



Work Safety Alert Mishandling of Chemical Waste

1. **Date of Accident :** December 2016
2. **Place of Accident :** A laboratory
3. **Summary :**

A worker disposed of chemical waste into a metallic drum tank. The tank exploded in a couple of minutes and two workers were injured.

4. **Work Safety Alert for Proprietors/ Employers :**

Complete and accurate classification of chemical waste, including taking account of its possible incompatibility with other chemicals and the proper type of waste containers to be used, are crucial for safe disposal of chemicals. Mixing incompatible chemicals or transferring the chemical waste into improper containers may result in vigorous chemical reactions, producing heat and gases or even causing an explosion. For example, hydrogen peroxide should not be stored in a metal container, and mixing hydrogen peroxide with strong acids, strong alkalines, organic matters, reducing agents, combustible materials, metals or metal salts, etc. may result in decomposition or explosion.

Proprietor/ Employer shall conduct a risk assessment to identify the hazards and assess the risks associated with chemical waste disposal. If the risks could not be eliminated, proprietor/ employer shall formulate and implement an effective safe system of work for chemical waste disposal, which should include, but not limited to, the following:-



- appointing a competent person to conduct task-specific risk assessments, taking into account the nature of chemical waste and the possible emergency situations, before commencement of the work;
- following the Code of Practice on the Packaging, Labelling and Storage of Chemical Waste issued by the Environmental Protection Department;
- taking all practicable steps to prevent the mixing of incompatible chemical wastes or the storage of chemical waste that is incompatible with the material of the container;
- providing sufficient storage area for the purpose of storing chemical waste only. The storage area should be suitable for the nature of chemical wastes to be stored. Containers of chemical wastes should be properly managed (e.g. containers of incompatible chemical wastes must not be stored together, etc.);
- formulating and properly implementing a personal protective equipment programme to ensure the appropriate selection, use and maintenance of such equipment;
- making available safety material data sheets of all chemicals for easy reference by persons concerned;
- providing adequate information, instruction, training and supervision to the workers responsible for handling chemical wastes; and
- formulating and properly implementing specific emergency procedures (e.g. procedures for dealing with chemical spillage, etc.). Regular drills should be conducted.

5. Others

Chemical waste disposal and dangerous goods in Hong Kong are also governed by the Environmental Protection Department and the Fire Services Department respectively. You may contact the relevant departments for further advice on the matters, if necessary.



6. Reference :

- [Chemical Safety in the Workplace - Guidance Notes on Risk Assessment and Fundamentals of Establishing Safety Measures](#)¹
- [Chemical Safety in the Workplace - Guidance Notes on Personal Protective Equipment \(PPE\) for Use and Handling of Chemicals](#)¹
- [Hazards During Chemicals in Use and Safety Guidelines](#)¹
- [Introduction to the Proper Use of Respiratory Protective Equipment](#)¹
- [Proper Selection of Respiratory Protective Equipment](#)¹
- [Proper Wearing and Maintenance of Respiratory Protective Equipment](#)¹

DISCLAIMER

This Work Safety Alert (“the Alert”) is issued at the earliest possible opportunity after a serious accident with a view to drawing the attention of interested parties to the general safety precautionary measures necessary to protect people engaging in similar work activities. The material contained in the Alert constitutes general guidance only. It does not reduce, limit, or replace, any legal obligations upon any person to comply with any statutory duties under relevant legislation. Users such as Managers and Supervisors should make their own evaluation of the information contained in the Alert to determine if it can be applied to their own situations and practices. The Labour Department does NOT accept any responsibilities for any loss or damage resulting from the use of or failure to use of the information on the Alert.

Note: The material contained in the Alert is not exhaustive, and will be supplemented/adjusted where necessary if more relevant information comes to light.

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