



# Harmful substances and hazardous waste

United Nations Environment Programme



# An overview

Chemicals are an integral part of everyday life. There are over 100,000 different substances in use today. They play a role in every economic sector and nearly every industry, and many are critical to human well-being and sustainable development. Yet chemicals can also endanger human health and the environment if not managed properly.

Much work remains to be done to understand and mitigate these negative impacts, such as widespread contamination of land, water and air. This work is especially critical today as new and potentially hazardous substances continue to emerge.

The global economy is generating increasing amounts of hazardous waste in countries that lack the systems and resources for their proper management. This waste poses serious risks to people and the environment and has the potential to contaminate other non-hazardous waste and substances if it is not adequately controlled.

Keeping the environment and people safe from harmful substances and hazardous waste goes beyond management. It means working to avoid these dangers entirely by removing them, wherever possible, from production and use.

UNEP's Harmful Substances and Hazardous Waste sub-programme assists countries and regions in managing the life cycles of chemical 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.

## Our goals

UNEP's Harmful Substances and Hazardous Waste sub-programme has four key goals:


- **Scientific assessments:** UNEP conducts global assessments of the environmental fate and exposure pathways of harmful substances, and raises awareness of these findings to help governments and others take action.
- **Legal instruments:** UNEP assists governments to develop appropriate policy and control systems for harmful substances of global concern.
- **National implementation:** UNEP provides the tools, methodologies and technical assistance to help States design, finance and implement national programmes that improve assessment and management of harmful substances and hazardous waste.
- **Monitoring and evaluation:** UNEP promotes best practice, helping States monitor, evaluate and report on the progress of their national programmes.

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## Poverty alleviation

Without good management practices, chemicals can pose significant risks to human health and the environment, especially the poorer populations who are most vulnerable to these negative effects. Certain chemicals restrict and interfere in human development and can impair both physical and mental growth, as well as ability to learn. The exposure pathways of chemicals may also impair critical ecosystem services such as clean water and safe food, where the poorest typically have the fewest choices. Sustainable development seeks to maximize the benefits of chemicals and to minimize the negative impacts of harmful substances and hazardous waste throughout their life cycles.



A close-up, blue-tinted photograph of a scientist in a laboratory. The scientist is wearing a white lab coat and safety goggles. They are using a pipette to transfer a liquid from a larger container into a small vial. In the background, there are other laboratory glassware, including a beaker and several test tubes in a rack. The overall scene is dimly lit, with a strong blue color cast.

UNEP helps countries manage the life cycles of chemical substances and waste that could pose a threat to the environment and human health.

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# Our vision for 2010-2013

What if countries could reduce risks from exposures to harmful substances by implementing sound chemicals management at all stages of production, use and disposal? What if global and national agendas were driven by accurate, up-to-date information on the full costs and benefits of chemicals and waste products? And what if we could use strong international agreements to address or eliminate the most harmful substances, supporting national action to protect our planet's environmental resources and secure the livelihoods and health of future generations?

UNEP's Harmful Substances and Hazardous Waste sub-programme is working towards this vision during the 2010-13 period of UNEP's Medium-term Strategy. The sub-programme is built on more than 30 years of work in the field and is a driving force behind the sound management of chemicals and hazardous waste.

UNEP's vision is based on delivering:

## Sound science that guides the agenda

UNEP will continue to provide scientific assessments of the release, transport and fate, and overall impact on the environment from harmful substances. UNEP will offer critical information on emerging risks from harmful substances and hazardous waste to inform debate on issues of international concern. UNEP will seek to monitor the progress towards the objective of global sound management of chemicals.

## Effective management of chemicals and hazardous waste

UNEP will assist States in the sound management of harmful substances and hazardous waste by delivering innovative approaches for all stages of their production, trade, use and disposal. UNEP will also provide leadership in promoting public access to information and knowledge on harmful substances and hazardous waste, raising awareness of their potential impacts on human health and the environment.



## Developing and implementing internationally agreed chemical management regimes

UNEP will continue to support the development and implementation of internationally agreed chemicals management regimes through a range of services delivered globally, regionally and nationally. UNEP's work will include efforts in relation to mercury; lead and cadmium; persistent organic pollutants; pesticides; and industrial chemicals used in manufacturing. This work will be delivered in close cooperation with the secretariats of the major international conventions on chemicals and waste that are hosted by UNEP.



# Delivering our vision

UNEP's work on Harmful Substances and Hazardous Waste is focused on four core service areas:

## Scientific assessments

UNEP assesses trends in the use, release and disposal of harmful substances around the world to inform policy and raise awareness of the need to take action.

### • Global assessments

UNEP conducts global assessments of policies and trends in the use and release of chemicals and waste products. UNEP uses the outcomes of these reviews to provide policy- and science-based guidance to decision-makers on potential environmental risks and benefits. For example, UNEP is currently finalising scientific reviews of information on lead and cadmium which will inform discussions on the need for global action at the 26th session of the Governing Council in early 2011.

### • Raising awareness

UNEP also uses these outcomes to raise awareness of potential adverse effects of chemicals, including hazardous waste, and address other emerging issues.

## Legal instruments

UNEP helps governments use the data and information from these global assessments to make informed decisions on the need for concerted action.

### • Strategic Approach to International Chemicals Management (SAICM)

Adopted by the International Conference on Chemicals Management (ICCM) in 2006, the SAICM is an international, voluntary and multi-stakeholder framework to promote the sound management of chemicals. UNEP hosts the secretariat of the SAICM and plays a key role in its implementation.

### • International regimes

UNEP supports the development and evolution of internationally agreed chemical management regimes. UNEP assists countries, secretariats and other stakeholders in their efforts to deal with highly hazardous substances. On the issue of mercury, for example, UNEP has raised awareness of the impact of its continued use and assisted governments in deciding on the concerted action needed. UNEP is now supporting the negotiation of a legally binding instrument to reduce risks to human health and the environment.

### • National laws and policies

UNEP helps States to strengthen their legal and regulatory regimes, both to implement their obligations under international treaties, and to address national priorities in cases where national instruments are more appropriate than international regimes.

UNEP's work reduces risks from mercury, pesticides, and other chemicals of global and international concern.

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## National implementation

UNEP uses these scientific assessments and legal instruments as a basis for technical assistance and capacity building for States. This work helps States design and implement national programmes which support sound management of harmful substances and hazardous waste.

### • Technical tools and methodologies

UNEP develops technical tools, methodologies and strategic frameworks for environmentally sound management of chemicals. UNEP helps States to adapt these methodologies to meet their specific needs.

### • Financial instruments and incentives

UNEP provides States with guidance and financial instruments, such as incentives and trade policies, for integrating the sound management of harmful substances and hazardous waste into development policies and plans. The guidance and instruments ensure these efforts can be appropriately resourced.

### • Guidance and training

UNEP develops guidance and provides training to help build the capacity of national governments to implement these management tools and instruments, especially in least developed countries and Small Island Developing States.

### • Business and industry partnerships

UNEP uses its partnerships, including those with business and industry associations, to reach the wide range of stakeholders that handle harmful substances and hazardous waste. Small and medium-sized enterprises (SMEs), important in the economies of most developing countries, are a key target group.



## Delivering our vision continued

### Monitoring and evaluation

UNEP helps governments monitor, evaluate and report on the impacts and progress of their systems for managing hazardous waste and harmful substances.

- **Tools and methods**

UNEP works with States to develop and implement methods for monitoring, evaluating and reporting on the progress of their programmes on harmful substances and hazardous waste.

- **Making the case**

UNEP helps States make the case for sound management of chemicals and hazardous waste, promoting best practice and increasing public access to information on impacts on human health and the environment.

The sub-programme is built on more than 30 years of work in the field and is a driving force behind the sound management of chemicals and hazardous waste.

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