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	Wolfson School of Mechanical, Electrical and Manufacturing Engineering
Department	Centre for Biological engineering
Originator name	Eleanor Knight
email address	e.knight@lboro.ac.uk
Location	Garendon Wing, Holywell Park
Project / Activity / Task	Use of Penicillin/streptomycin in cell culture media
Supervisor Name	Carmen Torres-Sanchez

Version : 2.34

Loughborough University
Centre for Biological engineering

Risk Assessment

Reference: SAF/MEME/7789

Location: Garendon Wing, Holywell Park

Originator: Eleanor Knight

Project / Activity / Task: Use of Penicillin/streptomycin in cell culture media

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		N/A	N/A	x
Category 2: Workplace				+
Slips/Trips/Falls on the level				x
Category 3: Hazardous and/or Harmful substances				+
Other Substance related hazard suspected of damaging fertility				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: Operator only — x

Enter risk details here:-	Impact	Probability	Risk Score
Hazardous substance	Harmful	Highly Unlikely	Low

What are the control measures?	Lowers Impact	Lowers Probability	+
Wear suitable PPE, gloves, labcoat, solutions containing penicillin/ streptomycin will only be open in a biological safety cabinet	Significantly	Slightly	x

Residual Risk: Low

People / Groups at risk: Operator and people in proximity — x

Enter risk details here:-	Impact	Probability	Risk Score
Slips, trips, and falls on the level	Slightly Harmful	Unlikely	Low

What are the control measures?	Lowers Impact	Lowers Probability	+

Process Risk Assessment Form (Continued)

Keep working area clear and tidy Clear away any spills utilising spill kits or absorbent materials Remove potential trip hazards from the floor	Slightly	Slightly	x
			Residual Risk: Low

People / Groups at risk: Operator and people in proximity			x
Enter risk details here:-	Impact	Probability	Risk Score
Emergency	Slightly Harmful	Unlikely	Low
What are the control measures?	Lowers Impact	Lowers Probability	+
Take note of fire evacuation plans - know exit points If fire alarm sounds continuously make equipment/materials safe and evacuate the building. Only return when informed that it is safe to do so	Slightly	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	0	0	0	0	0	0	0
Technical Staff	0	0	0	0	0	1	1
Research Staff (PDRA)	0	2	0	0	0	0	2
Research Students (PhD)	0	0	0	0	0	1	1
Students (Undergraduate / MSc)	0	0	0	0	0	1	1
Visitors	0	0	0	0	0	1	1
Others - Over-type as needed	0	0	0	0	0	1	1
Total	0	2	0	0	0	5	7

With these controls in place, the risk is:

The activity is LOW RISK - and is effectively controlled

Process Risk Assessment Form (Continued)

Loughborough University
Centre for Biological engineering

COSHH Form

Reference: SAF/MEME/1804

Location: Garendon Wing, Holywell Park

Originator: Eleanor Knight

Project / Activity / Task: Use of Penicillin/streptomycin in cell culture media

CHEMICAL NAME

Penicillin Streptomycin solution

CAS No.:

W.E.L. (Itel / stel):

Hazard Rating: High

Amount used: 5 ml

Period of use (hrs): 4

The process is: Semi Closed

Physical State: Non-Volatile Liquid

Exposure Potential: Eyes, Skin, Inhaled, Ingested — Low

OVERALL RISK: Low

This chemical has a high health risk associated with it.

Hazard Statement and Description	Precaution Statement and Description
H361 Suspected of damaging fertility or the unborn child.	P280 Wear protective gloves/protective clothing/eye protection/face protection.
	P202 Do not handle until all safety precautions have been read and understood.
	P308 + P313 IF exposed or concerned: Get medical advice/attention.
Justify the use of this chemical:	Penicillin/Streptomycin solution will be added to cell culture media at a 1:100 dilution to prevent the contamination from adventitious agents. Preventative antibiotics are necessary to protect the user and ensure robust results

How will the precautions listed above be implemented?

When using the stock solution suitable PPE should be worn including lab coat, gloves, eye protection. The solutions will be handled in a biological safety cabinet. Stock solutions will be diluted 100x into cell culture media soon after thawing

Special Storage and Containment Measures	Disposal Method
Keep in properly labelled containers,	Aqueous waste - the solution will be disposed of after being diluted in cell culture media, it will be diluted further in Virkon in aspiration bottle. Virkon treated waste is disposed off down the drain after being treated for 24 hours see SOP004
How will spillages be dealt with?	*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*
Absorbent cloth / tissue as per instructions in SOP038	

+ Add another chemical

Statement of work (Process to be undertaken)

Penicillin/Streptomycin solution will be added to cell culture media to prevent the contamination from adventitious agents when performing biological validation of new biomaterials

Show image

Personal protection requirements not covered in the precaution statements above.

labcoat, safety spectacles, gloves

Sources of information and references

https://www.thermofisher.com/order/catalog/product/15070063

Reference to **existing approved** Risk Assessment

CBEBRA147, SOP038, SOP004

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

COSHH Form (Continued)

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: Dr Carmen Torres-Sánchez — Digitally signed by Dr Carmen Torres-Sánchez Date: 2023.10.03 13:56:36 +01'00'

Form Reference Numbers

Risk Assessment	Method Statement	COSHH Assessment
SAF/MEME/7789		SAF/MEME/1804

DSO Signature: Keven G Smith — Digitally signed by Keven G Smith Date: 2023.10.25 15:44:20 +01'00'

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: 25 Oct 2024

Review comments