

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	Nishant Joglekar
email address	n.joglekar@lboro.ac.uk
Location	CBE
Project / Activity / Task	PCR experiment
Supervisor Name	Dr Karen Coopman; Dr Elizabeth Ratcliffe

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 lables current	N/A	+
Category 2: Workplace				
Localised cold surfaces				+
Slips/Trips/Falls on the level				X
Category 3: Hazardous and/or Harmful substances				
Flammable substances - ethanol and RNA prewash are flammable (refer to COSHH)				+
Toxic substances - trizol is toxic (refer to COSHH)				X
Irritant substances - The RNA prewash and trizol are irritant (refer to COSHH)				X
Cancer causing substances - Trizol and gene expression reagent can cause cancer (refer to COSHH)				X
Biological substancees (Infection)				X
Corrosive substances - Trizol is corrosive (refer to COSHH)				X
Category 4: Work activity				
N/A				+
N/A				X
Category 5: Work organisation				
N/A				+
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 hazardous reagents"/>	<input type="text" value="Very Harmful"/>	<input type="text" value="Highly Unlikely"/>	Medium	
What are the control measures?	Lowers Impact	Lowers Probability	+	
<input type="text" value="Appropriate PPE will be worn - see COSHH forms"/>	<input type="text" value="Significantly"/>	<input type="text" value="Significantly"/>	X	

Process Risk Assessment Form (Continued)

Only small amounts will be used - see COSHH forms Biological safety cabinet must be used Investigator must be fully trained by competent persons in equipment use and material's hazard	Significantly	Significantly	X	
Any drops spilled will be cleaned up straight away as per COSHH form and in accordance CBE SOPs Work area to be kept clear and tidy	Significantly	Significantly	X	
All precaution statements in COSHH forms will be followed	Significantly	Significantly	X	
			Residual Risk	
			Low	
People / Groups at risk	Everyone in the room			X
Enter risk details here:-	Impact	Probability	Risk Score	
Risk of fire due to flammables	Very Harmful	Highly Unlikely	Medium	
What are the control measures?	Lowers Impact	Lowers Probability	+	
Work will be performed in a well ventilated place away from any sources of ignition	Significantly	Significantly	X	
All precautions in the COSHH forms will be followed	Significantly	Significantly	X	
Only small amounts will be used and any drops spilled will be cleaned up straight away as per COSHH forms	Significantly	Significantly	X	
Where required equipment PAT labels must be within current inspection date Cables and connectors visually checked for loose connections or damage prior to use	Slightly	Moderately	X	
			Residual Risk	
			Low	
People / Groups at risk	Operator only			X
Enter risk details here:-	Impact	Probability	Risk Score	
Biological hazard	Harmful	Highly Unlikely	Low	
What are the control measures?	Lowers Impact	Lowers Probability	+	
Appropriate PPE will be worn to prevent any exposure (minimum lab coat, safety shoes, safety glasses if applicable, face masks)	Significantly	Significantly	X	
			Residual Risk	
			Low	
People / Groups at risk	Operator only			X
Enter risk details here:-	Impact	Probability	Risk Score	
Cold burns due to ice	Harmful	Highly Unlikely	Low	
What are the control measures?	Lowers Impact	Lowers Probability	+	
Thermal Gloves will be used at all times when working with ice	Significantly	Significantly	X	
			Residual Risk	
			Low	

Process Risk Assessment Form (Continued)

People / Groups at risk	Everyone in the room		X
Enter risk details here:-	Impact	Probability	Risk Score
Exposure to Covid	Very Harmful	Unlikely	High
What are the control measures?	Lowers Impact	Lowers Probability	+
<p>Be aware that Covid is still a threat</p> <p>Follow all national, local and University Covid-19 guidelines, and respect local Lab rules.</p> <p>Frequent washing (20 seconds minimum)/ sanitizing of hands to be carried out.</p> <p>Touch points and surfaces to be cleaned / wiped down before/after use.</p> <p>Distancing should be 2 metre, but 1M+ is allowed where all concerned are wearing face coverings and this cannot be avoided</p> <p>Check local Covid tier rating and any up to date advice</p> <p>Ventilate enclosed areas where possible by artificially stimulating air movement with fans</p>	Slightly	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	0	1	0	0	1
Technical Staff	0	0	0	1	0	0	1
Research Staff (PDRA)	0	0	0	1	0	0	1
Research Students (PhD)	0	1	0	0	0	0	1
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	1	0	3	0	0	4

With these controls in place, the risk is:

Process Risk Assessment Form (Continued)

The activity is LOW RISK - and is effectively controlled

Loughborough University

Department of Chemical Engineering

Safety Method Statement

Reference SAF/MEME/6886

Location CBE Originator Nishant Joglekar

Project / Activity / Task PCR experiment

What equipment will be used in this activity?	+
StepOne RT-PCR Machine	X
Centrifuge	X
Biological safety cabinet	X

What training must be completed to do this activity?	+
Standard cell culture	X
PCR training	X

What chemicals are being used? (These must be included in the COSHH Form)	+
Trizol	X
Ethanol - refer to SAF/289 for COSHH (previously approved risk assessment for ethanol)	X
Direct-zol™ RNA PreWash (part of Direct-zol™ RNA Miniprep kit)	X
RNA Wash buffer (part of Direct-zol™ RNA Miniprep kit)	X
DNA digestion Buffer (part of Direct-zol™ RNA Miniprep kit)	X
DNase I (lyophilised) (part of Direct-zol™ RNA Miniprep kit)	X
DNase/RNase-Free Water (part of Direct-zol™ RNA Miniprep kit)	X
RT Buffer Mix (part of High-Capacity RNA-to-cDNA™ kit)	X
RT Enzyme Mix (part of High-Capacity RNA-to-cDNA™ kit)	X
Applied Biosystems™ TaqMan™ Fast Advanced Master Mix	X
TaqMan Gene Expression Assay, INV, S (each assay consists of a single primer - three required)	X

Spill and accident procedures.	+
Less than 1ml of the reagents are going to be used at a time and spillages will hence only be a few drops. Spillages such as these can be cleaned up with an absorbent cloth/tissue using 1:20 Chemgene/IMS. Specific disposal procedures must be followed depending on the chemicals involved in the spillage, with tissues containing non-hazardous chemical spills going down the yellow stream waste, and tissues containing hazardous chemical spills being disposed as cytotoxic chemical waste in purple and yellow waste bags. (Refer to COSHH forms)	X

Procedure in the event of an emergency. (How to leave the process in a safe condition in such an event)	+
Remove contaminated PPE or clothing. Alert other laboratory staff and leave the laboratory immediately while leaving all equipment such as PCR machine and BSC switched on. Leave any cultures inside the cabinet. Wash hands and other potentially contaminated areas with soap and water.	X
Make sure that all the containers are tightly closed and stored upright in a well-ventilated place.	X
Close laboratory doors and post warning signs to prevent others entering the laboratory and report the incident to the Laboratory Manager.	X
If alarm sounds evacuate area , only returning when informed that it is safe to do so	X

Safety Method Statement (Continued)

References.

	+
https://www.thermofisher.com/document-connect/document-connect.html?url=https%3A%2F%2Fassets.thermofisher.com%2FTFS-Assets%2FLSG%2FSDS%2F4331182_MTR-EULT_BE.pdf&title=NDMzMTE4Mg==	X
https://files.zymoresearch.com/sds/_r2050_r2052_-_direct-zol_rna_miniprep.pdf	X
https://www.thermofisher.com/document-connect/document-connect.html?url=https%3A%2F%2Fassets.thermofisher.com%2FTFS-Assets%2FLSG%2FSDS%2F4444556_MTR-EULT_BE.pdf&title=NDQ0NDU1Ng==	X
https://tools.thermofisher.com/content/sfs/msds/2012/15596026_MTR-NALT_EN.pdf	X
https://www.thermofisher.com/document-connect/document-connect.html?url=https%3A%2F%2Fassets.thermofisher.com%2FTFS-Assets%2FLSG%2FSDS%2F4387410_MTR-EULT_BE.pdf&title=NDM4NzQxMA==	X
https://www.thermofisher.com/document-connect/document-connect.html?url=https%3A%2F%2Fassets.thermofisher.com%2FTFS-Assets%2FLSG%2FSDS%2F4387401_MTR-EULT_BE.pdf&title=NDM4NzQwMQ==	X
SAF/289 (ethanol risk assessment)	X

Detailed sequential description of the process

Process step	Precautionary measures and comments	+
Initially harvest cells from flasks as standard and centrifuge to get a pellet	Work in a BSC. Wear gloves and a labcoat	X
Using the Direct-zol RNA MiniPrep kit, perform RNA extraction and purification as follows: 1) Initially prepare all reagent - dilute RNA PreWash and RNA wash buffer concentrates with ethanol and reconstitute lyophilised DNase with water as per manual 2) Following centrifugation, aspirate media and resuspend pelleted cells in trizol to lyse cells 3) Add an appropriate amount of ethanol to the cells as per the manual and transfer mixture to a Zymo-Spin column in a collection tube for centrifugation 4) Transfer sample to a fresh tube, add 400ul RNA PreWash, and centrifuge; once flow-through is discarded, repeat the step 5) Add 700ul wash buffer and centrifuge to remove the buffer 6) Add 50ul DNase/RNase-free water to the column matrix and centrifuge to elute the RNA 7) The RNA will then be frozen for further use	Wear gloves, lab coat, and safety glasses at all times. Keep all containers tightly sealed unless using. Do not work near a source of ignition. For preparation of reagents, and subsequent steps (apart from centrifugation), perform all the work inside a BSC Follow COSHH forms for disposal and spillage instructions	X
The RNA will then be reverse transcribed into cDNA using the High-Capacity RNA-to-cDNA™ kit as follows: 1) Initially, the kit components (buffer mix and enzyme mix) will be thawed on ice 2) Previously extracted RNA will be thawed and up to 2ug RNA (per 20ul reaction) will be used. This will be mixed with 10ul RT buffer mix, 1ul RT enzyme mix, and nuclease-free water (water added to make up reaction mix up to 20ul). A control without the RT enzyme mix will also be used. 3) The RT reaction mix will then be aliquoted into tubes which will be sealed using caps 4) The tubes will then be centrifuged with the lid on to eliminate air bubbles after which the tubes will be placed on ice till ready for he next step 5) Once ready to start the reverse transcription, incubate at 37C for 1hr and then stop the reaction by heating to 95C for 5mins using the PCR system (the thermal cycler). Then hold at 4C 6) The cDNA can now be stored at -20C for long-term storage till ready to use	Wear gloves, and a lab coat at all times Perform aliquoting procedures and steps involving addition of reagents inside the BSC Follow COSHH forms for disposal and spillage instructions	X

Safety Method Statement (Continued)

Process step	Precautionary measures and comments	+
<p>For performing RT-PCR using the master mix:</p> <ol style="list-style-type: none"> 1) Initially, in tubes, prepare reaction mixtures for each primer by combining appropriate amounts of master mix, Taqman assay, and Nuclease-free water as appropriate 2) Vortex mixtures and centrifuge to remove air bubbles 3) Transfer appropriate volumes of the PCR reaction mixtures to each well of a reaction plate (a 96 well plate will be used) - triplicates for each primer and a control 4) Add the cDNA previously prepared (2ul) 5) Seal plate using adhesive film and centrifuge to eliminate air bubbles and place in PCR machine 6) On machine, select the appropriate temperature program as per the manual, select the experiment type, and run as appropriate as per the manual. 	<p>Wear gloves, lab coat, and safety glasses at all times. Keep all containers tightly sealed unless using.</p> <p>Follow COSHH forms for disposal and spillage instructions</p>	<p>X</p>


COSHH Form

Reference SAF/MEME/1170 - 1179

Location CBE

Originator Nishant Joglekar

Project / Activity / Task PCR experiment

CHEMICAL NAME								Hazard Rating High		OVERALL RISK: Medium
Trizol		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	Exposure Potential Low			
CAS No.		0.5	ml	1	Semi Closed	Non-Volatile Liquid				
W.E.L. (Itel / stel)										

This chemical has a high health risk associated with it.

Hazard Statement and Description	Precaution Statement and Description	
H301 + H311 + H331 Toxic if swallowed, in contact with skin or if inhaled	P201 Obtain special instructions before use.	X
H314 Causes severe skin burns and eye damage.	P261 Avoid breathing dust/fume/gas/mist/vapours/spray.	X
H335 May cause respiratory irritation.	P264 Wash hands thoroughly after handling.	X
H341 Suspected of causing genetic defects.	P280 Wear protective gloves/protective clothing/eye protection/face protection.	X
H373 Causes damage to organs through prolonged or repeated exposure	P273 Avoid release to the environment.	X
H412 Harmful to aquatic life with long lasting effects.	P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.	X
	P302 + P352 IF ON SKIN: Wash with plenty of soap and water.	X
	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
	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
	P501 Dispose of contents/container to an approved waste disposal plant	X
	P403 + P233 Store in a well-ventilated place. Keep container tightly closed	X

Justify the use of this chemical:

Trizol will be required for RNA extraction and purification

How will the precautions listed above be implemented?

Gloves, labcoat, and safety glasses will be worn at all times. Hands will be washed thoroughly after use with the instructions in the precaution statements followed in case of exposure with skin/eyes or if inhaled/swallowed. Prolonged or repeated exposure will be avoided.

Special Storage and Containment Measures

Disposal Method

Container will be kept tightly closed and stored in the poisons cabinet.



Trizol containing tissues/paper towels/gloves will be disposed as cytotoxic waste in yellow and purple bags which will be taken to gas pod 2 for disposal. Pipette tips containing trizol will be disposed as cytotoxic sharps waste in purple sharps bins

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](#)

There will not be any large spillages with only 100ul trizol needed per sample. Any drops of trizol will be cleaned up immediately using tissues/paper towels. The spill area will then be wiped with IMS.

COSHH Form (Continued)

CHEMICAL NAME Direct-zol™ RNA PreWash (part of Direct-zol™ RNA			Hazard Rating High	X	OVERALL RISK: Low	
CAS No. <input style="width:100%;" type="text"/>	Amount used <input style="width:20px;" type="text"/> <input style="width:20px;" type="text"/>	Period of use (hrs) <input style="width:20px;" type="text"/>	The process is: <input style="width:50px;" type="text"/>	Physical State <input style="width:50px;" type="text"/>		<input checked="" type="checkbox"/> Eyes <input checked="" type="checkbox"/> Skin <input type="checkbox"/> Inhaled <input type="checkbox"/> Ingested
W.E.L. (Itel / stel) <input style="width:50px;" type="text"/>	<input style="width:20px;" type="text"/> <input style="width:20px;" type="text"/>	<input style="width:20px;" type="text"/>	<input style="width:50px;" type="text"/>	<input style="width:50px;" type="text"/>		

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
H315 Causes skin irritation.	P241 Use explosion-proof electrical/ventilating/lighting/equipment.	X
H319 Causes serious eye irritation.	P280 Wear protective gloves/protective clothing/eye protection/face protection.	X
	P240 Ground/bond container and receiving equipment.	X
	P233 Keep container tightly closed.	X
	P242 Use only non-sparking tools.	X
	P243 Take precautionary measures against static discharge.	X
	P264 Wash thoroughly after handling.	X
	P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing.	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
	P321 Specific treatment (see on this label).	X
	P332 + P313 If skin irritation occurs: Get medical advice/attention.	X
	P337 + P313 If eye irritation persists: Get medical advice/attention.	X
	P370 + P378 In case of fire: Use CO2, powder or water spray for extinction.	X
	P362 Take off contaminated clothing and wash before reuse.	X
	P403 Store in a well-ventilated place. Keep cool	X
	P501 Dispose of contents/container in accordance with local/regional/national/international regulations.	X

How will the precautions listed above be implemented?

Gloves, labcoat, and safety glasses will be worn at all times. All work using the reagent will be performed in a chemical fume hood. Chemical will be kept away from any sources of ignition. Hands will be washed thoroughly after use with the instructions in the precaution statements followed in case of exposure with skin/eyes. Prolonged or repeated exposure will be avoided.

Special Storage and Containment Measures	Disposal Method	+
Container will be kept tightly sealed in a well ventilated place away from sources of ignition.	Any gloves/cloths/tissues containing traces of pre-wash must be disposed via the cytotoxic waste route in purple and yellow waste bags. Pre-wash containing pipette tips must be disposed in purple cytotoxic sharps containers.	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	

There will not be any large spillages with only 400ul required per sample. Any drops will be cleaned using an absorbent cloth / tissue with tissues disposed as above.

COSHH Form (Continued)

CHEMICAL NAME RNA Wash buffer (part of Direct-zol™ RNA Miniprep)		Hazard Rating Low	OVERALL RISK: Low
CAS No. <input type="text"/>	Amount used: 1 ml Period of use (hrs): 1	Exposure Potential Low	
W.E.L. (Itel / stel) <input type="text"/>	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	

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?
 While the buffer is non hazardous, before use, it will be mixed with ethanol. Once mixed, the precautions in the ethanol risk assessment will be followed.

Special Storage and Containment Measures	Disposal Method	+
Container will be kept tightly shut. Once mixed with ethanol, the storage and containment measures given in the ethanol risk assessment will be followed.	Liquid ethanol containing waste will be disposed as hydrophilic organic waste. Gloves/tissues containing traces of ethanol will be disposed in yellow/purple cytotoxic waste bags with tips containing traces of ethanol containing liquid disposed in purple sharps containers. Tips with traces of buffer without ethanol will be disposed in orange non-cytotoxic sharps containers.	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>	

Any spillages will only be small with only 700ul required per sample. Any drops will be cleaned up using paper towels/tissues which will be disposed as above. Larger ethanol containing spillages in the case of the was buffer bottle getting knocked over will be treated as in the previously approved ethanol risk assessment.

CHEMICAL NAME DNase I (part of Direct-zol™ RNA Miniprep kit)		Hazard Rating Low	OVERALL RISK: Low
CAS No. <input type="text"/>	Amount used: 0.005 g Period of use (hrs): 1	Exposure Potential Low	
W.E.L. (Itel / stel) <input type="text"/>	The process is: Semi Closed Physical State: Lyophilised Solid	<input type="checkbox"/> Eyes <input type="checkbox"/> Skin <input type="checkbox"/> Inhaled <input type="checkbox"/> Ingested	

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	DNase I will be reconstituted with 75ul digestion buffer which is also non-hazardous. This can be disposed off as non-hazardous waste down the biological waste route. Tips containing traces of this can be disposed in non-cytotoxic orange sharps containers.	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

COSHH Form (Continued)

CHEMICAL NAME DNA digestion Buffer (part of Direct-zol™ RNA Miniprep)							Hazard Rating Low	OVERALL RISK: Low
CAS No. <input type="text"/>	Amount used	Period of use (hrs)	The process is:	Physical State	<input type="checkbox"/> Eyes <input type="checkbox"/> Skin <input type="checkbox"/> Inhaled <input type="checkbox"/> Ingested	Exposure Potential Low		
W.E.L. (Itel / stel) <input type="text"/>	0.1 ml	1	Semi Closed	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	Digestion buffer can be disposed down the biological waste route. Contaminated solid waste i.e. gloves/cloths can be autoclaved as digestion buffer is non-hazardous. If 1:20 Chemgene/IMS is used, solid waste must go down the yellow stream waste. Pipette tips with traces of digestion buffer must be disposed in the non-hazardous sharps box.	x

How will spillages be dealt with?
Absorbent cloth / tissue

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](#)

CHEMICAL NAME DNase/RNase-Free Water (part of Direct-zol™ RNA)							Hazard Rating Low	OVERALL RISK: Low
CAS No. <input type="text" value="7732-18-5"/>	Amount used	Period of use (hrs)	The process is:	Physical State	<input type="checkbox"/> Eyes <input type="checkbox"/> Skin <input type="checkbox"/> Inhaled <input type="checkbox"/> Ingested	Exposure Potential Low		
W.E.L. (Itel / stel) <input type="text"/>	0.1 ml	1	Semi Closed	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	The water can be disposed down the biological waste route. Contaminated solid waste i.e. gloves/cloths can be autoclaved as the water is non-hazardous. If 1:20 Chemgene/IMS is used, solid waste must go down the yellow stream waste. Pipette tips with traces of the water must be disposed in the non-hazardous sharps box.	x

How will spillages be dealt with?
Absorbent cloth / tissue

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](#)

COSHH Form (Continued)

CHEMICAL NAME RT Buffer Mix (part of High-Capacity RNA-to-cDNA™ kit)						Hazard Rating Low		OVERALL RISK: Low
CAS No. <input type="text"/>	Amount used 0.02 ml	Period of use (hrs) 1	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		
W.E.L. (Itel / stel) <input type="text"/>								

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	+
Keep in a dry, cool and well-ventilated place	Contaminated solid waste i.e. gloves/cloths can be autoclaved as the mix is non-hazardous. If 1:20 Chemgene/IMS is used, solid waste must go down the yellow stream waste. Pipette tips with traces of the mix must be disposed in the non-hazardous sharps box.	x
How will spillages be dealt with? Absorbent cloth / tissue	<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>	


CHEMICAL NAME RT Enzyme Mix (part of High-Capacity RNA-to-cDNA™ kit)						Hazard Rating Low		OVERALL RISK: Low
CAS No. <input type="text"/>	Amount used 0.002 ml	Period of use (hrs) 1	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		
W.E.L. (Itel / stel) <input type="text"/>								

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	+
Keep in a dry, cool and well-ventilated place	Contaminated solid waste i.e. gloves/cloths can be autoclaved as the mix is non-hazardous. If 1:20 Chemgene/IMS is used, solid waste must go down the yellow stream waste. Pipette tips with traces of the mix must be disposed in the non-hazardous sharps box.	x
How will spillages be dealt with? Absorbent cloth / tissue	<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>	

CHEMICAL NAME Applied Biosystems™ TaqMan™ Fast Advanced						Hazard Rating Low		OVERALL RISK: Low
CAS No. <input type="text"/>	Amount used 0.01 ml	Period of use (hrs) 1	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		
W.E.L. (Itel / stel) <input type="text"/>								

COSHH Form (Continued)

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	
Keep in a dry, cool and well-ventilated place.	Contaminated solid waste i.e. gloves/cloths can be autoclaved as the mix is non-hazardous. If 1:20 Chemgene/IMS is used, solid waste must go down the yellow stream waste. Pipette tips with traces of the mix must be disposed in the non-hazardous sharps box.	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		

CHEMICAL NAME						Hazard Rating High		OVERALL RISK: Low
TaqMan Gene Expression Assay, INV, S						Exposure Potential Low		
CAS No.		Amount used	Period of use (hrs)	The process is:	Physical State	<input type="checkbox"/> Eyes	<input type="checkbox"/> Skin	
W.E.L. (ltel / stel)		0.005 ml	1	Semi Closed	Non-Volatile Liquid	<input type="checkbox"/> Inhaled	<input type="checkbox"/> Ingested	

This chemical has a high health risk associated with it.

Hazard Statement and Description	Precaution Statement and Description	
H360FD May damage fertility. May damage the unborn child.	P201 Obtain special instructions before use.	X
H351 Suspected of causing cancer.	P202 Do not handle until all safety precautions have been read and understood.	X
H373 Causes damage to organs through prolonged or repeated exposure	P260 Do not breathe dust/fume/gas/mist/vapours/spray.	X
	P280 Wear protective gloves/protective clothing/eye protection/face protection.	X
	P281 Use personal protective equipment as required.	X
	P308 + P313 IF exposed or concerned: Get medical advice/attention.	X
	P314 Get medical advice/attention if you feel unwell.	X
	P501 Dispose of contents/container to an approved waste disposal plant	X
Justify the use of this chemical:	TaqMan primers (part of the gene expression assay) are required for this experiment to detect gene expression	
How will the precautions listed above be implemented?		
Appropriate PPE will be worn (gloves, labcoat, safety glasses). Hands will be washed thoroughly after use and medical attention will be sought. Prolonged or repeated exposure will be avoided.		
Special Storage and Containment Measures	Disposal Method	
Keep in a dry, cool and well-ventilated place. Keep away from combustible material.	Solid waste containing traces of the reagent must be disposed via the cytotoxic waste route in purple and yellow waste bags. Pipette tips containing traces of the reagent must be disposed in purple cytotoxic sharps containers.	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>	
Any spillages are only likely to be a few drops with small quantities used. Clear up any drops using an absorbent material/paper towels and dispose the paper towels as given above. Then clean the spillage area with 1:20 Chemgene or IMS.		

+ Add another chemical

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/6886

Method Statement

SAF/MEME/6886

COSHH Assessment

SAF/MEME/1170 - 1179

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:

1 Sep 2022

Review comments