

The recent incident of dumping hazardous waste in Pasir Gudang, Johor is a timely reminder for the process industry to take control of their hazardous waste generation and disposal method. It is the responsibility of all handling chemicals to save the earth for the next generation. Companies should adhere to the **control measures** as per their SOP for handling and disposal of hazardous waste, or they may be subjected to heavy penalties for non-compliance.



Emergency personnel wearing protective suits clean up the Sungai Kim Kim river in Pasir Gudang, Johor, on March 14, 2019. PHOTO: EPA-EFE

The illegal dumping of toxic chemicals into a river in Pasir Gudang, Johor, has caused more than 2,700 people to fall sick, including hundreds of students. Malaysia's Minister for Energy, Science, Technology, Environment and Climate Change, Yeo Bee Yin, said on March 13 that a number of chemicals have been ascertained from the samples taken. They include Benzene, Acrolein, Acrylonitrile, Hydrogen Chloride, Methane, Toluene, Xylene, Ethylbenzene and D-limonene.

### Incident Learning

Any hazardous waste disposal to the environment affects human life and all other living organisms. It also affects the business with hefty fines and reputational damage. It is a timely reminder for the industry to take stock of all chemical wastes generated and to ensure proper disposal as per Environmental Public Health (Toxic Industrial Waste) Regulations (TIWR). As per the TIWR, the waste generated could be treated in an approved in-house waste treatment plant or outsourced to a licensed industrial waste collector for treatment and disposal.

### Industrial waste

Hazardous waste generated in process industries could be in the form of waste water, waste oil, process effluents, air emissions and solid waste containing asbestos or heavy metals, and other toxic waste such as Irritants, Asphyxiants, Narcotics, Carcinogens, Mutagens, Teratogens, etc.

### Control measures to avoid chemical spills include

1. Consider zero waste programme while selecting the process in the project engineering stage. Plant design shall include effluent treatment and recovery plants to minimise waste disposal.
2. Ensure that drains are provided / connected via containments before discharge.
3. Close monitoring of the waste stock in the premise.
4. All hazardous material storage areas shall be clearly demarcated with safety signage, compliant to Globally Harmonised System of Classification and Labelling of Chemicals (GHS).
6. Safety Data Sheet (SDS) for all chemicals in the premises shall be available and accessible.
7. Grab samples to test effluents prior to discharge.
8. All contractors engaged in chemical waste disposal must possess valid license from NEA's Pollution Control Department (PCD) for transportation, treatment and disposal. The consignment shall be tracked by NEA internet-based e-tracking system.

### Governing regulations

1. *Environmental Public Health (Toxic Industrial Waste) Regulations*
  2. *SS 586 - Specification for hazard communication for hazardous chemicals and dangerous goods*
- For further details, refer to NEA and MOM websites for hazardous wastes handling.

**Process Safety is Everybody's Responsibility!**

An initiative of the Process & Engineering Committee

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