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	Centre for Biological Engineering
Originator name	Carolyn Kavanagh
email address	c.l.kavanagh@lboro.ac.uk
Location	CBE Laboratories (CTMF, H34, H27,H22, H23 and H25) and T208b Wolfson
Project / Activity / Task	Use and Maintenance of the Vortex(s)
Supervisor Name	Mark Taylor

Version : 2.19

Loughborough University
Centre for Biological Engineering

Risk Assessment

Reference: SAF/MM/6549

Location: CBE Laboratories (CTMF, H34, H27,H22, H23 and H25

Originator: Carolyn Kavanagh

Project / Activity / Task: Use and Maintenance of the Vortex(s)

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

Category 1: Workplace	+
Significant vibration	x
Slips/Trips/Falls on the level	x
Category 2: Hazardous and/or Harmful substances	+
Biological substancees (Infection)	x
Category 3: Activity	+
Lone working out of hours	x
Electrical Hazard	x
Highly repetitive actions	x
Category 4: Organisation	+
	x

Explain the risks associated with these hazards

People / Groups at risk: Operator only — x

Enter risk details here:-	Impact	Probability	Risk Score
Mis-use of vortex	Slightly Harmful	Unlikely	Low

What are the control measures?	Lowers Impact	Lowers Probability	+
All CBE Laboratory users are trained on the use and take care when using the vortex and understand associated consequences of mis-use.	Moderately	Moderately	x

Residual Risk: Low

People / Groups at risk: Operator only — x

Enter risk details here:-	Impact	Probability	Risk Score
Electrical hazard	Harmful	Highly Unlikely	Low

What are the control measures?	Lowers Impact	Lowers Probability	+
All vortexs are PAT tested 2 yearly and leads checked for signs of wear regularly.	Moderately	Moderately	x

Residual Risk: Low

Process Risk Assessment Form (Continued)

People / Groups at risk	Operator only		x
Enter risk details here:-	Impact	Probability	Risk Score
Lone working with vortexs	Slightly Harmful	Likely	Medium
What are the control measures?	Lowers Impact	Lowers Probability	+
All Operators are fully trained before being allowed to work out of hours	Moderately	Moderately	x
All operators have a valid out of hours risk assessment for working out of hours detailing the work. They use the lone working app.using the following link. (https://www.lboro.ac.uk/media/wwwlboroacuk/content/healthandsafety/downloads/Lone%20Working%20App%20Instructions.pdf)	Moderately	Moderately	x
		Residual Risk	
		Low	

People / Groups at risk	Operator only		x
Enter risk details here:-	Impact	Probability	Risk Score
Risk of infection from vortexing biological material	Harmful	Highly Unlikely	Low
What are the control measures?	Lowers Impact	Lowers Probability	+
All Biological material is contained inside lidded vials.	Significantly	Significantly	x
All operators are trained how to vortex material safely	Moderately	Moderately	x
Biological material is all risk assessed and has good provenance with certificates of analysis.	Moderately	Moderately	x
Operators wear gloves	Moderately	Moderately	x
Safety glasses worn to prevent contaminants entering the eye if lid becomes loose while vortexing.	Moderately	Moderately	x
		Residual Risk	
		Low	

People / Groups at risk	Operator only		x
Enter risk details here:-	Impact	Probability	Risk Score
Risk of injury to hand from vibration or entrapment	Harmful	Unlikely	Medium
What are the control measures?	Lowers Impact	Lowers Probability	+
Operators are trained to use vortexs safely to avoid injury including trapping fingers in the vortex. Gloves are snug fitting so unlikely to become trapped.	Slightly	Slightly	x
Vortexing of material occurs for very short periods at a time limiting the risk of injury from vibration.	Slightly	Slightly	x
CBE procedure is for long hair to be tied back while working in the lab to prevent long hair becoming tangled in the equipments. Beard nets are provided for those with long beards for the same reason.	Moderately	Moderately	x
		Residual Risk	
		Low	

Process Risk Assessment Form (Continued)

People / Groups at risk	Operator only		x
Enter risk details here:-	Impact	Probability	Risk Score
Generation of heat using vortex	Harmful	Unlikely	Medium
What are the control measures?	Lowers Impact	Lowers Probability	+
All users are trained how to use vortexs safely including watching out for signs that the vortex if getting warm.	Moderately	Moderately	x
The use of the vortex is for short periods at a time. Users are encouraged to switch the vortex off when not in use.	Slightly	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	Highly Unlikely	
What are the control measures?	Lowers Impact	Lowers Probability	+
Ensure that areas are kept clear and tidy and that any spills are cleared away and disposed of safely	None	Moderately	x
		Residual Risk	Low

+ Add another Risk

With these controls in place, the risk is:

The activity is LOW RISK - and is effectively controlled

Loughborough University
Centre for Biological Engineering

Safety Method Statement

Reference: SAF/MM/6549

Location	CBE Laboratories (CTMF, H34, H27,H22, H23 and H25) a	Originator	Carolyn Kavanagh
Project / Activity / Task	Use and Maintenance of the Vortex(s)		

What equipment will be used in this activity?

Vortex(s) in each laboratory	x
• Fishebrand Vortex (T208b) • Sciquip Vortex (H27) • Grant Vortex (H23) • Fisherbrand Vortex (H25) • Fisherbrand Vortex (H22) • Biocote Vortex (H34) • Sciquip Vortex (H34) x2 • Fisherbrand Vortex (H34) • Fisherbrand vortex (CTMF) x 3 • Stuart Vortex (H30)	x
Lidded vials/eppendorfs	x

What training must be completed to do this activity?

CBE Laboratory Induction Training . Lab Leader/supervisor Training.	x

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

None . Any reagent used with material to be vortexed is individually risk assessed. SDS link available with the COSHH	x
70% IMS for cleaning (COSHH CBE 335 MEME 655)	x

Spill and accident procedures.

SOP038 Spill Response offers guidance on how to deal with spills. Any accidents must be reported through the University accident reporting procedures. Any biological material spilled onto the vortex must be cleaned up immediately.	x

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

Stop vortexing. Place vial in secure rack. Switch off the vortex.	x

References.

SOP126 Use and Maintenance of the Vortex Mixers	x
SOP038 Biological Spill Response	x

Detailed sequential description of the process

Process step	Precautionary measures and comments

Safety Method Statement (Continued)

Process step	Precautionary measures and comments	+
See SOP126 for full details. Continuous operating (i) Start with speed control knob at lowest setting (ii) Push the two-direction switch towards the left to switch mixer to continuously on. Mixer will start (iii) Turn the speed control knob to set the speed required (iv) Push the two-direction switch to the middle to turn the mixer off Touch operating (i) Start with speed control knob at lowest setting (ii) Push the two-direction switch towards the right to switch mixer to touch mode (iii) Turn the speed control knob to set the speed required (iv) When a vessel is pressed into the mixing head vertically, the instrument will start. When the vessel is removed the mixer will stop (v) After mixing is completed push the two- direction switch to the middle to turn the mixer off Cleaning (i) The mixer can be cleaned with 70% Ethanol (ii) Do not spray directly onto the mixer, instead spray tissue and use to wipe the machine	Check PAT testing of appliance is in date. Check leads and equipment is safe to use. Wear PPE • Keep vessels containing liquid vertical as much as possible • Mix liquid using the minimum pressure required • Start with the speed at the lowest setting and gradually increase to the required speed • Reduce speed if mixer isn't running smoothly or moves on the bench • Check instrument and vessels for damage before use. Do not use damaged components • Place vessel at the centre of the mixing head	x

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:

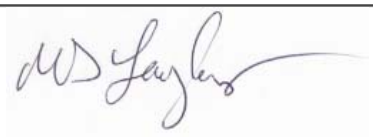
1) Enter the reference numbers as appropriate
2) Electronically sign this document
3) Save it to a local drive (You will be prompted to do this)
3) eMail the signed document to the originator

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



Digitally signed by Mark Taylor
Date: 2020.09.20 11:10:08 +01'00'

Form Reference Numbers

Risk Assessment	Method Statement	COSHH Assessment
SAF/MM/6549	SAF/MM/6549	

DSO Signature

Keven G Smith

Digitally signed by Keven G Smith
Date: 2020.09.24 11:27:25 +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: 20/09/2021

Review comments