RISK ASSESSMENT: CHEMICAL USE

FRANKSTON TECH SCHOOL

Business area:	Frankston Tech School	**Campus:**	Frankston	**Building/Room/Area:**	FR-F, Frankston Tech School	**Revision number:**	01
Leader: Diana Gilbert **Members:** Jo Dudley, Josh Neal-Kent, Carys Martin, Samantha Blair							

STEP 1 – ASSESSMENT INFORMATION

Description of activity/task:
Participants and staff may interact with a variety of chemicals, as well as various tools, equipment and utensils required to work with them, as they undertake learning experiences in Frankston Tech School, and associated spaces.

Workplace conditions:
As per Hazard Identification table (following).

Systems of work for the activity/task:
Emergency situations, existing controls, inspections, training.

Relevant past experience:

STEP 2: RISK RATING – RISK MATRIX AND DEFINITIONS						
		Consequence				
		Insignificant	Minor	Moderate	Major	Severe
Likelihood	Almost certain	Medium	High	High	Extreme	Extreme
	Likely	Medium	Medium	High	Extreme	Extreme
	Possible	Low	Medium	Medium	High	Extreme
	Unlikely	Low	Low	Medium	High	High
	Rare	Low	Low	Low	Medium	High

Likelihood
Almost certain – will occur in most circumstances when the activity is undertaken (greater than 90% chance of occurring)
Likely - will probably occur in most circumstances when the activity is undertaken (51 to 90% chance of occurring)
Possible – might occur when the activity is undertaken (21 to 50% chance of occurring)
Unlikely – could happen at some time when the activity is undertaken (1 to 20% chance of occurring)
Rare – may happen only in exceptional circumstances when the activity is undertaken (less than 1% chance of occurring)

Consequence
Insignificant – First aid treatment, minor injury, no time off work
Minor – Single occurrence of medical treatment, minor injury, no time off work
Moderate – Multiple medical treatments, non-permanent injury, less than 10 days off work
Major – Extensive injuries requiring medical treatment (e.g. surgery), serious or permanent injury/illness, greater than 10 days off work
Severe – Severe injury/illness requiring life support, actual or potential fatality, greater than 250 days off work

Risk Rating Priority for Action	**Risk acceptance guide**	**Action**	**Recommended action time frame**
Extreme	Not acceptable	Cease or isolate source of risk Implement further risk controls Monitor, review and document controls	Immediate Up to 1 month ongoing
High	Generally (in most circumstances) not acceptable	Implement risk controls if reasonably practicable Monitor, review and document controls	1 to 3 months ongoing
Medium	Generally (in most circumstances) acceptable	Implement risk controls if reasonably practicable Monitor, review and document controls	3 to 6 months Ongoing
Low	Acceptable	Monitor and review	Ongoing

STEP 3 – HAZARDS AND ASSOCIATED RISK RATINGS AND CONTROLS

Hierarchy of Control (Control Type)

A – Administrative El – Elimination En – Engineering	G – Guarding H – Health Monitoring In – Inspection	Is – Isolation M – Monitoring P – PPE	S – Substitution Sh – Shielding T – Training

Definitions

Equipment
Items, often powered (electrical, digital, or mechanical), that support or enable a task or process. Equipment is usually fixed in place or requires setup/operation, and may be shared by multiple users.
Examples: 3D printers, laser cutters, VR headsets, microscopes, ovens, computers.

Tools
Items used to carry out a specific making task, either powered (electric, battery) or hand-operated.
Examples: screwdrivers, soldering irons, drills, jigsaws, pliers, scalpels, stationary.

Utensils
Simple, hand-operated items, predominantly used in scientific experiments.
Examples: stirring rods, beakers.

Frankston Tech School Staff
Any staff member of Frankston Tech School.

Facilitators
Frankston Tech School teaching staff.

Accompanying Staff
Any person who regularly holds duty of care for the attending participants.
Examples: School teacher, lecturer/tutor, coordinator.

Participants
Anyone attending a program at Frankston Tech School, who isn't Frankston Tech Schol Staff or an Accompanying Staff.

PHYSICAL HAZARD IDENTIFICATION					
Hazard	**Cause**	**Inherent Risk Score**	**Control Type**	**Control Description**	**Residual Risk Score**
Slip, Trip, or Fall	Spills of solutions, mixtures or materials	Low	En, M	• Spills of mixtures or materials are cleaned immediately. Brooms and mops are available, or cones and markers are used to identify potential hazards. • Light levels are controlled and adjusted by Facilitators to ensure clear visibility of potential hazards. • Spills that occur in other parts of Frankston Tech School that Facilitators are made aware of, will be escalated to Operational Staff.	Low
Cut, Stab, or Puncture	Improper use of equipment, tools and utensils.	Low	M, T	• Facilitators monitor participant behavior in the space. • All participants are advised not to swing on the chairs or climb on or over furniture.	Low
	Equipment, tools or utensils that are not in good working quality (damaged parts, electrical components etc).	Low	El, In	• Facilitators inspect all equipment before use. • Where glass implements are used in workshops, they are to be toughened glass (eg. pyrex).	Low
	Sharp (known) elements of equipment, tools or utensils.	Low	M, T	• Facilitators demonstrate and encourage safe use of equipment, tools and utensils for Participant use, with hazards identified and communicated. • Participants are issued with written instruction on how to use relevant equipment, tools and utensils. • Facilitators and Accompanying Staff monitor Participants while using equipment, tools and utensils.	Low
	Moving parts of electronics (equipment and/or tools)	Low	M, T	• Facilitators demonstrate and encourage safe use of equipment, tools and utensils for Participant use, with hazards identified and communicated. • Participants are issued with written instruction on how to use relevant equipment, tools and utensils. • Facilitators and Accompanying Staff monitor Participants while using equipment, tools and utensils.	Low
Struck, Crush, Pinch, or Entanglement	Falling large equipment.	Low	En, A	• Where possible, large pieces of equipment are kept on slip-resistant mats (if they do not have slip-resistant footings of their own). • Where appropriate, freestanding equipment should be weighed down. • Participants are instructed not to move large pieces of equipment.	Low
	Moving parts of electronics (equipment and/or tools)	Low	M, T	• Facilitators demonstrate and encourage safe use of equipment, tools and utensils for Participant use, with hazards identified and communicated. • Participants are issued with written instruction on how to use relevant equipment, tools and utensils. • Facilitators and Accompanying Staff monitor Participants while using equipment, tools and utensils.	Low

PHYSICAL HAZARD IDENTIFICATION					
Hazard	**Cause**	**Inherent Risk Score**	**Control Type**	**Control Description**	**Residual Risk Score**
	Hair, loose item, or jewellery caught in moving parts.	Low	Is M	• Where possible, moving parts are to be inaccessible/enclosed away to minimise the opportunity of elements being caught in them. • When not possible, long hair, loose items or jewellery items are to be tied back or removed. • Facilitators are vigilant to ensure that there are no loose objects that can be caught in moving parts.	Low
Burn	Improper use of equipment, tools and utensils with heating elements.	Med	M, T	• Facilitators demonstrate and encourage safe use of equipment, tools and utensils for Participant use, with hazards identified and communicated. • Participants are issued with written instruction on how to use relevant equipment, tools and utensils. • Facilitators and Accompanying Staff monitor Participants while using equipment, tools and utensils. • Participants are not permitted to use any powered equipment for the purposes of heating without the relevant instruction and training. • Equipment with a high likelihood of injury is reserved for use by Facilitators. This is communicated to participants. • Tools and containers that are heated are not provided to Participants until at a safe touch temperature. • Running water station and first-aid kit available for treatment of burns, cuts, and general injuries.	Low
	Overheated equipment or tools.	Low	In, M	• Equipment and tools are periodically inspected according to a cyclical maintenance schedule, to ensure proper working order. • Devices are to be regularly tested and tagged following Chisholm testing and tagging policy. • Running water station and first-aid kit available for treatment of burns, cuts, and general injuries.	Low

ENVIRONMENTAL HAZARD IDENTIFICATION					
Hazard	**Cause**	**Inherent Risk Score**	**Control Type**	**Control Description**	**Residual Risk Score**
Distress and Injury	Exposure to loud or sustained noise from equipment and/or tools.	Low	M, En	• Doors to spaces can be closed to minimise noise from the communal areas. • Any audio content used in workshops is checked for its volume before presentation. • Participants are offered the opportunity to step outside if discomfort becomes too high.	Low

CHEMICAL HAZARD IDENTIFICATION					
Hazard	**Cause**	**Inherent Risk Score**	**Control Type**	**Control Description**	**Residual Risk Score**
Poisoning	ingestion of chemicals	Med	M, T	• RiskAssess to be used to prepare risk assessments for scientific experiments. • Facilitators demonstrate and encourage safe procedures, with hazards identified and communicated in a safety briefing. • Signage in laboratory for hazardous chemicals. • Facilitators and Accompanying Staff monitor Participants while using chemicals, equipment, tools and utensils.	Low

Skin irritation or chemical burns	injury from splashes or exposure to chemicals.	Med	S, PPE	• Where possible, non-toxic alternatives to materials are used.
				• Appropriate PPE is identified and provided including:
				  ○ Lab coats for activities including chemicals and/or solutions.
				  ○ Protective gloves.
					Low

Eye injury	Eye injury from splashes or exposure to chemicals.	Med	S, PPE	• Where possible, non-toxic alternatives to materials are used. • Appropriate PPE is identified and provided including: ○ Protective glasses • Eye wash kits available in lab.	Low

Respiratory Complication	Exposure to small inhalants (dust, fumes etc.) created through *making* activities.	Med	A, EI, PPE, S	• Accompanying Staff are required to provide any known allergen information in advance of the learning experience.
				• Any identified allergens will be removed from programming.
				• Where possible, non-toxic alternatives to materials are used.
				• Appropriate PPE is identified and provided including:
				  ○ Lab coats for activities including chemicals and/or solutions.
				  ○ Masks for activities including off-gassing, fumes, or dust etc.
				  ○ Protective gloves.
					Low

	Interaction with heated solutions or mixtures.	Med	M, T	• RiskAssess to be used to prepare risk assessments for scientific experiments. • Facilitators demonstrate and encourage safe procedures, with hazards identified and communicated in a safety briefing. • Facilitators and Accompanying Staff monitor Participants while using equipment, tools and utensils. • Any heated solutions or mixtures are not provided to Participants until at a safe touch temperature. • Running water station and first-aid kit available for treatment of burns, cuts, and general injuries.	Low

CHEMICAL HAZARD IDENTIFICATION					
Hazard	**Cause**	**Inherent Risk Score**	**Control Type**	**Control Description**	**Residual Risk Score**

Allergic Reaction or Anaphylaxis	Exposure to adhesives, chemicals and/or solutions.	Med	A, El, PPE, S	• Accompanying Staff are required to provide any known allergen information in advance of the learning experience.
				• Any identified allergens will be removed from programming.
				• Where possible, non-toxic alternatives to materials are used.
				• Appropriate PPE is identified and provided including:
				  ○ Lab coats for activities including chemicals and/or solutions.
				  ○ Masks for activities including off-gassing, fumes, or dust etc.
				  ○ Protective gloves.
				• General use EpiPens in first aid kits are located in the Frankston Tech School First Aid Room.
					Low

Accidental mixing or exposure	Improper storage of chemicals causing mixing or exposure	Low	A, Is	• Chemicals stored in labelled containers. • Hazardous chemicals are stored in a lockable Hazardous Materials cabinet. • Material Safety Data Sheets (MSDS) for each chemical are accessible in a folder in the staffroom.	Low

BIOLOGICAL HAZARD IDENTIFICATION					
Hazard	**Cause**	**Inherent Risk Score**	**Control Type**	**Control Description**	**Residual Risk Score**
Infection or illness	Exposure to elements in soil	Low	A, El, PPE	• RiskAssess to be used to prepare risk assessments for scientific experiments. • Facilitators demonstrate and encourage safe procedures, with hazards identified and communicated in a safety briefing. • Plants are grown in a growing medium that is sterile. Students will not handle soil. • Hand washing and cleaning stations are provided for Participants. • Facilitators instruct Participants to wash hands following any handling of growing mediums.	Low
	Exposure to elements in seawater	Low	A, T	• RiskAssess to be used to prepare risk assessments for scientific experiments. • Facilitators demonstrate and encourage safe procedures, with hazards identified and communicated in a safety briefing. • Hand washing and cleaning stations are provided for Participants. • Facilitators instruct Participants to wash hands following any handling of growing mediums.	Low

BIOLOGICAL HAZARD IDENTIFICATION					
Hazard	**Cause**	**Inherent Risk Score**	**Control Type**	**Control Description**	**Residual Risk Score**

Allergic Reaction or Anaphylaxis	Exposure to workshop materials, including organic matter.	Med	A, El, PPE, S	• Accompanying Staff are required to provide any known allergen information in advance of the learning experience.
				• Any identified allergens will be removed from programming.
				• Where possible, non-toxic alternatives to materials are used.
				• Appropriate PPE is identified and provided including:
				  ○ Lab coats for activities including chemicals and/or solutions.
				  ○ Masks for activities including off-gassing, fumes, or dust etc.
				  ○ Protective gloves.
				• General use EpiPens in first aid kits are located in the Frankston Tech School First Aid Room.
					Low

ELECTRICAL HAZARD IDENTIFICATION					
Hazard	**Cause**	**Inherent Risk Score**	**Control Type**	**Control Description**	**Residual Risk Score**
Electrocution or Electric Shock	Damaged equipment or tools.	Med	In	• Facilitators inspect all equipment before use.	Low
	Damaged or incorrectly installed cabling to equipment or tools.	Med	In	• Facilitators inspect all equipment before use. • Devices are to be regularly tested and tagged following Chisholm testing and tagging policy. • Cables that are not frequently tested and tagged will be cyclically inspected to ensure that they are free from damage and removed from usage if they are.	Low
	Spills of liquids onto electrical equipment.	Low	M	• Participants are required to have drink bottles with closeable openings, if they are to be used in spaces with electrical equipment or tools. • Open cups of water etc. are not to be used on tabletops where electrical equipment is in use. This will be monitored by Facilitators and Accompanying Staff. • The above is communicated to Participants.	Low

STEP 4 – IMPLEMENTATION AND CONSULTATION PROCESS	
- Determine the person responsible for reviewing and implementing the risk assessment including the identified controls. - Ensure a **Health & Safety: Action Plan** has been completed, reviewed and signed off where proposed controls have been identified. - Obtain the authorisation of the management representative. - Ensure the HSR (if applicable) has been consulted. Ensure the employees undertaking the activity have been consulted. Record below the names of the persons consulted.	
Management representative	Diana Gilbert
HSR/Employee representative	To Be Elected
Employee(s)	Operations Coordinator, STEAM Technician, Head of Programs, STEAM Teachers
Person Responsible for implementation or escalation	Diana Gilbert