

The increasing production and mismanagement of hazardous plastic waste is a critical global environmental concern, contributing to widespread pollution and posing severe risks to both ecosystems and human health. In Egypt, the challenge is particularly pronounced due to rapid industrial growth and insufficient waste management infrastructure, leading to the accumulation of hazardous plastic waste. Addressing these issues is vital for safeguarding the environment and public health in the region.

## The Center for Environment and Development for the Arab Region and Europe (CEDARE)

**CEDARE** is an international inter-governmental organization established in 1992. It aims to promote sustainable development by integrating environmental considerations into policies and practices across five priority areas: water resources management, land resources management, information technologies, sustainable growth, and environmental governance. CEDARE emphasizes public participation and strives to implement the Global Agenda 2030 for Sustainable Development.



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The UNEP and CEDARE partnership under the EU-funded SwitchMed Programme engaged in the development of a **Guidelines for Hazardous Plastic Waste Collection, Transportation, Treatment, and Disposal**. It provides a comprehensive framework for managing hazardous plastic waste in an environmentally sound manner, particularly within Egypt.

## REGULATORY FRAMEWORK

The guidelines are grounded in both national and international regulatory frameworks, including Egypt's Law 202/2020 on Waste Management and international conventions such as the Basel Convention and the Stockholm Convention. These frameworks provide a legal basis for managing hazardous waste, promoting safe disposal practices, and minimizing the environmental and health impacts associated with hazardous substances in plastic waste.

## OBJECTIVE

The guidelines aim to support Egyptian authorities, particularly the Waste Management Regulatory Authority (WMRA), in establishing a regulatory system for the environmentally sound management of hazardous plastic waste. This includes detailed instructions on collection, transportation, storage, treatment, and disposal, ensuring compliance with national and international laws.

RECYCLABLE		MAY BE RECYCLABLE		NON-RECYCLABLE		
PET	HDPE	LDPE	PP	PVC	PS	PC
<b>Recyclability</b>						





## PLASTIC WASTE HAZARDS

Hazardous plastic waste poses several risks due to its chemical composition and degradation processes. Key hazards include:

- **Degradation Processes:** Plastics undergo photo degradation, thermos oxidative degradation, hydrolytic degradation, and biodegradation, each contributing to environmental contamination over time.
- **Leaching of Hazardous Elements:** Toxic substances such as phthalates, organotin, and Bisphenol A (BPA) can leach from plastics, contaminating the environment and posing risks to human health.
- **Emissions during Burning:** The incineration of plastics, especially in uncontrolled conditions, releases hazardous air pollutants like dioxins, furans, and heavy metals, contributing to air pollution and health risks.
- **Health risks:** through direct exposure to toxic substances or through the environmental contamination of soil, water, and air. Workers in the waste management sector are particularly at risk, highlighting the need for strict adherence to safety protocols and the use of protective equipment.

## GUIDELINES FOR WASTE MANAGEMENT

The guidelines outline detailed procedures for managing hazardous plastic waste, emphasizing the importance of environmental and human health protection at every stage:



- **Collection:** Only licensed companies are permitted to collect hazardous plastic waste. Collection processes must minimize environmental contamination and protect worker safety through the use of Personal Protective Equipment (PPE).



- **Segregation:** Waste should be segregated by type and handled according to specific safety standards to prevent mixing hazardous with non-hazardous waste.



- **Transportation:** The transportation of hazardous plastic waste requires special permits and must comply with national and international regulations, ensuring safe handling and tracking of waste materials.



- **Storage:** Waste should be stored in well-designed facilities that prevent environmental contamination, with measures in place to manage leachate, control landfill gases, and secure waste against unauthorized access.



- **Disposal:** Environmentally sound disposal methods, including incineration in approved facilities and safe landfilling, are mandated. Incineration must be conducted in facilities equipped with proper emissions control technologies to mitigate the release of toxic substances.

The successful implementation of these guidelines is crucial for mitigating the risks associated with hazardous plastic waste in Egypt. By adhering to the outlined procedures, stakeholders can ensure that hazardous waste is managed in a manner that protects both human health and the environment, contributing to the broader goals of sustainable waste management and environmental protection in the region.

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## United Nations Environment Programme

The United Nations Environment Programme (UNEP) is the leading environmental authority in the United Nations system. UNEP uses its expertise to strengthen environmental standards and practices while helping implement environmental obligations at the country, regional and global levels. UNEP's mission is to provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations.



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European Union

The SwitchMed programme is funded by the European Union (EU) and implemented by UNEP. It aims at achieving a Circular Economy in the southern Mediterranean by changing the way goods and services are produced and consumed. To achieve this, the SwitchMed provides tools and services directly to the private sector, supports an enabling policy environment, and facilitates exchange of information among partners and key stakeholders. [www.switchmed.eu](http://www.switchmed.eu)

