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**Egyptian Environmental Activities and Regulations
for Management of Hazardous Substances and Hazardous Wastes**

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ABSTRACT

A substantial use of hazardous substances is essential to meet the social and economic goals of the community in Egypt. Agrochemicals are being used extensively to increase crop yield. The outdated agrochemicals and their empty containers represent a serious environmental problem.

Industrial development in different sectors in Egypt obligates handling of huge amounts of hazardous substances and hazardous wastes.

The inappropriate handling of such hazardous substances creates several health and environmental problems.

Egypt faces many challenges to control safe handling of such substances and wastes.

Several regulations are governing handling of hazardous substances in Egypt.

The unified Environmental Law # 4 for the year 1994 includes a full chapter on the Management of Hazardous Substances and Hazardous Wastes.

National and international activities have been taken to manage hazardous substances and hazardous wastes in an environmental sound manner.

INTRODUCTION

The inappropriate handling of hazardous substances created problems worldwide for human health and the environment.

Misuse or mismanagement of hazardous substances influences most structures and reproductive outcomes, and the environment. However, handling such substances is essential to meet the social and economic goals of the community.

Egypt is primarily an agricultural country. Pesticides and fertilizers are being used extensively to increase crop yield of limited cultivable land to meet the requirements of the exponential increase in population. The overuse of such substances contaminates the air, the soil, the surface and underground water and the crops. Outdated pesticides and fertilizers and their empty containers create serious health and environmental problems.

Over the past decades, Egypt has been engaged in rapidly progressing economic related industrial development. The industrial base in the country accommodates a variety of chemical industries that have created several problems, most important of which is that of industrial hazardous wastes. This problem is rather complex and can not be attributed to one single cause but rather to a sequence of interrelated events leading eventually to uncontrolled disposal of hazardous wastes.

Different chemical substances are being used in pharmaceutical, petroleum industries, in housing and the production of consumer goods in Egypt. Currently an exceedingly large number of chemicals is imported, manufactured, marketed, transported, sorted and disposed of, thus creating huge benefits, but also health and environmental risks.

Explosive are used in different activities, such as mining, police activities.

Radioactive substances are used in clinical activities, research, welding and piping testing.

Handling of such substances in an environmentally sound manner is of paramount importance for proper health and environmental protection as well as for the sound management of natural resources and life enjoyment.

The major problems facing controlling hazardous substances and hazardous wastes in Egypt are:

- Inadequate capabilities to assess the potential toxicity and to control the nature and purity of imported or domestically produced hazardous substances.
- Handling of hazardous substances by inadequately informed or trained personnel, especially operators in small-scale enterprises.
- Shortage of management skills needed to deal safely with technology transfer and with the storage, transport, use or disposal of hazardous substances.
- Lack of effective mechanisms for coordinating the work of those responsible for different aspects of hazardous substances safety.

- Lack of means of coping with hazardous substances accidents, including the treatment of victims and the subsequent rehabilitation of the environment.
- Inadequate proper management of hazardous substances and enforcement of regulations.
- Lack of reliable information sources to establish properly coordinate infrastructures, controls and procedures to deal properly with hazardous substances safety.
- Lack of adequate system and facilities for treatment and disposing of hazardous wastes.

Egyptian activities in managing hazardous substances and hazardous wastes:

Egyptian Environmental Affairs Agency (EEAA) is the national body, which is responsible for drawing up Egypt's policy on the welfare of the environment and natural resources, endorsing executive plans and programs and the promulgation and follow-up of legislations.

With the growing interest in Egypt for the management of environmental problems, EEAA has established a national strategy to achieve sound environment and sustainable development. In this strategy the management of hazardous substances plays an important role.

In recognition of the importance of establishing an information and management system for the identification, registration, categorization and management of hazardous substances, EEAA is currently developing a comprehensive database for hazardous substances. Efforts will be directed towards the collection of data from different sources, which include producers, users, importers and distributors of hazardous substances. Categorization and specifications of these substances will follow the international codes.

In co-operation with The Danish Agency for International Assistance (DANIDA) EEAA has developed a National Program for Hospital Wastes Management.

In co-operation with the Ministry of Scientific Research and the Ministry of the Military Production, EEAA has designed, manufactured and tested incinerators for hazardous hospital wastes.

In co-operation between Misr Company for Chemicals and The German Government, under the supervision of EEAA, a secure landfill for disposal

of the hazardous wastes generated from the old mercury cells used for chlorine production has been established in the western desert near Alexandria.

EEAA, in consulting with the competent ministries, is developing pollution prevention programs based on economic incentives and clean technologies that are compatible with Egyptian development after adaptation to the specific economic, cultural, social and institutional context in Egypt in order to encourage the steady reduction of hazards resulting from mishandling hazardous substances.

EEAA, in cooperation with the competent authorities and donor countries is currently developing a national system for controlling handling of hazardous substances and hazardous wastes, Such systems will include the following:

- Establishment of an adequate infrastructure monitoring and controlling systems for importation, manufacturing, transportation, storage, usage of hazardous substances.
- Establishment of information and database for handling hazardous substances and wastes.
- Exchange of experience in the field of research and development, with the relevant national and international organization.
- Providing the public with information which will allow them to understand and develop confidence in the regulatory systems' ability to ensure that the industrial installations are operating in an environmentally sound way.
- Establishment of treatment and disposal facilities for hazardous wastes.
- Advanced training in hazard assessment and human resource development and quantitative risk assessment (QRA).
- Introduction of clean technology alternatives, and environmental management system (ISO 14000).
- Proper enforcement procedures for legislation and regulation.
- Education and public awareness about hazardous substances.

EEAA acts as the Designated National Authority (DNA) for implementation of London Guidelines for the Exchange of Information on Chemicals in International Trade and Prior Informed Consent (PIC) procedures, and currently participating in developing these Guidelines to a Convention.

EEAA is the Egyptian competent authority and focal point for the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal. As a party to this convention, Egypt informed the secretariat of the Convention its decision concerning banning of importation of all kinds of hazardous wastes, and the requirement of getting permit from the competent authority, to allow the passage of ships carrying hazardous wastes through territorial seas or the exclusive economic zone of Egypt and Suez Canal.

Egypt has submitted a proposal to the conference of parties to the Basel Convention to host a subregional training center for hazardous waste management.

EEAA has constructively participated in the International Forum on Chemical Safety (IFCS) according to the recommendations of Agenda 21 – chapter 19 of the United Nation Conference on Environmental and Development.

For conservation of the environment and its resources, Egypt banned the importation of goods and substances that are banned by the original producer or by the developed countries even if they are in the form of donations or aid.

Egyptian regulations governing management of hazardous substances and hazardous wastes:

Egypt has issued a large number of environmental legislations governing, importing, manufacturing, trade, usage of hazardous substances and hazardous wastes covering different areas:

- Laws and regulations governing importing, manufacturing, trading, handling of hazardous substances used in industry, has been issued by The Ministry of Industry.
- Laws and regulations governing, importing, manufacturing, trading, handling and usage of pharmaceuticals, radioactive substances and insecticides, have been issued by The Ministry of Health.
- Laws and regulations governing importing, manufacturing, trading, possessing and usage of explosives, have been issued by The Ministry of Interior.
- Regulations governing operation of nuclear reactors and atomic activities and monitoring of radiation levels and disposal of radioactive wastes are the responsibility of Atomic Authority, affiliated to The Ministry of Electricity and Energy.

The Environmental Law No. (4) has been issued in 1994. Its executive regulations have been issued in February 1995. A full chapter of this Law regulates the management of hazardous substances, and hazardous wastes.

It is forbidden by this law to import hazardous wastes or to allow its entrance into or passage through The Egyptian territories. It is forbidden, without permit from the competent authority, to allow the passage of ships carrying hazardous wastes through territorial seas or the exclusive economic zone of Egypt.

By this law, it is forbidden to deal with hazardous substances without authorization from the concerned agencies. The competent ministries, in cooperation with EEAA and the Ministry of Health should develop and promulgate a list of hazardous substances, which should be controlled and shall be revised from time to time as appropriate.

The competent ministries, after consulting with the EEAA, shall promulgate regulations establishing standards necessary to the protection of public health and the environment and applicable to those who handle hazardous substances. The standards shall cover the following:

- Record keeping practices that accurately identify the quantities of such hazardous substances, constituents which are significant in quantity or in potential harm to human health or the environment.
- Use of appropriate containers for such hazardous substances.
- Labeling practices for the identification of any containers used for storage, transport of such hazardous substances.
- Furnishing of information on such hazardous substances to persons transporting storing, or using it.
- Use of a manifest system and any other reasonable means to assure that all such hazardous substances are handling in the proper way.
- Contingency plans for effective action to minimize unanticipated damage from any hazardous substances' accident.

A great deal remains to ensure the environmentally sound management of hazardous substances within the principles of sustainable development and improved quality of life for human kind.