



## MANAGEMENT OF TIME SENSITIVE CHEMICALS GUIDELINES

### PURPOSE

This guideline details the requirements to effectively manage Time Sensitive chemicals which can become dangerously unstable if stored incorrectly or over long periods.

*This guidance note applies to all workplaces controlled by Curtin University.*

### RESPONSIBILITY

If your research group or team uses chemicals, or if you manage a facility that stores chemicals, then you have a responsibility for the safe storage of Time Sensitive chemicals.

The six steps below detail the specific controls required to identify and prevent the instability of Time Sensitive chemicals.

### IDENTIFY THE RISK

**1. Understand the risks of Time Sensitive chemicals and which chemicals are affected.**

Review and become familiar with the [Chemical Management Plan](#) section 10.5 - Storage of Time Sensitive Chemicals.

**2. Undertake a ChemAlert<sup>1</sup> inventory of all your chemicals.**

This will identify Time Sensitive chemicals or mixtures containing these chemicals within your lab or facility.

### INSPECT TIME SENSITIVE CHEMICAL STOCKS

**3. Physically check each container or bottle of Time Sensitive chemicals:**

**a. Check each chemical for signs of deterioration.**

Signs of chemical deterioration:

- |   |  |
|---|--|
| <input type="checkbox"/> An additional viscous layer in a liquid chemical | <input type="checkbox"/> A “mossy” appearance around the cap |
| <input type="checkbox"/> Discoloration of liquids                         | <input type="checkbox"/> Crystal formation in the container  |

If you see any sign of deterioration **DO NOT HANDLE** the chemical. An unstable chemical can be detonated through the friction generated by unscrewing a bottle cap.

Secure the area immediately, restrict access, call Health and Safety on x4900 and ask to speak to a member of the Hazardous Materials team.

**b. Determine the age and expiry date of each chemical, and identify excess chemical stocks.**

- ☐ Confirm that the container has been permanently identified with the date of opening and an expiration date.
- ☐ Confirm that the chemical is within recommended date of disposal (refer to the *Chemical Management Plan*).

<sup>1</sup> For advice on using ChemAlert to locate Time Sensitive chemicals contact Health and Safety.



- ☐ Check if the chemical contains a stabiliser or an inhibitor.
- ☐ Check if the chemical has an owner and is still being used.
- ☐ Check that the minimum required quantity of the chemical is stored.

## DISPOSE OF UNSAFE OF UNNEEDED CHEMICALS

### 4. Prepare excess and expired Time Sensitive chemicals for disposal.

To reduce your risk dispose any chemicals that are not needed, past the expiry date, or past the recommended date of disposal.

#### a. Stabilise the chemical.

Add an excess amount of stabiliser/inhibitor to the chemical to ensure it remains safe during the transport and disposal process.

#### b. Then dispose as per Curtin's guidelines.

The [Managing Chemical Waste Guidelines](#) detail the requirements for temporary storage and labelling of waste.

## SAFE STORAGE

### 5. Ensure any remaining Time Sensitive chemicals are stored appropriately.

#### a. Check that the chemical is stored as per the SDS.

For each chemical refer to the chemical label and the SDS (specifically sections 7 Handling and Storage, and 10 Stability and Reactivity).

#### b. Stabilise the Chemical.

Add an excess amount of stabiliser/inhibitor to the chemical to ensure it remains safe during storage. Stocks without inhibitor or stabiliser should only be stored as per information on the chemical label and SDS. Be aware of requirements to use the chemical immediately after opening, to sparge with inert gas after use and to not decant into clear bottles.

#### c. Check that the chemicals are registered on ChemAlert.

#### d. Check that the chemical has a documented risk assessment.

This risk assessment must address the Time Sensitive risks posed by that chemical, and should include controls detailing:

- |   |  |
|---|--|
| <input type="checkbox"/> Disposal of chemicals past the expiry or recommended disposal date | <input type="checkbox"/> Periodic inspections of chemical containers for deterioration |
| <input type="checkbox"/> Any specific storage requirements                                  | <input type="checkbox"/> Records of container inspections                              |

## MANAGEMENT OF TIME SENSITIVE CHEMICALS

### 6. Ensure there is ongoing management of Time Sensitive chemicals

#### a. Ensure chemical purchasers in your School/Area are informed.

Chemical purchasers need to be aware of the requirements for Time Sensitive Chemicals they intend to purchase. Additionally, if your School/Area requires notification to a person/team when Time Sensitive chemicals are purchased, then ensure that this is clearly communicated.



**b. Document a management plan for these chemicals**

This plan should detail the inspection frequency for Time Sensitive chemicals, responsibility for inspections, and the required level of approval prior to purchase.

**RELEVANT DOCUMENTS/LINKS**

- Curtin's [Chemical Management Plan](#)
  - Refer section 10.5 - Storage of Time Sensitive Chemicals
- AS/NZS 2243.2:2006 Safety in laboratories - Chemical aspects
  - Refer Appendix E2 - Examples Of Commonly Used Highly Flammable Chemicals, and Appendix I - Hazardous Properties Associated With Commonly Used Unstable Substances.
- Curtin's [Managing Chemical Waste Guidelines](#).

**CONTACT DETAILS**

Contact	Health and Safety Ph: (08) 9266 4900 <a href="mailto:healthandsafety@curtin.edu.au">healthandsafety@curtin.edu.au</a>
Approval Authority	Senior Health and Safety Advisor

**REVISION HISTORY**

Revision #	Date	Amendment Description
1	14/08/2020	Management of Time Sensitive Chemicals