

Creating a Role for the University of the Philippines Institute of Chemistry in a National Chemicals and Waste Management Program

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Experience of the University of the Philippines Institute of Chemistry in Managing its Chemical Wastes

In its decades of existence, the University of the Philippines Diliman Institute of Chemistry (UPD-IC) has accumulated a significant amount of chemical wastes in its premises. These stored chemical wastes are not segregated and have no tracking records and proper documentation. Mixtures of liquid wastes are contained in unlabelled bottles and plastic containers. Solid chemical wastes are generally old and expired chemicals in their original containers. In the past five years, most of the liquid and solid chemical wastes were cemented in drums. Over 100 drums (about 47 tons) of the cemented wastes were recently hauled to a government-registered treatment, storage and disposal facility (TSDF). It was only when the UPD-IC had to contract a commercial waste handler that it registered as a chemical waste generator. It was the start of its conscious efforts to study the generation and management of its chemical wastes. Currently, the UPD-IC is working on creating a chemical waste management system to prevent the build up of these wastes from its teaching and research laboratories. As it continues to manage the old and new chemical wastes generated from its operations, the UPD-IC is reviewing its teaching and research activities in order to follow government regulations on chemical waste generation, storage and disposal.

Philippine Laws on Chemical Waste Management

The main environmental law that controls hazardous chemical wastes in the country is the Republic Act No. 6969 (RA 6969) which is the Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990. This Act regulates toxic substances and hazardous wastes through the Department of Environment and Natural Resources (DENR) and nuclear wastes through the Philippine Nuclear Research Institute (PNRI). RA 6969 regulates the generation, transport and disposal of these substances from industries, businesses and medical institutions, and provides mechanisms to prevent harmful impacts of improper toxic and hazardous wastes management to human health and the environment. It defines toxic and hazardous substances as “substances that present either short-term or long-term environmental hazards which do not have any safe commercial or economic usage transported for dumping or disposal or in transit through any part of the territory of the Philippines”¹. Related environmental laws being implemented are the Pollution Control Act (Presidential Decree 984), the Environmental Impact Assessment System Law (Presidential Decree 1586), the Clean Air Act (Republic Act 8749), and the Clean Water Act of 2004 (Republic Act 9275), among others.

There is no lack of policies, rules and regulations pertaining to chemicals and chemical waste generation and management in the Philippines. However, as in other countries, implementing Philippine laws on hazardous waste management is not without difficulties. Effective enforcement of these environmental laws is hampered by a number of factors, primarily the lack of resources, education, training, social responsibility and political commitment, and intersectoral coordination. The Philippine government continues to improve the enforcement of its laws on chemical waste management as volumes of hazardous materials are ceaselessly being generated in industries, hospitals and other sectors.

Fitting a Role for the UPD-IC in Sustaining an Effective National Chemical Waste Management Program

The UPD-IC facilities have never been inspected by relevant government environmental agencies. The University of the Philippines as a premier state university has a number research institutes, including the UPD-IC, that are generating significant amounts of chemical wastes. Over the years, the UPD-IC has the privilege of an unofficial exemption from inspection and regulation because the amount of waste it generates is said to be small compared to the hundreds of tons of toxic wastes from industries that the DENR and its implementing agencies have to monitor².

As a leading chemistry institute in the country, the UPD-IC has some responsibilities and contributions to make. It should lead chemistry centers in other state and private universities pursue effective chemical waste management practices. Chemical waste management should not only involve industries, medical institutions, trade unions, consumer groups, environmental organizations, government and non-government organizations. Scientific organizations, research institutes and universities should actively participate in chemical waste management programs. Engaging universities in partnerships to strengthen national agenda on chemicals and chemical waste management is important.

Many graduates of the UPD-IC work as chemists in the major industries in the country and some enter government service as environmental chemists and policy makers. The UPD-IC should incorporate courses and trainings in its chemistry programs that will equip its graduates with the knowledge and skills to manage the lifecycles of chemicals. The initial, and perhaps crucial, orientation and training in chemicals and chemical waste management in the Philippines should be at the university level.

References :

- [1] DENR Environmental Management Bureau. [http:// www.emb.gov.ph/chemicals/index.htm](http://www.emb.gov.ph/chemicals/index.htm).
- [2] UP's Chemical Waste Management Dilemma: Living with Toxins. http://www.cyberdyaryo.com/features /f2000_0502_01.htm.

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