

School of Chemistry Policy On Unattended Experiments

Unattended Experiments:

Only reactions which are considered completely safe may be left unattended.

- All heating apparatus must be equipped with a temperature controller.
- All glass joints must be secure
- The tubing on reflux condensers must be secure and a water safety cut-out switch must be used.
- Vacuum and compressed gases must be set up safely and securely.

An unattended experiment form must be filled out for each unattended experiment. Copies must be displayed on the fume cupboard sash and in the entrance to the lab space. Risk assessments must also be available.

The following information must be available (in addition to the details of the experiment):

- Name of the person responsible.
- Name of the supervisor of the person responsible.
- A contact number for the person responsible.
- The time and date the experiment will conclude.
- Emergency action which should be taken by persons with no knowledge of the particulars of the experiment (eg. Service personnel or emergency services).


Please note that abbreviations for chemical names (DCM, THF, EtOH, etc.) are not to be used when filling in unattended experiment forms. In the event of an out-of-hours emergency these will most likely be consulted by Campus Services personnel rather than researchers familiar with these terms.

Once the experiment has concluded the unattended experiment forms or risk assessments **must** be removed from their displays.

Appendices:


1. CSCB unattended experiment form (available as laminated card from Raymond Smith).
2. Example of acceptable risk assessment.

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School of Chemistry		
Unattended Experiment Form		
Lab:	Date:	Fume Cupboard No:
Name (of person responsible): 24 hour Contact No: Signature:		
List solvents and all hazardous chemicals (Do not write formulae!!)		
Possible Hazards (circle): <i>Fire</i> <i>Explosion</i> <i>Toxic Fumes</i> <i>Corrosion</i> <i>Avoid contact with skin</i> <i>other (specify)</i>		
Apparatus:		
Services required (circle): Water electricity heat inert gas vacuum other (specify)		
Emergency action:		
Supervisor (or Alternative Supervisor): Signature:		

- 2 copies required. Please place one on fume cupboard and the other in the box provided outside the lab-door.
- NB: Remove this form from the box when experiment is complete
- Leave light on in fume cupboard containing this experiment
- Please refer to SCCB SOP for Unattended Experiments

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Researcher: A. Chemist 0861234567		Supervisor: A. N. Other 0877654321		
Reaction: Isolation of Lycopene from Tomato Paste – 2nd year Biological Molecules				
Reactants	CAS	Weight/ volume	Risk Phrases/ Hazard statements	Safety phrases/ Precaution states.
Tomato paste	N/A	5g	N/A	
Methanol	67-56-1	10ml	R11, R23/24/25, R39/23/24/25	S7, S16, S36/37, S45
Dichloromethane	75-09-2	25ml	H351	P281
Brine	7647-14-5 7732-18-5	150ml	none	
Sodium Sulphate	7757-82-6	~5g	none	
Equipment used: Steam bath at 100°C Reflux condenser				
Hazard Symbols/ Warning signs:				
				
Risk phrases/Hazard statements: R11-Highly flammable R23/24/25-Toxic by inhalation, in contact with skin and if swallowed R39/23/24/25-Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed. H351-Suspected of causing cancer.				
Risks/Potential outcomes: Inhalation of solvent vapours Burns from steam bath. Electrical risks associated with steam bath and liquids.			Routes of exposure: Lungs Skin	
Suspected carcinogen used in this reaction. Product not hazardous.				

No. of persons exposed to hazards: 1		Frequency of use: Once off for 3 hours	
Severity: Very harmful	Likelihood: Unlikely	Risk rating Moderate	

Safety phrases/Precautionary statements: S7-Keep container tightly closed. S16-Keep away from sources of ignition - No smoking. S36/37-Wear suitable protective clothing and gloves. S45-In case of accident or if you feel unwell, seek medical advice immediately (show the
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label where possible).

P281-Use personal protective equipment as required.

Control measures:

Lab coat, safety glasses and nitrile gloves.

Students supervised by demonstrators and a Lecturer.

Technical Officer contactable in emergency

At least one First aider in the lab at all times

Electrical equipment inspected before practical and demonstrators inspect reflux set-up before use

Emergency measures:

Fire extinguishers available.

Fire evacuation procedures in place.

Spill kits available – follow instructions on spill kit.

First aid measures:

Emergency shower and eye wash station.

First aid kits available (with burn gel).

Waste disposal considerations:

Halogenated solvent waste.

Non-halogenated solvent waste

Location of relevant SDS:

Inside main door.

Signature:

Date:

Recommended further control measures:

Consider replacing Dichloromethane with less harmful solvent