Cleaning a Biological Spill Inside a Centrifuge

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# Purpose

<<<< This SOP is left in DOCX format so that you may edit it for your own laboratory>>>

The purpose of this SOP is to lay out the responsibilities, equipment and procedures required for cleaning a centrifuge when a biohazardous spill has occurred in the unit.

# Scope

This SOP applies to all persons prescribing the use of and using a centrifuge.

# Definitions

Different biological materials may require different disinfectants; it is important that the appropriate disinfectant is used. *NOTE: some disinfectants can cause corrosion in centrifuge chamber, rotors and buckets. Use of corrosive disinfectants will require a post-decontamination rinse of surfaces with tap water or 70% ethanol.*

# Responsibilities

It is the responsibility of the supervisor to:

* **Reviewing this SOP on a regular basis. Review is to consider and mitigate the risks of spill, loss of containment and exposure or other harm. Refer to Performing Risk Assessments SOP.**
* Ensure all centrifuges that their workers are directed to use, are in good repair and labelled with appropriate contact information for maintenance and repair.
* Ensure that all workers under their supervision are trained on and are proficient in performing the SOPs.
* Know the risks associated will all biological materials being used in their laboratory and provide access to PSDS materials.
* Provide all the equipment and disinfectants necessary for cleaning up biological spills.

It is the responsibility of the worker to:

* Complete all training required for safe operation prior to first use.
* Operate and maintain all centrifuges in accordance with manufacturer’s instructions.
* Follow the SOPs for centrifuging biological materials.
* Fill out the log each time the instrument is used.
* Report any damage of centrifuge or rotor to the laboratory supervisor immediately so equipment lock-out/tag-out measures (RMM 306) and repairs can be made.
* Users must wear appropriate laboratory PPE (RMM 320) for the containment level of their laboratory and for the work they are to undertake.
* Know the hazards associated with the biological materials being used in their protocol and review the appropriate PSDS.

# Personal Protective Equipment (PPE)

* Users must wear appropriate laboratory PPE for the containment level of their laboratory and for the risk group of the samples with which they are working.

# Materials

* Cart
* Forceps, tweezers or tongs
* Paper towels (or other absorbent material)
* Container to soak contaminated parts of the centrifuge
* Disinfectant effective against the materials in use
* Spray bottle with 70% Ethanol or 70% isopropanol
* Solid sided disposal container; (e.g.; plastic cleaned and emptied wide-mouthed chemical bottle)
* Biohazard waste box
* Biohazard bags (for solid waste)
* Biohazard Spill sign; available at: <https://biosafety.mcmaster.ca/biosafety_SOPs.htm>

# Operational Procedure

# Always check the manufacturer’s instructions for cleaning and disinfecting your unit.

* When you become aware of a spill in a centrifuge, inform any nearby occupants that a spill and likely tube breakage has occurred inside the centrifuge.
* Post a Biohazard Spill sign ON the cenrifuge; available at: <https://biosafety.mcmaster.ca/biosafety_SOPs.htm>
* Ensure the lid remains closed; do not disturb the centrifuge for 30 minutes after the rotor has stopped to allow aerosols to settle. Recruit trained co-workers for spill cleanup during this time.
* Open centrifuge carefully to avoid disturbing the contents which may be up against the lid.
* Assess the extent of the spill and damage of the tubes, buckets, rotor and inner surfaces of the centrifuge.
* IF YOU ARE ALONE AND NOT ABLE to clean up the Spill; contact your supervisor.
* Remove any sharp debris with forceps, tweezers or tongs and place in sealable secondary container (e.g.; plastic bottle with sealable lid). Place the entire bottle into the biohazard waste container.
* Remove any debris using forceps, tweezers or tongs and place in a sealable plastic bag. Seal and discard plastic bag in a biohazard waste container.
* Carefully remove rotors and buckets, and place in a sealable plastic bag on a cart. Seal the bag and move it to a nearby BSC for further cleaning.
* Mist the inside of the centrifuge with disinfectant. Take steps to inactivate any contamination on surfaces before touching the surfaces.
* Use more paper towel soaked with disinfectant to clean the inside of the centrifuge. If bleach solution is used, you must wash the equipment thoroughly with tap water after disinfection. Bleach solutions corrode parts of the equipment. All used paper towel goes into a sealable plastic bag. Discard sealed plastic bag in a biohazard waste container.
* Working in the biosafety cabinet, soak all the removable parts in the disinfectant for the recommended contact time, rinse thoroughly, dry and spray out of the BSC. Wash with soap and water. Return to the centrifuge.
* Dispose spent disinfectant down the sink with running water.
* Place all other waste (e.g. wet paper towels) in a sealable plastic bag. Discard sealed plastic bag in a biohazard waste container.
* Ensure all reusable items used in the cleanup (forceps, dustpans, etc.) are soaked in disinfectant for the recommended contact time, rinse thoroughly. Wash with soap and water. Lay out to dry.
* Notify your supervisor, and report the spill and successful clean-up.
* Fill out an Incident Report Form.

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# Always use forceps/tweezers to remove Clean and disinfect unit lid

# Glass or plastic particles *(taken from QIAcube centrifuge)*

# References

[McMaster University, Risk Management Manual: RMM502 Hazardous Waste Management Program](http://www.workingatmcmaster.ca/rmm/)

[Canadian Biosafety Standards (CBS) 2nd Edition](http://canadianbiosafetystandards.collaboration.gc.ca/cbs-ncb/index-eng.php)

[McMaster University, Risk Management Manual: RMM 600 Biosafety](http://www.workingatmcmaster.ca/rmm/)

Pathogen Safety Data Sheets [and](http://www.phac-aspc.gc.ca/lab-bio/res/psds-ftss/index-eng.php) Risk Assessment

[Biosafety SOP-005 Transportation and Movement of Biohazards](https://biosafety.mcmaster.ca/biosafety_SOPs.htm)

[Biosafety SOP-00X Cleaning a Biological Spill Inside a Centrifuge](https://biosafety.mcmaster.ca/biosafety_SOPs.htm)

Risk Management Manual 102 OHSA

[PHAC Spills Protocols](https://biosafety.mcmaster.ca/documents/doc105_phac_spill_procedures.pdf) (amended)

[Risk Management Manual 502](http://www.workingatmcmaster.ca/rmm/) Waste Management