

Curriculum activity risk assessment

Managing and Storing of Hazardous Materials in Science

clever • skilled • creative

Activity scope

This document refers to the management and storage of hazardous science materials in specialised science facilities such as school laboratories, agricultural sections, general classrooms, playgrounds or on school excursions.

All materials used or generated in science activities should be regarded as being potentially hazardous. Activity leaders need to identify all substances with particular physical and chemical properties that make them more hazardous than others.

Specific risk assessments are required for the management and storage of all hazardous substances. (Refer to Advisory Standard for hazardous substances for further information.)

Please note that this risk assessment does not include student involvement.



| | | |
|-----------------------|--------------|------------------------------|
| Teachers/leaders: | | |
| Activity description: | | |
| Start date: | Finish date: | No of students (approx.): |
| Class groups: | | Supervision ratio (approx.): |

Risk level

The actual risk level will vary according to the specific circumstances of the activity and these **must** be considered when assessing the inherent risk level and planning the activity. As a starting point, ask the following questions:

- Which students will be involved?
- What will the students be doing?
- What will the students be using?
- Where will the students be?
- Who will be leading the activity?

| Inherent risk level | | Action required / approval |
|--------------------------|--|---|
| <input type="checkbox"/> | High Substances such as radioactive materials, cryogenic gases, highly corrosive substances and highly toxic substances. | <input checked="" type="checkbox"/> A <i>Curriculum Activity Risk Assessment</i> must be completed. <input checked="" type="checkbox"/> Principal or delegated Deputy Principal or Head of Program (i.e. HOD, HOSES, HOC) to review and approve risk assessment. <input checked="" type="checkbox"/> Obtaining parental permission is recommended. <input checked="" type="checkbox"/> Once approved, activity details are to be entered into the <i>School Curriculum Activity Register</i> . |

Listed below are the minimum recommendations for this type of activity. For any items ticked 'No', provide further information regarding the additional or alternate controls to be implemented for the safe conduct of the activity.

Minimum supervision

Adequate adult supervision is to be provided. In determining what is adequate, consider the number of students, their individual needs, and the nature of the activity.

If an adult other than a registered teacher is engaged for instruction, a teacher is to be present to take overall responsibility. [Blue Card](#) requirements **must** be adhered to.

Registered teacher with minimum qualifications as outlined below

OR

An adult with minimum qualifications as outlined below, in the presence of a registered teacher

Further information:

Minimum qualifications

The qualifications listed in this section are minimums for each type of situation. Leaders are encouraged to seek training to raise their qualification level above the minimum listed.

Current first aid qualifications including Cardio Pulmonary Resuscitation (CPR) or ready access to first aid facilities, including qualified personnel.

[Blue Card](#) requirements met

High — Substances such as radioactive materials, cryogenic gases, highly corrosive substances and highly toxic substances. In addition, legislative requirements may apply to certain substances

For a registered teacher with qualifications in science:

Competence (demonstrated ability) to handle and use hazardous materials and any related equipment correctly and safely.

A teacher could demonstrate their competency through their:

- knowledge of the activity and the associated hazards and risks
- experience (i.e. previous involvement) in undertaking the activity
- demonstrated ability and/or expertise to undertake the activity
- possession of qualifications related to the activity.

For a leader other than a registered teacher:

Competence (demonstrated ability) to handle and use hazardous materials and any related equipment correctly and safely, working under the direction of a Head of Department (Science) or a Principal

OR

An adult with qualifications equivalent to or higher than those required for the teacher must be responsible for the management and storage of hazardous substances.

| |
|--|
| <p>Minimum qualifications</p> <p><i>The qualifications listed in this section are minimums for each type of situation. Leaders are encouraged to seek training to raise their qualification level above the minimum listed.</i></p> |
| <p>Further information:</p> |

| Minimum equipment/facilities <i>If 'No' is ticked, provide further information.</i> | Yes | No |
|---|--------------------------|--------------------------|
| First aid kit suitable for activity | <input type="checkbox"/> | <input type="checkbox"/> |
| Communication system: <input type="checkbox"/> phone-line at location <input type="checkbox"/> mobile phone <input type="checkbox"/> walkie talkies/UHF Radio <input type="checkbox"/> student/adult messenger Other: | | |
| <p>The age, size and biological susceptibility of students all need to be taken into account — in general, the effects of chemicals on them will be greater than for adults. The absence of a signal code on legislation should not be taken to indicate a substance is harmless. It may be that not enough information is available to enable classification</p> | | |
| Drinking water (students should not share drinking containers) | <input type="checkbox"/> | <input type="checkbox"/> |
| Protective equipment appropriate for the particular activity, such as safety glasses and laboratory coats or aprons | <input type="checkbox"/> | <input type="checkbox"/> |
| <p>Further information:</p> | | |

| Governing bodies/associations <i>If 'No' is ticked, provide further information.</i> | Yes | No |
|--|--------------------------|--------------------------|
| Obligations have been established for health and safety requirements for hazardous materials. In addition, legislative requirements may apply to certain substances See Workplace Health and Safety Queensland Have these been considered during the planning of this activity? | <input type="checkbox"/> | <input type="checkbox"/> |
| Safety considerations are required for this activity. Have you referred to the Occupational Health and Safety consultant in your region? | <input type="checkbox"/> | <input type="checkbox"/> |
| <p>Further information:</p> | | |

Hazards and suggested control measures

All persons engaging in this activity should:

- identify the hazards, including any additional hazards not mentioned here
- assess their significance
- manage the potential risks.

Listed below are indicative hazards/risks and suggested control measures. They are by no means exhaustive lists. After checking these, add details of any other identified hazards/risks and additional controls you intend to implement.

| Hazards/risks | Control measures | Yes | No | Implementation plan / Additional controls |
|--|--|--------------------------|--------------------------|---|
| Electricity <ul style="list-style-type: none"> • Burns • Electrocution | <ul style="list-style-type: none"> • Ensure Electrical Safety Guidelines are adhered to. | <input type="checkbox"/> | <input type="checkbox"/> | |
| Hazardous substances <ul style="list-style-type: none"> • Corrosive chemicals • Flammable chemicals • Carcinogenic chemicals • Volatile chemicals • Heavy metals | <ul style="list-style-type: none"> • Ensure hazardous substances guidelines are adhered to. • Ensure that the storage space for hazardous substances is secure. Students and unqualified staff must not be allowed access unless directly supervised and accompanied by an authorised and qualified person. • Limit the range and volume of chemicals in the inventory to the minimum necessary for effective laboratory operations. • Staff responsible for the management, storage and handling of hazardous substances should regularly check containers for cracks, leaks, damage, corrosion and/or spillage. • Where appropriate, store substances in isolation, or separate from incompatible or potentially reactive substances. This might include the use of fume cupboards for short term, temporary conditions only. • Ensure that fume cupboards are inspected for compliance (recirculation standard) | <input type="checkbox"/> | <input type="checkbox"/> | |

| Hazards/risks | Control measures | Yes | No | Implementation plan / Additional controls |
|----------------------------------|---|--------------------------|--------------------------|---|
| Tools, plant or equipment | <ul style="list-style-type: none"> Establish and adhere to routines for the safe receiving and storage of new stock. Establish and adhere to routines for the appropriate labelling of decanted chemicals. | <input type="checkbox"/> | <input type="checkbox"/> | |
| Radiation/ radioactivity | <ul style="list-style-type: none"> Store all radioactive source substances in a locked metal box which is clearly and permanently labelled and kept in a safe. All radioactive sources are to be clearly labelled 'radioactive', with an indication of the type and activity of the radionuclide. For radioactive material with a short shelf life, the year of manufacture and acquisition date should be clearly indicated. | <input type="checkbox"/> | <input type="checkbox"/> | |

Additional control measures

These would relate to the specific student needs, location and conditions in which you are conducting your activity.

| Hazards/Risks | Control Measures |
|---------------|------------------|
| | |

| | |
|---|--------------|
| Submitted by: | Date: |
| List the names of those who were involved in the preparation of this risk assessment. | |

| Approval | |
|--|---|
| <input type="checkbox"/> | Approved as submitted |
| <input type="checkbox"/> | Approved with the following condition(s): |
| <input type="checkbox"/> | Not approved for the following reason(s): |
| By: | Designation: |
| Signed: | Date: |
| Once approved, activity details should be entered into the <i>School Curriculum Activity Register</i> by administrative staff. | Reference no. |

| Monitor and review <i>To be completed during and/or after the activity and/or at the completion of the series of activities.</i> | Yes | No |
|---|--------------------------|--------------------------|
| Are the control measures still effective? | <input type="checkbox"/> | <input type="checkbox"/> |
| Have there been any changes? | <input type="checkbox"/> | <input type="checkbox"/> |
| Are further actions required? | <input type="checkbox"/> | <input type="checkbox"/> |
| Details: | | |

Important links

- HLS-PR-003: First Aid
<http://education.qld.gov.au/strategic/eppr/health/hlspr003/>
- HLS-PR-004: Infection Control and Management of Prescribed Contagious Conditions
<http://education.qld.gov.au/strategic/eppr/health/hlspr004/>
- Infection Control Guideline
http://education.qld.gov.au/health/pdfs/healthsafety/infection_control_guideline.pdf
- HLS-PR-005: Health and Safety Incident Recording and Notification
<http://education.qld.gov.au/strategic/eppr/health/hlspr005/>
- HRM-PR-010: Working with Children Check – Blue Cards
<http://education.qld.gov.au/strategic/eppr/hr/hrmpr010/>
- HLS-PR-006: Managing Occupational Risks with Chemicals
<http://education.qld.gov.au/strategic/eppr/health/hlspr006/hs16.pdf>
- Safe Operation of Laboratory Equipment
<http://education.qld.gov.au/strategic/eppr/health/hlspr012/resources/safelabequip.pdf>
- Handling Live Animals
<http://education.qld.gov.au/strategic/eppr/health/hlspr012/resources/liveanimals.pdf>
- Biological Activities – Science
<http://education.qld.gov.au/strategic/eppr/health/hlspr012/resources/biolactivities.pdf>
- Chemical Hazards
<http://education.qld.gov.au/strategic/eppr/health/hlspr012/resources/chemhazards.pdf>
- Maintenance and Operation of a Safe Work Area Outside the Laboratory
<http://education.qld.gov.au/strategic/eppr/health/hlspr012/resources/safework.pdf>
- Safe Work Practices Conducting Science Experiment Activities
<http://education.qld.gov.au/strategic/eppr/health/hlspr012/resources/scienceexperiment.pdf>
- Aspects of Science Management (Reference Manual for Schools)
<http://education.qld.gov.au/health/pdfs/healthsafety/aspects-science-mgmt.pdf>
- SCM-PR-011: Animal Ethics and Welfare in Schools
<http://education.qld.gov.au/strategic/eppr/schools/scmpr011/>
- Maintenance and Operation of a Safe Laboratory
<http://education.qld.gov.au/strategic/eppr/health/hlspr012/resources/safelab.pdf>
- SCM-PR-002: School Excursions
<http://education.qld.gov.au/strategic/eppr/schools/scmpr002/>

Further information

For further information on incorporating risk management strategies into curriculum activity planning refer to [HLS-PR-012 Managing Risks in Curriculum Activities](#) and the associated list of [Curriculum Activity Risk Assessment Guidelines](#). (See: <http://education.qld.gov.au/strategic/eppr/health/hlspr012/index1.html>)

For further support with risk management training and advice, contact trained staff in schools such as Workplace Health and Safety Officers (WHSOs) and Workplace Health and Safety Representatives (WHSRs), and regional staff such as Senior Health and Safety Consultants.

Uncontrolled copy. Refer to *HLS-PR-012: Curriculum Activity Risk Management* at <http://education.qld.gov.au/strategic/eppr/health/hlspr012/> for master.