

Risk assessment RA27 Soldering

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Faculty / Service Area	Faculty of Health Sciences and Sport	Location	Pathfoot B27, Cottrell 4B65, Other
Description of work task / equipment /area being assessed			
Soldering for electronics construction and repair			
Change log	Version 1.1	29 Aug 2022	Expanded this section
	Version 1.2	11 July 2023	Referenced regulations and SOPs
Head of faculty	Prof Jayne Donaldson	Safety officer	Dr Nidia Rodriguez Sanchez
Completed by	Chris Grigson	Date	24 Jun 2020
Reviewed by	Dr Nidia Rodriguez Sanchez	Date	11 July 2023
	Chris Grigson	Date of next review	August 2024
Equipment used	Soldering Iron, Desoldering braid, Desoldering tools		
Categories of people involved	Staff, UG, PG, Visitors		
Duration of activity	< 1hrs	Frequency of activity	Daily
Legal compliance to standards and regulations required	<p>Health and Safety at Work act 1974 (HASAWA) https://www.hse.gov.uk/legislation/hswa.htm</p> <p>Management of Health and Safety at Work Regulations 1999 (MHSWR) https://www.legislation.gov.uk/uksi/1999/3242/contents/made</p> <p>Provision of Work Equipment Regulations 1998 (PUWER) https://www.hse.gov.uk/work-equipment-machinery/puwer.htm</p>		

		The Control of Substances Hazardous to Health Regulations 2004 (COSHH) https://www.hse.gov.uk/coshh							
What are the hazards?	Hazard category	Who might be harmed and how?	What are you already doing to control the risks?	*Risk rating	What additional controls (if any) are required to reduce the risks?	*Risk rating	Action by who?	Action by when?	Date of completion
Exposed element heated up to 450C	F4	Operator, staff Burns from accidental contact with element or workpiece	Use limited to trained operators Safe operating procedure Other people excluded from area when in use	1					
Mains electricity	F4	Operator, staff Electric shock through contact with exposed wires or earth fault	PAT testing carried out at regular intervals check label before use Use only low voltage, temperature regulated soldering equipment Visual inspection before use by operator Any faulty equipment taken out of use immediately, disabled if possible and removed for repair	1					

What are the hazards?	Hazard category	Who might be harmed and how?	What are you already doing to control the risks?	*Risk rating	What additional controls (if any) are required to reduce the risks?	*Risk rating	Action by who?	Action by when?	Date of completion
Fire	F4	All present in building Ignition of flammable materials by hot element	Good housekeeping, all flammable materials excluded from work area and flammable waste removed from room immediately Properly set up work area with good ventilation, non flammable surface and adequate surrounding space Staff frequently instructed in emergency procedures prominently displayed in all rooms Regular fire training for all staff	1					

COSHH Risk assessment

Anything in category F.6 (Chemical and biological hazards) should go here

*Details under relevant heading in appendix

Manufacturers COSHH data sheets are required for all chemical hazards and should be attached

The Substance What are the hazards and *classification? *Route of exposure	*WEL mg/m3	Who might be harmed and how?	What are you already doing to control the risks?	*Risk rating	What additional controls (if any) are required to reduce the risks?	*Risk rating	Action by who?	Action by when?	Date of completion	Health monitoring
Solder - containing Rosin flux Irritant Inhalation Skin contact Eye contact	Rosin 0.05	Operator, others present in room Risk of occupational asthma	Others to be excluded from work area Use of a suitable fume extractor to draw fumes away from operator Operator instructed to position extractor close to work Extractor filter replaced as per manufacturer instruction	3						No

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			<p>No food or drink allowed in work area</p> <p>Hands washed after soldering</p> <p>Operator advised of potential irritant effects, any health problems arising from soldering are to be brought immediately to the attention of management</p>							
<p>Solder – containing lead</p> <p>Toxic</p> <p>Inhalation</p>	<p>Lead 0.10</p> <p>Tin 2</p>	<p>Operator, others present in room</p> <p>Repair of older or specialist equipment containing lead based solder</p>	<p>Others to be excluded from work area</p> <p>Appropriate extraction see above</p> <p>Keep soldering iron temperature below 500c to reduce risk of vapourisation of lead</p>	2						No

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Solder – Containing tin	Tin 2	Operator, others present in room	Others to be excluded from work area Appropriate extraction see above	2						No

Append supplier safety data sheets for all substances here:

Lead free Solder

Leaded Solder