

Introduction

Given the size and variety of KAUST operations beyond research enterprise, the University runs unique *college-town* like operations. This results in the need to buy and use a wide variety of chemicals for activities such as building maintenance, drinking water production, air-conditioning, janitorial, car servicing, swimming pool chlorination, and horticulture and pest control needs. KAUST Chemical Management Procedure (CMP) provides the necessary guidelines for legally compliant, safe and environmentally friendly management of these chemicals in non-research operations.

The word 'chemical' is a generic term and chemicals may be either liquid, solid or gaseous states. These can be broadly classified into 3 hazard categories:

- (a) Physical hazards (eg. Flammable, corrosive)
- (b) Chemical hazards (eg. Health hazard, skin irritant)
- (c) Environmental hazards (eg. Harmful to fish)



Global harmonized classification system for chemical labelling

Least toxic principle

KAUST's Chemical Management Procedure requires that departments demonstrate that less hazardous pesticides are used based on guidance published by World Health Organization recommendations. This 'least toxic' principle is used in Integrated Pest Management (IPM). IPM is an ecosystem-friendly strategy to minimize the use of pesticides whilst protecting non-target organisms and the environment. It uses a combination of techniques such as biological control, habitat manipulation, and modification of cultural practices.



Chemical controls

At KAUST, all departments are required to obtain local departmental approval before chemical procurement, and be able to demonstrate that lower risk methods and/or chemicals have been considered. Other controls include:

Chemical inventory – an inventory (list of) chemicals with the minimum information such as hazard class, risk assessment date, storage location, container size, volumes used, fire-fighting and PPE requirements, etc.

Chemical risk assessments – updated annually as a minimum, environmental risk data, detailed job-specific assessment of chemical use risks and controls (e.g. training, PPE).

Chemical inspections – a documented monthly self-inspection of storage locations to ensure field compliance with procedure requirements.

Chemical disposal – ensures waste chemicals are in an environmental friendly manner, consistent with KAUST's Waste Management Procedure (also refer to Technical Note No.4).



Proper storage of chemicals



Non-pesticide method for controlling flying insects