

## Biological spills management

### Purpose

The purpose of this document is to provide staff with a procedure for cleaning an area when it has become contaminated with blood, body fluids or other biological hazards. The contents of this document has been adapted from the Lower Mainland Pathology and Laboratory Medicine Safety Manual SM615.

### Supplies:

- Personal Protective Equipment (PPE) including but not limited to, gloves and gowns, procedure masks, respirators and eye protection
- Paper towels or other absorbent material
- Fluid solidifier
- Disinfectant – as per site or area protocol (often 1% Bleach or Presept) see [Appendix A](#) for more information on disinfectants.
- Forceps
- Tape or sign to mark out spill area

### Procedure

No.	Actions		
In the event of a blood/body fluid spill the primary concern is always for staff and patient safety.			
<b>Note:</b> <i>This procedure is not to be used if any chemicals (i.e. Formalin) are involved in the spill. Refer to the appropriate chemical spill procedure first.</i>			
<b>1</b>	Assess the situation.		
	<b>If</b>	<b>Then</b>	
	aerosols from bio hazardous agents have been released is a possibility	Clear people from the area at once and wait 30 minutes for the aerosols to disperse and settle before allowing them to return.	
	the situation does not pose an immediate threat to patients and/or staff (i.e. spill was very small, in a confined area or instrument)	Determine the area that needs to be cleaned up and decontaminated.	
		<b>If the spill is in the</b>	<b>Then</b>
on the floor or other surface		Proceed to <b>Step 2</b>	
	biological safety cabinet	refer to BSC Spill Clean-up document	

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you are not qualified to handle the emergency	<ul style="list-style-type: none"><li>• evacuate the area immediately,</li><li>• alert others to the danger, and</li><li>• contact emergency numbers as per your site protocol.</li></ul>
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No.	Actions
2	Before cleaning up the spill, check whether your clothing or skin has been contaminated. <ul style="list-style-type: none"> <li>• If so take the steps specified in FNHA's Blood and Body Fluid Exposure Control Plan</li> </ul>
3	Put on personal protective equipment (PPE) <ul style="list-style-type: none"> <li>• at minimum a gown, gloves and if appropriate, a procedure mask, eye protection, and/or respirator</li> </ul>
4	Cover the spill area with paper towels or other absorbent material.
5	Gently pour disinfectant onto the absorbent material in a circular fashion, moving from the outside towards the centre.  <b>Note:</b> <i>Disinfectant should remain on the spill site for 30 minutes but may differ according to disinfectant being used. Refer to SDS or manufacturer information sheets.</i>
6	After 30 minutes, using forceps, remove the absorbent material from the spill area.
7	Remove any sharp objects including broken glass fragments from the spill area <ul style="list-style-type: none"> <li>• do not use direct hand contact – use forceps</li> <li>• dispose of sharps into a sharps waste container</li> </ul>
8	Repeat steps 4 – 6 on spill site
9	Clean the spill site surface with dampened clean disposable towels.
10	Place all materials used to decontaminate the spill into a biohazard waste container.
11	Remove PPE and dispose of them into biohazard waste container or as per site protocol.
12	Wash hands thoroughly.
13	Report spill incident to supervisor using approved safety incident reporting procedure.

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**Appendix A****Disinfectants**

Taken from WorkSafe B.C., *Laboratory Health and Safety Handbook*, 2008

**Table 8\***

<b>Class</b>	<b>Purpose</b>	<b>Mode of action</b>	<b>Advantages</b>	<b>Disadvantages</b>	<b>Examples</b>
Alcohols	<ul style="list-style-type: none"> <li>Cleaning some instruments and surfaces</li> <li>Cleansing skin</li> </ul>	<ul style="list-style-type: none"> <li>Denature proteins</li> </ul>	<ul style="list-style-type: none"> <li>Inexpensive</li> <li>Easy to use</li> <li>Not corrosive</li> <li>Effective against most micro-organisms</li> </ul>	<ul style="list-style-type: none"> <li>Evaporates quickly</li> <li>Long contact times needed</li> <li>Flammable</li> <li>Inactivated by organic matter</li> </ul>	<ul style="list-style-type: none"> <li>Ethanol</li> <li>Isopropanol</li> <li>(70–85%)</li> </ul>
Formaldehydes	<ul style="list-style-type: none"> <li>Cleaning surfaces</li> <li>Decontamination of large spaces (as a gas)</li> </ul>	<ul style="list-style-type: none"> <li>Denature proteins (requires presence of water vapour)</li> </ul>	<ul style="list-style-type: none"> <li>Very effective against all forms of biohazards, including spores</li> <li>Gas can enter small cracks and spaces</li> </ul>	<ul style="list-style-type: none"> <li>Special personal protective equipment needed</li> </ul>	<ul style="list-style-type: none"> <li>37% Formalin</li> <li>Paraformaldehyde</li> <li>Cidex 7<sup>®</sup></li> <li>Sporociden<sup>®</sup></li> </ul>
Phenolics	<ul style="list-style-type: none"> <li>Effective bacteriostatic agent when diluted</li> </ul>	<ul style="list-style-type: none"> <li>Corrode tissues and cells</li> </ul>	<ul style="list-style-type: none"> <li>Effective against viruses and vegetative bacteria</li> </ul>	<ul style="list-style-type: none"> <li>Corrosive, irritating to skin</li> <li>Sticky</li> <li>Strong odour</li> </ul>	<ul style="list-style-type: none"> <li>Pheno-kill<sup>®</sup></li> <li>Phenola<sup>®</sup></li> <li>Mikro-Bac<sup>®</sup></li> </ul>
Quaternary ammonium compounds	<ul style="list-style-type: none"> <li>Cleaning surfaces</li> </ul>	<ul style="list-style-type: none"> <li>Affect proteins and cell membranes</li> </ul>	<ul style="list-style-type: none"> <li>Contains detergents to aid in cleaning</li> <li>Rapid action</li> <li>Non-corrosive, non-staining</li> </ul>	<ul style="list-style-type: none"> <li>May not be active against some bacteria, spores, and viruses</li> <li>Rapidly inactivated by soap and organic matter</li> </ul>	<ul style="list-style-type: none"> <li>Roccal<sup>®</sup></li> <li>Tor<sup>®</sup></li> <li>Miko-Quat<sup>®</sup></li> </ul>
Chlorine compounds	<ul style="list-style-type: none"> <li>Cleaning spills of human body fluids</li> </ul>	<ul style="list-style-type: none"> <li>Free available chlorine binds with contents within micro-organism; reaction by-products cause death</li> </ul>	<ul style="list-style-type: none"> <li>Broad-spectrum</li> <li>Fast acting</li> <li>Inexpensive</li> </ul>	<ul style="list-style-type: none"> <li>Corrosive</li> <li>Short shelf life</li> <li>Inactivated by organic matter</li> <li>Irritates skin and eyes</li> </ul>	<ul style="list-style-type: none"> <li>Sodium hypochlorite</li> <li>Javex<sup>®</sup></li> <li>PRESEPT<sup>®</sup></li> <li>Alcide<sup>®</sup></li> </ul>
Iodine compounds	<ul style="list-style-type: none"> <li>Disinfecting some semi-critical medical equipment</li> </ul>	<ul style="list-style-type: none"> <li>Free iodine enters micro-organism and binds with cellular components</li> <li>Needs 30-50 ppm</li> </ul>	<ul style="list-style-type: none"> <li>Broad-spectrum</li> <li>Cleansing action</li> <li>Built-in colour indicator</li> <li>Inexpensive</li> <li>Few health or disposal problems</li> </ul>	<ul style="list-style-type: none"> <li>Inactivated by hard water</li> <li>May stain</li> <li>Weakly corrosive</li> <li>Reacts with organic matter</li> </ul>	<ul style="list-style-type: none"> <li>Wescodyne<sup>®</sup></li> <li>Mikroclene<sup>®</sup></li> <li>Hi-Sine<sup>®</sup></li> </ul>

\* Adapted from University of British Columbia *Laboratory Biosafety Reference Manual*, 4th ed.

## References

- WorkSafe B.C., *Laboratory Health and Safety Handbook, 2008*
- Clinical Laboratory Standards Institute, *GP17-A3 Clinical Laboratory Safety: Approved Guideline – Third Edition, June 2012*
- *CSMLS Safety Guidelines, Eighth Edition*; Canadian Society of Medical Laboratory Science, Gene Shematek, Wayne Wood and Eoin O'Grady (2017)

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Date: August 24, 2020

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Date: October 2, 2020

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