

Chemical hazards	
Are there any chemical hazards involved with this activity? If YES, please answer the following form.	Yes
Chemical Hazard Controls	
I have consulted the Victorian Department of Education's Guidance Sheet 3 Prohibited and Restricted Chemicals .	TRUE
Banned and restricted hazardous chemicals will not be used?	TRUE
No explosive reactants will be used or explosive products generated.	TRUE
I understand the risks of the practical experiment and will undertake this practical in a 'wet area'?	FALSE
I have obtained the safety data sheets for reactants and understand the accidental spillage or exposure, emergency response and first aid information?	TRUE
Quantities of flammable reactants are kept to a minimum and ignition sources are eliminated?	TRUE
All hazardous chemicals and decanted products are labelled appropriately?	TRUE
List any additional activities or equipment being undertaken/used that require an additional risk assessment to be developed	

If you answer 'False' to any of the above questions, do not carry out practical experiments until the matter has been resolved.

I will not carry out the practical experiment if extreme or high chemical risks exist.								
I have considered all chemical exposure routes of the eyes, skin, inhalation, ingestion and injection to be used and generated.								
I have located and linked all relevant MSDSs for Chemicals used in this activity. BTS MSDS Register								
List the chemicals to be used and generated. Identify key hazard information from safety data sheets, control measures to be undertaken and disposal requirements.								
	Concentration	Flamable	Gases Under Pressure	Oxidising	Corrosive	Chronic	Health Hazard	MSDS
Super Glue								https://federationuniversity.sharepoint.com/:b:/r/sites/FedUni/academic/tafe/Governance/OHS/HSIT%20group%201%20-%20BTS%20and%20Support%20Services/BTS/Plant%20and%20Chem/MSDSs/Parfix%20Super%20Glue.pdf
Acrylic Glue								https://federationuniversity.sharepoint.com/:b:/r/sites/FedUni/academic/tafe/Governance/OHS/HSIT%20group%201%20-%20BTS%20and%20Support%20Services/BTS/Plant%20and%20Chem/MSDSs/Weld-on%2016%20Solvent%20Cement.pdf
Hot Glue								https://federationuniversity.sharepoint.com/:b:/r/sites/FedUni/academic/tafe/Governance/OHS/HSIT%20group%201%20-%20BTS%20and%20Support%20Services/BTS/Plant%20and%20Chem/MSDSs/Bosch%20Hot%20Melt%20Glue%20Stick%20E2%80%93%20White_MSDS.pdf

Products								

Complete TRUE

Hazards		Exposure																																				
Identify all groups who will be exposed to risks associated with this activity as well as any staff/specialist skills required to deliver this program e.g. Chocolate may require the assistance of some lab technician and personnel trained to operate the 3d printers/CNC machine.		Program Staff	Technical Staff	Students	Teachers	Volunteers	Cleaning Staff	Other																														
Notes:		Hazards vary depending on the prototyping process used.																																				
Risk Assessment Matrix Assessing OHS Risks Risk assessments in matters of Occupational Health and Safety* are based on 2 key factors: <ul style="list-style-type: none"> The <u>severity</u> of any injury/illness resulting from the hazard(s), and The <u>likelihood</u> that the injury/illness will actually occur. 		<table border="1"> <thead> <tr> <th colspan="2" rowspan="2">Assessment of risk level based on likely severity and probability of harm</th> <th colspan="4">LIKELIHOOD</th> </tr> <tr> <th>Very Unlikely Could happen, but probably never will</th> <th>Unlikely Could happen, but very rarely</th> <th>Likely Could happen sometime</th> <th>Very likely Could happen any time</th> </tr> </thead> <tbody> <tr> <td rowspan="4">SEVERITY</td> <td>Death or permanent disability</td> <td>MEDIUM</td> <td>HIGH</td> <td>EXTREME</td> <td>EXTREME</td> </tr> <tr> <td>Long-term illness or serious injury</td> <td>LOW</td> <td>MEDIUM</td> <td>HIGH</td> <td>EXTREME</td> </tr> <tr> <td>Medical attention and short-term incapacity</td> <td>VERY LOW</td> <td>LOW</td> <td>MEDIUM</td> <td>HIGH</td> </tr> <tr> <td>First aid needed</td> <td>VERY LOW</td> <td>VERY LOW</td> <td>LOW</td> <td>MEDIUM</td> </tr> </tbody> </table>						Assessment of risk level based on likely severity and probability of harm		LIKELIHOOD				Very Unlikely Could happen, but probably never will	Unlikely Could happen, but very rarely	Likely Could happen sometime	Very likely Could happen any time	SEVERITY	Death or permanent disability	MEDIUM	HIGH	EXTREME	EXTREME	Long-term illness or serious injury	LOW	MEDIUM	HIGH	EXTREME	Medical attention and short-term incapacity	VERY LOW	LOW	MEDIUM	HIGH	First aid needed	VERY LOW	VERY LOW	LOW	MEDIUM
Assessment of risk level based on likely severity and probability of harm		LIKELIHOOD																																				
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	First aid needed	VERY LOW	VERY LOW	LOW	MEDIUM																																	

Notes:	
STEM Educator	Reviewer Comments
Students are verbally inducted into using equipment, briefed on safety points relevant to equipment being used in the session. Safe use of the equipment is demonstrated, and the safe operation is observed by supervising educators. Prototyping Operations take place in a range of different locations across the BTS site.	

Based on the Risk Assessment Matrix, identify the level of hazard.

LOW

If the initial risk is **LOW** or **VERY LOW** you do not need to complete a full Risk Assessment

Complete TRUE

Risk Identification and			
List List major hazards			
Hazards	Control	Control Type	Notes
Electrical	Specialized equipment	Substitution	Ensure work space kept neat and tidy, free from trip hazards. Compliance with BTS electrical safety procedures. Set up exclusion zones as required
Slips/trips/falls Entanglement	Electrical isolation Safe work zones	Isolation	
Temperature	Hazardous chemicals register	Administration	
Noise	Training/Induction	Administration	
Crush	Risk assessment	Administration	
Ergonomic	Hand protection	PPE	
Atmospheric	First aid kit	Administration	
Human	Eye wash	PPE	
Chemical	Enclosed footwear	PPE	
Radiation			
Shear			
Biological			
Fumes			
Food Safety			
Collision			
Other			

Risk controls				
Initial Risk Level	LOW			
Elimination	Alternate type of practical	Relocate work area	Removal of hazard	
Substitution	Alternative equipment to be utilized	Alternative chemical to be used	Specialized equipment	
Isolation	Electrical isolation	Safe work zones	Mechanical isolation	Security
	Restricted areas	Chemical storage cabinet		
Engineering	Locking	Guarding	Fume cupboard	Spill trays/ bund wall
Administration	Hazardous chemicals register	Training/Induction	Workplace inspections	Risk assessment
	Safe work procedures	Material Safety Data Sheets	Supervision	First aid kit
PPE	Eye protection	Sun Screen	Hand protection	Hearing protection
	Lab coat or apron	Face Shield/Mask	Safety footwear	Enclosed footwear
Emergency facilities	Eye wash	Spill kit		
Residual Risk Level	LOW			

Notes:

Compliance with Overarching HIRACs as specified in reference section.

Complete TRUE

Reference Documentation

List all reference documentation, HIRACs and MSDS forms applicable to this activity. If HIRAC does not already exist, the creation of a new HIRAC may be required.

HIRACS	Current HIRACs	URL
Advanced Manufacturing	Advanced Manufacturing	https://ballarattechschool.vic.edu.au/sites/default/files/2024-01/BTS_Advanced%20Manufacturing_HIRAC.pdf
Electronics	Electronics	https://ballarattechschool.vic.edu.au/sites/default/files/2024-01/BTS_Electronics_HIRAC.pdf
Hand Tools	Hand Tools	https://ballarattechschool.vic.edu.au/sites/default/files/2024-02/BTS_%20Hand%20Tools_HIRAC.pdf
PWR Tools	PWR Tools	https://ballarattechschool.vic.edu.au/sites/default/files/2024-02/BTS_PWR%20Tools_HIRAC.pdf
Food Science	Food Science	https://ballarattechschool.vic.edu.au/sites/default/files/2024-01/BTS_Food%20Science%20HIRAC_0.pdf
Adhesives	Adhesives	https://ballarattechschool.vic.edu.au/sites/default/files/2024-01/BTS_Aerosols%20Adhesives%20and%20Solvents_HIRAC.pdf
Vacuum Forming	Vacuum Forming	https://ballarattechschool.vic.edu.au/sites/default/files/2024-02/Vacuum%20FormingHIRAC.pdf
Laser Cutting Operations	Laser Cutting Operations	https://ballarattechschool.vic.edu.au/sites/default/files/2024-02/BTS_LaserCutting%20Operations_HIRAC.pdf

MSDS Forms	
Super Glue	Super Glue
Acrylic Glue	Acrylic Glue
Hot Glue	Hot Glue

Other Activities/Reference Material	

Complete	TRUE
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Sections Completed	
Risk Assessment	COMPLETE
Work Flow	COMPLETE
Chemical Hazards	COMPLETE
Hazards	COMPLETE
Controls	COMPLETE
Reference	COMPLETE

Activity Approval		
This activity has been reviewed and determined that it can be carried out safely. Where risks have been identified appropriately mitigation measures will be implemented.		Date
Completed By	Ryan Ringin, Liam Mudge	29/01/2024
Reviewed by:	0	
Reviewed by supervisor, where high risks are involved.		
Changes that need to be considered next time:		