

Safety Documentation

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

Risk Assessment **Method Statement** **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	Wolfson School of Mechanical, Electrical and Manufacturing Engineering
Department	
Originator name	Hugo Bell
email address	h.bell@lboro.ac.uk
Location	H27 Centre of Biological Engineering
Project / Activity / Task	Compatibility of Ti-based Scaffolds - Fixing Scaffolds with PFA 4%
Supervisor Name	Dr Carmen Torres Sanchez

Risk Assessment

Reference

Location

Originator

Project / Activity / Task

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

Category 1: Machinery & work equipment:				
Design and Construction	Mechanical hazards	Electrical hazards	Radiation hazards	
N/A	N/A	N/A	N/A	+
Category 2: Workplace				
N/A				+
Category 3: Hazardous and/or Harmful substances				
Cancer causing substances				+
Sensitising substances				+
Irritant substances				+
Category 4: Work activity				
N/A				+
Category 5: Work organisation				
N/A				+

Explain the risks associated with these hazards

People / Groups at risk	<input type="text" value="Operator and people in proximity"/>		+
Enter risk details here:-	Impact	Probability	Risk Score
<input type="text" value="Inhalation and Ingestion"/>	<input type="text" value="Harmful"/>	<input type="text" value="Unlikely"/>	Medium
What are the control measures?	Lowers Impact	Lowers Probability	+

Process Risk Assessment Form (Continued)

<p>If inhaled, immediately move either yourself, or person of interest into fresh air. Ensure the containing bottle is opened and closed under the fume hood cupboard.</p> <p>If ingested, immediately clean mouth with water, and drink plenty of water afterwards.</p> <p>If not breathing, or if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention following exposure or if feeling unwell. If necessary, call a hospital or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.</p>		Significantly	Significantly	x		
				Residual Risk		
				Low		
People / Groups at risk		Operator and people in proximity			x	
Enter risk details here:-		Impact	Probability	Risk Score		
Skin and Eye Contact		Slightly Harmful	Highly Unlikely			
What are the control measures?		Lowers Impact	Lowers Probability	+		
<p>Ensure the correct PPE is worn: Lab-coat, Goggles, Shoe Covers, Lab Gloves.</p> <p>In case of skin contact, remove contaminated PPE immediately. Wash off with soap and plenty of water. Take victim (either operator or people in proximity) to the hospital and consult a physician.</p> <p>In case of eye contact, immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for, and remove any contact lenses. Continue to rinse for at least 15 minutes. Get medical attention following exposure or if feeling unwell. If necessary, call a physician.</p>		Significantly	Significantly	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	0	0	1	0	0	0	1
Technical Staff	0	0	0	1	0	0	1
Research Staff (PDRA)	0	0	1	0	0	0	1
Research Students (PhD)	2	0	0	0	0	0	2
Students (Undergraduate / MSc)	0	0	0	0	0	1	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
Visitors	0	0	0	0	0	1	1
Others - Over-type as needed	0	0	0	0	0	0	0
Total	2	0	2	1	0	2	7

With these controls in place, the risk is:

The activity is LOW RISK - and is effectively controlled

Safety Method Statement

Reference

Location

Originator

Project / Activity / Task

What equipment will be used in this activity? +

Pipette (and tips), PBS	X
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What training must be completed to do this activity? +

CBE Training (Completed)	X
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What chemicals are being used? (These must be included in the COSHH Form) +

Paraformaldehyde	X
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Spill and accident procedures. +

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable closed container for disposal. As detailed in SOP039. Remove from all sources of ignition	X
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Procedure in the event of an emergency. (How to leave the process in a safe condition in such an event) +

Seal container and leave in the fume hood, with the extraction turned on. Label clearly any working solutions that have been used.	X
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References. +

SOP039 and SDS	X
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Detailed sequential description of the process

Process step	Precautionary measures and comments	+
Prior to IHC analysis, Cells cultured on scaffolds are set in a 24/48 multi-well plate and washed with PBS. After this step, 500mL of 4% paraformaldehyde solution is added to each well.	Work is to be carried out under the chemical fume hood. Dispose the tips in the purple plastic box for cytotoxic hazardous materials and seal it. Avoid spillages	X
Move the 24/48 multi-well plate in the fridge (4oC), leave overnight.	Seal the 24/48 multi-well plate with para-film and wrap it in aluminum foil . Label the plate with your initials and date. Also label with "DO NOT MOVE OR OPEN THIS PLATE. CONTAINS 4% PFA SOLUTION". Thus informing people in proximity of the hazards involved with storage material	X




COSHH Form

 Reference

 Location

 Originator

 Project / Activity / Task

CHEMICAL NAME				Hazard Rating		OVERALL RISK: Low
<input type="text" value="PFA Solution"/>	  			<input type="text" value="High"/>		
CAS No. <input type="text" value="30525-89-4"/>	Amount used	Period of use (hrs)	The process is:	Physical State	<input checked="" type="checkbox"/> Eyes <input checked="" type="checkbox"/> Skin <input type="checkbox"/> Inhaled <input type="checkbox"/> Ingested	Exposure Potential <input type="text" value="Low"/>
W.E.L. (l/ tel / stel) <input type="text"/>	<input type="text"/> g	<input type="text"/>	<input type="text" value="Semi Closed"/>	<input type="text" value="Non-Volatile Liquid"/>		

This chemical has a high health risk associated with it.

Hazard Statement and Description	Precaution Statement and Description	
<input type="text" value="H351 Suspected of causing cancer."/>	<input type="text" value="P201 Obtain special instructions before use."/>	X
<input type="text" value="H317 May cause an allergic skin reaction."/>	<input type="text" value="P202 Do not handle until all safety precautions have been read and understood."/>	X
<input type="text" value="H318 Causes serious eye damage."/>	<input type="text" value="P281 Use personal protective equipment as required."/>	X
<input type="text"/>	<input type="text" value="P280 Wear protective gloves/protective clothing/eye protection/face protection."/>	X
<input type="text"/>	<input type="text" value="P261 Avoid breathing dust/fume/gas/mist/vapours/spray."/>	X
<input type="text"/>	<input type="text" value="P264 Wash hands thoroughly after handling."/>	X
<input type="text"/>	<input type="text" value="P272 Contaminated work clothing should not be allowed out of the workplace."/>	X
<input type="text"/>	<input type="text" value="P308 + P313 IF exposed or concerned: Get medical advice/attention."/>	X
<input type="text"/>	<input type="text" value="P302 + P352 IF ON SKIN: Wash with plenty of soap and water."/>	X
<input type="text"/>	<input type="text" value="P363 Wash contaminated clothing before reuse."/>	X
<input type="text"/>	<input type="text" value="P332 + P313 If skin irritation occurs: Get medical advice/attention."/>	X
<input type="text"/>	<input type="text" value="P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing."/>	X
<input type="text"/>	<input type="text" value="P338 Remove contact lenses, if present and easy to do. Continue rinsing."/>	X
<input type="text"/>	<input type="text" value="P310 Immediately call a POISON CENTER or doctor/physician."/>	X
<input type="text" value="Justify the use of this chemical:"/>	<input type="text" value="PFA is the only chemical which will ensure a complete fixation of biological samples for immunohistochemical analysis. The quantity used is limited to 4% PFA solution (diluted in PBS) and a small amount of this chemical is therefore used."/>	
<input type="text" value="How will the precautions listed above be implemented?"/>		
<input type="text" value="Wear the correct PPE. Avoid breathing in vapour, mist or gas. Ensure adequate ventilation. Work under the Chemical Fume hood. Use small aliquots. Avoid spillages. Keep the work surface clean and organized."/>		
Special Storage and Containment Measures	Disposal Method	
<input type="text" value="Store in a cool place. Ensure the containers is tightly closed, and stable, in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage."/>	<input type="text" value="Check with Technician / Supervisor - dispose of waste in separate container (50mL falcon), labeled correctly and disposed of properly according to SOP039"/>	X

COSHH Form (Continued)

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>
Refer to SOP039 - Section 5.10 Dealing with Chemical Spills	

[+ Add another chemical](#)

Statement of work (Process to be undertaken)

Fixation of Biological Samples

[Show Image](#)

Personal protection requirements not covered in the precaution statements above.

Eye/Face Protection, Gloves, Lab Coat

Sources of information and references

SDS from ThermoFisher website (PDF enclosed)

Reference to **existing approved** Risk Assessment

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

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

Method Statement

COSHH Assessment

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:

14/02/2021

Review comments