World Health Organization

Chemicals and pollution

AIDE-MEMOIRE

For enhanced country action to improve chemical safety

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Even though part of our daily life, some chemicals are highly hazardous to human health. WHO estimated that exposure to a selected number of chemicals caused 2 million deaths in 2019. WHO identifies ten chemicals of major public health concern- air pollutants, arsenic, asbestos, benzene, cadmium, dioxins and dioxin-like substances, inadequate or excess fluoride, lead, mercury, and highly hazardous pesticides. Lead and mercury are especially harmful to young children. WHO can assist countries to prioritize chemicals requiring action in their national context, or to develop their own prioritization scheme for chemicals.

The WHO Chemicals Road Map is a framework to enhance chemical safety through multi-sectoral cooperation, focusing on risk reduction, knowledge and evidence, institutional capacity, and leadership and coordination. Countries can use the Road Map's Workbook to identify priority actions, leveraging the health sector's role to foster collaboration among stakeholders. By implementing tailored national plans, countries can address specific chemical safety challenges, promote sustainable development, and protect public health.

WHO support to countries

- Provides support to prioritize chemicals requiring action to protect human health.
- Provides norms, guidance and tools to address chemicals of major public health concern.
- Supports the implementation of WHO Chemicals Road Map for identifying concrete actions for the health sector to engage in the sound management of chemicals.
- Provides a compendium of available interventions for the sound management of chemicals.
- Provides guidelines for poison centre development and clinical management of lead exposure.
- Provides support and information through international networks such as the Chemical Risk Assessment Network, a network of poison centres and the Global Chemicals and Health Network.
- Highlights co-benefits of reducing exposure to chemicals to other sectors, such as reducing worker absence, adverse impacts on the environment, and the risk of diseases.
- Prepares awareness-raising, advocacy and training materials for the health sector on risk reduction and prevention strategies for various chemicals of concern.

✓ Checklist

Policies & actions

☐ Poison centre(s) equipped with essential capabilities available

☐ WHO Chemicals Road Map implemented

☐ Legislation on leaded paints developed and implemented

☐ Eliminating exposure to chemicals of concern, such as mercury from public goods

☐ Core capacities of surveillance for and response to chemical events in place [as per the IHR (2005)]

Multilateral agreements

Health aspects of the following implemented:

☐ Minamata Convention on Mercury

☐ Basel Convention on Hazardous Wastes and their Disposal

☐ Rotterdam Convention on Certain Hazardous Chemicals and Pesticides in International Trade

☐ Stockholm Convention on Persistent Organic Pollutants

☐ Montreal Protocol on Substances that Deplete the Ozone Layer

Awareness raising

☐ Key information on hazardous chemicals disseminated to decision makers and the public

☐ Evidence-based chemical interventions promoted

Key elements for country action

Risk Reduction

- Implement multilateral environmental agreements focusing on chemicals, waste and health protection, such as Minamata, Basel, Rotterdam and Stockholm Conventions, as well as the Montreal Protocol.
- Raise awareness of decision makers and the public, through campaigns and on-line platforms, about hazardous chemical exposures.
- Provide guidance for health care settings to promote and facilitate the procurement and use of safer, more sustainable alternatives and sound management of health care supply chain and waste.

Knowledge and Evidence

- Identify priority chemicals for national assessment and management from a health perspective.
- Work to integrate health and environmental monitoring and surveillance of chemicals throughout their life cycle.
- Identify and describe national indicators of progress in reducing the burden of disease from chemicals, aligned with global indicators.
- Actively contribute to WHO Global Chemicals and Health Network, Chemical Risk Assessment Network, poison center network and Collaborating Centres.
- Generate and make available health-related chemicals data (e.g. risk assessment, human and environmental monitoring, disease surveillance), where possible and appropriate, to the local and international communities, including relevant international scientific and technical committees.

Institutional Capacity

- Identify gaps and support stronger national policy and legal frameworks to address the health impacts of chemicals throughout their life cycle.
- Implement the IHR (2005) to strengthen core capacities and develop national policies and plans for preparedness and response to chemical events.
- Establish poison control centres equipped with essential capabilities and inform the public about their services and ways to contact them.
- Utilize the tools and guidance in the IOMC Toolbox to develop and implement national chemicals management plans.
- Establish health-based guidelines for chemicals in water, air, soil, food and products and occupational exposure drawing on WHO norms, standards and guidelines.
- Provide information and training on hazardous chemicals in products and processes for informed decision making by all actors and promote and enable safer alternatives.

Leadership and Coordination

- Implement the WHO Chemicals Road Map to increase health sector engagement in chemical management.
- Improve awareness of the health impacts of chemical exposures throughout their life cycle, and the resulting costs.
- Facilitate inclusion and active participation of all relevant sectors and stakeholders in chemicals management, e.g., lead, mercury, highly hazardous pesticides, throughout the life cycle, at all levels, while recognizing the shared leadership of the health and environment sectors.
- Pursue additional initiatives to mobilize financial resources for the health sector, including for WHO, for the sound management of chemicals and waste.
- Participate in and encourage development of sustainable and effective multisectoral coordination networks to maximize collective efforts, as envisaged by the Global Framework on Chemicals.

Additional information:

https://www.who.int/teams/environment-climate-change-and-health/chemical-safety-and-health/

Main resources:

- WHO Chemicals Road Map (WHO, 2017) and Workbook (WHO, 2020)
- Global elimination of lead paint: why and how countries should take action - Technical brief (WHO, 2020)
- WHO Guidelines for establishing a poison centre (WHO, 2021)
- Compendium of WHO and other UN guidance on health and environment (WHO, 2024)

Please note: This aide mémoire provides summary information on chemical safety. More details on other environmental health topics are provided in various other related materials.