

Safety Documentation

Please select the forms you require by selecting the check boxes below.
You can select more than one.

Method Statement

Risk Assessment

Chemicals COSHH

Once you have made your selections, scroll down and complete the forms.

Buttons: [+] will add a row to a list [-X] will delete a row from a list

You may save this file to a local drive at any time.

When you have finished, save the file to a local drive and email it to your supervisor for authorisation.

Supervisors - There is a sign-off section at the end of the document set that must be completed.

Staff may "self authorise", (as a supervisor), but the forms must still be submitted to the DSO for approval.

IMPORTANT:

YOU **MUST NOT** START ANY PRACTICAL WORK UNTIL THESE FORMS HAVE BEEN RETURNED TO YOU
WITH **BOTH** YOUR SUPERVISOR's AND DSO's APPROVAL SIGNATURES ATTACHED.

Please complete these fields

School or Service	School of Aeronautical, Automotive, Chemical and Materials Engineering
Department	Department of Materials
Originator name	Nimisha Jemon
email address	n.jemon-20@student.lboro.ac.uk
Location	Wolfson TW0.11
Project / Activity / Task	Testing of Porcine Aortas and Device Prototypes
Supervisor Name	Sotiris Korossis

Reference SAF/MEME/7844

Location Wolfson TW0.11

Originator Nimisha Jemon

Project / Activity / Task Testing of Porcine Aortas and Device Prototypes

What equipment will be used in this activity?

	+
Instron tensile testing machine	X
Ruler	X
Forceps	X
Dissection Tray	X
Sterilin™ Polystyrene containers	X
Polypropylene Round Buckets with Plastic Handle - 5.6L	X
Disposable scalpel	X
Disposable single unit scalpels	X
Chemgene wipes	X
Tensile Testing rig	X
Scissors	X

What training must be completed to do this activity?

	+
Use of Instron machine for mechanical testing	X
Sharps use	X
Biological spill response	X
Decontamination and disposal of biological waste	X
Hand tools use	X

What chemicals are being used? (These must be included in the COSHH Form)

	+
1% Virkon solution	X
70% IMS	X
Chemgene	X
Phosphate Buffer Solution (PBS)	X
Penicillin-Streptomycin	X

Spill and accident procedures.

	+
Container with 1% Virkon solution	X

Procedure in the event of an emergency. (How to leave the process in a safe condition in such an event)

	+
Dispose of scalpels in sharps bin	X
Put aortic tissue in a container with PBS	X
Dispose contaminated gloves	X
Leave note with name of operator and state not to move anything from the area	X

Safety Method Statement (Continued)

If fire alarm sounds continuously, make equipment safe then evacuate the building. Only return when informed that it is safe to do so	X
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References.

CBE code of practice, SOP003, SOP037, SOP038	+
	X

Detailed sequential description of the process

Process step	Precautionary measures and comments	
Wear PPE mentioned below	Check if PPE is damaged and replace if necessary.	X
Put in a container 1% Virkon	Pour solutions with care avoiding spillages. If there is a spillage, follow SOP038.	X
Prepare dissection tray	Put some absorbent paper towel underneath the tray.	X
Remove samples from its storage container using forceps	Avoid spillages.	X
Place tissue or printed prototype on the dissection tray	Be cautious so that the tissue will not slip from your hands.	X
Cut the tissue or printed scaffold using a pair of scissors, so you can place it as a membrane on the dissection tray	Be cautious using scissors	X
Cut the tissue or printed scaffold using scissors or a scalpel, depending on the user's convenience, to the desired dimensions	Do not cross hands to avoid cutting or puncturing yourself. Use disposable single unit scalpels and open sheath from the side of the handle. If disposable single unit scalpels are not available, place the scalpel on the handle maintaining the scalpel in the protective sheath. In any case, wear cut-resistant glove level 5 on hand that does not hold the scalpel.	X
Loosen the screws of the holder and place the cut tissue or printed scaffold in place.	Be careful not to lose the screws.	X
Place the screws back in the holder and place the holder on the testing machine.	Be careful not to damage the machine.	X
Loosen the screws of the holder that are required for the testing to commence.	Be careful not to damage the machine.	X
Put down the protective guard and test the samples according to the machine SOP	Do not initiate testing without putting the guard down. Make sure no one has their hands near the testing area to avoid crushing them.	X
After the end of the test, put the guard up and remove holder.		X
Remove the sample from holder and prepare the holder to be used again.	Be careful not to drop the tissue. In case of an accident disinfect the area.	X
Immerse used animal tissue sample in 1% Virkon solution overnight.	According to CBE code of practice and SOP003.	X
Repeat steps 6-11		X
At the end of the procedure discard the scalpels in sharps bin.	Put the disposable single unit scalpel in the bin placing the blade part in first. Otherwise, use scalpel blade remover to remove blade from handle and dispose it in sharps bin.	X
If there are no more samples to use. Disinfect holder, scissors and dissection tray briefly with 1% Virkon, wash with water, then clean using Chemgene wipe and finally, clean using 70% IMS.	According to CBE code of practice and SOP003.	X
Put all contaminated gloves and tissues in yellow bag for disposal.	According to SOP003.	X
The next day dispose tissue left in 1% Virkon in yellow bag and pour Virkon down the sink.		X

Safety Method Statement (Continued)

Process step	Precautionary measures and comments	+
		X
		X
		X
		X
		X
		X
		X
		X

Risk Assessment

Reference

Location

Originator

Project / Activity / Task

Is this process risk assessment for a : Laboratory / Workshop General use Event

Category 1: Machinery & work equipment:				
Design and Construction	Mechanical hazards	Electrical hazards	Radiation hazards	
N/A	Crushing	Electrical test cables current	N/A	+
N/A	Cutting/Shearing	N/A	N/A	X
Category 2: Workplace				+
Confined work area (striking objects)				X
Category 3: Hazardous and/or Harmful substances				+
Irritant substances				X
Category 4: Work activity				+
Use of hand tools				X
Category 5: Work organisation				+
N/A				X

Explain the risks associated with these hazards				
People / Groups at risk	<input type="text" value="Operator only"/>			X
Enter risk details here:-	Impact	Probability	Risk Score	
<input type="text" value="Crushing hands while test is running"/>	<input type="text" value="Very Harmful"/>	<input type="text" value="Unlikely"/>	High	
What are the control measures?	Lowers Impact	Lowers Probability	+	
<input type="text" value="Wear PPE
Bring down the protective guard/safety shield of the machine ensure that hands are clear before activating
Be aware of trap/pinch points
Know engineered safety controls including E stop
Receive training from Technical support in the lab in the correct use of the Instron and the safe mounting of samples"/>	Significantly	Significantly	X	
			Residual Risk	
			<input type="text" value="Low"/>	
People / Groups at risk	<input type="text" value="Operator only"/>			X

Process Risk Assessment Form (Continued)

Enter risk details here:- Cut wounds that can lead to infection and nerve damage	Impact Very Harmful	Probability Unlikely	Risk Score High
What are the control measures?	Lowers Impact	Lowers Probability	+
Wear Cut-resistant gloves - level 5 Be trained in correct dissection techniques	Significantly	Significantly	x
			Residual Risk Low
People / Groups at risk	Operator and people in proximity		x
Enter risk details here:- Aerosols from disinfectants	Impact Harmful	Probability Likely	Risk Score High
What are the control measures?	Lowers Impact	Lowers Probability	+
Wear lab PPE suitable for testing purposes - include nitrile gloves, lab coat, goggles - if necessary FFP2 face mask	Significantly	Significantly	x
			Residual Risk Low
People / Groups at risk	Operator and people in proximity		x
Enter risk details here:- Slips trips and falls on the level	Impact Slightly Harmful	Probability Unlikely	Risk Score Low
What are the control measures?	Lowers Impact	Lowers Probability	+
Keep working area clear and tidy Remove potential trip hazards from the floor Clean any spills up immediately utilising absorbent materials and recommended disinfectants etc.	Slightly	Moderately	x
			Residual Risk Low
People / Groups at risk	Operator only		x
Enter risk details here:- Electric shock	Impact Slightly Harmful	Probability Unlikely	Risk Score Low
What are the control measures?	Lowers Impact	Lowers Probability	+
Instron to be within current PAT inspection date Visual inspection of cables and connectors for wear or damage prior to use	Moderately	Slightly	x
			Residual Risk Low
+ Add another Risk			

Who may be at risk as a result of this activity?

Personnel Group	Maximum (Task setup/ Re-configuration)	High (Performing the task)	Medium (Observing the task)	Low (Present, but not involved)	Lone Working (Out of hours)	No Exposure Permitted	Total
Academic Staff	1	0	0	0	0	0	1

Process Risk Assessment Form (Continued)

Personnel Group	Maximum (Task setup/ Re-configuration)	High (Performing the task)	Medium (Observing the task)	Low (Present, but not involved)	Lone Working (Out of hours)	No Exposure Permitted	Total
Technical Staff	1	0	0	0	0	0	1
Research Staff (PDRA)	0	0	0	0	0	0	0
Research Students (PhD)	0	0	0	0	0	0	0
Students (Undergraduate / MSc)	0	1	0	0	0	0	1
Visitors	0	0	0	0	0	0	0
Others - Over-type as needed	0	0	0	0	0	0	0
Total	2	1	0	0	0	0	3

With these controls in place, the risk is:

The activity is LOW RISK - and is effectively controlled


COSHH Form

Reference

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CHEMICAL NAME						Hazard Rating <input type="text" value="High"/>		OVERALL RISK: <input type="text" value="Medium"/>
<input type="text" value="Penicillin/Streptomycin"/>		Amount used	Period of use (hrs)	The process is:	Physical State	<input type="checkbox"/> Eyes <input checked="" type="checkbox"/> Skin <input type="checkbox"/> Inhaled <input checked="" type="checkbox"/> Ingested	Exposure Potential <input type="text" value="Low"/>	
CAS No. <input type="text" value="Penicillin/Streptomycin"/>		<input type="text" value="5"/> <input type="text" value="ml"/>	<input type="text" value="48"/>	<input type="text" value="Closed"/>	<input type="text" value="Non-Volatile Liquid"/>			
W.E.L. (Itel / stel) <input type="text"/>								

This chemical has a high health risk associated with it.

Hazard Statement and Description	Precaution Statement and Description	+
<input type="text" value="H302 Harmful if swallowed."/>	<input type="text" value="P280 Wear protective gloves/protective clothing/eye protection/face protection."/>	x
<input type="text" value="H317 May cause an allergic skin reaction."/>	<input type="text"/>	x
Justify the use of this chemical:	Penicillin-Streptomycin is used in saline to inhibit bacterial contamination. If the tissues get contaminated, they will have to be disinfected and discarded without being used for assessment.	
How will the precautions listed above be implemented?		
Wear PPE: Nitrile gloves, lab coat and goggles		
Special Storage and Containment Measures	Disposal Method	+
<input type="text" value="Store in fridge at 0-4°C for short of period of time or in freezer at -20°C for prolonged period of time."/>	<input type="text" value="Aqueous waste - Check with Technician or Supervisor"/>	x
How will spillages be dealt with?	<i>Please note: any material used to clean up a spill of hazardous material must also be disposed of as hazardous material. Click here to see spill procedures</i>	
<input type="text" value="Absorbent cloth/tissue"/>		

+ Add another chemical

Statement of work (Process to be undertaken)

The tissues or printed scaffolds will not get contaminated with bacteria and can be used for further assessment. The PBS containing 1% penicillin /streptomycin is going to be prepared by the designated research associate in CBE, room H25.

Show image

Personal protection requirements not covered in the precaution statements above.

Sources of information and references

Reference to **existing approved** Risk Assessment

With the current controls, the risk of using these chemicals is: Medium

Supervisor to check that the process involving the safe use of these chemicals has been satisfactorily evaluated

Supervisor and Departmental Safety Office (DSO) Sign-off.

Supervisors

Please check the documents above and if you want to approve them:

- 1) Electronically sign this document
- 2) Save it to a local drive (You will be prompted to do this)
- 3) eMail the signed document to the DSO.

DSO

Please review the documents above and if you want to approve them:

- 1) Enter the reference numbers as appropriate
- 2) Electronically sign this document
- 3) Save it to a local drive (You will be prompted to do this)
- 3) eMail the signed document to the originator

IF YOU DO NOT WANT TO AUTHORISE THE FORMS,

Please do not sign the form, but click the "Not Approved" check-box and return it to the originator by email stating why and what you expect them to do to put it right in the comments box below.

Not Approved

Supervisors Signature

Form Reference Numbers

Risk Assessment

SAF/MEME/7844

Method Statement

SAF/MEME/7844

COSHH Assessment

SAF/MEME/2077

DSO Signature

This document set must be reviewed and re-approved at the following times:

- 1) After the first occurrence of the activity described above (Review only)
- 2) After any change to the procedure or reagents used
- 3) After any incident resulting from this activity
- 4) At least annually from the date of approval

Next Review:

21 Nov 2024

Review comments