakeholders for managing harmful chemicals and hazardous waste in a more environmentally sound manner, including through better technology and best practices

The aim is to advance the international agenda on chemicals through the implementation of the environmental component of the Strategic Approach to International Chemicals Management, the subprogramme will support the development of policy- and science-based advice and guidelines to Governments and other stakeholders on risk assessment and management; raise awareness of potential adverse effects of chemicals, including hazardous waste; and address emerging issues. It will also contribute to the development of methodologies and tools for monitoring and evaluating progress in sound management of chemicals and hazardous waste.

The activities under this expected accomplishment covers:

- Secretariat support to the Strategic Approach to International Chemicals Management (SAICM);
- Development of global assessment (e.g. the Global Chemicals Outlook) of the production, trade, use, impacts, management and control of harmful substances and hazardous waste to inform the international community;
- Risk assessment and management in order to reduce the risks posed by chemicals and hazardous waste through coherent risk assessment and life-cycle management approaches, methodologies and guidance;
- Destruction technologies through coherent information on technologies for the destruction of harmful substances and hazardous waste and policy frameworks for their implementation; and
- Reporting progress through provision of governments and the international community with the means to monitor, evaluate and report on progress towards sound management of harmful substances and hazardous waste.

2.4.3 Appropriate policy and control systems for harmful substances of global concern are developed and in place in line with States international obligations and mandates of relevant entities

The aim is to support the development of internationally agreed chemical management regimes, particularly for mercury but also for other metals if requested by Governments, and to support the evolution of existing internationally agreed multilateral environmental agreements in the chemicals and waste cluster, the subprogramme will assist countries, multilateral environmental agreement secretariats and other stakeholders in their efforts to address highly hazardous substances. This will include assisting countries in the implementation and enforcement of chemical and hazardous waste-related multilateral environmental agreements and other international initiatives (for example, the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities) related to chemicals of global concern, such as mercury, persistent organic pollutants and ozone-depleting substances, and in addressing emerging issues related to chemicals and hazardous waste. In line with decision SS.X/1 of the Governing Council/Global Ministerial Environment Forum, the strengthening of cooperation and coordination between the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and the Stockholm Convention on Persistent Organic Pollutants could contribute positively to the implementation of the principles defended by those Conventions for the management of harmful substances and hazardous waste, building on the agreement reached in Bali at the simultaneous extraordinary meetings of the Conferences of the Parties to those Conventions.

The activities under this expected accomplishment covers:

- Reducing the risks to environment and human health from anthropogenic releases of mercury;
- Addressing risks from lead and cadmium by reducing the anthropogenic uses of lead and cadmium in products and industry sectors that give rise to particular exposure concerns:
- Strengthening the chemicals and waste MEAs through provision of technical assistance to strengthen implementation and monitoring of the multilateral environmental agreements on chemicals and waste;
- Combating illegal trade in order to reduce illegal trafficking in harmful substances and hazardous waste, initially in the Asia-Pacific and West-Asia regions; and
- Supporting regional seas agreement to prevent the further degradation of the marine environment from harmful substances and hazardous waste derived from land based activities.

2.5 UNIDO[13]

UNIDO is a specialised agency of the United Nations dedicated to promoting sustainable industrial development in developing countries and countries in economic transition. The General Conference, composed of all Member States, meets once every two years. The General Conference approves the work programme and budget of UNIDO, and reviews implementation of the programme, budget and General Conference decisions.

[13] See http://www.unido.org

Sound chemicals management is mainstreamed into UNIDO's Green Industry strategy that focuses on decoupling resource use and waste generation from industrial development and promoting the growth of productive sectors and entrepreneurship in developing and transition countries. An important element of Green Industry is fundamentally about greening of all industry through resource efficient and cleaner production (RECP), with a long-term focus on continuously improving environmental performance and resource productivity of any enterprise, regardless of its sector, size or location.

Through optimization of the productive use of natural resources (materials, energy and water) by enterprises and other organizations, it is envisaged to prevent and/or minimize the generation of waste and emissions. At the same time, RECP leads to an improved use of chemicals and reduces the risks to people and communities from enterprises and other organizations and supporting their own development. Investigating and developing new services and business concepts such as Chemical Leasing for sound chemicals management and waste minimization is an inherent part of RECP.

UNIDO's sound chemicals management activities are promoted mainly by its Environment Management Branch (EMB) and also the Montreal Protocol Branch (MPB).

2.5.1 Environmental Management Branch[14]

EMB includes three units:

- Cleaner and Sustainable Production Unit
- Stockholm Convention Unit
- Water Management Unit

Resource Efficient and Cleaner Production (RECP) Programme[15]

Within the Green Industry strategy and based on the experience gained from the Global Cleaner Production Programme, the UNIDO Cleaner and Sustainable Production Unit has developed, jointly with UNEP, the UNIDO-UNEP RECP programme , to address the need to promote the adaptation and adoption of RECP methods, technologies and systems by enterprises and other organizations in developing and transition countries. This includes RECP thematic applications, for example, in the field of safe and responsible production, which aims at developing, promoting and implementing responsible practices and technologies for chemical-intensive sectors of industry, including synthesis, formulation and application of industrial chemicals.

UNIDO, in close cooperation with the existing Cleaner Production Centres (CPCs), assist the enterprises from the national industrial priority sectors in the implementation of sound chemicals management. Specifically they build national capacity for the implementation of projects in RECP and sustainable chemicals management and provide technical assistance to their clients in the implementation of practical sustainable chemicals management activities. The assistance provided includes sound waste management through the minimization of waste generation and resource-efficiency, and the promotion of environmentally sound technologies. These activities are carried out taking into consideration all international chemicals-related conventions, agreements and initiatives.

[14] See http://www.unido.org/doc/18260
[15] See http://www.unido.org/doc/4460

Moreover, UNIDO assists countries in formulating sustainable industrial policies that encourage cleaner production and enhance and promote transfer of environmentally sound technologies. UNIDO supports sound chemicals management at source to prevent emissions of dangerous chemicals to the environment, reduce waste loads and promote cleaner treatment and disposal aiming at increasing productivity and facilitating market access. It provides capacity building and technical assistance at the governmental, institutional and enterprise level.

A global network for Resource Efficient and Cleaner Production (RECPnet) has been officially established, with the support of UNIDO and UNEP, in November 2010 by 41 inaugural signatories to its Charter. The global RECPnet is a not-for-profit initiative to bundle and utilize existing capacities of NCPCs and RECP service providers, which objective is to contribute to the effective promotion and implementation of RECP and to foster North-South and South-South collaboration and transfer of methods, policies and technologies.

Chemical Leasing (ChL)[16]

UNIDO Cleaner and Sustainable Production Unit has launched in March 2005 a project to promote Chemical Leasing business models in developing and transition countries. Chemical Leasing is a service-oriented business approach to respond to the global changes in international policies of the chemical sector and encourages efficient chemicals management and innovation. The key element is a shift in paradigm away from the focus on increasing sales volume of chemicals towards a more service- and value-added approach. Within a ChL agreement, the users only pay for the services rendered by the chemicals (e.g for volume of water treated, number of parts painted, lengths of pipes cleaned, etc.) and not for the volume of chemicals consumed. The result can be seen in environmental advantages, enhanced resource efficiency as well as in consequential economic benefits for both chemicals suppliers and users of chemicals

In 2007, UNIDO developed the first detailed definition of Chemical Leasing in close collaboration with the International Working Group on Chemical Leasing which includes representatives from governments, industry, the consultant sector, EU, UNEP and UNIDO.

UNIDO's on-going projects in Brazil, Colombia, Croatia, Egypt, Mexico, Russia, Serbia, Sri Lanka, Uganda and Ukraine are implemented in close cooperation with the respective Cleaner Production Centres (CPCs) and show the applicability and impact of the concept to different industries. The main elements of the projects are awareness raising, national capacity building and demonstration projects. The CPCs play a crucial role in the process of identifying local companies and other relevant stakeholders and facilitating the project's implementation

[16] **UNIDO definition of chemical leasing:** Chemical leasing is a service-oriented business model that shifts the focus from increasing sales volume of chemicals, toward a value-added approach. The producer mainly sells the functions performed by the chemical and functional units are the main basis for payment. Functions performed by a chemical might include: number of pieces cleaned, amount of area coated, etc. Within chemical leasing business models, the responsibility of the producer and service provider is extended and may include the management of the entire life cycle. Chemical leasing strives for a win-win situation. It aims to increase the efficient use of chemicals while reducing the risks of chemicals, and protecting human health. It improves the economic and environmental performance of participating companies, and enhances their access to new markets.

Electronic Waste

UNIDO Cleaner and Sustainable Production Unit is implementing projects on e-waste in Uganda and Tanzania, covering all relevant stages of e-waste management: development of a detailed inventory to get an in-depth view on the situation in the concerned country; design of a take-back system to make sure a great percentage of obsolete EEE will reach the formal waste stream; establishment of a manual dismantling facility, where a first level recycling will take place, according to environmental and health standards. The facility will be connected to downstream partners on a national and international level to ensure appropriate treatment of all output fractions. As far as possible the fractions will be treated at national facilities; however the hazardous parts will most likely be exported to Europe or Asia for further end-processing at an international smelter.

UNIDO is lead member of the focal area on e-waste under the Global Partnership on Waste Management.

Sound management of mercury in Artisanal and Small-Scale Gold Mining (ASGM) [17]

UNIDO has been involved in this field since 1994 with active or past projects in about 20 countries. It is now widely recognised that the sector is the largest user and emitter of mercury to the environment. A global project financed by the GEF and implemented between 2002 and 2007 contributed to bring the issue in the forefront of the environmental discussions. UNIDO produced a number of guidelines during this project, including the "Protocols for Environmental and Health Assessment of Mercury Released by Artisanal and Small-Scale Gold Miners" and the "UNIDO Technical Guidelines on mercury management in artisanal and small-scale gold mining". The UNIDO approach is to educate the miners and mining communities on the risks of mercury use, to transfer cleaner and more efficient technologies that eliminate mercury emissions (close-circuit amalgamation) and, in the long term, transfer non-mercury techniques. This is accompanied by capacity building at the government level as well. Since 2008, UNIDO is the co-lead agency of the Artisanal and Small-Scale Gold Mining area of the UNEP Global Mercury Partnership. UNIDO is actively working with its partners to assist countries in addressing their ASGM issues adequately and to ensure that the issue is properly addressed in the forthcoming internationally binding agreement on mercury.

POPs

With regard to POPs, UNIDO's services build up national capacities in the management of POPs and provide assistance to developing countries and countries with economies in transition in developing their national implementation plans (NIPs) as provided for in the Stockholm Convention. UNIDO has also developed several post-NIP projects in different areas such as introduction of BAT/BEP strategies to the industrial sector, Sound Management of PCBs and PCB wastes, removal of barriers for transfer on non-combustion technologies, management of sites contaminated with POPs, treatment and management of Medical wastes, strengthening institutions, regulations and enforcement capacities for effective and efficient implementation of the NIPs.

UNIDO endeavours to promote non-combustion technologies for the destruction of POPs waste and stockpiles through two pilot demonstration projects underway in Slovakia and the

[17] See http://www.unido.org/en/doc/9668

Philippines. Promotion also extends through another global support project provided uniquely to NGOs in 40 countries to enable/maximize participation of NGOs in the NIPs development process and to eventually obtain ratification of the Stockholm Convention in these countries. Both projects are funded by the GEF.

2.5.2 Montreal Protocol Branch[18]

UNIDO is an implementing agency for the Montreal Protocol Multilateral Fund and assists developing and transition countries under this service module to phase out ODS with assistance for policy, strategy and programme design; institutional support; and enterprise level technical assistance.

2.6 UNITAR[19]

UNITAR is an autonomous body within the UN with a mandate to enhance the effectiveness of the UN through training and research. To meet this aim, UNITAR provides training to assist countries in meeting the challenges of the 21st century; conducts research to explore innovative training and capacity building approaches; and forms partnerships with other UN agencies, governments and NGOs for the development and implementation of training and capacity building programmes that meet countries' needs. UNITAR is governed by a Board of Trustees (BOT) which provides overall guidance to the Institute, approves its work programme, and adopts its budget.

UNITAR's Chemicals and Waste Management Programme (CWM) in Geneva emphasises cooperation among national stakeholders and international partner organizations in order to foster an integrated approach to chemicals management capacity building. UNITAR's activities are exclusively funded through external resources.

2.6.1 Programmes to Facilitate Integrated Chemicals Management and SAICM Implementation

Infrastructure and Capacity Assessments: UNITAR provides guidance, training, and technical support to assist countries in assessing their existing legal, institutional, administrative, and technical infrastructure for sound chemicals management, analysing existing capacities, gaps and needs, and undertaking initial priority setting (e.g. National Profiles, GHS situation analysis).

Integrated National Programmes for Chemicals and Waste Management: UNITAR assists countries to establish and strengthen a collaborative framework at the national level which can provide a foundation for effective and coordinated action to address both national chemicals and waste management priorities as well as the implementation of international chemicals and wastes-related agreements and initiatives, including SAICM.

SAICM Enabling and Implementation Activities: UNITAR established a SAICM implementation programme in 2006 which began with a 2006-09 pilot phase, followed by a 2010-12 phase. In the pilot phase, country projects took place in Belarus, Mongolia, Pakistan, Panama, and Tanzania over a period of three years. The 2010-12 phase focused on

[18] See http://www.unido.org/doc/5072
[19] See http://www.unitar.org/cwm

strengthening capacities for sound chemicals management with an emphasis on assisting countries and regions with SAICM implementation, specifically nanotechnology and addressing challenges related to mercury. Core support for the programme is provided by the Government of Switzerland.

UNITAR also supports QSP Trust Fund projects. To date, UNITAR has been serving as the international executing agency for 81 projects supported by the QSP Trust Fund (Rounds 1-12). Projects cover a range of topics including, inter alia: National Profiles, National SAICM Capacity Assessments, national SAICM priority setting, strengthening national governance, national chemicals management databases, national policies for SAICM implementation, SAICM implementation plans, Globally Harmonized System of Classification and Labelling of Chemicals (GHS), and Pollutant Release and Transfer Registers (PRTR).

2.6.2 Specialised Training and Capacity-building Programmes

Implementation of the GHS: This UNITAR/ILO GHS programme provides guidance documents, training materials, expert training and educational, awareness-raising and resource materials regarding the GHS. UNITAR/ILO are the designated focal point for capacity building in the UN ECOSOC Subcommittee of Experts on the GHS (SCEGHS). UNITAR, along with ILO and OECD, also initiated at the WSSD the Global Partnership for Capacity Building to Implement the GHS.

Design and Implementation of Pollutant Release and Transfer Registers (PRTR): UNITAR assists countries in the design and implementation of national PRTR systems through multi-stakeholder processes and is implemented in cooperation with OECD and UNEP.

Chemicals and Waste Convention Implementation: UNITAR provides support to countries to implement the Basel, Rotterdam, and Stockholm Conventions. This includes assisting countries with Stockholm Convention National Implementation Plan development/updating and implementation; PCB elimination and POPs emissions reporting; and National Action Plan development, in cooperation with the Secretariat of the Rotterdam Convention. An information document on the linkages between the GHS and the chemicals and waste conventions is also under development.

Nanotechnology/Manufactured Nanomaterials: UNITAR has embarked with partners such as OECD, and within the framework of the IOMC, to raise awareness in countries about nanotechnology/manufactured nanomaterials, including the implications for developing and transition countries as nano-based or nano-containing products are traded across borders. Activities include a series of regional awareness-raising workshops for all UN developing and transition countries. UNITAR also supports pilot projects to assist countries to develop programmatic capacities to address nano issues at the national level.

Mercury: UNITAR supports projects in developing and transition countries to prepare mercury emissions inventories using UNEP's Toolkit for Identification and Quantification of Mercury Emissions. In addition, UNITAR has provided countries with guidance to assist them to prepare national plans to reduce risks related to mercury.

UNITAR also executes a number of supporting services for capacity building, including the provision of "virtual libraries" on a variety of topics (National Profiles, GHS, PRTR) and the organization of global thematic workshops to facilitate an exchange of experience and to

identify practical steps which countries can take to systematically address certain topics of national chemicals management.

2.7 WHO[20]

WHO, a specialised agency of the UN, strives for the attainment by all people of the highest levels of health, defined to include physical, mental and social well-being. The World Health Assembly, the supreme decision-making body of the WHO, meets once a year in May. In addition to its Headquarters, located in Geneva, WHO has six regional offices each with its own programme geared to the particular health problems of the countries it serves. Regional offices are governed by Regional Committees, with representatives of the countries in the region. There are also WHO country offices in most of the 194 Member States of the World Health Assembly.[21]

Capacity building activities of WHO related to chemical safety is undertaken largely through the International Programme on Chemical Safety (IPCS) and through regional offices and country offices. WHO/IPCS Programmes with a strong capacity building component include the following:

2.7.1 Chemical Safety at WHO Headquarters

Poisons centres and emergency response[22]: The IPCS programme on Poisoning Prevention and Management seeks to build capacity in countries to prevent and manage human exposures to chemicals.

IPCS INTOX Project[23]: Through a worldwide network of poison centres, first-aid and clinical management information are offered on a 24-hour basis. In addition, IPCS is responsible for the organization of a number of training courses throughout the world. Training courses are also carried out in coordination with WHO Regional Offices and organizations with an interest in this area.

Chemical Incidents: Training to countries is provided on the public health management of chemical incidents in accordance with the International Health Regulations (2005), including prevention, preparedness, detection and alert, response and recovery.

Risk Assessment[24]: The WHO develops chemical risk assessment methodologies, conducts risk assessments of chemicals and provides training to strengthen capacities for human health risk assessment in countries. delivers training in chemical risk assessment.

Pesticides for Public Health: The WHO Pesticide Evaluation Scheme (WHOPES) was set up in 1960. WHOPES promotes and coordinates the testing and evaluation of pesticides for public health. It functions through the participation of representatives of governments, manufacturers of pesticides and pesticide application equipment, WHO Collaborating Centres and research institutions.

[20] See http://www.who.int
[21] See http://www.who.int/countries/en
[22] See http://www.who.int/ipcs/capacity_building/poisons/en
[23] See http://www.who.int/ipcs/poisons/intox/en
[24] See http://www.who.int/health_topics/risk_assessment/en

2.8 World Bank[25]

The mission of the World Bank is to fight poverty and improve living standards of people in the developing world. As a financier of development and poverty reduction initiatives, the Bank provides lending and non-lending services, policy advice, technical assistance and knowledge to low and middle income countries for health, agriculture, infrastructure, energy, waste management and many other purposes. Capacity building for chemicals management under the Bank takes place within larger projects and programs in related sectors; through analytical and advisory assistance; and via chemicals-based projects funded through trust funds, global partnerships and international environmental financial mechanisms.

The World Bank Group's Environment Strategy 2012-2022 lays out an ambitious agenda to support 'green, clean, resilient' paths for developing countries, as they pursue poverty reduction and development in an increasingly fragile environment. Recognizing that countries cannot 'grow dirty and clean up later', the Bank Group is encouraging low-emission development strategies and innovative financing for renewable energies, climate-smart agriculture, and lower-carbon cities. It is also supporting pollution management through river clean-up and legacy pollution projects, using carbon finance funds to scale up use of cleaner stoves to reduce indoor pollution for women and children, and developing partnerships with the private sector to spur cleaner production standards and strategies.

A key element of the World Bank's assistance is to help build capacity and transfer good technical and policy practices. This is achieved through systematic priority-setting assessments such as country-level diagnostic studies and strategic environmental assessments that encourage environmental issues to be considered at the early stages of the decision-making process, as well as to integrate them into the policy dialogue and poverty reduction and country assistance strategies.

The World Bank's emphasis on national implementation and the use of country systems also allows for considerable capacity building throughout project implementation across sectors. For example, certain categories of projects will require an environmental and pest management plan to be conducted by the loan recipient. In doing so, countries develop in-country skills and institutions which specialize in risk management.

In addition, based on client countries priorities and demand, the Bank is also engaged in investment projects that directly address issues of relevance to the SAICM such as remediation of legacy pollution hot spots from a variety of contaminants, including PCBs and mercury.

As an implementing agency for the Multilateral Fund (MLF) for the Implementation of the Montreal Protocol and for the Global Environment Facility (GEF), the Bank is actively involved in enhancing client country capacity in for sound chemicals management, and in investments to reduce health and environmental impacts from hazardous substances.

POPs projects co-financed by the GEF and supported by the Bank are assisting countries in addressing all aspects of POPs management, including PCB management and disposal, obsolete pesticides management and disposal, production closure and remediation, and

[25] See http://www.worldbank.org

reduction of releases of un-intentionally produced POPs from industrial sectors and unsound waste management.

Under the MLF, the World Bank works closely with its country partners to develop country-specific approaches to help them meet treaty obligations on phasing out ozone depleting substances. Using its comparative advantage, the Bank has promoted sector and national approaches that give maximum flexibility to the countries to take the lead in overall implementation, direct funding to priority areas and develop complementary policies.

2.9 OECD[26]

The OECD, based in Paris, was established in 1960 and now includes thirty four member countries sharing a commitment to democratic government and the market economy. The senior decision-making body is the Council of OECD ambassadors that can agree on Council Acts. The OECD Environment, Health and Safety Programme[27] includes the Chemicals Programme, as well as work on pesticides, biocides, chemical accidents, harmonisation of regulatory oversight in biotechnology, Pollutant Release and Transfer Registers (PRTRs), and the safety of novel foods and feeds. The main areas of work of OECD related to capacity building activity include the following:

Mutual Acceptance of Data (MAD): OECD works with non-members on their adherence to this legally binding OECD system. Non-members are full participants with the same rights and obligations as OECD countries, once they have adhered.

Good Laboratory Practice (GLP): These principles are used for the quality assurance of data and set out managerial concepts concerning the organization of test facilities as well as the conditions under which safety studies are planned, performed, monitored, recorded and reported. They are a critical element for MAD. OECD gives courses for training inspectors from member and non-member countries.

Chemical Accidents Programme: This programme began in 1988 and addresses prevention, preparedness and response related to accidents involving hazardous substances. Guiding Principles and Safety Performance Indicators are in use widely also outside the OECD. Recently, this programme has launched a document, *Corporate Governance for Process Safety: Guidance for Senior Leaders in High Hazard Industries*.

Pollutant Release and Transfer Registers (PRTRs): OECD work on PRTRs was initiated in 1993, as a follow-up to UNCED, with a project to prepare guidance for and promote the development of PRTRs. Many technical tools for use in developing and implementing PRTRs are freely available on the web.

[26] See http://www.oecd.org/home
[27] http://www.oecd.org/ehs

3. BACKGROUND ON SAICM

3.1 Summary of the SAICM Process

The SAICM development process, which started formally through a series of sessions of a Preparatory Committee (PrepComs) commencing in 2003, included a number of key milestones, including:

- UNEP Governing Council, February 2002;
- World Summit on Sustainable Development, September 2002;
- World Health Assembly, May 2003;
- International Labour Conference, June 2003;
- World Summit, September 2005;
- SAICM PrepComs 1, 2, and 3;
- First session of the International Conference on Chemicals Management (ICCM), February 2006;
- Second session of the ICCM, May 2009;
- First meeting of the Open-ended Working Group (OEWG), November 2011; and
- Third session of the ICCM, September 2012.

The development process was multi-sectoral and multi-stakeholder in nature, involving representatives of governments, NGOs and intergovernmental organizations (IGOs) drawn from sectors such as agriculture, environment, health, industry, and labour. UNEP, IOMC, and the Intergovernmental Forum on Chemical Safety (IFCS) were co-convenors of the process.

Development of SAICM culminated with its adoption by the ICCM at its first session, which was held in Dubai in February 2006. SAICM consists of three core documents (see below), supplemented by four resolutions adopted by the ICCM on implementation arrangements, the Quick Start Programme, a tribute to the Government of the United Arab Emirates and on the IFCS. The second and third sessions of the ICCM were held in May 2009 and September 2012, respectively, in order to, inter alia, review implementation and take stock of progress.

3.2 Main Outcomes of SAICM

The overall objective of the Strategic Approach is to support the achievement of the 2020 goal agreed at the 2002 Johannesburg World Summit on Sustainable Development (WSSD). The main outcomes of the SAICM process are three key documents[28]:

Dubai Declaration on International Chemicals Management

The Dubai Declaration, adopted by Ministers, heads of delegation and representatives of civil society and the private sector, provides an agreed overview of the political commitments made for SAICM. It reflects their "…firm commitment to the Strategic Approach and its implementation." In particular, in reinforces the importance of issues such as the linkage of sound chemicals management to sustainable development and poverty eradication, contribution of SAICM to the MDGs (Millennium Development Goals), implementation of

[28] http://www.saicm.org/index.php?option=com_content&view=article&id=73&Itemid=475

international agreements, and the roles of non-governmental stakeholders and importance of partnerships.

Overarching Policy Strategy (OPS)

The OPS provides information on the scope of SAICM, identifies needs for effective SAICM implementation, and outlines objectives, principles, and financial and implementation arrangements. The five categories of SAICM objectives found in the OPS are:

- Risk reduction;
- Knowledge and information;
- Governance;
- Capacity-building and technical cooperation; and
- Illegal international traffic.

The Global Plan of Action (GPA)

The GPA is a more detailed document that outlines proposed work areas, activities, actors, timeframes, targets, and indicators of progress related to SAICM implementation. The GPA contains 36 work areas, and 273 activities, structured in accordance with the five categories of SAICM objectives set out in the OPS. It is recommended for use and further development as a working tool and guidance document for stakeholders implementing SAICM. Implementation of the Strategic Approach at the national level (including the initial "enabling phase") is suggested to include the development of national implementation plans. The activities listed in the GPA are included as Annex 4.

Initial capacity building activities for implementation of Strategic Approach objectives are supported, *inter alia*, by a Quick Start Programme (QSP).[29] The QSP contains a voluntary, time-limited trust fund, administered by UNEP, and may include multilateral, bilateral and other forms of cooperation. The objective of the QSP is to "support initial enabling capacity building and implementation activities in developing countries, least developed countries, small island developing States and countries with economies in transition" (ICCM Resolution I/4).

3.3 Strengthening National Capacities for SAICM Implementation and the Sound Management of Chemicals

Capacity building refers to the process by which individuals, groups, organizations, institutions and countries develop their abilities, individually and collectively, to perform functions, solve problems and achieve objectives. Thus, capacity building is not necessarily linked to external assistance activities. With respect to chemicals management, capacity building includes all activities by governments, the private sector and civil society to achieve specific objectives and perform specific functions in order to reach the 2020 goal for the sound management of chemicals.

When planning and implementing a capacity building project or activity, key questions are: *What exactly is a project or specific activity meant to achieve?* W*hich functions need to be performed (and by whom) to achieve a specific project objective or goal*? Goals requiring

[29] SAICM OPS, para. 19. See also http://www.saicm.org/index.php?option=com_content&view=article&id=104&Itemid=498.

capacity building may be broad and general, such as achieving the sound management of chemicals by the year 2020. Or they can be more specific and pragmatic, such as meeting obligations of a specific convention/protocol (e.g. the ILO Chemicals Convention; the Stockholm Convention; the Vienna Convention and its Montreal Protocol) or a specific standard (such as the GHS), or a pesticide registration system.

Last but not least, capacity building takes place at the national, regional, and local levels as well as in the private sector and civil society, and it is at these levels that progress must be measured. External support activities, such as those provided by IOMC Organizations, can only be facilitative and supportive in nature.

3.4 Elements of a National Chemicals Management System

In developing and agreeing on Agenda 21, Chapter 19, Programme Area E, countries agreed that a national chemicals management system should include a number of elements, which include the following:

(a) adequate legislation,
(b) information gathering and dissemination,
(c) capacity for risk assessment and interpretation,
(d) establishment of risk management policy,
(e) capacity for implementation and enforcement,
(f) capacity for rehabilitation of contaminated sites and poisoned persons,
(g) effective education programmes, and
(h) capacity to respond to emergencies.

One of the successes of SAICM is that it elaborates and provides further details for several of the above elements of Programme Area E of Chapter 19. Another challenge, both for countries and international organizations involved in capacity building, is to create bridges and identify synergies between strengthening the elements of a national infrastructure for sound chemicals management, as provided for by the above elements, and capacity building activities aimed at implementing a particular convention and its existing protocols.

3.5 Phased Approach to National SAICM Implementation

The Overarching Policy Strategy proposes that implementation of the Strategic Approach begin with an enabling phase to build the necessary capacity to develop, with stakeholder participation, a national Strategic Approach implementation plan. The plan should take into account existing national elements such as:

- Legislation;
- National profiles;
- Action plans;
- Stakeholder initiatives and gaps;
- Priorities; and
- Needs and circumstances.

The OPS also notes that subsequent implementation phases should focus on implementing specific action plans, including through the use of partnerships. In order to sustain an integrated approach to managing chemicals, each Government should establish arrangements for implementing the Strategic Approach on an interministerial institutional basis, to ensure

the representation of all national departmental and stakeholder interests. A Strategic Approach national focal point should be established in each country to facilitate the communication and information dissemination.

A challenge for countries committed to implementing SAICM will be to assess their current situation, identify priorities in line with national needs and circumstances, and implement actions in a coordinated and integrated way with the involvement of all actors and stakeholders. Fortunately, many countries and organizations involved in chemicals management are not starting from scratch and have, for example, completed National Chemicals Management Profiles (which document and assess the current infrastructure and capacities for chemicals management) or National Implementation Plans under the Stockholm Convention (which outline actions to be taken towards fulfilling obligations under the Convention).

4. DOCUMENTS TO FACILITATE THE DEVELOPMENT OF A GOVERNANCE FRAMEWORK FOR NATIONAL SAICM IMPLEMENTATION

This section of the document provides an overview of resource, guidance and training materials that are available through the IOMC to support countries in implementing an enabling phase for SAICM implementation. This phase would focus on development of national governance structure for SAICM implementation involving key sectors and stakeholder, completing a situation and gap analysis, and setting priorities for action plan development. Relevant resource documents have been grouped around major themes raised by SAICM including:

- Integrating Chemicals Management into National Development Priorities;
- Developing a Sound Institutional and Programmatic National Framework;
- Effective Project Planning, Implementation, Monitoring and Evaluation;
- Participation of the Private Sector and Non Profit Civil Society; and
- Legislation and Enforcement.

4.1 Integrating Chemicals Management into National Development Priorities

Organizations that provide support for chemicals-related capacity building activities at the national level are calling for such activities to be reflected in a country's overall national development priorities. National priorities related to chemicals management can be reflected in a number of ways, for example, through their appearance in a national sustainable development strategy, or a national poverty reduction paper. This issue has also been raised by countries, IGOs, and other participants as an important factor during the ongoing deliberations on SAICM. If chemicals-related activities are not identified in development plans that represent the result of consensus-building at the national level, donor support to chemicals-related activities may be less likely.

Mechanisms for Integrating Chemicals Management into Development Priorities

Relevant materials relating to the integration of chemicals management into national development priorities include the following:

FAO				
Strategic Programme 2006-2011 for the implementation of the revised version of the International Code of Conduct on the Distribution and Use of Pesticides *http://www.fao.org/ag/agp/agpp/pesticid/Code/Download/Strategyguideline06.pdf*	FAO	2006	29 pp.	English

UNDP				
Integrating the Sound Management of Chemicals into MDG-Based Development Planning	UNDP BDP Montreal Protocol Unit / Chemicals	2012	67 pp.	English

UNDP-UNEP Partnership Initiative: Integration of SMC into Development Planning	UNDP BDP Montreal Protocol Unit/ Chemicals	2012	12 pp.	English, French, Spanish
Practitioner's Guide: Capacity Development for Environmental Sustainability	UNDP Capacity Develop-ment Group	2011	95 pp.	English, French
Chemicals and gender	UNDP BDP Montreal Protocol Unit/ Chemicals	2011	26 pp.	English, Spanish
Enabling local success: A Primer on Mainstreaming Local Ecosystem-Based Solutions to Poverty-Environment Challenges	UNDP Poverty and Environment Initiative	2011	76 pp.	English
Managing Chemicals for Sustainable Development: Sound Management of Persistent Organic Pollutants, Ozone-depleting Substances and Other Chemicals *http://www.undp.org/chemicals/*	UNDP BDP Montreal Protocol/ Chemicals Unit	2007	28 pp.	English, French, Spanish

UNEP				
Research Guide for Assessing National Capacities for Environmental Economics in Developing Countries and Countries with Economies in Transition *http://www.unep.org/hazardoussubstances/Portals/9/Mainstreaming/UNEP%20UNDP%20PI_Eco/Research%20Guide%20for%20Assessing%20National%20Capacities%20for%20Env.Economics%20in%20DCs%20and%20CEITs.pdf*	UNEP/ DTIE Chemicals Branch	2010	7 pp.	English
Supplemental Cost-Benefit Economic Analysis Guidance *http://www.unep.org/hazardoussubstances/Portals/9/Mainstreaming/UNEP%20UNDP%20PI_Eco/Supplemental%20Costs%20Benefit%20Economic%20Analysis.pdf*	UNEP/ DTIE Chemicals Branch	2009	28 pp.	English
Curriculum Outline for a 5-Day Training Course in Economic Cost-Benefit Analysis Relevant to Policies for Sound Management of Chemicals (SMC) *http://www.unep.org/hazardoussubstances/Portals/9/Mainstreaming/UNEP%20UNDP%20PI_Eco/Curriculum%20Outline%20for%20Training.pdf*	UNEP/ DTIE Chemicals Branch	2009	8 pp.	English

UNIDO				
Preparing for HCFC phase-out: Fundamentals of uses, alternatives, implication and funding for Article 5 countries	UNIDO	2009	229 pp	English

UNITAR				
Resource Mobilization for the Sound Management of Chemicals and Waste *http://www2.unitar.org/cwm/publications/inp.aspx*	UNITAR	2011	24 pp.	English, French
Fact Sheets on Bilateral Assistance for Chemicals Management *http://www2.unitar.org/cwm/publications/inp.aspx*	UNITAR	2001	72 pp.	English

WORLD BANK				
Opportunities for Integrating Sound Chemicals Management into Development Planning: An Information Paper *http://www.unep.org/delc/Portals/119/Opportunitesformainstreamingworldbank%20paper.pdf*	World Bank	2006	43 pp.	English
Integrating Environmental Considerations in Policy Formulation: Lessons from Policy-Based SEA Experience *http://siteresources.worldbank.org/INTUNITFESSD/Resources/integratingenvironmental.pdf*	World Bank	2005	86 pp.	English
Strategic environmental assessment in policy and sector reform : conceptual model and operational guidance *http://siteresources.worldbank.org/ENVIRONMENT/Resources/244380-1236266590146/Policy_SEA_WB.pdf*	World Bank	2011	226 pp.	English

OECD				
Greening Development: Enhancing Capacity for Environmental Management and Governance. *This guidance outlines a number of steps to be considered when building capacity for greening national development planning, national budgetary processes and key economic sector strategies* *http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=COM/ENV/EPOC/DCD/DAC(2011)1/FINAL&docLanguage=En*	OECD	2012	100 pp.	English, French, Spanish

Strategic Environmental Assessment in Development Practice: Review of Recent Experience. *This report showcases on-ground experience of applying Strategic Environmental Assessment (SEA) in developing country context. It presents key findings from applications of SEA in nice countries: Vietnam, Bhutan, Namibia, Mauritius, Benin, Ghana, Sierra Leone, Honduras, and Montenegro. Based on these case studies, the report suggests six recommendations to improve SEA practice in developing countries* *http://www.oecd.org/document/47/0,3746,en_2649_201185_49917935_1_1_1_1,00.html*	OECD	2012	123 pp.	English

4.2 Developing a Sound Institutional and Programmatic National Framework

A number of countries have taken steps to link their chemicals management capacity activities and projects within a national "programmatic" framework for the sound management of chemicals. A core feature of a programmatic approach is that it represents a long term national commitment to chemicals management where relevant government sectors establish and participate in a national chemical safety coordinating mechanism, while maintaining their independence to execute individual components and projects within their mandate and competence. Development of a *National Programme for the Sound Management of Chemicals* allows countries to conduct a strategic evaluation of progress made and challenges faced at the national level towards reaching the WSSD 2020 goals and the targets established by SAICM.

Establishing an Interministerial Coordination Mechanism

UNDP				
Integrating the Sound Management of Chemicals into MDG-Based Development Planning	UNDP BDP Montreal Protocol Unit/ Chemicals	2012	67 pp.	English
CP #07: Multi-Stakeholder Engagement Processes *http://www.capacity.undp.org/indexAction.cfm?module=Library&action=GetFile&DocumentAttachmentID=1945*	UNDP BDP/ CDG	2006	29 pp.	English

UNEP				
Test Version. Draft. Guidance on the development of Legal and Institutional Infrastructures for Sound Management of Chemicals and measures for Recovering Costs of national Administration *http://www.unep.org/hazardoussubstances/Po*	UNEP/ DTIE Chemicals Branch	2012	84 pp.	English

rtals/9/Mainstreaming/LIRA-Country%20Workshop/LIRA%20Guidance/LIRA%20Guidance_Test%20version_01.2012.pdf				

UNITAR				
Guidance for Developing a National Nanotechnology Policy and Programme *http://www.unitar.org/cwm/sites/unitar.org.cwm/files/UNITAR_nano_guidance_Pilot_Edition_2011.pdf*	UNITAR	2011	80 pp.	English
Guidance for Developing SAICM Implementation Plans *http://www2.unitar.org/cwm/publications/inp.aspx*	SAICM Secretariat/ UNITAR/ IOMC	2009	61 pp.	Arabic, Chinese, English, French, Russian, Spanish
Developing and Sustaining an Integrated National Programme for Sound Chemicals Management *http://www2.unitar.org/cwm/publications/inp.aspx*	UNITAR	2004	72 pp.	Arabic, Chinese, English, French, Russian, Spanish
Interministerial Coordination for the Sound Management of Chemicals – Thematic Workshop Final Report *http://www2.unitar.org/cwm/publications/inp.aspx*	UNITAR	2002	39 pp.	English
Interministerial Coordination for Sound Chemicals Management, Guidance Note – 2001 Edition *http://www2.unitar.org/cwm/publications/inp.aspx*	UNITAR	2001	18 pp.	English, French, Russian, Spanish
Key Elements of a National Programme for Chemicals Management and Safety *http://www2.unitar.org/cwm/publications/cw/inp/key_elements.pdf*	UNITAR/ IOMC	1998	115 pp.	English

Setting National Priorities

UNDP				
Implementing the Paris Declaration on Aid Effectiveness	UNDP Capacity Develop-ment Group	2011	32 pp.	English

UNITAR				
Preparing a National Profile to Assess Infrastructure and Capacity Needs for Chemicals Management: A Guidance Document (2nd Edition 2012) *http://www2.unitar.org/cwm/publications/inp.aspx*	UNITAR/ IOMC	2012	99 pp.	English, French, Spanish
Developing a Capacity Assessment for the Sound Management of Chemicals and National SAICM Implementation: Guidance Document *http://www2.unitar.org/cwm/publications/inp.aspx*	UNITAR/ IOMC	2007	47 pp.	Arabic, Chinese, English, French, Spanish, Russian
Organizing a National Priority Setting Workshop for the Sound Management of Chemicals *http://www2.unitar.org/cwm/publications/inp.aspx*	UNITAR	2005	31 pp.	English, French, Spanish

Information Exchange Mechanisms

UNEP				
Chemical Information Exchange Network Internet training: participant's manual	UNEP	2002	76 pp.	English

UNIDO				
Green Industry Platform for high-level governmental, business and civil society leaders	UNIDO	2012	Web-based portal	English
Global Network of Resource Efficient and Cleaner Production (RECPnet) *www.recpnet.org*	UNIDO-UNEP	2011	Web-site	English

UNITAR				
Preparing a National Profile to Assess Infrastructure and Capacity Needs for Chemicals Management: A Guidance Document (2nd Edition 2012) *http://www2.unitar.org/cwm/publications/inp.aspx*	UNITAR/ IOMC	2012	99 pp.	English, French, Spanish
Information Exchange for Sound Chemicals Management, Guidance Note – 2001 Edition *http://www2.unitar.org/cwm/publications/inp.aspx*	UNITAR	2001	12 pp.	English, French, Spanish

Strengthening National Information Systems and Information Exchange for the Sound Management of Chemicals: Observations and Conclusions of an International Expert Meeting. Thematic Session (No.1) *http://www2.unitar.org/cwm/publications/tw.aspx*	UNITAR	1998	42 pp.	English

OECD				
OECD Environmental Outlook to 2050: The Consequences of Inaction; Chapter 6 – Health and Environment *http://www.oecd.org/document/46/0,3746,en_2649_37465_49742254_1_1_1_37465,00.html*	OECD	2012	57 pp. (Ch.6)	English, French
Cutting Costs in Chemicals Management; HOW OECD HELPS GOVERNMENTS AND INDUSTRY *http://www.oecd.org/dataoecd/55/4/47813784.pdf*	OECD	2010	46 pp.	English, French
Guidance on definitions of key terms for new chemical notification *http://www.oecd.org/officialdocuments/displaydocumentpdf/?cote=env/jm/mono(2007)13&doclanguage=en*	OECD	2007	6 pp.	English
Pilot Phase of the OECD parallel process for the notification of new chemicals. *The Parallel Process refers to a company notifying to multiple jurisdictions and authorizing participating governments to sharing information when conducting their reviews*	OECD	2006	8 pp.	English
OECD Environmental Outlook for the Chemicals Industry *http://www.oecd.org/dataoecd/7/45/2375538.pdf*	OECD	2001	164 pp.	English

4.3 Effective Project Planning, Implementation, Monitoring and Evaluation

Through specific projects concrete progress can be made towards building capacities for the sound management of chemicals and achievement of the WSSD 2020 Goal. In the perspective of the IOMC, a number of characteristics contribute towards the sustainable impact of capacity building projects. These include, for example:

- Multi-sectoral and multi-stakeholder consultation/participation in project design and implementation;
- Sound project planning, monitoring and evaluation;
- Evaluation of the sustainability of the capacity and infrastructure;

- Building on the experiences gained and lessons learned from previous projects and activities; and
- Solid linkages of project and activity goals to overall programmatic priorities.

Project Planning

UNDP				
Integrating the Sound Management of Chemicals into MDG-Based Development Planning	UNDP BDP Montreal Protocol Unit/ Chemicals	2011	67 pp.	English
Practitioner's Guide: Capacity Development for Environmental Sustainability	UNDP Capacity Develop-ment Group	2011	95 pp.	English, French

UNEP/UNIDO				
Organization, Management and Governance Practices: a primer for providers of services in Resource Efficient and Cleaner Production	UNIDO, UNEP	2010	37 pp.	English
Manual on operations under multilateral environmental agreements: Montreal Protocol on Substances that Deplete the Ozone Layer and Stockholm Convention on Persistent Organic Pollutants	UNIDO	2009	181 pp.	English
Cleaner Production Toolkit - One step ahead makes a difference	UNIDO	2007	CD and on-line	English, Spanish

UNITAR				
Guidance on Action Plan Development for Sound Chemicals Management, Guidance Document – 2009 Edition *http://www2.unitar.org/cwm/publications/inp.aspx*	UNITAR	2009	65 pp.	Arabic, Chinese, English, French, Russian, Spanish
Developing a Gantt and PERT Chart, Draft Training Manual *http://www2.unitar.org/cwm/publications/pops.aspx*	UNITAR	2004	19 pp.	English
Synergies for Capacity Building under International Agreements Addressing Chemicals and Waste Management *http://www2.unitar.org/cwm/publications/inp.aspx*	UNITAR	2004	18 pp.	English, French

Strengthening National Capabilities and Capacities for the Sound Management of Chemicals: Observations and Conclusions of an International Expert Meeting – Montezillon, Switzerland, August 1996 *http://www2.unitar.org/cwm/publications/irm.aspx*	UNITAR	1996	57 pp.	English

WORLD BANK				
Practical Guidebook on Strategic Planning in Municipal Waste Management *http://www.bertelsmann-stiftung.de/cps/rde/xbcr/SID-0A000F14-369496FA/bst_engl/SolidWasteGuidebook.pdf*	World Bank	2003	103 pp.	English

Monitoring and Evaluation

FAO				
Guidelines on Monitoring and Observance of the Code of Conduct *http://www.fao.org/ag/AGP/AGPP/Pesticid/Code/Guidelines/Monitoring.htm*	FAO	2006	32 pp.	English

UNDP				
Handbook on Planning, Monitoring and Evaluating for Development Results	UNDP	2009	220 pp.	English

UNEP				
Standardized Toolkit for Identification and Quantification of Dioxin and Furan Releases: Air, Water, Land, Products, Residues: 2nd edition *http://www.chem.unep.ch/Pops/pcdd_activities/toolkit/default.htm*	UNEP	2005	253 pp.	Arabic, English, Russian, Spanish
Standardized Toolkit for Identification and Quantification of Dioxin and Furan Releases: Air, Water, Land, Products, Residues: 1st edition	UNEP	2003	234 pp.	Arabic, English, French, Russian

UNIDO				
Sustainability Criteria - Chemical Leasing *http://www.chemicalleasing.com/sub/down.htm*	UNIDO	2012	4 pp.	English
Enterprise Level Resource Productivity and Pollution Intensity Indicators: a primer for small and medium enterprises, UNIDO and UNEP, 2010	UNIDO, UNEP	2010	56 pp.	English

4.4 Legislation and Enforcement

Legislation and associated regulations comprise an important component of national chemicals management. Overarching legislation can establish a generic legal framework for the control of chemicals and make the basic principles of sound chemicals management legally binding. The legislative framework should be integrated across all sectors and should seek to address the entire life cycle of chemicals, including importation, manufacture, processing, storage, transport, use, disposal and recycling. The existence of a comprehensive and well coordinated legal framework can help to avoid piecemeal, overlapping, or conflicting regulations.

Legislation, Regulations and Policies—General

FAO				
International Code of Conduct on the Distribution and Use of Pesticides *http:/www.fao.org/ag/AGP/AGPP/Pesticid/code/PM_Code.htm*	FAO	2005	36 pp.	Arabic, Chinese, English, French, Spanish

UNEP				
Test Version. Draft. Guidance on the development of Legal and Institutional Infrastructures for Sound Management of Chemicals and measures for Recovering Costs of national Administration *http://www.unep.org/hazardoussubstances/Portals/9/Mainstreaming/LIRA-Country%20Workshop/LIRA%20Guidance/LIRA%20Guidance_Test%20version_01.2012.pdf*	UNEP/ DTIE Chemicals Branch	2012	84 pp.	English
Indicators-based Environmental Performance Assessment for China's Total Emission Reduction Policy during the 11th FYP (2006-2010) *Prepared by: Yang Weishan, Dr. Zhao Xuetao and Mr. Cao Dong, CEDAA/Center for Environmental Data Application & Analysis, CAEP/Chinese Academy for Environmental Planning CAEP*	UNEP CAEP	2012	54 pp.	Chinese, English
A Flexible Framework for Addressing Chemical Accident Prevention and Preparedness. Guidance: *http://www.unep.fr/scp/sp/saferprod/pdf/UN_Flexible_Framework_WEB_FINAL.pdf*	UNEP/ DTIE Sustainable Consump-tion and Production Branch	2010	188 pp.	English
Guide on the Development of National Laws to Implement the Rotterdam Convention	UNEP/FAO	2005	60 pp.	English, French, Spanish

Protecting human health and the environment: a guide to the Rotterdam Convention on hazardous chemicals and pesticides	UNEP	2004	20 pp.	English
Guidance to Designated National Authorities (DNAs) on the Operation of the Rotterdam Convention	UNEP/FAO	2004	31 pp.	English, French, Spanish
Decision Guidance Documents on chemicals subject to the PIC procedure	UNEP/FAO	2002-2006		English

UNIDO				
UNIDO Green Industry: policies for supporting green industry	UNIDO	2011	88 pp.	English
POPs in Africa: Skillshare and Workshop (July 2002, Tanzania). Ratifying and Implementing the Stockholm Convention	IPEN/ UNIDO	2003	5 pp.	English

UNITAR				
Development of a National Capacity Assessment and National Action Plan for Implementation of the Rotterdam Convention: Guidance Document *http://www2.unitar.org/cwm/publications/rotterdam_convention.aspx*	UNITAR/ UNEP/FAO	2009	55 pp.	English, French
Developing and Strengthening National Legislation and Policies for the Sound Management of Chemicals – Final Report *http://www2.unitar.org/cwm/publications/tw.aspx*	UNITAR	1999	62 pp.	English, French

WHO				
Events of international public health concern, including chemical events – International Health Regulations (2005) *http://www.who.int/ihr/en/*	WHO	On-going since 2007		Arabic, Chinese, English, French, Russian, Spanish
Children's health and environment: developing action plans. Lucianne Licari, Leda Nemer, and Giorgio Tamburlini *http://www.euro.who.int/document/E86888.pdf*	WHO Regional Office for Europe	2005	94 pp.	English
Children's environment and health action plan for Europe: fourth Ministerial Conference on Environment and Health, Budapest, Hungary, 23-25 June 2004 *http://www.euro.who.int/document/e83335.pdf*	WHO Regional Office for Europe	2004	13 pp.	English

Public Health and Chemical Incidents: Guidance for National and Regional Policy Makers in the Public/Environmental Health Roles *http://www.who.int/ipcs/publications/en/Public_Health_Management.pdf*	WHO	1999	118 pp.	English

WORLD BANK				
Study on Financing the Destruction of Unwanted Ozone-Depleting Substances through the Voluntary Carbon Market *http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/ENVIRONMENT/EXTTMP/0,,contentMDK:22587937~menuPK:1247163~pagePK:148956~piPK:216618~theSitePK:408230~isCURL:Y,00.html*	World Bank	2010	129 pp.	English
The Global Pursuit of the Sound Management of Chemicals *http://siteresources.worldbank.org/INTPOPS/Publications/20486416/GlobalPursuitOfSoundManagementOfChemicals2004Pages1To67.pdf (part I)* *http://siteresources.worldbank.org/INTPOPS/Publications/20486423/GlobalPursuitOfSoundManagementOfChemicals2004Pages68To83.pdf (part II)*	World Bank	2004	83 pp.	English
Toxics and Poverty: The Impact of Toxic Substances on the Poor in Developing Countries *http://siteresources.worldbank.org/INTPOPS/Publications/20486400/TOXICStext917w.pdf*	World Bank	2002	57 pp.	English

OECD				
Proceedings of the OECD Workshop on Non-Regulatory Initiatives for Chemical Risk Management *http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=OCDE/GD(97)97&docLanguage=En*	OECD	1997	200 pp.	English

Pesticides Legislation and Policies

FAO				
Pesticide Legislation Guidelines: National Pesticide Law Reform: A Guide *(In preparation)*	FAO			

Pest and Pesticide Management Policy Guidelines: Guidelines on pest and pesticide management policy development *(In preparation)*	FAO			
Guidelines for legislation on the control of pesticides *(Planned to be updated)* *http://www.fao.org/ag/AGP/AGPP/Pesticid/Code/Guidelines/Legislation2.htm*	FAO	1989	16 pp.	English

UNITAR/UNEP				
Decision Trees to Assist with the Implementation of the Stockholm Convention *http://www2.unitar.org/cwm/publications/pops.aspx*	UNITAR/ UNEP	2009	15 pp.	Arabic, Chinese, English, French, Russian, Spanish
Preparing/Updating a National Profile as Part of a Stockholm Convention National Implementation Plan, Companion Guidance Note *http://www2.unitar.org/cwm/publications/pops.aspx*	UNITAR/ UNEP	2003	38 pp.	English, French, Spanish

WHO				
Management of Public Health Pesticides *http://www.who.int/whopes/recommendations/en/* *http://www.who.int/whopes/en/*	WHO/ Pesticide Evaluation Scheme (PES)	On-going	Web-site	English, French, Spanish
The WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification *http://www.who.int/ipcs/publications/pesticides_hazard/en/*	WHO	2009	78 pp.	English
Global Strategic Framework for Integrated Vector Management *http://www.searo.who.int/LinkFiles/Publications_and_Documents_OMS_CDS.pdf*	WHO	2004	15 pp.	English

OECD				
Pesticide Compliance and Enforcement Best Practice Guidance *(About to be published)*	OECD	2012	45 pp.	English

Policies for Pollution Prevention and Cleaner Production

GEF/UNDP/UNIDO				
Identification, assessment and prioritization of Pollution Hot Spots	UNIDO	2002	142 pp.	

UNIDO				
Manual on the Development of Cleaner Production Policies – Approaches and Instruments. Guidelines for National Cleaner Production Centers and Programmes; One step ahead makes a difference *Training Kit* *http://www.unido.org/en/doc/5136*	UNIDO	2002	141 pp.; CD and on-line	English

WORLD BANK				
Getting to Green - A Sourcebook of Pollution Management Policy Tools for Growth and Competitiveness *http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/ENVIRONMENT/0,,contentMDK:22856237~pagePK:210058~piPK:210062~theSitePK:244381,00.html#*	World Bank	2012	Various documents	English
General Environmental, Health and Safety Guidelines *http://www1.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/IFC+Sustainability/Sustainability+Framework/Environmental%2C+Health%2C+and+Safety+Guidelines/*	World Bank (IFC)	2007	99 pp.	Arabic, Chinese, English, French, Russian, Spanish

OECD				
Need for Research and Development Programmes in Sustainable Chemistry *http://www.oecd.org/dataoecd/9/55/2079870.pdf*	OECD	2002	27 pp.	English
Extended Producer Responsibility - A Guidance Manual for Governments *http://www.oecdbookshop.org/oecd/display.asp?sf1=identifiers&st1=972001041P1*	OECD	2001	161 pp.	English

4.5 Participation of the Private Sector and Non Profit Civil Society in Chemicals Management

Civil society and the private sector have major roles in chemicals management capacity building. The private sector, in particular industry, can be a net contributor to supporting capacity building, especially given increasing calls by government for this sector to work in partnerships for sustainable development. Where industry is involved, systems can be developed that work on a cost recovery basis to ensure sustainability. Civil society will be

involved in certain aspects of chemicals management capacity building activities. Multilateral organizations such as the GEF and the Multilateral Fund for the Implementation of the Montreal Protocol, for example, recognize the potential of civil society and the private sector to assist governments in the "delivery" of chemicals-related commitments.

Voluntary Initiatives in the Private Sector

UNDP/PPPUE/IBLF				
Public Private Partnership Resources and Tools *http://www.capacity.undp.org/index.cfm?module=ActiveWeb&page=WebPage&s=public_private_partn*	UNDP/ PPPUE	2004	Web-site	English
Business and the MDGs: A Framework for Action *This booklet by UNDP and the Prince of Wales International Business Leaders Forum (IBLF) suggests a framework of three kinds of activities: core business, social investment and philanthropic, and engagement in policy dialogue and advocacy action.* *http://www.iblf.org/resources/general.jsp?id=56*	UNDP/IBLF	2003	32 pp.	English

UNEP				
Responsible Production - A Framework for Chemical Hazard Management for Small and Medium Sized Enterprises *http://www.unep.fr/scp/sp/saferprod/initiatives.htm#rp*	UNEP/ DTIE Sustainable Consump-tion and Production Branch		Web portal	English
Responsible Production Learners and Trainers Companion	UNEP/ DTIE Sustainable Consump-tion and Production Branch	2011	Inter-active CD	English
Responsible Production Booklet: a Framework for Chemical Hazard Management for Small and Medium Sized Enterprises. Incorporating best practice from Safer Production, APELL and Corporate Social Responsibility *http://www.unep.fr/scp/sp/saferprod/pdf/Responsible_Production_Framework.pdf*	UNEP/ DTIE Sustainable Consump-tion and Production Branch	2010	87 pp.	Arabic, Chinese, English, French, Spanish, Thai, Vietna-mese

Responsible Production Guidance and Toolkit *http://www.unep.fr/scp/sp/saferprod/pdf/Responsible_Production_Toolkit.pdf*	UNEP/ DTIE Sustainable Consump-tion and Production Branch	2010	137 pp.	Arabic, Chinese, English, French, Spanish, Thai, Vietna-mese
Responsible Production Training Package *http://www.unep.fr/scp/sp/saferprod/pdf/Responsible_Production_Training_Package.pdf*	UNEP/ DTIE Sustainable Consump-tion and Production Branch	2010	137 pp.	Chinese, English

UNIDO				
UNIDO Green Industry Platform	UNIDO	2012	Web plat-form	English
ChL annual report 2011	UNIDO	2012	41 pp.	English
Chemical leasing toolkit	UNIDO	2011	CD	English
Chemical leasing: a global success story	UNIDO	2011	32 pp.	English
Applying sustainability criteria for ChL business cases at the global level	UNIDO	2011	46 pp.	English
ChL website *www.chemicalleasing.com*	UNIDO	2009	Web-site	English
Chemical Leasing goes global Selling Services Instead of Barrels: A Win-Win Business Model for Environment and Industry	UNIDO/ Federal Ministry of Agriculture, Forestry, Environment and Water Management of Austria	2008	245 pp.	English
The Chemical Leasing (ChL) approach, a new and innovative instrument to promote sustainable management of chemicals	UNIDO	2006	Video	English
Sustainable Supply Chains – The Global Compact Case Studies	UNIDO	2005	30 pp.	English
Survey of Small and Medium Enterprises in the Global Compact	UNIDO	2004	55 pp.	English
CORPORATE SOCIAL RESPONSIBILITY Implications for Small and Medium Enterprises in Developing Countries, Box 12: Sector Focus: Chemicals	UNIDO	2002	1 p.	English

UNITAR				
PRTR guidance package *http://www2.unitar.org/cwm/publications/prtr.aspx*	UNITAR	2012		English

WORLD BANK				
Industry Sector Guidelines, including on pulp and paper, crop production, waste management, pesticide formulation, cement manufacturing *(Individual documents)* *http://www1.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/IFC+Sustainability/Sustainability+Framework/Environmental%2C+Health%2C+and+Safety+Guidelines/*	World Bank (IFC)	2007	Various documents	English

Capacities of Civil Society

UNDP				
Integrating the Sound Management of Chemicals into MDG-Based Development Planning	UNDP BDP Montreal Protocol Unit/ Chemicals	2012	67 pp.	English
The Future of Participatory Civil Society Assessments: A Conceptual Analysis	UNDP	2011	46 pp.	English
A Users' Guide to Civil Society Assessments	UNDP	2010	68 pp.	English
UNDP and Civil Society Organizations: A Policy of Engagement *http://www.undp.org/content/undp/en/home/librarypage/operations/donors_partners/civil_society/undp_and_civil_societyorganizationsapolicyofengagement.html*	UNDP	2001	12 pp.	English

UNITAR				
Preparing a National Profile to Assess National Capacities for Implementation of Principle 10 of the Rio Declaration *http://www.unitar.org/egp/publications*	UNITAR	2008	91 pp.	English, French, Spanish
Preparing a National Profile to Assess National Capacities for Implementation of the Aarhus Convention *http://www.unitar.org/egp/publications*	UNITAR	2004	100 pp.	English, Russian

WORLD BANK				
Issues and Options for Improving Engagement Between the World Bank and Civil Society Organizations *http://siteresources.worldbank.org/CSO/Resources/Issues_and_Options_PUBLISHED_VERSION.pdf*	World Bank	2005	75 pp.	English

OECD				
Proceedings of the OECD Workshop on Non-Regulatory Initiatives for Chemical Risk Management *http://www.oecd.org/officialdocuments/displaydocument/?doclanguage=en&cote=ocde/gd(97)97*	OECD	1997	200 pp.	English

5. RESOURCE DOCUMENTS ADDRESSING SPECIFIC TOPICS OF CHEMICALS MANAGEMENT

This section provides references to a range of documents developed by IOMC POs in support of specific chemicals management capacity building activities. In light of the complexity of chemicals management and the diversity of programmes and documents available, documents have been grouped in five main sections, with sub-sections as appropriate. The five main sections include:

- Information generation and dissemination;
- Risk management/reduction;
- Education and awareness raising;
- Accident prevention and control; and
- Analytical and laboratory capacity.

In developing the structure, care has been taken to build upon the agreed SAICM objectives and to take into consideration prior work in the area of national chemicals management, namely Chapter 19 of Agenda 21. Table 1 provides an overview of the main categories and indicates those SAICM objectives to which they relate.

Table 1: Overview of main categories

Subsection	**SAICM Objective**				
	Risk reduction	Knowledge and information	Governance	Capacity building and technical cooperation	Illegal international trade
Information generation and dissemination	**x**	**x**	**x**	**x**	**x**
Risk management/ reduction	**x**			**x**	**x**
Accident prevention and control	**x**	**x**		**x**	
Education and awareness raising	**x**	**x**		**x**	
Analytical and laboratory capacity		**x**		**x**	**x**

5.1 Information Generation and Dissemination

Information is pivotal to a successful chemicals management programme. Ideally, the information should be comprehensive, validated and up-to-date. For the purposes of chemicals management, information is required to: identify chemicals of concern; assess problems that may arise and identify populations and environments at risk; implement focused and effective risk management programmes; monitor and evaluate health and environmental risks; raise awareness; and prepare and respond to chemical accidents and emergencies.

In the collection, processing and dissemination of information it is important to consider the ultimate users. This may be national authorities seeking to assess chemicals and take appropriate regulatory action, local authorities assessing risks in their community, workers handling chemicals, and the public when taking action to reduce their own exposure. The

level of detail and the technical nature of information, as well as the nature and format of the documentation, should vary according to the needs of the various groups.

Hazard Identification, Classification and Labelling (GHS)

FAO				
The Implementation of the Globally Harmonized System of Classification and Labelling of Chemicals – FAO's position paper *http://www.fao.org/ag/AGP/AGPP/Pesticid/Code/Guidelines/Registration9.htm*	FAO	2007	5 pp.	English
Guidelines on good labeling practice for pesticides *(Revised version available in October 2007)* *http://www.fao.org/ag/AGP/AGPP/Pesticid/Code/Guidelines/Registration9.htm*	FAO	1995	59 pp.	English

ILO/WHO				
International Chemical Safety Cards (ICSCs) *http://www.ilo.org/public/english/protection/safework/cis/products/icsc/index.htm*	ILO CIS	On-going		English, Dutch, Chinese, Estonian, Finnish, French, German, Hindi, Hungar-ian, Italian, Japanese, Korean, Russian, Spanish, Swahili, Thai, Urdu, Vietna-mese

UNITAR/ILO				
The GHS and the Global Partnership, a success story from Rio to Rio: Achievements, lessons learned and future directions, June 2012 *http://www2.unitar.org/cwm/publications/ghs.aspx*	UNITAR/ ILO/OECD	2012	32 pp.	English
Developing a National GHS Implementation Strategy, September 2010 Edition *http://www2.unitar.org/cwm/publications/ghs.aspx*	UNITAR/ ILO	2010	82 pp.	English, French, Russian, Spanish

Understanding the GHS: A Companion Guide to the Purple Book, June 2010 Edition *http://www2.unitar.org/cwm/publications/ghs.aspx*	UNITAR/ ILO	2010	98 pp.	English, French, Russian, Spanish
GHS Stocktaking Workshop for Southeast, East, and Central Asia, Beijing, PR China, 15-17 September 2010 *http://www2.unitar.org/cwm/publications/ghs.aspx*	UNITAR/ ILO	2010	58 pp.	English
WSSD Global Partnership for Capacity Building to Implement the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Annual Report 2010 *http://www2.unitar.org/cwm/publications/ghs.aspx*	UNITAR/ ILO/OECD	2010	62 pp.	English
WSSD Global Partnership for Capacity Building to Implement the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Annual Report 2009 *http://www2.unitar.org/cwm/publications/ghs.aspx*	UNITAR/ ILO/OECD	2009	60 pp.	English
IOMC: Assisting Countries with the Transition Phase for GHS Implementation (tools and resources of the IOMC to support implementation of the GHS) *http://www2.unitar.org/cwm/publications/ghs.aspx*	UNITAR/ ILO/IOMC	2008	24 pp.	Arabic, Chinese, English, French, Russian, Spanish
WSSD Global Partnership for Capacity Building to Implement the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Annual Report 2008 *http://www2.unitar.org/cwm/publications/ghs.aspx*	UNITAR/ ILO/OECD	2008	54 pp.	English
Chemical Hazard Communication and GHS Capacity Building Library, 2nd Edition, 2007 *http://www2.unitar.org/cwm/publications/ghs.aspx*	UNITAR/ ILO	2007	CD	English
WSSD Global Partnership for Capacity Building to Implement the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Annual Report 2007 *http://www2.unitar.org/cwm/publications/ghs.aspx*	UNITAR/ ILO/OECD	2007	58 pp.	English

GHS Conference for ASEAN: Implementation Towards 2008 and Beyond, Jakarta, Indonesia, 9-11 May 2007 http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR/ ILO	2007	68 pp.	English
WSSD Global Partnership for Capacity Building to Implement the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Annual Report 2006 http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR/ ILO/OECD	2006	55 pp.	English
Regional Workshop on Chemical Hazard Communication and GHS Implementation for Countries of the Arab Region, Alexandria, Egypt, 30 October - 2 November http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR/ ILO	2006	46 pp.	Arabic, English, French
Regional Workshop on Chemical Hazard Communication and GHS Implementation for Countries of Central and Eastern Europe and Central Asia, Bled, Slovenia, 24-25 October 2006 http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR	2006	38 pp.	English
WSSD Global Partnership for Capacity Building to Implement the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Annual Report 2005 http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR/ ILO/OECD	2005	52 pp.	English
Global Thematic Workshop on Capacity Building to Implement the GHS, Johannesburg, South Africa, November 2005 http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR	2005	6 pp.	English
Regional Workshop on Chemical Hazard Communication and GHS Implementation for Countries of ASEAN, Manila, Philippines, 17-20 October 2005 http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR	2005	58 pp.	English
WSSD Global Partnership for Capacity Building to Implement the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Annual Report 2004 http://www2.unitar.org/cwm/publications/ghs.aspx	UNITAR/ ILO/OECD	2004	38 pp.	English

South American Sub-regional Workshop on Chemical Hazard Communication and GHS Implementation, São Paulo, Brazil, 29 Nov - 2 Dec 2004 *http://www2.unitar.org/cwm/publications/ghs.aspx*	UNITAR/ ILO	2004	40 pp.	English, Spanish
SADC Sub-regional Workshop on Chemical Hazard Communication and GHS Implementation, Livingstone, Zambia, 1-4 September 2003 *http://www2.unitar.org/cwm/publications/ghs.aspx*	UNITAR/ ILO	2003	34 pp.	English
WSSD Global Partnership for Capacity Building to Implement the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Annual Report 2003 *http://www2.unitar.org/cwm/publications/ghs.aspx*	UNITAR/ ILO/OECD	2003	38 pp.	English
WSSD Global Partnership for Capacity Building to Implement the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Annual Report 2002 *http://www2.unitar.org/cwm/publications/ghs.aspx*	UNITAR/ ILO/OECD	2002	36 pp.	English

OECD				
Series on Testing and Assessment (170 documents), last updated in 2012 *www.oecd.org/ehs/testingandassessment*	OECD	2012	>1000 pp.	English
Global Portal to Information on Chemical Substances - eChemPortal *http://www.oecd.orgehs/eChemPortal*	OECD	2012	10 pp.	English
OECD QSAR Toolbox (latest version 2.3, 2012) *http://www.oecd.org/env/hazard/qsar*	OECD	2012		English
Manual for the Assessment of Chemicals *http://www.oecd.org/env/hazard*	OECD	2012	300 pp.	English
Electronic Tools for Data Submission, Evaluation and Exchange in the OECD Cooperative Chemicals Assessment Programme *http://www.oecd.org/env/hazard*	OECD	2012	3 pp.	English
Co-operative Chemicals Assessment Programme – Published assessments for over 1000 chemicals *http://www.oecd.org/env/hazard/data*	OECD	2012	>1000 pp.	English

OECD Harmonised Templates for Reporting Chemical Test Study Summaries *http://www.oecd.org/ehs/templates*	OECD	2012	>1000 pp.	English
The OECD Environmental Risk Assessment Toolkit: Tools for Environmental Risk Assessment and Management *www.oecd.org/env/riskassessment/toolkit*	OECD	2012	10 pp.	English
Guidelines for the Testing of Chemicals, OECD, Last updated 2011 *http://www.oecd.org/document/40/0,2340,en_2649_34377_37051368_1_1_1_1,00.html*	OECD	2011		English, French
Public availability of national/regional GHS classifications *http://www.oecd.org/env/classify*	OECD	2011	1 p.	English
Guidance Manual for the Testing of Manufactured Nanomaterials: First Revision *http://www.oecd.org/officialdocuments/displaydocumentpdf/?cote=env/jm/mono(2009)20/rev&doclanguage=en*	OECD	2010	92 pp.	English
Preliminary Guidance Notes on Sample Preparation and Dosimatry for the Safety Testing of Manufactured Nanomaterials *http://www.oecd.org/officialdocuments/displaydocumentpdf/?cote=env/jm/mono(2010)25&doclanguage=en*	OECD	2010	58 pp.	English
Data analysis of the identification of correlations between polymer - Characteristics and potential for health or ecotoxicological concern *http://www.oecd.org/officialdocuments/displaydocumentpdf/?cote=ENV/JM/MONO(2009)1&doclanguage=en*	OECD	2009	41 pp	English
Preliminary Review of OECD Test Guidelines for their Applicability to Manufactured Nanomaterials *http://www.oecd.org/officialdocuments/displaydocument/?doclanguage=en&cote=env/jm/mono(2009)21*	OECD	2009	71 pp.	English
Guidance Document for the Development of OECD Guidelines for the Testing of Chemicals – Revised Guidance Document, Series on Testing and Assessment No. 1 *http://www.oecd.org/dataoecd/26/35/49803789.pdf*	OECD	2006	31 pp.	English, (French forth-coming)

Guidance Document on the Validation and International Acceptance of New or Updated Test Methods for Hazard Assessment. Publication, Series on Testing and Assessment No. 34 http://www.oecd.org/officialdocuments/displaydocumentpdf?cote=env/jm/mono(2005)14&doclanguage=en	OECD	2005	96 pp.	English
Principles for the Validation of (*Quantitative) Structure-Activity Relationships [(Q)SARs]* *http://www.oecd.org/env/hazard/qsar*	OECD	2004	206 pp.	English
Final Guidance Document for Distinguishing Waste From Non-Waste *http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV/EPOC/WMP(98)1/REV1&docLanguage=En*	OECD	1998	18 pp.	English

Exposure Assessment

FAO				
Submission and evaluation of pesticide residues data for the estimation of maximum residue levels in food and feed *http://www.fao.org/WAICENT/FAOINFO/AGRICULT/AGP/AGPP/Pesticid/JMPR/Download/faom2002.doc*	FAO	2002	194 pp.	English

UNEP				
IPCS Training Module No 4: General Scientific Principles of Chemical Safety	IPCS/WHO/ UNEP/ILO	2000	114 pp.	English

WHO				
Brief Guide to Analytical Methods for the Measurement of Lead in Blood *http://www.who.int/ipcs/assessment/public_health/lead_blood.pdf*	WHO	2011	13 pp.	English
Brief Guide to Analytical Methods for Measuring Lead in Paint *http://www.who.int/ipcs/assessment/public_health/lead_paint.pdf*	WHO	2011	10 pp.	English
Uncertainty and Data Quality in Exposure Assessment *http://www.who.int/ipcs/methods/harmonization/areas/exposure/en/index.html*	WHO/IPCS	2008	158 pp.	English
Guidelines for Predicting Dietary Intake of Pesticide Residues *www.who.int/foodsafety/publications/chem/pesticides/en/*	WHO/Codex	1997	33 pp.	English, French

OECD				
Crosswalk of harmonized U.S. - Canada Industrial Function and Consumer and Commercial Product Categories with EU Chemical Product and Article Categories, Publication, Series on Testing and Assessment, No. 167 *http://www.oecd.org/officialdocuments/displaydocument/?cote=env/jm/mono(2012)5&doclanguage=en*	OECD	2012	27 pp.	English
OECD Pov and LRTP Screening Tool (overall persistence and long-range transport potential screening tool) *http://www.oecd.org/env/exposure/povlrtp*	OECD	2009	Down load-able soft-ware	English
Comparison of Emission Estimation Methods Used in Pollutant Release and Transfer Registers (PRTR) and Emission Scenario Documents (ESD): Case Study of Pulp and Paper and Textile Sectors, Publication, Series on Testing and Assessment No. 52 *http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV/JM/MONO(2006)6&docLanguage=En*	OECD	2006	96 pp.	English
Guidance Document on the Use of Multimedia Models for Estimating Overall Environmental Persistence and Long-Range Transport. Publication, Series on Testing and Assessment No. 45 *http://www.oecd.org/officialdocuments/displaydocumentpdf/?cote=env/jm/mono(2004)5&doclanguage=en*	OECD	2004	83 pp.	English
Report of the OECD/UNEP Workshop on the Use of Multimedia Models for Estimating Overall Environmental Persistence and Long-range Transport in the Context of PBTs/POPs Assessment, Publication, Series on Testing and Assessment No. 36 *http://www.oecd.org/officialdocuments/displaydocumentpdf?cote=env/jm/mono(2002)15&doclanguage=en*	OECD	2002	191 pp.	English
Emission Scenario Documents • Chemicals used in oil well production • Chemical Industry • Water Based Washing Operations at Industrial and Institutional Laundries • Metalworking Fluids • Radiation Curable Coating, Inks and Adhesives • Blending of Fragrane Oils into	OECD	2000-2012	166 pp.	English

Commercial and Consumer Products • Chemicals Used in the Electronics Industry • Transport and Storage of Chemicals • Pulp, Paper and Board Industry • Coating Industry (Paints, Lacquers and Varnishes) • Formulation of Radiation Curable Coatings, Inks and Adhesives • Adhesive Formulation • Complementing Guideline for Writing ESDs: The Life-Cycle Step "service-life" • Insecticides, acaricides and products to control other arthropods for household and professional uses • Recovered Paper Mills • Non-Integrated Paper Mills • Kraft Pulp Mills • Insecticides for Stables and Manure Storage Systems • Antifoulants • Metal finishing • Automotive spray application • Lubricants and Lubricant Additives • Photoresist Use in Semiconductor Manufacturing • Leather Processing • Textile Finishing • Rubber Additives • Photographic Industry • Water Treatment Chemicals • Plastic Additives • Wood preservatives • Guidance Document on Emission Scenario Documents *http://www.oecd.org/env/exposure*				
Report of the OECD Workshop on Improving the Use of Monitoring Data in the Exposure Assessment of Industrial Chemicals, Publication, Series on Testing and Assessment No. 18 *http://www.oecd.org/officialdocuments/displaydocumentpdf?cote=env/jm/mono(2000)2&doclanguage=en*	OECD	2000	125 pp.	English

Environmental Exposure Assessment Strategies for Existing Industrial Chemicals in OECD Member Countries, Publication, Series on Testing and Assessment No. 17 *http://www.oecd.org/officialdocumen*	OECD	1999	31 pp.	English

ts/displaydocumentpdf?cote=env/jm/mono(99)10&doclanguage=en				

Toxicology

UNEP				
Polybrominated Dibenzo-p-dioxins (PBDDs), Dibenzofurans (PBDFs) and Biphenyls (PBBs) - Inclusion in the Toxicity Equivalency Factor Concept for Dioxin-like Compounds Prepared by IRAS, Utrecht University, the Netherlands	UNEP/WHO	2012	27 pp.	English

WHO				
IPCS Training Module No 4: General Scientific Principles of Chemical Safety	IPCS/WHO/ UNEP/ILO	2000	114 pp.	English
IPCS Training Module No 3 Chemical Risk Assessment : Human Risk Assessment, Environmental Risk Assessment and Ecological Risk Assessment *http://whqlibdoc.who.int/hq/1999/WHO_PCS_99.2_pp1-106.pdf*	WHO/IPCS	1999	106 pp.	English
IPCS Training Module No 1: Chemical Safety: Fundamentals of Applied Toxicology - The Nature of Chemical Hazards, Second (Revised) Edition *http://whqlibdoc.who.int/hq/1997/WHO_PCS_97.14_pp1-81.pdf*	WHO/IPCS	1997	258 pp.	English
Basic Analytical Toxicology *http://whqlibdoc.who.int/hq/2000/WHO_PCS_00.8_pp1-104.pdf* *http://whqlibdoc.who.int/hq/2000/WHO_PCS_00.8_pp105-205.pdf*	IPCS/WHO	1995	274 pp.	English, French, Thai

Epidemiology and Monitoring

WHO				
Environment and Health Information System in Europe (ENHIS) *http://www.euro.who.int/en/what-we-do/data-and-evidence/environment-and-health-information-system-enhis/publications/2011/tools-for-monitoring-parma-conference-commitments*	WHO/ ECEH/Bonn	2011	31 pp.	English, Russian
Basic Epidemiology *http://www.who.int/ncd_surveillance/resources/publications/en/index.html*	WHO	2000 (Up-dated)	183 pp.	Chinese, English, French, Russian, Spanish
Evaluation and use of epidemiological evidence for environmental health risk assessment: guideline document *http://www.euro.who.int/document/e68940.pdf*	WHO (Regional EU office)	2000	39 pp.	English
Assessing the Health Consequences of Major Chemical Incidents: Epidemiological Approaches *http://www.euro.who.int/document/e57926.pdf*	WHO (EURO)	1997	90 pp.	English
Teacher's Guide for Basic Epidemiology *http://www.who.int/ncd_surveillance/resources/publications/en/index.html*	WHO	1994	216 pp.	English, French

PRTRs

UNITAR				
PRTR guidance package *http://www2.unitar.org/cwm/publications/prtr.aspx*	UNITAR	2012	200 pp.	English, Russian, Spanish

OECD				
Global Pollutant Release and Transfer Register, Proposal for a Harmonised List of Pollutants, Series on PRTR No. 13 *http://www.oecd.org/officialdocuments/displaydocument/?cote=env/jm/mono(2012)9&doclanguage=en*	OECD	2012	151 pp.	English

Resource Compendium of PRTR Release Estimation Techniques, Part 4: Summary of Techniques for Releases from Products, Version 1.0, Series on PRTR No. 12 Part I: *http://www.oecd.org/officialdocuments/displaydocument/?cote=env/jm/mono(2011)7/part1&doclanguage=en* Part II: *http://www.oecd.org/officialdocuments/displaydocument/?cote=env/jm/mono(2011)7/part2&doclanguage=en*	OECD	2011	361 pp.	English
Considerations for Ensuring Quality PRTR Data, Series on PRTR No. 11 *http://www.oecd.org/officialdocuments/displaydocument/?cote=env/jm/mono(2008)11&doclanguage=en*	OECD	2008	46 pp.	English
Scoping Study on the Inclusion of Releases and Transfers from Small and Medium-sized Enterprises (SMEs) in PRTRs, Series on PRTR No. 10 *http://www.oecd.org/officialdocuments/displaydocument/?cote=env/jm/mono(2008)5&doclanguage=en*	OECD	2008	76 pp.	
Framework for Selecting and applying PRTR Release Estimation Techniques. Publication, Series on PRTR No. 9 *http://www.oecd.org/dataoecd/35/27/35639966.doc*	OECD	2005	108 pp.	English
Uses of Pollutant Release and Transfer Register Data and Tools for their Presentation. Publication, Series on PRTR No. 7 *http://www.oecd.org/officialdocuments/displaydocumentpdf?cote=env/jm/mono(2005)3&doclanguage=en*	OECD	2005	87 pp.	English
Presentation and Dissemination of PRTR Data: Practices and Experiences, Publication, Series on PRTR No. 3 *http://www.oecd.org/dataoecd/1/48/47754487.pdf*	OECD	2000	115 pp.	English

Risk Assessment

FAO/WHO				
Principles and Methods for the Risk Assessment of Chemicals in Food (EHC 240) *http://www.who.int/foodsafety/chem/principles/en/index1.html*	FAO/WHO	2009	520 pp.	English

Assessing soil contamination: a reference manual *http://www.fao.org/DOCREP/003/X2570E/X2570E00.HTM*	FAO	2000	210 pp.	Arabic, English, French, Spanish
Pesticide Residues in Food – Reports *http://www.fao.org/ag/AGP/AGPP/Pesticid/JMPR/JMPRreports.htm*	FAO/WHO	1963-on-going		English
Pesticide Residues in Food – Evaluations *http://www.fao.org/ag/AGP/AGPP/Pesticid/JMPR/JMPRreports.htm*	FAO/WHO	1963-on-going		English

UNIDO				
UNIDO/ICS (International Center for Science and High Technology) Information sheet on Chemistry	UNIDO/ICS	2007	2 pp.	

WHO				
Pesticides for Public Health – Guidelines for testing, including risk assessment models *http://www.who.int/whopes/guidelines/en/ http://www.who.int/whopes/en/*	WHO, WHO Pesticide Evaluation Scheme (WHOPES)	On-going	Web-site	English
WHO Human Health Risk Assessment Toolkit: Chemical Hazards *http://www.who.int/ipcs/methods/harmonization/areas/ra_toolkit/en/index.html*	WHO	2010	87 pp.	English
WHO air quality guidelines for particulate matter, ozone, nitrogen, dioxide and sulfur dioxide: global update 2005: summary of risk assessment *http://www.who.int/phe/air/aqg2006execsum.pdf*	WHO	2006	22 pp.	English
Health risks of particulate matter from long-range transboundary air pollution *http://www.euro.who.int/document/E88189.pdf*	WHO (Regional EU office)	2006	112 pp.	English
Effects of air pollution on children's health and development - a review of the evidence *http://www.euro.who.int/document/E86575.pdf*	WHO (Regional EU office)	2005	191 pp.	English
Health effects of transport-related air pollution: summary for policy-makers. *http://www.euro.who.int/document/e86650sum.pdf http://www.euro.who.int/document/e86650.pdf*	WHO (Regional EU office)	2005	12 pp.	English

Health risks of persistent organic pollutants from long-range transboundary air pollution *http://www.euro.who.int/document/e78963.pdf*	WHO (Regional EU office)	2003	234 pp.	English
IPCS Harmonization Project Series on risk assessment methodologies *http://www.who.int/ipcs/methods/harmonization/en/*	WHO/IPCS	2001-on-going		English
Health impact assessment of air pollution. Technical report from WHO/ECEH Project *By request from info@ecehbonn.euro.who.int*	WHO (Regional EU office)	2001		
Health risk of heavy metals from LRTAP, summary of the preliminary assessment, Geneva, Switzerland 23-25 August, 2000 *http://www.unece.org/env/documents/2000/eb/wg1/eb.air.wg.1.2000.12.e.pdf*	WHO (Regional EU office)	2000	11 pp.	English
Monitoring ambient air quality for health impact assessment - European Series; No. 85 *http://www.euro.who.int/document/e67902.pdf*	WHO (Regional EU office)	1999	216 pp.	English
Concise International Environmental Health Criteria (CICAD) Series *http://www.who.int/ipcs/publications/cicad/en/*	WHO/IPCS	1998-on-going		English
Environmental Health Criteria Series on risk assessment methodologies (yellow cover) and assessments of specific chemicals (red cover) *http://www.who.int/ipcs/publications/ehc/en/*	WHO/IPCS	1976-on-going		English (Exec. Summaries are available in English, French, Spanish)
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans *http://monographs.iarc.fr/index.php*	WHO/IARC	1971 - on-going		English

WHO/IPCS				
Pesticide Residues in Food Evaluation Series. *http://www.who.int/ipcs/food/jmpr/en/index.html*	WHO/IPCS	1963-on-going		English
WHO Technical Report Series and Food Additive Series on additives and contaminants in food *http://www.who.int/ipcs/publications/jecfa/monographs/en/*	WHO/IPCS	1956-on-going		English

OECD				
Important Issues on Risk Assessment of Manufactured Nanomaterials *http://www.oecd.org/officialdocuments/displaydocument/?cote=env/jm/mono(2011)54&doclanguage=en*	OECD	2012	57 pp.	English
OECD Environmental Risk Assessment Toolkit *http://www.oecd.org/env/riskassessment/toolkit*	OECD	2010		English

5.2 Risk Reduction

The reduction of risks related to chemical exposure encompasses a broad range of options designed to limit the adverse effects in health and the environment by reducing the availability, or inherent hazards, of chemicals or by controlling the nature and extent of exposures. Risks may be reduced through the elimination or reduction of the use of hazardous materials, substituting less toxic, persistent or bioaccumulative products, implementing safety procedures for the handling of dangerous chemicals and reducing the generation of hazardous waste. Actions to reduce risks may be encouraged through regulatory pressure, economic benefits and other incentives.

Chemical Safety—General

FAO				
Manual on the development and use of FAO and WHO specifications for pesticides *http://www.fao.org/ag/AGP/AGPP/Pesticid/Specs/manual.htm*	FAO/WHO	2004	300 pp.	Arabic, Chinese, English, Spanish
FAO Specifications for Agricultural Pesticides: 300 specifications for pesticides *http://www.fao.org/ag/AGP/AGPP/Pesticid/Specs/faospecs.htm*	FAO	1999		English

ILO				
Promoting safety and health in a green economy, an ILO report *http://www.ilo.org/safework/info/video/WCMS_175600/lang--en/index.htm*	ILO	2012	24 pp.	English, French, Italian, Portuguese, Romanian, Russian, Spanish
Emerging risks and new patterns of prevention in a changing world of work *http://www.ilo.org/safework/info/video/WCMS_123653/lang--en/index.htm*	ILO (Geneva)	2010	22 pp.	English, French, Spanish

Chemical safety in Asia: Law and practice by N. Watfa and S. Machida ISBN 92-2-110889-9	ILO (Geneva)	1998	72 pp.	Arabic
Chemical Safety Training Modules *The Training Modules on Chemical Safety have been compiled in order to introduce safe use of chemicals at places of work, to present classification systems for the labelling and transport of dangerous goods, to allow the reading and use of chemical safety cards, to give a basic overview of toxicology and to disseminate information on selected, widely used, hazardous substances. It contains material usable in handouts, demonstrations and exercises, as well as slides, colour transparencies and diskettes containing text files and databases.* *http://www.ilo.org/public/english/protection/safework/cis/products/safetytm/index.htm*	IPCS	2004		French, Spanish, English
CHEMICAL SAFETY CD-ROM *http://www.ilo.org/public/english/protection/safework/cis/products/safetycd/index.htm*	ILO	2004	CD	French, English, Spanish

UNEP				
Bi-ennial Global Interlaboratory Assessment on Persistent Organic Pollutants Report from the First Round (2010-2011) *http://www.chem.unep.ch/Pops/GMP/Global/Bi-ennial%20Global%20Interlaboratory%20Assessment%20on%20POPs-Round%201.pdf*	UNEP IOMC	2012	82 pp.	English
Report on Passive Air Sampling under the Global Monitoring Plan for Persistent Organic Pollutants - GMP Projects 2010-2011	UNEP GEF	2012	49 pp.	English
Laboratory Guide to PFC Analysis	UNEP GEF	2012	DVD	English, French, and Spanish subtitles
Assessment of Existing Capacity and Capacity Building Needs to Analyse Persistent Organic Pollutants (POPs) in Developing Countries Final Report *http://www.chem.unep.ch/Pops/laboratory/Final%20report%20POPs%20Lab%20Cap_text.pdf*	UNEP GEF	2008	105 pp.	English

Handbook for POPs Laboratory Databank *http://www.chem.unep.ch/Pops/laboratory/POPs_Labs_Databank_Handbook_2007_en.pdf*	UNEP IOMC	2007	48 pp.	English, French, Spanish
Guidance for Analysis of Persistent Organic Pollutants (POPs) http://www.chem.unep.ch/Pops/laboratory/analytical_guidance_en.pdf	UNEP IOMC	2007	24 pp.	English, French, Spanish
Criteria for Sustainability of POPs Laboratories and Their Role at Regional Level: Summary from Three Regional Workshops *http://www.chem.unep.ch/Pops/laboratory/Sustainability%20criteria%20and%20role%20of%20POPs%20labs.pdf*	UNEP GEF	2007	19 pp.	
International Intercalibration Studies: A Global QA/QC Tool for the Analysis of POPs under the Stockholm Convention *http://www.chem.unep.ch/Pops/laboratory/Round%20robins.pdf*	UNEP GEF	2005	56 pp.	English
Analysis of Persistent Organic Pollutants in Developing Countries: Lessons Learned from Laboratory Projects *http://www.chem.unep.ch/Pops/laboratory/Report%20lessons%20learned.pdf*	UNEP GEF	2006	37 pp.	English

UNEP/GEF/SAICM/SSC				
UNEP-coordinated Survey of Mothers' Milk for Persistent Organic Pollutants Part 1: Guidelines for Organization, Sampling and Analysis	UNEP SSC, SAICM	2011		English
UNEP-coordinated Survey of Mothers' Milk for Persistent Organic Pollutants Part 2: Guidelines for Organization, Sampling and Analysis - Annexes	UNEP SSC, SAICM	2011		English

UNIDO				
UNIDO-UNEP Resource Efficient and Cleaner Production (RECP) Programme. Brochure at *http://www.unido.org/index.php?id=o454500*	UNIDO-UNEP	2009	4 pp. sy-nopsis	English and local languages

UNITAR				
Developing a Risk Management Plan for Priority Chemicals. Guidance Document - Working Draft *http://www2.unitar.org/cwm/publications/other.aspx*	UNITAR	2001	79 pp.	English

Development of Risk Reduction Strategies for Priority Chemicals: A Guidance Document, Pilot Version *http://www2.unitar.org/cwm/publications/other.aspx*	UNITAR	1999	71 pp.	English
Strengthening National Capacities for Risk Management Decision-Making for Priority Chemicals - Final Report, October 1999 *http://www2.unitar.org/cwm/publications/tw.aspx*	UNITAR/ ILO/WHO	1999	59 pp.	English

WHO				
WHO/IPCS Web Portal on 10 Chemicals of Major Public Health Concern *http://www.who.int/entity/ipcs/assessment/public_health/chemicals_phc/en/index.html*	WHO	2011		English

WHO/IPCS/ILO				
Guidelines for drinking-water quality, 4th edition *http://www.who.int/water_sanitation_health/publications/2011/dwq_guidelines/en/index.html*	WHO	2011	515 pp.	English, Japanese
Chemical safety of drinking-water: assessing priorities for risk management http://www.who.int/water_sanitation_health/dwq/dwchem_safety/en/index.html	WHO	2007	143 pp.	English
WHO air quality guidelines global update *http://www.euro.who.int/Document/E87950.pdf*	WHO Regional Office for Europe	2005	30 pp.	English
Air quality guidelines for Europe; second edition, European Series: No 91 *http://www.euro.who.int/air/activities/20050223_4*	WHO Regional Office for Europe	2000	288 pp.	English
Laboratory Handling of Mutagenic and Carcinogenic Products *http://whqlibdoc.who.int/hq/1998/WHO_PCS_98.9.pdf*	WHO/IPCS	1998	118 pp.	English

International Chemical Safety Card Series http://www.who.int/ipcs/publications/icsc/en/index.html	WHOILO/ EU			English, Chinese, Dutch, Estonian, Finnish, French, German, Hungar-ian, Italian, Japanese, Korean, Malay-sian, Polish, Russian, Spanish, Swahili, Thai, Urdu, Vietna-mese

Sound Management of Pesticides

ILO				
Occupational safety and health in agriculture, forestry and livestock rearing *Available from the ILO Infocus Programme on Safe Work*	ILO's Programme SafeWork	2000	CD	English
Safety and health in the use of agrochemicals: A guide ISBN 92-2-107281-9. SFR25 *This simple, non-technical guide places the emphasis on the safe handling and use of agrochemicals and gives practical safety measures that are easy to follow. For information on reproduction or translation rights, contact the ILO Publications Bureau*	IPCS	1991	66 pp.	English, Spanish (Also published in local languages through-out the world)
Case-studies on the impact of mechanization and the use of chemicals on safety and health in agriculture ISBN 92-2-107006-9 *Free publication available only from the ILO Infocus Programme on Safe Work*	ILO Programme on Safe Work	1989	257 pp.	
Report on the ILO Asian Regional Seminar on Trade Union Action on the Effects of Modern Technologies and Chemicals on Agricultural Workers: Proceedings. Kuala Lumpur, Malaysia. ISBN 92-2-111322-1 *Free publication available from ILO Bureau for Workers' Activities*	ILO Bureau for Workers' Activities (Geneva)	1998	66 pp.	

UNEP/WHO/FAO				
International Code of Conduct for the distribution and use of pesticides, original version: adopted by the 123th session of the Council of the FAO	UNEP	2003		Spanish
Reducing and Eliminating the use of Persistent Organic Pesticides: Guidance on alternative strategies for sustainable pest and vector management	UNEP/ WHO/FAO	2002		English, French, Spanish
Manual on development and use of FAO and WHO specifications for pesticides: first edition	UNEP/FAO/ WHO	2002		English, Spanish

WHO				
WHO-UNEP Resource Tool - Sound Management of Pesticides and Diagnosis and Treatment of Pesticide Poisoning *http://www.who.int/whopes/recommendations/IPCSPesticide_ok.pdf*	WHO/UNEP	2006	332 pp.	English
Management of Public Health Pesticides *http://www.who.int/whopes/recommendations/en/* *http://www.who.int/whopes/en/*	WHO, WHO Pesticide Evaluation Scheme (WHOPES)	2006	125 pp.	English

WORLD BANK				
Reducing the Human and Environmental Risks of Obsolete Pesticides *http://siteresources.worldbank.org/INTPOPS/Resources/ReducingRisksofPesticides-sm.pdf?&resourceurlname=ReducingRisksofPesticides-sm.pdf*	World Bank	2010	46 pp.	English

OECD				
OECD Maximum Residue Limit Calculator and its User Guide *http://www.oecd.org/chemicalsafety/agriculturalpesticidesandbiocides/oecdmaximumresiduelimitcalculator.htm;http://www.oecd.org/officialdocuments/displaydocumentpdf/?cote=env/jm/mono(2011)2&doclanguage=en*	OECD	2011	16 pp.	English

Chemical Safety in the Workplace

ILO

OSH Management System: A tool for continual improvement *http://www.ilo.org/safework/info/video/WCMS_153930/lang--en/index.htm*	ILO	2011	30 pp.	Arabic, English, French,e Macedo-nian, Russian, Portu-guese, Spanish
List of occupational diseases (revised 2010). Identification and recognition of occupational diseases: Criteria for incorporating diseases in the ILO list of occupational diseases (OSH 74) *http://www.ilo.org/global/publications/ilo-bookstore/order-online/books/WCMS_150323/lang--en/index.htm*	ILO	2010	82 pp.	English, French, Spanish
Guidelines on Occupational Safety and Health Management Systems (ILO-OSH 2001) *http://www.ilo.org/global/publications/ilo-bookstore/order-online/books/WCMS_PUBL_9221116344_EN/lang--en/index.htm*	ILO	2001	37 pp.	English, French, Spanish
Ambient factors in the workplace. An ILO code of practice *http://www.ilo.org/public/english/protection/safework/cops/english/index.htm*	ILO	2001	80 pp.	English
Safety in the use of chemicals at work. (Second impression). ISBN 92-2-108006-4 *This code of practice provides guidance on the implementation of the Chemicals Convention, 1990 (No. 170), and Recommendation, 1990 (No. 177), for all those engaged in framing provisions. The practical recommendations of the code cover all the elements necessary to ensure an efficient flow of information from manufacturers or importers to users of chemicals. They will also enable employers to formulate measures to protect workers, the public and the environment.*	ILO (Geneva)	1998	106 pp.	English, French, Spanish (Also published in local languages around the world)

Safety and health in the use of chemicals at work: A training manual. A. Bakar Che Man and D. Gold. (Second impression). ISBN 92-2-106470-0 *Includes the texts of ILO Convention No. 170 and ILO Recommendation No. 177 and a system for classification, identification and labelling of chemicals.*	ILO (Geneva)	1998	87 pp.	English (Also published in local languages through-out the world)
Occupational exposure to airborne substances harmful to health. (Third impression). ISBN 92-2-102442-3 *This ILO code of practice is intended to protect workers' health against the hazards due to the contamination of air at the workplace and in preventing contamination of the working environment. A full glossary defines the terms used in the text.*	ILO	1991	44 pp.	English

IPSC/ILO/WHO				
Control Banding: Practical tools for controlling workplace exposure to chemicals. *Originally published by the Asia-Pacific Newsletter on Occupational Health and Safety* *http://www.ilo.org/public/english/protection/safework/ctrl_banding/index.htm*	IPCS (ILO/WHO)	2002	2 pp.	English

WHO				
Preventing health risks from the use of pesticides in agriculture: Protecting workers' health series No. 1 *http://www.who.int/occupational_health/publications/pesticides/en/index.html*	WHO, Geneva	2001	35 pp.	English, French, Spanish

OECD				
Preliminary Analysis of Exposure Measurement in Occupational Settings: Manufactured Nanomaterials *http://www.oecd.org/officialdocuments/displaydocument/?doclanguage=en&cote=env/jm/mono(2009)6*	OECD	2009	31 pp.	English
Identification, Compilation and Analysis of Guidance Information for Exposure Measurement and Exposure Mitigation: Manufactured Nanomaterials *http://www.oecd.org/officialdocuments/displaydocument/?doclanguage=en&cote=ENV/JM/MONO(2009)15*	OECD	2009	48 pp.	English

Emission Assessment for Identification of Sources and Release of Airborne Manufactured Nanomaterials in the Workplace: Compilation of Existing Guidance *http://www.oecd.org/officialdocuments/displaydocument/?doclanguage=en&cote=ENV/JM/MONO(2009)16*	OECD	2009	25 pp.	English
Comparison of Guidance on Selection of Skin Protective Equipment and Respirators for Use in the Workplace: Manufactured Nanomaterials *http://www.oecd.org/officialdocuments/displaydocument/?doclanguage=en&cote=ENV/JM/MONO(2009)17*	OECD	2009	25 pp.	English
Integrated Management Systems (IMS) – Potential Benefits Achievable from Integrated Management of Safety, Health, Environment and Quality (SHE&Q), OECD EHS Publication, Series on Chemical Accidents No. 15, 2005 *http://www.oecd.org/officialdocuments/displaydocumentpdf?cote=env/jm/mono(2005)15&doclanguage=en*	OECD/EHS	2005	32 pp.	English

Chemical-Specific Risk Reduction

ILO				
Access to Chemical Exposure Limits *A database on texts providing information on the agency responsible for the establishment and publication of exposure limits in each country with an Internet link to a table or database containing the exposure limit values.* *http://www.ilo.org/public/english/protection/safework/cis/products/explim.htm*	ILO CIS	2007		French, English, Spanish

UNDP				
Guidance on the Cleanup, Temporary or Intermediate Storage, and Transport of Mercury Waste from Healthcare Facilities	UNDP	2012	41 pp.	English

UNEP				
Checklist for Chlor-alkali Plants *http://www.unep.org/hazardoussubstances/Portals/9/Mercury/Waste%20management/DRAFT%20Chloralkali%20Checklist.pdf*	UNEP World Chlorine Council	2011	69 pp.	English

Chloralkali Project - Uruguay Final Report *http://www.unep.org/hazardoussubstances/Portals/9/Mercury/Waste%20management/DRAFT%20Report%20Chloralkali%20project%20Uruguay.pdf*	UNEP DINAMA, Basel Convention Coordinating Center Uruguay, World Chlorine Council	2011	40 pp.	English
Toolkit for identification and quantification of mercury releases *http://www.unep.org/hazardoussubstances/Mercury/MercuryPublications/GuidanceTrainingMaterialToolkits/MercuryToolkit/tabid/4566/language/en-US/Default.aspx*	UNEP/DTIE Chemicals Branch	2010	55 pp.	English
Guidance for identifying populations at risk from mercury exposure *e*	UNEP/DTIE Chemicals Branch	2008	170 pp.	English
Guide for reducing major uses and releases of mercury *http://www.chem.unep.ch/mercury/Sector%20Guide%202006.pdf*	UNEP/DTIE Chemicals Branch	2006	106 pp.	English

UNEP/UNICEF/UNITAR				
Global Opportunities for Reducing the Use of Leaded Gasoline	UNEP/ UNICEF/ UNITAR	1998	59 pp.	English

UNEP/WHO/FAO				
Inventory of World-wide PCB Destruction Capacity, Second Issue	UNEP/WHO	2004	78 pp.	English
PCB Transformers and Capacitors: From Management to Reclassification and Disposal	UNEP	2003	71 pp.	Arabic, English, French, Spanish, Russian
Finding Alternatives to Persistent Organic Pollutants (POPs) for Termite Management	UNEP/FAO	2001	50 pp.	English
GEF: Regionally Based Assessment of Persistent Toxic Substances: Guidance document for the collection, Assembly and Evaluation of Data on Sources, Environmental Levels and Impacts of Persistent Toxic Substances	UNEP	2000	68 pp.	English, Spanish
Survey of Currently Available Non-Incineration PCB Destruction Technologies	UNEP	2000	70 pp.	English, Spanish

UNIDO				
UNIDO Technical Guidelines on mercury management in artisanal and small-scale gold mining	UNIDO	2008	4 guide-lines	English
Protocols for Environmental and Health Assessment of Mercury Released by Artisanal and Small-Scale Gold Miners	UNIDO	2004	289 pp.	English
Ozone-friendly industrial development-UNIDO in the Montreal Protocol - technology transfer to developing countries. Impact and lessons learned—Refrigerant Management Plans	UNIDO	2003	15 pp.	English
Ozone-friendly industrial development-UNIDO in the Montreal Protocol - technology transfer to developing countries. Impact and lessons learned – Refrigeration and Alternative Technologies for Domestic Appliances	UNIDO	2003	43 pp.	English
Ozone-friendly industrial development-UNIDO in the Montreal Protocol - technology transfer to developing countries. Impact and lessons learned - Solvents (including process agents) and aerosols	UNIDO	2003	32 pp.	English
Ozone-friendly industrial development-UNIDO in the Montreal Protocol - technology transfer to developing countries. Impact and lessons learned – Plastic Foams	UNIDO	2003	20 pp.	English
Ozone-friendly industrial development-UNIDO in the Montreal Protocol - technology transfer to developing countries. Impact and lessons learned – Fumigants	UNIDO	2003	25 pp.	

WHO				
Health Effects of Black Carbon *http://www.euro.who.int/en/what-we-do/health-topics/environment-and-health/air-quality/publications/2012/health-effects-of-black-carbon*	WHO Regional Office for Europe	2012	86 pp.	English
WHO/IPCS Web Portal on 10 Chemicals of Major Public Health Concern. *http://www.who.int/entity/ipcs/assessment/public_health/chemicals_phc/en/index.html*	WHO	2011		English
Mercury in Skin Lightening Products, WHO Information Document, 2011. http://www.who.int/ipcs/assessment/public_health/mercury_flyer.pdf	WHO	2011	6 pp.	Arabic, Chinese, English, French, Russian, Spanish

Mercury in Health Care - Policy Paper *http://www.who.int/water_sanitation_health/medicalwaste/mercury/en/index.html*	WHO	2005	2 pp.	English, French, Spanish

OECD				
Perfluorinated Chemicals Web Portal *www.oecd.org/ehs/pfc*	OECD	2011		English
Lead Risk Management Activities in OECD Member Countries (1993 to 1998) *http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV/JM/MONO(2000)1/PART1&docLanguage=En*	OECD	2000	683 pp.	English
Recycling of copper, lead and zinc bearing wastes *http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=OCDE/GD(95)78&docLanguage=En*	OECD	1995	27 pp.	English, French
Selected Brominated Flame Retardants: Background and National Experiences with Reducing Risk http://www.oecd.org/officialdocuments/displaydocumentpdf?cote=ocde/gd(94)96&doclanguage=en	OECD	1994	152 pp.	English
Methylene Chloride: Background and National Experiences with Reducing Risk http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=OCDE/GD(94)95&docLanguage=En	OECD	1994	123 pp.	English
Mercury: Background and National Experiences with Reducing Risk *http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=OCDE/GD(94)98&docLanguage=En*	OECD	1994	159 pp.	English
Cadmium: Background and National Experiences with Reducing Risks *http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=OCDE/GD(94)97&docLanguage=En*	OECD	1994	195 pp.	English
Lead: Background and National Experiences with Reducing Risk *http://www.oecd.org/dataoecd/23/50/1955919.pdf*	OECD	1993	277 pp.	English
Database: Locations Where Used Nickel-Cadmium Batteries Can Be Dropped off for Recycling (By Country) *http://www.oecd.org/document/4/0,3746,en_2649_37465_1945092_1_1_1_37465,00.html*	OECD		1 p.	English

Industry-sector Specific Risk Reduction

- No entries

Obsolete Pesticides and Wastes

FAO				
Guidelines for inventory of Obsolete pesticides *(In preparation)*	FAO			
Baseline study on the problem of obsolete pesticides stocks *http://www.fao.org/DOCREP/003/X8639E/X8639E00.HTM*	FAO	2001	36 pp.	English, French, Spanish
FAO training manual for inventory taking of obsolete pesticides	FAO	2001	114 pp.	English
Country guidelines *ftp://ftp.fao.org/docrep/fao/005/y2566E/y2566E00.pdf*	FAO	2001		English, French, Spanish
Management of small quantities of unwanted and obsolete pesticides *http://www.fao.org/WAICENT/FAOINFO/AGRICULT/AGP/AGPP/Pesticid/Disposal/common/ecg/103825_en_No_7___Small_quantities_stocks.pdf*	FAO	1999	25 pp.	Arabic, English, French, Spanish,
Disposal of Bulk Quantities of Obsolete Pesticides in Developing Countries *http://www.fao.org/WAICENT/FAOINFO/AGRICULT/AGP/AGPP/Pesticid/Disposal/common/ecg/103811_en_w1604e.pdf*	FAO	1996	44 pp.	Arabic, English, French, Spanish,

UNEP				
General Technical Guidelines for the Environmentally Sound Management of Wastes Consisting of, Containing or Contaminated with Persistent Organic Pollutants (POPs)	UNEP/Basel Secretariat	2005		English
Technical Guidelines for the Environmentally Sound Management of Wastes Consisting of, Containing or Contaminated with Polychlorinated Biphenyls (PCBs), Polychlorinated Terphenyls (PCTs) or Polybrominated Biphenyls (PBBs)	UNEP/Basel Secretariat	2005	18 pp.	Arabic, Chinese, English, French, Russian, Spanish
Guidance Manual on the Preparation of Health Care Waste National Management Plan in Sub Saharan Africa	UNEP/Basel Secretariat	2004	87 pp.	English
Technical guidelines for the identification and environmentally sound management of plastic wastes and for their disposal	UNEP/Basel Secretariat	2004	77 pp.	English, French, Spanish

Technical Guidelines for the Environmentally Sound Management of the Full and Partial Dismantling of Ships	UNEP/Basel Secretariat	2003	94 pp.	Arabic, Chinese, English, French, Russian, Spanish
Technical Guidelines for the Environmentally Sound Management of Biomedical and Healthcare Wastes	UNEP/Basel Secretariat	2003	79 pp.	Arabic, Chinese, English, French, Russian, Spanish
Interim Guidelines on the Hazardous Characteristics H12 – Ecotoxic	UNEP/Basel Secretariat	2003	23 pp.	Arabic, Chinese, English, French, Russian, Spanish
National Reporting under the Basel Convention (2000), Compilation Part I: Status of Information	UNEP/Basel Secretariat	2003	43 pp.	English
Technical Guidelines for the Environmentally Sound Management of Waste Lead-acid Batteries	UNEP/ Basel Secretariat	2003	69 pp.	Arabic, Chinese, English, French, Russian, Spanish
Technical Guidelines on Waste Oils from Petroleum Origin and Sources	UNEP/ Basel Secretariat	2003	16 pp.	English
Technical Guidelines on Physico-Chemical Treatment Biological Treatment	UNEP/ Basel Secretariat	2003	68 pp.	English
Technical Guidelines on the Identification and Management of Used Tyres	UNEP/ Basel Secretariat	2000	47 pp.	English, French, Russian, Spanish
Methodological Guide for the Undertaking of National Inventories of Hazardous Wastes Within the Framework of the Basel Convention	UNEP/ Basel Secretariat	1999		English, French, Spanish
Technical Guidelines on Specially Engineered Landfill	UNEP/ Basel Secretariat	1997	44 pp.	English
Technical Guidelines on Incineration on Land	UNEP/ Basel Secretariat	1997	28 pp.	English

Technical Guidelines on Used Oil Re-Refining of Other Re-Uses of Previously Used Oil	UNEP/ Basel Secretariat	1997	20 pp.	English
Technical Guidelines on Hazardous Waste from the Production and Use of Organic Solvents	UNEP/ Basel Secretariat	1997	20 pp.	English
Technical Guidelines on Wastes Collected from Households	UNEP/ Basel Secretariat	1997	9 pp.	English
Guidance in Developing National and/or Regional Strategies for the Environmentally Sound Management of Hazardous Wastes	UNEP/ Basel Secretariat	1996	16 pp.	English
Guidance Document on Transboundary Movements of Hazardous Wastes Destined for Recovery Operations	UNEP/ Basel Secretariat	1995	28 pp.	English
Technical Guidelines on the Identification and Management of Used Tyres	UNEP/ Basel Secretariat			English
Preparation of a national plan for ecological management of PCBs and equipment contaminated with PCBs within the context of implementation of the Basel Convention	UNEP/ Basel Secretariat			English

OECD				
Report of the OECD-FAO-UNEP Workshop on Obsolete Pesticides *http://www.oecd.org/dataoecd/23/35/2076941.pdf*	OECD	2001	26 pp.	English, French

Prevention and Control of Chemical Pollution and Waste

FAO				
Guidelines on Management Options for Empty Pesticide Containers *http://www.who.int/whopes/recommendations/Management_options_empty_pesticide_containers.pdf*	FAO	2008	47 pp.	
Pesticide Storage and Stock Control manual *http://www.fao.org/WAICENT/FAOINFO/AGRICULT/AGP/AGPP/Pesticid/Disposal/common/ecg/103809_en_No_3___Storage.pdf*	FAO	1996	36 pp.	Arabic, English, French, Spanish
Prevention of accumulation of Obsolete Pesticides Stocks *http://www.fao.org/WAICENT/FAOINFO/AGRICULT/AGP/AGPP/Pesticid/Disposal/common/ecg/103807_en_v7460e.pdf*	FAO	1995	33 pp.	Arabic, English, French, Spanish

UNITAR				
Searching for Synergies: Linking Waste Management to an Integrated National Programme for Sound Chemicals Management, Guidance Note *http://www2.unitar.org/cwm/publications/inp.aspx*	UNITAR	2004	16 pp.	English, French

WHO/SEARO/IGNOU/FAO				
Sound Management of Hazardous Wastes from Health Care and from Agriculture: Report from a Joint WHO/ FAO Regional Workshop, Indonesia, 2006 *http://www.searo.who.int/en/Section23/Section1001/Section1110_12840.htm*	WHO/FAO	2006	72 pp.	English
Safe Health-care Waste Management - Policy Paper *http://www.healthcarewaste.org/en/160_hcw_policy.html*	WHO	2005	2 pp.	English, French, Spanish
Safe Management of Wastes from Health-Care Activities *http://www.who.int/water_sanitation_health/medicalwaste/wastemanag/en/*	WHO	1999	230 pp.	English
Distance learning Certificate course on sound health-care waste management *http://www.ignou.ac.in/ (see " Certificate Programmes")*	WHO SEARO/ IGNOU			English, Hindi

WORLD BANK				
Reducing the Human and Environmental Risks of Obsolete Pesticides *http://siteresources.worldbank.org/INTPOPS/Resources/ReducingRisksofPesticides-sm.pdf?&resourceurlname=ReducingRisksofPesticides-sm.pdf*	World Bank	2006	57 pp.	English

OECD				
Considerations for Evaluating Waste Minimisation in OECD Member Countries *http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV/EPOC/PPC(97)17/REV2&docLanguage=En*	OECD	1998	49 pp.	English
Reduction and Recycling of Packaging Waste *http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=OCDE/GD(92)147&docLanguage=En*	OECD	1992	111 pp.	English, French

Promote Less Hazardous Alternatives

FAO				
Information available at the FAO Integrated Pest Management website: *http://www.fao.org/ag/AGP/AGPP/IPM/Default.htm*				

WHO/SEARO				
Global Strategic Framework for Integrated Vector Management (and other document related to integrated vector management) *http://www.who.int/malaria/publications/atoz/who_cds_cpe_pvc_2004_10/en/index.html* *http://www.who.int/malaria/vector_control/ivm/en/* *http://www.who.int/malaria/publications/vector-management/en/index.html*	WHO	2004	12 pp.	English

OECD				
Sustainable Chemistry Platform: *http://www.oecd.org/env_sustainablechemistry_platform/*	OECD			English

5.3 Education and Awareness Raising

Widespread cooperation among all relevant government authorities, industry, workers, NGOs and the public is fundamental to sound national chemicals management. This in turn, calls for a widespread awareness of the potential risks associated with the use of chemicals and chemical accidents, and an understanding of the ways in which chemicals can be handled safely. Such a general awareness can be promoted through targeted education and training, as well as through campaigns to raise public awareness.

Education

UNITAR/IOMC				
Strengthening National Awareness Raising and Education for Chemicals Management. Thematic Workshop (No. 2) *http://www2.unitar.org/cwm/publications/tw.aspx*	UNITAR/ IOMC	1998	48 pp.	English

WHO/IPCS				
Poisons Centre Training Manual, Part 1. *http://www.who.int/ipcs/poisons/training_manual/en/*	WHO/IPCS	2006		English

Educational game online: ENVIRO : "Healthy Environments for Children" *Available as download or in Flash* *http://www.searo.who.int/en/Section23/Section1671_7505.htm*	WHO/ SEARO and HRIDAY SHAN, India	2004	Com-puter Game	English
Hazardous Chemicals in Human and Environmental Health: a Resource Book for School, College and University Students *http://whqlibdoc.who.int/hq/2000/WHO_PCS_00.1.pdf*	WHO/IPCS	2000	110 pp.	English
Teacher's Guide: Management of Wastes from Health-Care Activities *http://www.who.int/occupational_health/publications/tgmanwaste/en/index.html*	WHO	1998	227 pp.	Arabic, English
Teacher's Guide on Basic Environmental Health *http://www.who.int/occupational_health/publications/tgbeh/en/*	WHO	1996	227 pp.	English
Women, Health & Environment: A Teachers' Guide *http://www.who.int/docstore/peh/archives/women/ehg95-1.pdf*	WHO/GEE NET	1995	45 pp.	English

Information Dissemination

UNIDO				
Global Chemical Leasing Award 2012: *http://www.chemicalleasing.com*	UNIDO	2012	Glob-al award	English
Information note "Green Industry – UNIDO's contribution to waste avoidance and minimization", Basel Convention (COP 10) *http://archive.basel.int/meetings/cop/cop10/documents/i51e.pdf*	UNIDO	2011	5 pp.	English
Global Network of Resource Efficient and Cleaner Production (RECPnet) *www.recpnet.org*	UNIDO-UNEP	2011	Web-site	English
Knowledge Management System, Latin-American network of Cleaner Production Centres (CPlatinnet) *www.produccionmaslimpia-la.net*	UNIDO	2006	Web-based portal	Portu-guese, Spanish
Impact and Lessons Learned. UNIDO in the Montreal Protocol – technology transfer to developing countries.	UNIDO	2003	Book-lets	English

WHO				
The Budapest collection: a WHO global e-library on children's health and environment. *Send request for CD to library.he@who.it*	WHO Regional Office for Europe	2004	CD	English

OECD				
OECD Database on Research into the Safety of Manufactured Nanomaterials http://webnet.oecd.org/NanoMaterials/Pagelet/Front/Default.aspx	OECD		online	English

Training

UNEP				
Toxicology in the classroom-understanding chemicals risk to human health and the environment *http://www.unep.org/hazardoussubstances/UNEPsWork/Pesticide-relatedactivitiesatUNEPChemicals/tabid/104444/Default.aspx*	UNEP	2012	Electronic training tool	English, other lan-guages to follow

UNIDO				
ChL training toolkit: A SMART business for green industry *www.chemicalleasing.com*	UNIDO	2011	CD	English
UNIDO CP Toolkit *http://www.unido.org/cp*	UNIDO	2008	CD	English, Spanish

WHO				
Children's health and environment case studies summary book - Work in progress. Ed. Leda Nemer and Kathrin von Hoff *http://www.euro.who.int/Document/CHE/CHECSSBook.pdf*	WHO Regional Office for Europe	2004	120 pp.	English
Honoloko - an island to learn how to care for health and the environment Computer game for children *http://www.honoloko.org/Honoloko.html*	WHO/ Europe and the European Environment Agency (EEA)	2004	Com-puter game	25 languages of the EEA member countries and Russian

OECD				
Report of the Seminar on Pesticide Risk Reduction through Education / Training the Trainers *http://www.oecd.org/dataoecd/21/18/44033853.pdf*	OECD	2009	22 pp.	English
Report of the OECD Pesticide Risk Reduction Steering Group Seminar on Risk Reduction through Better Worker Safety and Training Part 1: *http://www.oecd.org/dataoecd/21/18/44033853.pdf* Part 2: *http://www.oecd.org/dataoecd/38/12/41040335.pdf*	OECD	2008	79 pp	English

5.4 Accident Prevention and Control

Chemical Accidents

ILO				
Major hazard control: A practical manual. Third impression (with corrections). ISBN 92-2-106432-8 *An overview on major hazards, presented in a readable format. Provides information on all the main subjects in this field, and the appendices contain some practical tools to be used and interesting examples of several applications.*	ILO	1994	296 pp.	English, Spanish, French
Prevention of major industrial accidents, an ILO Code of practice. Geneva, 1991. ISBN 92-2-107101-4	ILO	1991	108 pp.	English, French, Spanish

UNEP				
Commemorating 25 Years of Awareness And Preparedness for Emergencies at Local Level (APELL) - Achievements and Way Forward	UNEP/ DTIE Sustainable Consump-tion and Production Branch	2012	40 pp. + video	English
Promoting Safer Operations and Emergency Preparedness in the Value Chain of the Chemical Sector - Case Study on APELL Implementation in China	UNEP/ DTIE Sustainable Consump-tion and Production Branch	2011	44 pp.	Chinese, English

A Flexible Framework for Addressing Chemical Accident Prevention and Preparedness. Guidance *http://www.unep.fr/scp/sp/saferprod/pdf/UN_Flexible_Framework_WEB_FINAL.pdf*	UNEP/ DTIE Sustainable Consump-tion and Production Branch	2010	188 pp.	Chinese, English, French, Spanish, Thai
APELL Multi-Hazard Training Kit For Local Authorities - For Community Vulnerability Reduction, Prevention, and Preparedness *http://www.unep.fr/shared/publications/pdf/DTIx1289xPA-APELLMulti-HazardTrainingKit.pdf*	UNEP/ DTIE Sustainable Consump-tion and Production Branch	2010	52 pp.	English
TransAPELL: Guidance for Dangerous Goods Transport Emergency Planning in a Local Community *http://www.unep.fr/shared/publications/pdf/2679-TransApellEN.PDF*	UNEP/ DTIE Sustainable Consump-tion and Production Branch	2000	68 pp.	English, Spanish, Swedish
Management of Industrial Accident Prevention and Preparedness: A Training Resource Package *http://www.unep.fr/shared/publications/pdf/WEBx0110xPA-IndustrialAccidentsTraining.pdf*	UNEP/ DTIE Sustainable Consump-tion and Production Branch	1996	195 pp.	English
APELL for Port Areas: Preparedness and Response to Chemical Accidents in Ports *http://www.unep.fr/shared/publications/pdf/WEBx0061xPA-ApellPorts.PDF*	UNEP/ DTIE Sustainable Consump-tion and Production Branch	1996	91 pp.	English
Hazard Identification and Evaluation in a Local Community *http://www.unep.fr/shared/publications/pdf/WEBx0062xPA-HazardId.pdf*	UNEP/ DTIE Sustainable Consump-tion and Production Branch	1992	87 pp.	English
Storage of Hazardous Materials: A Technical Guide for Safe Warehousing of Hazardous Materials *http://www.unep.fr/shared/publications/pdf/WEBx0063xPA-SafeWarehousing.PDF*	UNEP/ DTIE Sustainable Consump-tion and Production Branch	1990	80 pp.	English

Awareness and Preparedness for Emergencies at Local Level: a Process for Responding to Technological Accidents *http://www.unep.fr/shared/publications/pdf/WEBx0064xPA-APELtech.pdf*	UNEP/ DTIE Sustainable Consump-tion and Production Branch	1988	64 pp.	Arabic, Chinese, English, French, Hindi, Russian, Sinhala, Spanish, Swedish, Tamil, Thai

UNIDO/UNESCO/IUPAC				
The IUPAC-UNESCO-UNIDO Safety Training Program is an on-going activity of COCI *www.iupac.org/standing/coci/safety-program.html*				

WHO				
Manual for the public health management of chemical incidents *http://www.who.int/environmental_health_emergencies/publications/Manual_Chemical_Incidents/en/index.html*	WHO	2009	101 pp.	English
Health Aspects of Chemical Weapons *http://www.searo.who.int/en/Section23/Section1001/Section1110.htm*	WHO/ SEARO	2003		
International Information Sources on chemical incidents *http://www.searo.who.int/en/Section23/Section1001/Section1470.htm*	WHO/ SEARO	2003		

OECD				
Corporate Governance for Process Safety: Guidance for Senior Leaders in High Hazard Industries.	OECD	2012	20 pp.	English French
Addendum to the OECD Guiding Principles for Chemical Accident Prevention, Preparedness and Response (2nd ed.) *http://www.oecd.org/officialdocuments/displaydocument/?cote=env/jm/mono(2011)15&doclanguage=en*	OECD	2011	29 pp.	English

Report of the OECD workshop on Lessons Learned from Chemical Accidents and Incidents, OECD EHS Publication, Series on Chemical Accidents No. 14 *http://www.oecd.org/officialdocuments/displaydocumentpdf/?cote=env/jm/mono(2005)6&doclanguage=en*	OECD	2005	76 pp.	English
Report of the OECD Workshop on Sharing Experience in the Training of Engineers in Risk Management. OECD EHS Publication, Series on Chemical Accidents No. 13 *http://www.oecd.org/officialdocuments/displaydocumentpdf/?cote=env/jm/mono(2004)4&doclanguage=en*	OECD	2004	73 pp.	English, French
Guiding Principles for Chemical Accident Prevention, Preparedness and Response, OECD EHS Publication, Series on Chemical Accidents No. 10 *http://www.oecd.org/document/61/0,2340,en_2649_34369_2789821_1_1_1_1,00.html*	OECD	2003	209 pp.	Czech, English, French, German, Hungarian, Korean
Guidance on Safety Performance Indicators, OECD EHS Publication, Series on Chemical Accidents No. 11 *http://www.oecd.org/document/45/0,2340,en_2649_34369_32425389_1_1_1_1,00.html*	OECD	2003	212 pp.	English, French, Korean

Poisoning Prevention Treat and Control

ILO				
Management of poisoning: a handbook for health care workers. J. A. Henry and H. M. Wiseman. International Programme on Chemical Safety. *Intended for people with little or no medical training who are likely to be the first to come into contact with someone who has been poisoned. Suggests ways of preventing poisoning. Available from the ILO Infocus Programme on Safe Work*	ILO	1997	315 pp.	French

WHO/IPCS				
The INTOX Data Management System and harmonized data collection http://www.who.int/ipcs/poisons/package/en/index.html	WHO/IPCS	On-going	Web-site	English
Poisons Centre Training Manual, Part 1 *http://www.who.int/ipcs/poisons/training_manual/en/index.html*	WHO/IPCS	2006	7 chapters	English

Guidelines on the Prevention of Toxic Exposures *http://www.who.int/ipcs/poisons/prevention_guidelines/en*	WHO/IPCS	2004	99 pp.	English
Management of Poisoning: A handbook for health care workers *http://www.who.int/ipcs/publications/training_poisons/management_of_poisoning/en/index.html*	WHO/IPCS	1997	315 pp.	English, Farsi, French, Hindi, Spanish
Guidelines for Poison Control *http://www.who.int/ipcs/publications/training_poisons/guidelines_poison_control/en/index.html*	WHO/IPCS	1997	112 pp.	English, French, Russian, Spanish
Treatment Guides for Poisoning INTOX Databank: *http://www.intox.org/databank/pp./treat.html*	WHO/IPCS	1996	47 guides	English, French, Portu-guese, Spanish

5.5 Analytical and Laboratory Capacities

FAO				
FAO/WHO Joint publication: Quality control of pesticide products: Guidelines for National Laboratories *http://www.fao.org/ag/AGP/AGPP/Pesticid/Specs/pdf/qualitycontrol05.pdf*	WHO	2005	14 pp.	English

WHO/IPCS/ILO/UNEP				
Developing Analytical Toxicology Services: Principles and Guidance *http://www.who.int/ipcs/publications/training_poisons/hospital_analytical_toxicology.pdf*	WHO/IPCS	2005	36 pp.	English
Biological Monitoring of Chemical Exposure in the Workplace. Volumes 1 and 2 *http://whqlibdoc.who.int/hq/1996/WHO_HPR_OCH_96.1.pdf* *http://whqlibdoc.who.int/hq/1996/WHO_HPR_OCH_96.2.pdf*	WHO	1996	V1: 311 pp., V2: 214 pp.	English

OECD				
Compilation and Comparison of Guidelines Related to Exposure to Nanomaterials in Laboratories *http://www.oecd.org/officialdocuments/displaydocument/?cote=env/jm/mono(2010)47&doclanguage=en*	OECD/ EHS	2012	81 pp.	English

OECD Series on Principles of Good Laboratory Practice (GLP) and Compliance Monitoring No. 1-154 (Consensus, Advisory and Guidance Documents): *http://www.oecd.org/document/63/0,2340,en_2649_34381_2346175_1_1_1_1,00.html*	OECD	1992-2007	183 pp.	English, French, German, Spanish

ANNEX 1: INDEX OF SAICM WORK AREAS AND RELEVANT SECTIONS IN THIS GUIDE

Work Area	*Relevant Section(s) in Guide*
SAICM OBJECTIVE: RISK REDUCTION	
Assessment of national chemicals management to identify gaps and prioritize actions	5.1, 5.2
Human health protection	5.1, 5.2, 5.3
Children and chemical safety	4.5, 5.2, 5.3
Occupational health and safety	4.4,4.5, 5.1, 5.2, 543
Implementation of Globally harmonized system (GHS)	5.1
Highly toxic pesticides – risk management and reduction	4.1, 4.4, 5.1, 5.2, 5.3
Pesticide Programmes	4.1, 4.3, 5.2
Reduced health and environmental risks of pesticides	5.1, 5.2, 5.3
Cleaner production	4.4, 4.5, 5.2
Remediation of contaminated sites	5.4
Lead in gasoline	4.4, 5.2
Sound agricultural practices	5.2, 5.3
Persistent, bioaccumulative and toxic substances (PBTs); very persistent and very bioaccumulative substances; chemicals that are carcinogens or mutagens or that adversely affect, *inter alia*, the reproductive, endocrine, immune or nervous system; persistent organic pollutants (POPs).	4.4, 5.1, 5.2
Mercury and other chemicals of global concern; chemicals produced or used in high volumes; those subject to wide dispersive uses; and other chemicals of concern at the national level	4.4, 5.1, 5.2, 5.3
Risk assessment, management and communication	5.1, 5.2
Waste management (and minimization)	4.4, 5.2
Formulation of prevention and response measures to mitigate environmental and health impacts of emergencies involving chemicals	5.4
SAICM OBJECTIVE: KNOWLEDGE AND INFORMATION	
Research monitoring and data	5.1, 5.2, 5.5
Hazard data generation and availability	4.2, 5.1, 5.5
Promotion of industrial participation and responsibility	4.2, 4.5, 5.3
Implementation of Globally harmonized system (GHS)	5.1
Information management and dissemination	4.2, 5.1
Highly toxic pesticides – risk management and reduction	5.1, 5.2, 5.3
Cleaner production	4.4, 5.2
Life cycle	4.4
Pollutant release and transfer registers (PRTRs) – creation of national and international registers	4.5, 5.1
Risk assessment, management and communication	5.1, 5.2
Occupational health and safety	5.2, 5.3, 5.4
Children and chemical safety	5.2, 5.3
Education and training (public awareness)	4.2, 4.5, 5.3
Lead in gasoline	4.4, 5.2
Persistent, bioaccumulative and toxic substances (PBTs); very persistent and very bioaccumulative substances; chemicals that are carcinogens or mutagens or that adversely affect, *inter alia*, the reproductive, endocrine, immune or nervous system; persistent organic pollutants (POPs).	4.4, 5.1, 5.2
Mercury and other chemicals of global concern; chemicals produced or	4.4, 5.1, 5.2, 5.3

Work Area	*Relevant Section(s) in Guide*
used in high volumes; those subject to wide dispersive uses; and other chemicals of concern at the national level	
Sound agricultural practices	5.2, 5.3
Waste management (and minimization)	4.4, 5.2
Stakeholder participation	4.2, 4.5

SAICM OBJECTIVE: GOVERNANCE

Assessment of national chemicals management to identify gaps and prioritize actions	4.1, 4.2, 4.3
Implementation of integrated national programmes for the sound management of chemicals at the national level in a flexible manner	4.2, 4.3
Implementation of Globally harmonized system (GHS)	5.1
International agreements	4.1, 4.2. 4.4
Pollutant release and transfer registers (PRTRs) – creation of national and international registers	4.5, 5.1
Social and economic considerations	4.1, 4.5
Promotion of industrial participation and responsibility	4.2, 4.5, 5.1, 5.2, 5.3, 5.4
Legal policy and institutional aspects	4.1, 4.2, 4.4
Liability and compensation	4.4
Stock-taking on progress	4.1, 4.2, 4.3, 4.4
Protected areas	4.4, 5.4
Prevention of illegal traffic in toxic and dangerous goods	4.4
Trade and environment	4.4, 5.1, 5.2
Civil society and public interest NGO participation	4.5

SAICM OBJECTIVE: CAPACITY BUILDING AND TECHNICAL COOPERATION

Capacity building	4.2, 4.3, 4.5, 5.3, 5.5
Formulation of prevention and response measures to mitigate environmental and health impacts of emergencies involving chemicals	5.4
Cleaner production	4.4, 5.2
Remediation of contaminated sites	5.4
Lead in gasoline	4.4, 5.2
Children and chemical safety	5.2, 5.3
Risk assessment, management and communication	5.1, 5.2
Implementation of Globally harmonized system (GHS)	4.3, 5.1
Sound agricultural practices	5.2, 5.3
Trade and environment	4.4, 5.2
Protected areas	4.4, 5.4
Occupational health and safety	5.2, 5.3, 5.4
Information management and dissemination	4.2, 5.1
Social and economic considerations	4.1, 4.5
Waste management	4.2

SAICM OBJECTIVE: ILLEGAL TRAFFIC

Prevention of illegal traffic in toxic and dangerous goods	4.2, 4.4, 5.1, 5.3
Waste management	4.4, 5.2

ANNEX 2: IOMC PARTICIPATING ORGANIZATIONS CONTACT INFORMATION

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ANNEX 3: LIST OF ACRONYMS

AGPP	Plant Protection Service
ASP	African Stockpiles Programme
BAT	Best Available Techniques
BEP	Best Environmental Practices
BOT	Board of Trustees
ChL	Chemical Leasing
CIEN	Chemical Information Exchange Network
CIS	International Occupational Safety and Health Information Centre
COCI	Committee on Chemistry and Industry
CP	Country Programme
CWM	Chemicals and Waste Management Programme
DNA	Designated National Authority
DTIE	Division of Technology, Industry and Economics
ECOSOC	United Nations Economic and Social Council
FAO	Food and Agriculture Organization
GEF	Global Environment Facility
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
GLP	Good Laboratory Practice
GMP	Global Mercury Project
GPA	Global Plan of Action
IBLF	International Business Leaders Forum
ICCM	International Conference on Chemicals Management
ICS	International Center for Science and High Technology
ICSC	International Chemical Safety Card
IFCS	Intergovernmental Forum on Chemical Safety
IGNOU	Indira Gandhi National Open University
IGO	Intergovernmental Organization
ILO	International Labour Organization
IMS	Integrated Management System
IOMC	Inter-Organization Programme for the Sound Management of Chemicals
IPCS	International Programme on Chemical Safety
IS	Institutional Strengthening

IUCLID	International Uniform Chemical Information Database
IUPAC	International Union of Pure and Applied Chemistry
JMPR	Joint FAO/WHO Meeting on Pesticide Residues
JMPS	Joint FAO/WHO Meeting on Pesticide Specifications
MAD	Mutual Acceptance of Data
MDG	Millennium Development Goal
MDGR	Millennium Development Goals Report
MFMP	Multilateral Fund for the Implementation of the Montreal Protocol
MLF	Multilateral Fund
NCPC	National Cleaner Production Centre
NCPP	National Cleaner Production Programme
NGO	Non-governmental Organization
NOU	National Ozone Unit
ODS	Ozone-Depleting Substances
OECD	Organisation for Economic Co-operation and Development
OECD EHS	OECD Environmental Health and Safety Programme
OPS	Overarching Policy Strategy
PBBs	Polybrominated Biphenyls
PCBs	Polychlorinated Biphenyls
PCTs	Polychlorinated Terphenyls
PIC	Prior Informed Consent
PMG	Pesticide Management Group
PO	Participating Organization
POP	Persistent Organic Pollutant
PRTR	Pollutant Release and Transfer Register
(Q)SARs	(Quantitative) Structure-Activity Relationships
SAICM	Strategic Approach to International Chemicals Management
SCEGHS	ECOSOC Subcommittee of Experts on the GHS
SEARO	World Health Organization Regional Office for South-East Asia
SHE&Q	Safety, Health, Environment and Quality
SMC	Sound Management of Chemicals
TCP	Technical Cooperation Department
PPPUE	Public-Private Partnerships for the Urban Environment
UNCED	United Nations Conference on Environment and Development
UNCT	UN Country Team

UNDP	United Nations Development Programme
UNDP BDP	UNDP Bureau of Development Policy (see UNDP Development Policy and Practice)
UNDP CDG	UNDP Capacity Development Group
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNIDO	United Nations Industrial Development Organization
UNITAR	United Nations Institute for Training and Research
WHO	World Health Organization
WHOPES	WHO Pesticide Evaluation Scheme
WSSD	World Summit on Sustainable Development