

Curriculum activity risk assessment

Welding, Gas Heating and Cutting

clever • skilled • creative

Activity scope

This document relates to student participation in Welding, Gas Heating and Cutting as a curriculum activity.

Welding, gas heating and cutting refers to the transfer of heat, through various means, to heat, distort, rearrange, cut, fuse or join a variety of metals or synthetic materials. It includes heating liquids and cutting of metals.



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

Risk level

The level of risk associated with this activity will vary with the tasks Undertaken. For further information refer to [Standard Operating Procedures for EQ sites](#).

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"/>	Medium Some chance of an incident and injury requiring first aid: Fixed flame (where a fixed flame is used in a fixed position and cannot be moved by students)	<input checked="" type="checkbox"/> Record controls in your planning documents and/or complete this <i>Curriculum Activity Risk Assessment</i> . <input checked="" type="checkbox"/> Consider obtaining parental permission.
<input type="checkbox"/>	High Likely chance of a serious incident and injury requiring medical treatment: Mobile flame (where the burner is made mobile to enable the activity to be carried out)	<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> .
<input type="checkbox"/>	Extreme High chance of a serious incident resulting in highly debilitating injury: Mobile flame (mobile flames using oxygen acceleration and where molten metal is a derivative of the activity)	<input checked="" type="checkbox"/> Consider conducting an alternative activity <input checked="" type="checkbox"/> A <i>Curriculum Activity Risk Assessment</i> must be completed. <input checked="" type="checkbox"/> Principal approval prior to conducting this activity is required. <input checked="" type="checkbox"/> Parental permission must be obtained for student participation. <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 should be present to take overall responsibility. Blue Card requirements must be adhered to.	
<input type="checkbox"/>	Registered teacher with minimum qualifications as outlined below
OR	
<input type="checkbox"/>	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

Medium — Some chance of an incident and injury requiring first aid:

Fixed flame (where a fixed flame is used in a fixed position and cannot be moved by students)

For a registered teacher:

- experience (previous involvement) in the use of this type of equipment or similar equipment

OR

For a leader other than a registered teacher:

- relevant trade qualifications

High — Likely chance of a serious incident and injury requiring medical treatment: Mobile flame (where the burner is made mobile to enable the activity to be carried out)

For a registered teacher with qualifications in Industrial Technology Design (ITD):

- competence (demonstrated ability) in the use of this type of equipment or similar equipment

OR

For a leader other than a registered teacher:

- relevant trade qualifications

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.

Extreme — High chance of a serious incident resulting in highly debilitating injury: Mobile flame (mobile flames using oxygen acceleration and where molten metal is a derivative of the activity)

For a registered teacher with qualifications in Industrial Technology Design (ITD):

- Metals and Engineering trade base when gas heating, welding and cutting is included in the apprenticeship or traineeship program

OR

- expertise (formal qualifications, e.g. the National Metal and Engineering curriculum broad-based module Welding and Thermal Cutting, NBB 09, or equivalent) in using this type of equipment or similar equipment

OR

- relevant documented qualification: trade or units of competency related to the activities (eg. VET staff profile, Currency of Industry Experience.)

For a leader other than a registered teacher:

- relevant trade qualifications equivalent to or better than NBB 09

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.

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.

Further information:

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"/>
Maintenance and service of equipment to manufacturer's specifications; Access to the equipment maintenance registers	<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:		
Appropriate and maintained fire safety equipment (extinguisher, blanket, evacuation plan); Extinguishers should be identified with standard specification identification code signs.	<input type="checkbox"/>	<input type="checkbox"/>
Drinking water (students should not share drinking containers)	<input type="checkbox"/>	<input type="checkbox"/>
Safety glasses and appropriate fully-enclosed footwear that protects against falling sharp tools, equipment or project materials	<input type="checkbox"/>	<input type="checkbox"/>
Standard Operating Procedures clear and present for ALL equipment used	<input type="checkbox"/>	<input type="checkbox"/>
Protective clothing that conforms with Australian Standard 1558 (Protective Clothing for Welders)	<input type="checkbox"/>	<input type="checkbox"/>
Fixed residual current device on all portable equipment; For further information refer to: quick reference guide for specified electrical equipment .	<input type="checkbox"/>	<input type="checkbox"/>
Adequate lighting and ventilation	<input type="checkbox"/>	<input type="checkbox"/>
Suitable non-slip floor surface	<input type="checkbox"/>	<input type="checkbox"/>
Material safety data sheets (MSDS) for all chemicals stored in the workshop	<input type="checkbox"/>	<input type="checkbox"/>
Clearly marked work areas delineated with yellow paint or similar material	<input type="checkbox"/>	<input type="checkbox"/>
Suitable and sufficient waste bins	<input type="checkbox"/>	<input type="checkbox"/>
Emergency stop buttons on equipment where required	<input type="checkbox"/>	<input type="checkbox"/>
Maintained and suitable equipment	<input type="checkbox"/>	<input type="checkbox"/>
Further information:		

Hazards/risks	Control measures	Yes	No	Implementation plan / Additional controls
Manual Handling <ul style="list-style-type: none"> • Lifting Equipment and materials 	<ul style="list-style-type: none"> • Undertake a risk management process in order to prevent or minimise the risk of injuries caused by manual tasks. 	<input type="checkbox"/>	<input type="checkbox"/>	
Noise <ul style="list-style-type: none"> • Continuous repetitive noise • One off noise exposure 	<ul style="list-style-type: none"> • Provide personal hearing protection and provide training for relevant staff in the correct use and storage of the hearing protection. • Minimise the number of students working at one time. • Redesign tasks so that staff and students are not exposed to loud noise over extended periods. • Repair and maintain equipment and machinery to reduce their noise levels. • Refer to Health and Safety: Noise for further information, • As far as is practicable, teachers should control, administer or engineer the use of equipment and/or machines to ensure the accumulated noise in the ITD workspace is not above the recognised safe industrial level, approximately 85 decibels(A). 	<input type="checkbox"/>	<input type="checkbox"/>	
Students <ul style="list-style-type: none"> • Student numbers • Special needs • High risk behaviours • Medical conditions 	<ul style="list-style-type: none"> • Obtain parental permission, including relevant medical information. • When students with medical conditions are involved, ensure that relevant medical/emergency plans and medications are readily available (insulin, Ventolin, EpiPen, etc.) • Refer to Individual education plan/Educational adjustment plan/Behaviour management plan and other student documents. • Where necessary, obtain advice from relevant advisory visiting teachers or specialist teachers. 	<input type="checkbox"/>	<input type="checkbox"/>	

Hazards/risks	Control measures	Yes	No	Implementation plan / Additional controls
	<ul style="list-style-type: none"> Ensure there is adequate adult supervision. 	<input type="checkbox"/>	<input type="checkbox"/>	
Tools, plant or Equipment	<ul style="list-style-type: none"> Ensure that loose jewellery and clothing is secured or removed. Ensure that long hair is tied back. Clearly designate work areas. Monitor use of tools and equipment. Check equipment for damage before lessons. Store and use acetylene, oxygen, liquid petroleum or other gas cylinders in an upright position. Gas cylinders should also be securely restrained to prevent them from falling over, particularly when they are used as a mobile plant. Avoid the use of extension leads where possible. Securely fix any jobs to a bench, table, floor or other suitable surface. Note that student-manufactured articles may not be safe for use other than as a demonstration exercise because of either manufacture defect or design fault. Students should be advised of this during manufacture. Obtain a MSDS for all hazardous substances used in the ITD workspace (such as paints, adhesives, glues, solvents, acids, fluxes, flammable liquids etc.) Particular attention should be given to the correct storage, disposal and clean up of possible spillage of these substances. Install machinery, plant and equipment in such a way that sufficient space and safe footholds are provided around individual machines or units to allow for group instruction, normal operation and adjustments. 	<input type="checkbox"/>	<input type="checkbox"/>	

Hazards/risks	Control measures	Yes	No	Implementation plan / Additional controls
	<ul style="list-style-type: none"> • Make regular inspections of personal protective equipment supplied by students (e.g. safety glasses) to ensure that the equipment is to Australian Standard specification and is in good serviceable condition. • Refer to and follow Standard Operating Procedures for all equipment. 	<input type="checkbox"/>	<input type="checkbox"/>	
		<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/epr/health/hlspr003/>
- HLS-PR-004: Infection Control and Management of Prescribed Contagious Conditions
<http://education.qld.gov.au/strategic/epr/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/epr/health/hlspr005/>
- HRM-PR-010: Working with Children Check – Blue Cards
<http://education.qld.gov.au/strategic/epr/hr/hrmpr010/>
- HLS-PR-006: Managing Occupational Risks with Chemicals
<http://education.qld.gov.au/strategic/epr/health/hlspr006/hs16.pdf>
- Standard Operating Procedures for EQ sites
<http://education.qld.gov.au/health/safety/hazards/equip-resources.html#sop>
- Hearing Protection Fact Sheet
<http://education.qld.gov.au/health/pdfs/healthsafety/hearing-protection-factsheet.pdf>
- 2004 Noise Code of Practice
http://www.deir.qld.gov.au/workplace/resources/pdfs/noise_code2004.pdf
- Managing a Practical ITD Workspace
<http://education.qld.gov.au/strategic/epr/health/hlspr012/resources/pracitdworkspace.pdf>

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/epr/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.