Sheffield Hallam University

Faculty of Arts, Computing, Engineering and Sciences

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File Reference:
File Date:
Review Date:
Type of Activity:

Risk Assessment / Method Statement / Sequence of Work

Form **RAMS3** (Nov 09)

Written By: (Print name) Matthew Ling	**Sign:** MDLing	**Date:** 24/10/18
Approved By: (Line Manager/Supervisor) A. Balaskevitch	**Sign:**	**Date:** 24/10/18

* If this RA/MS is issued to several persons, each should sign overleaf - Copies of this RA/MS must be issued to all participating persons.

Activity / Project Title (Course):

Location:

(Please use additional sheet if required)

Examples of Common Hazards (Please Tick all that apply) ✓

Machinery / tools ☐	Entanglement ☐	Dust ☐	Falling Objects ☐	Lighting ☐	Striking Object ☐
Chemical Hazard ☐	Cutting Accident ☐	Electrocution ☐	Fire ☐	Manual Handling ☐	Toxic Gases ☐
Climate ☐	Lasers ☐	Explosion ☐	Flooding ☐	Noise ☐	Traffic ☐
Material Ejection ☐	Display Screens ✓	Fall from Height ☐	Lifting Equipment ☐	Abrasion ☐	Slip/Trip Hazards ☐
N-I Radiation ☐	Vibration ☐	Other ✓	(please specify)		RSI

Using the list above and your knowledge of the activity, select the SIGNIFICANT hazards
Give priority to hazards where the numbers of persons at risk, probability or severity are high.

Significant Hazards Rate the hazards using the Risk Rating Analysis Matrix given in **Table 1** below. Ignore minor hazards covered by normal safe working practices.	Number of Persons at Risk	Probability	Severity	Risk Rating
Risk of burning from the hot end of a soldering iron	1	1	3	3
Risk of Solder spit	1	1	2	2
Risk of choking on fumes	1	1	2	2
Risk of electrocution	1	1	3	3
Risk of RSI from extended keyboard and mouse use	1	1	2	2
Risk of cuts from wire clippers	1	1	2	2

Substances / materials to be used: Include substances produced as a by-product and identify Risk Phrases from MSDS Resin core solder	**Risk Phrase Code:** Refer to **Table 3** / MSDS
Are less hazardous substances available? **NO**	
If 'Yes' reasons for not using them?	

Sequence of Work / Method Statement (Please use additional sheet if required)

The parts that require soldering together will be soldered first the rest of the project will be completed from a desk and will require a computer only.

Include all controls that reduce the risks from the significant hazards

Control Measures using PPE (Tick all that apply) ☑								
	Dust mask ☐	Ear protection ☐	Eye protection ☐	Gloves ☐	Harness or line ☐	Face Protection ☐	High-vis clothing ☐	Overalls/Lab Coats ☐	Respirator ☐	Safety Footwear ☐

Other PPE required (please identify or specify)	

Control Measures: Refer to **Table 2** for an interpretation of the Actions and Timescales required relative to the above individual Risk Rating/s.	**Safety Phrase Code:** Refer to **Table 4 /** MSDS
Do not breath fumes from solder Wear appropriate safety clothing to protect from solder spit Perform visual checks of the equipment to make sure there are no exposed mains connections Take precautionary measures against static discharge Take Regular breaks to avoid RSI Make sure that all potential at risk areas are clear before cutting e.g. fingers	S23 S36 S33

Relevant Regulations

(Please Tick as Applicable) ✓

COSHH Control of Substances Hazardous to Health ☐	**EAWR** Electricity at Work regs ☐	**LEV** Local Exhaust Ventilation ☐	**LOLER** Lifting Operations & Lifting Equipment regs ☐
MH Manual Handling regulations ☐	**NAWR** Noise at Work regs ☐	**PPE** Personal Protective Equipment ☐	**Radiation** Ionising & Non- ionising Radiation ☐

Skills and Competencies

Do all the persons involved in this activity have the skills and competencies required to carry out the activity? - If YES please Tick ✓

If NO please indicate below the skills and competencies to be acquired as part of the activity.
(Please use additional sheet if required)

Resources Required e.g. Plant, Equipment, Tools, etc. (Please use additional sheet if required)

Soldering iron
Wire clippers
Soldering helping hands

Emergency Procedures (Please use additional sheet if required) Contact a member of staff immediately. Green signs indicate how to contact a local first aider. For medical emergencies ring 888.	**Safety Phrase Code:** Refer to **Table 4** / MSDS

Waste Disposal Procedures (Please use additional sheet if required)

Additional Information (Please use additional sheet if required)

Date RA/MS To Be Reviewed (within 36 months of the date above)	**Date:**
Date Copy of RA/MS filed with Relevant Technical Team Leader / Advisor	**Date:**
Received / Approved By (Relevant Technical Team Leader / Advisor)	**Name:**

NOTE: Please attach any other information that you think may be relevant to this activity e.g. Handouts, Travel Arrangements, Accommodation, Site Contacts, Mobile & Landline Phone Numbers, etc.

Table 1 - Risk Rating Analysis Matrix					
	Probability (Likelihood)				
Severity (Hazard Consequence)	**1 Very Unlikely** (Freak event – No known history)	**2 Unlikely** (Unlikely sequence of events)	**3 Possible** (Foreseeable under unusual circumstances)	**4 Likely** (Easily foreseeable- Odd incident may have occurred)	**5 Very Likely** (Common occurrence – Aware of incidents)
1 Negligible (No visible injury – No pain)	**Trivial 1**	**Trivial 2**	**Acceptable 3**	**Acceptable 4**	**Acceptable 5**
2 Slight (Minor cuts, bruises – No long term effects)	**Trivial 2**	**Acceptable 4**	**Acceptable 6**	**Moderate 8**	**Moderate 10**
3 Moderate (Heavy bruising, deep flesh wound. Lost time accident)	**Acceptable 3**	**Acceptable 6**	**Moderate 9**	**Substantial 12**	**Substantial 15**
4 Severe (Lost time accidents and major injuries)	**Acceptable 4**	**Moderate 8**	**Substantial 12**	**Substantial 16**	**Intolerable 20**
5 Very Severe (Long term disability or death)	**Acceptable 5**	**Moderate 10**	**Substantial 15**	**Intolerable 20**	**Intolerable 25**

Table 2 - Interpretation of the **Actions** and **Timescales** required relative to the **Risk Rating** identified using the above Analysis Matrix.	
Risk Rating	**Action and Timescale**
Trivial 1 to 2	No action is required to deal with trivial risks and no documentary records need be kept (insignificant risk).
Acceptable 3 to 6	No further preventative action is necessary but consideration should be given to cost-effective solutions or improvements that impose minimal or no additional cost burden. Monitoring is required to ensure that the controls are maintained.
Moderate 8 to 10	Efforts should be made to reduce the risk but the costs of prevention should be carefully measured and limited. Risk reduction measures should normally be implemented within three to six months, depending on the number of people exposed to the hazard.
Substantial 12 to 16	Work should not be started until the risk has been reduced. Considerable resources may have to be allocated to reduce the risk. Where the risk involves work in progress, the problem should be remedied as quickly as possible and certainly within one to three months.
Intolerable 20 - 25	Work should not be started or continued until the risk level has been reduced. While the control measures should be cost-effective, the legal duty to reduce the risk is absolute. This means that if it is not possible to reduce the risk, even with unlimited resources, then the work must not be started or must remain prohibited.

Table 3 - Approved Risk Phrases

Risk Code	Risk Phrase
R1	Explosive when dry
R2	Risk of explosion by shock, friction, fire or other source of ignition
R3	Extreme risk of explosion by shock, friction, fire or other source of ignition
R4	Forms very sensitive explosive metallic compounds
R5	Heating may cause an explosion
R6	Explosive with or without contact with air
R7	May cause fire
R8	Contact with combustible material may cause fire
R9	Explosive when mixed with combustible material
R10	Flammable
R11	Highly flammable
R12	Extremely flammable
R14	Reacts violently with water
R15	Contact with water liberates extremely flammable gases
R16	Explosive when mixed with oxidising substances
R17	Spontaneously flammable in air
R18	In use may form flammable/explosive vapour-air mixture
R19	May form explosive peroxides
R20	Harmful by inhalation
R21	Harmful in contact with skin
R22	Harmful if swallowed
R23	Toxic by inhalation
R24	Toxic in contact with skin
R25	Toxic if swallowed
R26	Very toxic by inhalation
R27	Very toxic in contact with skin
R28	Very toxic if swallowed
R29	Contact with water liberates toxic gas
R30	Can become highly flammable in use
R31	Contact with acids liberates toxic gas
R32	Contact with acids liberates very toxic gas
R33	Danger of cumulative effects
R34	Causes burns
R35	Causes severe burns
R36	Irritating to the eyes
R37	Irritating to the respiratory system
R38	Irritating to the skin
R39	Danger of very serious irreversible effects
R40	Possible risk of irreversible effects
R41	Risk of serious damage to the eyes
R42	May cause sensitisation by inhalation
R43	May cause sensitisation by skin contact
R44	Risk of explosion if heated under confinement
R45	May cause cancer
R46	May cause heritable genetic damage
R48	Danger of serious damage to health by prolonged exposure
R49	May cause cancer by inhalation
R50	Very toxic to aquatic organisms
R51	Toxic to aquatic organisms
R52	Harmful to aquatic organisms
R53	May cause long term adverse effects in the aquatic environment
R54	Toxic to flora
R55	Toxic to fauna
R56	Toxic to soil organisms
R57	Toxic to bees
R58	May cause long term adverse effects in the environment
R59	Dangerous for the ozone layer
R60	May impair fertility
R61	May cause harm to the unborn child
R62	Possible risk of impaired fertility
R63	Possible risk of harm to the unborn child
R64	May cause harm to breastfed babies

Table 4 - Approved Safety Phrases

Safety Code	Safety Phrase
S1	Keep locked up
S2	Keep out of reach of children
S3	Keep in a cool place
S4	Keep away from living quarters
S5	Keep contents under....(specify appropriate liquid)
S6	Keep under....(specify inert gas)
S7	Keep container tightly closed
S8	Keep container dry
S9	Keep container in a well ventilated place
S12	Do not keep the container sealed
S13	Keep away from food, drink and animal feeding stuffs
S14	Keep away from....(incompatible materials identified by manufacturer)
S15	Keep away from heat
S16	Keep away from sources of ignition - No smoking
S17	Keep away from combustible material
S18	Handle and open container with care
S20	When using do not eat or drink
S21	When using do not smoke
S22	Do not breathe dust
S23	Do not breathe gas/fumes/vapour/spray(appropriate wording to be specified by manufacturer
S24	Avoid contact with the skin
S25	Avoid contact with the eyes
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S27	Take off immediately all contaminated clothing
S28	After contact with skin, wash immediately with plenty of....(specified by the manufacture)
S29	Do not empty into drains
S30	Never add water to this product
S33	Take precautionary measures against static discharge
S35	This material and its container must be disposed of in a safe way
S36	Wear suitable protective clothing
S37	Wear suitable gloves
S38	In case of insufficient ventilation, wear suitable respiratory equipment
S39	Wear eye/face protection
S40	To clean up floor and all objects contaminated by this material use...(to be specified by the manufacturer
S41	In case of fire and/or explosion do not breathe fumes
S42	During fumigation/spraying wear suitable respiratory equipment (appropriate wording to be specified)
S43	In case of fire use...(indicate the precise type of fire fighting equipment. If water increases the risk add - never use water)
S45	In case of accident or feeling unwell, seek medical advice immediately(show label where possible)
S46	If swallowed seek medical advice immediately and show this container or label
S47	Keep at temperature not exceeding....C(specified by the manufacturer)
S48	Keep wetted with.....(specified by the manufacturer)
S49	Keep only in the original container
S50	Do not mix with.....(specified by the manufacturer)
S51	Use only in well ventilated areas
S52	Not recommended for interior use on large surface areas
S53	Avoid exposure - obtain special instruction before use
S56	Dispose of this material and its container to hazardous or special waste collection point
S57	Use appropriate containment to avoid environmental contamination
S59	Refer to manufacturer/supplier for info on recovery/recycling
S60	This material and/or its container must be disposed of as hazardous waste
S61	Avoid release to the environment
S62	If swallowed, do not induce vomiting; seek medical advice immediately and show container or label