

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	School of Aeronautical, Automotive, Chemical and Materials Engineering
Department	Department of Chemical Engineering
Originator name	Alexandros Englezakis
email address	a.englezakis@lboro.ac.uk
Location	H29
Project / Activity / Task	Gel Electrophoresis
Supervisor Name	Dr. Karen Coopman

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	
<input type="text" value="N/A"/>	<input type="text" value="N/A"/>	<input type="text" value="N/A"/>	<input type="text" value="Ultra Violet"/>	+
				x
Category 2: Workplace				
<input type="text" value="Confined work area (striking objects)"/>				x
Category 3: Hazardous and/or Harmful substances				
<input type="text" value="Irritant substances"/>				x
Category 4: Work activity				
<input type="text" value="Poor workplace design"/>				x
Category 5: Work organisation				
<input type="text" value="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="Exposure to UV"/>	<input type="text" value="Slightly Harmful"/>	<input type="text" value="Highly Unlikely"/>	Low	
What are the control measures?	Lowers Impact	Lowers Probability	+	
<input type="text" value="Gel viewing will be done using the UV imager in H29 . This system has a fail system where UV lamb is not turned on unless the carbon coated door is closed. In addition, the UV lamb will only be turned on by user only when the door is securely closed"/>	<input type="text" value="Significantly"/>	<input type="text" value="Significantly"/>	x	
			Residual Risk	
			<input type="text" value="Low"/>	
People / Groups at risk	<input type="text" value="Operator and people in proximity"/>			x
Enter risk details here:-	Impact	Probability	Risk Score	
<input type="text" value="Bacterial contamination"/>	<input type="text" value="Slightly Harmful"/>	<input type="text" value="Highly Unlikely"/>	Low	
What are the control measures?	Lowers Impact	Lowers Probability	+	

Process Risk Assessment Form (Continued)

Risk of bacterial contamination to other areas of CBE due to bacterial cultures in H29. To avoid this special coats (green) will be used for any work undertaken in H29 which will be stored in the room. A lab coat change will take place when entering the laboratory from the main corridor while white lab coats will remain outside	Significantly	Moderately	x
	None	None	
			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	0	0	0	0	0
Technical Staff	0	0	0	0	0	0	0
Research Staff (PDRA)	0	2	0	0	0	0	2
Research Students (PhD)	0	2	0	0	0	0	2
Students (Undergraduate / MSc)	0	0	0	0	0	0	0
Visitors	0	0	0	0	0	0	0
Others - Over-type as needed	0	0	0	0	0	0	0
Total	0	4	0	0	0	0	4

With these controls in place, the risk is:

The activity is LOW RISK - and is effectively controlled

Loughborough University

Department of Chemical Engineering

Safety Method Statement

Reference

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What equipment will be used in this activity?	+
Gel electrophoresis	X

What training must be completed to do this activity?	+
Sharps use	X
Biological spill response	X
Decontamination and disposal of biological waste	X

What chemicals are being used? (These must be included in the COSHH Form)	+
Agarose	X
Midori Green Advanced	X
DNA loading dye	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)	+
Put tissue in a container with PBS. Dispose contaminated gloves. Leave note with a name of the operator and state mentioning not to move anything from the area.	X

References.	+
CBE code of practice, SOP003,SOP183 (Procedure for the Preparation and Running of Agarose gel Electrophoresis)	X

Detailed sequential description of the process

Process step	Precautionary measures and comments	
Wear PPE mentioned above.	Check if PPE is damaged and replace if it is.	X
Put in a container 1% Virkon and in another container PBS x1.	Pour solutions with care avoiding spillages. If there is a spillage follow SOP038.	X

COSHH Form

Reference

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CHEMICAL NAME <input type="text" value="Midori Green Advance DNA Stain"/>				Hazard Rating <input type="text" value="Low"/>		OVERALL RISK: <input type="text" value="Low"/>
CAS No. <input type="text" value="N/A"/>	Amount used <input type="text" value="0.05"/> <input type="text" value="ml"/>	Period of use (hrs) <input type="text" value="1"/>	The process is: <input type="text" value="Semi Closed"/>	Physical State <input type="text" value="Non-Volatile Liquid"/>	Exposure Potential <input type="text" value="Low"/>	
W.E.L. (Itel / stel) <input type="text"/>					<input type="checkbox"/> Eyes <input type="checkbox"/> Skin <input type="checkbox"/> Inhaled <input type="checkbox"/> Ingested	

Hazard Statement and Description	Precaution Statement and Description	+
<input type="text" value="No Hazard Statements applicable"/>	<input type="text" value="P280 Wear protective gloves/protective clothing/eye protection/face protection."/>	x
How will the precautions listed above be implemented?		
<input type="text" value="Wear PPE- nitrile gloves, lab coat and goggles."/>		
Special Storage and Containment Measures	Disposal Method	+
	<input type="text" value="Aqueous waste - Check with Technician or Supervisor"/>	x
How will spillages be dealt with?		
<input type="text" value="Absorbent cloth / tissue"/>		

CHEMICAL NAME <input type="text" value="Gel Loading Buffer"/>				Hazard Rating <input type="text" value="Low"/>		OVERALL RISK: <input type="text" value="Low"/>
CAS No. <input type="text" value="N/A"/>	Amount used <input type="text" value="0.02"/> <input type="text" value="ml"/>	Period of use (hrs) <input type="text" value="1"/>	The process is: <input type="text" value="Semi Closed"/>	Physical State <input type="text" value="Non-Volatile Liquid"/>	Exposure Potential <input type="text" value="Low"/>	
W.E.L. (Itel / stel) <input type="text"/>					<input type="checkbox"/> Eyes <input type="checkbox"/> Skin <input type="checkbox"/> Inhaled <input type="checkbox"/> Ingested	

Hazard Statement and Description	Precaution Statement and Description	+
<input type="text" value="No Hazard Statements applicable"/>	<input type="text" value="P280 Wear protective gloves/protective clothing/eye protection/face protection."/>	x
How will the precautions listed above be implemented?		
<input type="text"/>		
Special Storage and Containment Measures	Disposal Method	+
	<input type="text" value="Aqueous waste - Check with Technician or Supervisor"/>	x
How will spillages be dealt with?		
<input type="text" value="Absorbent cloth / tissue"/>		

COSHH Form (Continued)

CHEMICAL NAME Agarose		Hazard Rating Low	X
CAS No. 9012-36-6	Amount used: 1 g	Period of use (hrs): 1	OVERALL RISK: Low
W.E.L. (Itel / stel)	The process is: Semi Closed	Physical State: Non-Volatile Liquid	
		<input type="checkbox"/> Eyes <input type="checkbox"/> Skin <input type="checkbox"/> Inhaled <input type="checkbox"/> Ingested	Exposure Potential Low

Hazard Statement and Description	Precaution Statement and Description	
No Hazard Statements applicable	P280 Wear protective gloves/protective clothing/eye protection/face protection.	X
How will the precautions listed above be implemented?		
Special Storage and Containment Measures	Disposal Method	+
	Other - Check with Technician / Supervisor and overtype this message	X
How will spillages be dealt with?		
Absorbent cloth / tissue		

+ Add another chemical

Statement of work (Process to be undertaken)

Agarose will be mixed with hydrous solvent and heated with a standard microwave. Once diluted it will be allowed to set to n Show Image

Personal protection requirements not covered in the precaution statements above.

Appropriate clothing (long trousers and skirts), closed shoes

Sources of information and references

SIGMA-ALDRICH (Product number A9539)

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

CBE/133

Method Statement

CBE/133

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:

Review comments