

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	Jialin Dong
email address	j.dong@lboro.ac.uk
Location	H25 Garendon Wing, Holywell Park
Project / Activity / Task	Haemocompatibility of Laser-Textured Stainless Steel
Supervisor Name	Dr Yang Liu; Dr Manuela Pacella

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	Electrical test cables current	Heat(Inc. IR)	+
Category 2: Workplace				+
Localised hot surfaces				X
Category 3: Hazardous and/or Harmful substances				+
Flammable substances				X
Irritant substances				X
Toxic substances				X
Corrosive substances				X
Sensitising substances				X
Cancer causing substances				X
Category 4: Work activity				+
N/A				X
Category 5: Work organisation				+
N/A				X

Explain the risks associated with these hazards

People / Groups at risk	<input type="text" value="Everyone in the room"/>			X
Enter risk details here:-	Impact	Probability	Risk Score	
<input type="text" value="Flammable substances"/>	<input type="text" value="Harmful"/>	<input type="text" value="Likely"/>	High	
What are the control measures?	Lowers Impact	Lowers Probability	+	
<input type="text" value="Keep the chemicals in special cupboard for flammables"/>	<input type="text" value="Significantly"/>	<input type="text" value="Significantly"/>	X	
<input type="text" value="Do not have sources of ignition around the chemicals"/>	<input type="text" value="Significantly"/>	<input type="text" value="Significantly"/>	X	
<input type="text" value="Keep/store the pots with chemicals on spill trays"/>	<input type="text" value="Significantly"/>	<input type="text" value="Significantly"/>	X	

Process Risk Assessment Form (Continued)

							Residual Risk
							Low
People / Groups at risk: Operator only							X
Enter risk details here:- Irritant, sensitising, toxic and cancer causing chemicals		Impact Very Harmful	Probability Unlikely	Risk Score High			
What are the control measures?		Lowers Impact	Lowers Probability	+			
Use only in fume hood		Slightly	Moderately	X			
Wear appropriate PPE-lab coat and gloves		Slightly	Moderately	X			
Keep/store the pots with chemical on spill trays or in specific storage cupboard		Slightly	Moderately	X			
Appropriately label the pots with the chemicals		Slightly	Moderately	X			
							Residual Risk
							Low
People / Groups at risk: Operator and people in proximity							X
Enter risk details here:- Fumes and vapours		Impact Harmful	Probability Unlikely	Risk Score Medium			
What are the control measures?		Lowers Impact	Lowers Probability	+			
Fume cabinet must be within current LEV inspection date Investigator must be trained in the safe use of the fume cabinet		None	Moderately	X			
							Residual Risk
							Low
People / Groups at risk: Everyone in the room							X
Enter risk details here:- Possible exposure to Covid		Impact Harmful	Probability Unlikely	Risk Score Medium			
What are the control measures?		Lowers Impact	Lowers Probability	+			
Adhere to current national, LU and local Covid guidelines. Ventilate areas Respect social distancing Wash or sanitise hands on a regular basis		None	Moderately	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	1	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
Research Staff (PDRA)	0	0	0	1	0	0	1
Research Students (PhD)	0	1	0	1	0	0	2
Students (Undergraduate / MSc)	0	0	1	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	0	1	3	2	0	0	6

With these controls in place, the risk is:

The activity is LOW RISK - and is effectively controlled

Safety Method Statement

 Reference SAF/MEME/7128

 Location H25 Garendon Wing, Holywell Park Originator Jialin Dong

 Project / Activity / Task Haemocompatibility of Laser-Textured Stainless Steel

What equipment will be used in this activity? +

Fume cupboard	X
Pipette gun	X
Stripettes	X
Duran bottles/Winchester bottles	X
Falcon tubes	X
Petri dish	X
Autoclave tape	X
Biosafety Cabinet	X
Spill tray	X
Aspirator	X
Autoclave Sterilizer	X
Sealed box for blood collection tube	X

What training must be completed to do this activity? +

Use of fume cupboard	X
Use of biosafety cabinet	X
Use of chemical substances	X
Use of biological samples	X
Use of autoclave	X

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

25% Glutaraldehyde	X
2% Osmium tetroxide solution	X
Ethanol	X
Hexamethyldislazane	X
Phosphate Buffered Saline (PBS) solution	X
0.1M cacodylate buffer	X

Spill and accident procedures. +

Wear correct PPE before dealing with spillage and accidents. Use enough paper towels to soak the spillage and dispose the paper towels according to CBE local standard operation procedures (i.e. into the Yellow non-autoclavable bin).	X
The chemicals are stored according to CBE local protocol and the accident risk is low.	X
During transfer the chemicals from the storage to fume cupboard, correct PPE should be worn and extra caution is needed. During the configuration of solutions PPE is mandatory and all the procedures need to be operated inside fume cupboard.	X
Gloves will be changed regularly during handling the chemicals.	X

Safety Method Statement (Continued)

Procedure in the event of an emergency. (How to leave the process in a safe condition in such an event)	+
Close all the opened bottles and containers. Return all closed bottles of chemicals to their designed storage position. Left all opened containers in the fume cupboard, keep fume cupboard operating. Leave notes on the fume cupboard of the chemicals used inside. If alarm sounds continuously evacuate building and head toward assembly point. Only re-enter building if told that it is safe to do so	X

References.	+
CBE code of practice	X
SOP004 General Laboratory Housekeeping	X
SOP037 Use of Personal Protective Equipment	X
SOP038 Biological Spill Response	X
SOP039 Storage, handling and disposal of waste chemicals	X
SOP025 Use and Maintenance of the Systec VX-95 autoclaves	X

Detailed sequential description of the process

Process step	Precautionary measures and comments	+
Wear appropriate PPE, switch on BSC and follow the procedure for the preparation process. Disinfect everything need to go inside BSC.	Check if PPE is damaged and replace if it is.	X
Drop blood on the sterilised samples in the 9cm petri dish inside biology safety cabinet (BSC) with pipette. For each sample it will need around 20-100µl blood, around 5ml-10ml blood is needed in total.	The blood sample could only be open inside BSC. Standard operation procedure needs to be followed to use BSC and pipette. BSC need to be sterilized before using. All the things need to be proper sterilized before bringing into BSC. Absorb materials/spill kit need to be ready to use.	X
Transfer petri dish with lid with blood in the incubator for incubation 0.5 hour.	Use second container/tray to prevent leakage. Absorb materials/spill kit need to be ready to use.	X
Wash samples with enough PBS solution. The used PBS will be collected in bottle.	Use second container to prevent leakage. Absorb materials/spill kit need to be ready to use.	X
Switch on fume cupboard, wait until it is stable. Place a tray inside fume cupboard for the solution preparation. Transfer petri dish to fume cupboard with lids. Use stripette to transfer 8ml 25% glutaraldehyde solution inside a 50ml falcon tube, add 42ml 0.1M cacodylate buffer and mix thoroughly to get 4% glutaraldehyde in 0.1M cacodylate buffer. Drop diluted glutaraldehyde solution for each sample to cover the whole surface. Put lids on and leave a notes about the work inside fume cupboard and time come back. The total usage of diluted glutaraldehyde is around 200ml. Wait 0.5 hour.	Wait until the fume cupboard is steady. Transfer chemicals with extra-caution. Only open chemicals inside the fume cupboard. Close the lid and return to the designed storage areas once finished the usage. Absorb materials/spill kit need to be ready to use. Follow the correct usage process of pipette/dropper. Use second container/tray to prevent leakage. Absorb materials/spill kit need to be ready to use. Leave a note to inform other people. Gloves will be changed regularly during handling of the solution and immediately after any exposure.	X
Collect chemical waste containing Sodium Cacodylate into CYTOTOXIC labeled Winchester waste bottle. Collect Glutaraldehyde Solution into HYDROPHILIC WASTE labeled Winchester waste bottle. Label the waste bottle with pencil or indelible ink, with the "CBE-<Type> SOLVENT WASTE" with information of Waste producer, amount of each chemicals. Flush the sample with PBS and collected into a PBS waste bottle.	Use second container/tray to prevent leakage. Absorb materials/spill kit need to be ready to use.	X

Safety Method Statement (Continued)

Process step	Precautionary measures and comments	+
<p>Use stripette to transfer 2% Osmium tetroxide solution on the samples to cover the whole surface. Put lids on. The usage of 2% Osmium tetroxide solution is around 200ml. Leave for another 1 hour. Put lids on and leave a notes about the work inside fume cupboard and time come back.</p>	<p>Follow the correct usage process of pipette/dropper. Only open chemicals inside the fume cupboard. Close the lid and return to the designed storage areas once finished the usage. Use second container to prevent leakage. Absorb materials/spill kit need to be ready to use. Leave a note to inform other people. Gloves will be changed regularly during handling of the solution and immediately after any exposure.</p>	X
<p>Collect Osmium tetroxide chemical waste into OSMIUM WASTE labeled Winchester waste bottle. Label the waste bottle with pencil or indelible ink , with the "CBE-<Type> SOLVENT WASTE" with information of Waste producer, amount of each chemicals. Wash sample with PBS and collected into PBS waste bottle, add Virkon tablet inside for sterilization. 1*5g Virkon tablet with 50ml of water for every 250ml expected waste. Label bottle with the time used and tablet added inside. Leave 24 hours for sterilization.</p>	<p>Use second container/tray to prevent leakage. Absorb materials/spill kit need to be ready to use.</p>	X
<p>Dehydration was achieved by means of rinsing stages in increasing ethanol concentration solution (30%, 50%, 70%, 95% and 100%). The rinsing stages of ethanol was prepared by mixing of 15ml, 25ml, 35ml, 47.5ml with ethanol with 35ml, 25ml, 15ml, 2.5ml deionized water in the 50ml Falcon tube through stripettes. For each stage wait 15min and use lids to cap petri dish. Put lids on and leave a notes about the work inside fume cupboard and time come back. After each stage, collect the waste into HYDROPHILIC labeled Winchester waste bottle, label the waste bottle with pencil or indelible ink , with the "CBE-<Type> SOLVENT WASTE" with information of Waste producer, amount of each chemicals.</p>	<p>The lid needs to be used during dehydration with ethanol to reduce the evaporation. Use second container/tray to prevent leakage. Only open chemicals inside the fume cupboard. Close the lid and return to the designed storage areas once finished the usage. Absorb materials/spill kit need to be ready to use. Leave a note to inform other people.</p>	X
<p>Prepare the hexamethyldisilane (HMDS) solutions. Use stripette transfer 17ml HMDS into 50ml Falcon tube, add 33ml ethanol for 2:1 HMDS/Ethanol solutions. Transfer 33ml HMDS into 50ml Falcon tube and add 17ml ethanol for 1:2 HMDS/Ethanol solutions. Dehydrated samples were soaked in three hexamethyldisilazane solutions (2:1 ethanol 100% in HMDS, 1:2 ethanol 100% in HMDS and final 100% HMDS solution), wait for 15min each step. Collect waste into into HYDROPHILIC WASTE labeled Winchester waste bottle, label the waste bottle with pencil or indelible ink , with the "CBE-<Type> SOLVENT WASTE" with information of Waste producer, amount of each chemicals. Label the samples, put the samples in a second container/tray, keep the fume cupboard on, leave samples to dry overnight. Leave a note to inform other people not to close the cupboard and the time to collect the sample.</p>	<p>The lid needs to be used. Use second container/tray to prevent leakage. Only open chemicals inside the fume cupboard. Close the lid and return to the designed storage areas once finished the usage. Use second container/tray to prevent leakage. Absorb materials/spill kit need to be ready to use. Leave a note to inform other people. Gloves will be changed regularly during handling of the solution and immediately after any exposure.</p>	X
<p>Pack the blood collection tube with residue blood in its original container and package. Return the package to SSEHS.</p>	<p>Pack all the stuffs in their original package, including the absorb materials inside the sealed second container.</p>	X
<p>Autoclave the autoclavable waste and non-disposable tools and containers. Chemical waste need be labelled and go directly to Gas Pod 1. Any other non-autoclavable waste need to dispose in non-autoclavable waste bin. Cytotoxic waste need to be collected into YELLOW/PURPLE cytotoxic waste bag and go directly to GAS Pod 2.</p>	<p>Follow the instruction in SOP003 Decontamination and Disposal of Biological Waste and SOP025 Use and Maintenance of the Systec VX-95 autoclaves</p>	X
<p>Collect sample at second day. Tape sample in a new petri dish, close the lid and seal it with tape. Put the petri dish in another plastic bag and take the sample for further observation. Switch off the fume cupboard.</p>	<p>Check whether other people are using fume cupboard or any notes before switching off the fume cupboard.</p>	X





COSHH Form

 Reference SAF/MEME/1472 - 1477

 Location H25 Garendon Wing, Holywell Park

 Originator Jialin Dong


 Project / Activity / Task Haemocompatibility of Laser-Textured Stainless Steel

CHEMICAL NAME					   	Hazard Rating High	X
Glutaraldehyde Solution, (25%-30%, Methanol)						Exposure Potential Low	OVERALL RISK: Medium
CAS No. 111-30-8	Amount used	Period of use (hrs)	The process is:	Physical State	<input checked="" type="checkbox"/> Eyes <input checked="" type="checkbox"/> Skin <input checked="" type="checkbox"/> Inhaled <input checked="" type="checkbox"/> Ingested		
W.E.L. (Itel / stel) 25wt%	32 ml	1	Semi Closed	Volatile Liquid			

This chemical has a high health risk associated with it.


Hazard Statement and Description	Precaution Statement and Description	+
H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled	P273 Avoid release to the environment.	X
H314 Causes severe skin burns and eye damage.	P280 Wear protective gloves/protective clothing/eye protection/face protection.	X
H317 May cause an allergic skin reaction.	P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.	X
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.	P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing.	X
H335 May cause respiratory irritation.	P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.	X
H410 Very toxic to aquatic life with long lasting effects.	P310 Immediately call a POISON CENTER or doctor/physician.	X
	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
Justify the use of this chemical:	Glutaraldehyde Solution is the main fixative for scanning electron microscopy. This chemical is used for fixation of cell morphology and It is used in diluted condition, 4% glutaraldehyde in 0.1M cacodylate buffer.	
How will the precautions listed above be implemented?		
PPEs should be worn at all times when handling this chemicals. Containment tray/second container will be used. Only small of amount of chemicals will be used. Spill kit need to be ready before using this solution. Only open and transfer the solution inside operating fume cupboard. Once it is used, tightly close the container and return it to the designed storage. Diluted with sodium cacodylate as soon as possible and closed the container of diluted solution with a cap.		
Special Storage and Containment Measures	Disposal Method	+
Combustible, corrosive hazardous materials. Tightly closed. Keep locked up or in an area accessible only to qualified or authorized persons. Recommended storage temperature -20 °C. Store under inert gas. Air sensitive.	Hydrophylic organic solvent waste-Collect inside Winchester bottle labeled with HYDROPHILIC waste (blue label)	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.</i> Click here to see spill procedures	
Spill kit- Wear proper PPEs, take spillage kit to the site of spill, liberally spread the materials in the spill kit over the liquid spill. Use dustpan and brush shovel and sweep up the absorbent and place it in the disposal bag (do not overfill the bag). Label the bag appropriately (e.g. name of chemicals on spillage absorbent) and contact the DSO for waste disposal. Record all significant spills in the Spill Record Log and report accidental spillage of chemicals to the laboratory Manager or DSO who will advise on the appropriate forms to complete. For a few drop of spillage, use tissue and absorbent cloth to wipe it. Dispose the used tissues/clothes into yellow non-autoclavable bin.		

COSHH Form (Continued)

CHEMICAL NAME Sodium Cacodylate, 0.1M buffer solution				Hazard Rating <div style="border: 1px solid black; padding: 2px; display: inline-block;">High</div>		<div style="border: 1px solid black; padding: 5px; width: 30px; margin: 0 auto;">X</div> OVERALL RISK: <div style="border: 1px solid black; padding: 5px; width: 50px; margin: 0 auto; color: green; font-weight: bold;">Low</div>
CAS No. J60344(Cat No.)	Amount used			Period of use (hrs)	The process is:	
W.E.L. (Itel / stel) 2.2%	200 ml	1	Semi Closed	Non-Volatile Liquid		

This chemical has a high health risk associated with it.




Hazard Statement and Description	Precaution Statement and Description	+
H351 Suspected of causing cancer.	P201 Obtain special instructions before use.	X
H412 Harmful to aquatic life with long lasting effects.	P280 Wear protective gloves/protective clothing/eye protection/face protection.	X
	P308 + P313 IF exposed or concerned: Get medical advice/attention.	X
Justify the use of this chemical:	This chemical is used for dilution of glutaraldehyde. The final solution is 4% glutaraldehyde in 0.1M cacodylate buffer, and is used for fixation.	
How will the precautions listed above be implemented?		
PPEs need to be worn during all the time when handling this chemicals. Use inside fume cupboard with enough absorbent cloth/tissue.		
Special Storage and Containment Measures	Disposal Method	+
Keep refrigerated.	Hydrophylic organic solvent waste-Collect inside Winchester bottle labeled with HYDROPHILIC waste (blue label)	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.</i> Click here to see spill procedures	
Absorbent cloth/tissue- small amount of spillage need to be absorb by absorbent cloth/tissue, the spillage areas and irradiated places can only be cleaned through cold water. The used absorbent tissues and clothes need to be disposed into PURPLE/ YELLOW cytotoxic waste bag and transport to Gas Pod 2 directly.		

CHEMICAL NAME Osmium Tetroxide, 2 wt% solution in water				Hazard Rating <div style="border: 1px solid black; padding: 2px; display: inline-block;">High</div>		<div style="border: 1px solid black; padding: 5px; width: 30px; margin: 0 auto;">X</div> OVERALL RISK: <div style="border: 1px solid black; padding: 5px; width: 50px; margin: 0 auto; color: green; font-weight: bold;">Medium</div>
CAS No. 20816-12-0	Amount used			Period of use (hrs)	The process is:	
W.E.L. (Itel / stel) 2wt%	200 ml	1	Semi Closed	Non-Volatile Liquid		

Hazard Statement and Description	Precaution Statement and Description	+
H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled.	P262 Do not get in eyes, on skin, or on clothing.	X
H310 Fatal in contact with skin.	P280 Wear protective gloves/protective clothing/eye protection/face protection.	X
H315 Causes skin irritation.	P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.	X
H318 Causes serious eye damage.	P302 + P352 IF ON SKIN: Wash with plenty of soap and water.	X
	P310 Immediately call a POISON CENTER or doctor/physician.	X
	P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.	X
	P312 Call a POISON CENTER or doctor/physician if you feel unwell.	X
	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




COSHH Form (Continued)

How will the precautions listed above be implemented?		
PPEs need to be worn all the times. Only open and transfer the solution in the fume cupboard. Enough absorbent cloth/tissue need to be ready before operation of this solution. Closed the container and return to the designed storage immediately after usage.		
Special Storage and Containment Measures	Disposal Method	+
Storage locked up.	Hydrophylic organic solvent waste-Collect inside Winchester bottle labeled with HYDROPHILIC waste (blue label)	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>	
Quench small pill (less than 5ml) with double the volume of sodium sulphite, allow to react and mop up with absorbent cloth tissue, dispose into yellow non-autoclavable bin.		

CHEMICAL NAME Ethanol		 	Hazard Rating High	OVERALL RISK: Medium
CAS No. 64-17-5 W.E.L. (Itel / stel) 100%	Amount used: 700 ml Period of use (hrs): 1	The process is: Closed Physical State: Volatile Liquid	Exposure Potential Low	
<input checked="" type="checkbox"/> Eyes <input type="checkbox"/> Skin <input type="checkbox"/> Inhaled <input type="checkbox"/> Ingested				

Hazard Statement and Description	Precaution Statement and Description	
H225 Highly flammable liquid and vapour.	P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.	x
H319 Causes serious eye irritation.	P233 Keep container tightly closed.	x
H371 May cause damage to organs.	P240 Ground/bond container and receiving equipment.	x
	P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove	x
	P308+P311: IF exposed or concerned: Call a POISON CENTER/doctor	x

How will the precautions listed above be implemented?		
Wear PPEs at all times. Only open and transfer ethanol inside fume cupboard. Closed the container and return to the designed storage immediately after usage. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.		
Special Storage and Containment Measures	Disposal Method	+
Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.	Hydrophylic organic solvent waste-Collect inside Winchester bottle labeled with HYDROPHILIC waste (blue label)	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>	
Absorbent cloth / tissue- Small amount of spillage could be absorbed and lused absorbent cloth/tissue need to be left inside fume cupboard for drying. After drying, the absorbent cloth and tissue need to be disposed into yellow non-autoclavable bin.		

CHEMICAL NAME Hexamethyldislazane		 	Hazard Rating High	OVERALL RISK: Medium
CAS No. 999-97-3 W.E.L. (Itel / stel) 99.9%	Amount used: 400 ml Period of use (hrs): 1	The process is: Semi Closed Physical State: Volatile Liquid	Exposure Potential Low	
<input type="checkbox"/> Eyes <input checked="" type="checkbox"/> Skin <input checked="" type="checkbox"/> Inhaled <input checked="" type="checkbox"/> Ingested				

Hazard Statement and Description	Precaution Statement and Description	
H225 Highly flammable liquid and vapour.	P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.	x

COSHH Form (Continued)

H302 Harmful if swallowed.	P273 Avoid release to the environment.	X
H332 Harmful if inhaled.	P280 Wear protective gloves/protective clothing/eye protection/face protection.	X
H311 Toxic in contact with skin	P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.	X
H412 Harmful to aquatic life with long lasting effects.	P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing.	X
	P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.	X
	P312 Call a POISON CENTER or doctor/physician if you feel unwell.	X

How will the precautions listed above be implemented?

Wear PPEs at all the times. Only open and transfer chemicals inside fume cupboard. Close the container and return to the designed storage immediately after usage. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Special Storage and Containment Measures	Disposal Method	
Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons. Protect from moisture.	Hydrophobic organic solvent waste-Dispose into the Winchester bottle labeled with HYDROPHOBIC waste.	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>	
-----------------------------------	--	--

Spill kit- Wear proper PPEs, take spillage kit to the site of spill, liberally spread the materials in the spill kit over the liquid spill. Use dustpan and brush shovel and sweep up the absorbent and place it in the disposal bag (do not overfill the bag). Label the bag appropriately (e.g. name of chemicals on spillage absorbent) and contact the DSO for waste disposal. Record all significant spills in the Spill Record Log and report accidental spillage of chemicals to the laboratory Manager or DSO who will advise on the appropriate forms to complete. For a few drops of spillage, use tissue and absorbent cloth to wipe it. Dispose the used tissues/clothes into yellow non-autoclavable bin.

CHEMICAL NAME - used with Haemocompatibility of			Hazard Rating Low	OVERALL RISK: Low
CAS No. 7758-11-4	Amount used 1	Period of use (hrs) 1	Exposure Potential Low	
W.E.L. (l/ tel / stel) 5wt%			<input type="checkbox"/> Eyes <input type="checkbox"/> Skin <input type="checkbox"/> Inhaled <input type="checkbox"/> Ingested	
			The process is: Semi Closed	
			Physical State: Non-Volatile Liquid	

Hazard Statement and Description	Precaution Statement and Description	
No Hazard Statements applicable	No Precaution statements applicable	X

How will the precautions listed above be implemented?

N.A.		
Special Storage and Containment Measures	Disposal Method	
N.A.	Aqueous waste - Flush into basin after 24hrs Virkon treatment.	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>	
-----------------------------------	--	--

Absorbent cloth / tissue-Used tissue need to be disposed into yellow non-autoclavable bin.

+ Add another chemical

Statement of work (Process to be undertaken)

Prepare 4% glutaraldehyde solutions in cacodylate buffer. Fixate samples with 4% glutaraldehyde solutions for 1 hour. Flush samples with PBS.



COSHH Form (Continued)

Immerse samples in 2% Osmium tetroxide for 1 hour. Flush sample with PBS.
Dehydration samples with rinsing stages of ethanols solution (30%, 50%, 70%, 95%, 100%), 15min for each stage.
Immerse samples with 1:2 HMDS/Ethanol, 2:1 HMDS/Ethanol and HMDS, 15min each and leave sample dry overnight.

Personal protection requirements not covered in the precaution statements above.

Lab coat, safety spectacles, rubber gloves, appropriate footwear

Sources of information and references

<https://www.sigmaaldrich.com/GB/en/sds/sial/g5882>
<https://www.thermofisher.in/store/msds?partNumber=ALF-J60344-AK&countryCode=IN&language=en&brand=Alfa%20Aesar>
<https://www.sigmaaldrich.com/GB/en/sds/sigma/75633>
<https://www.sigmaaldrich.com/GB/en/sds/mm/65347-m>
<https://www.sigmaaldrich.com/GB/en/sds/aldrich/379212>
<https://www.sigmaaldrich.com/GB/en/sds/sigma/806552>

Reference to **existing approved** Risk Assessment

SAF/MEME 6513

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/7128

Method Statement

SAF/MEME/7128

COSHH Assessment

SAF/MEME/1472 - 1477

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:

28 Mar 2023

Review comments