Title: Spill cleanup for GM animal materials including sperm, ova, and embryos

Purpose: To provide step-by-step instructions for the clean-up of biological spills involving materials derived from genetically modified (GM) animals – sperm, ova, embryos, tissues.

Research groups are responsible for the preparation of Safe Operating Procedures (SOPs) and Risk Assessments for their own work.

Spill cleanup

For spills involving materials from animals that have been infected with GM or non-GM microorganisms, follow spill cleanup procedures for microbiological spills, available on the Gene Technology incident website: https://www.adelaide.edu.au/staff/research/ethics-compliance-integrity/gene-technology/gmo-dealings#incidents

1. Move away from the spill, warning others around you to keep out of the area of the spill. If the spill is in a biosafety cabinet, keep the cabinet running.
2. Collect spill cleanup equipment (see 'Planning for control of spills' for a list of spill kit requirements). Make fresh solution of sodium hypochlorite solution (1% available chlorine*) or 1:100 dilution of F10SC.

   *Important note: Sodium hypochlorite should not be used for spills that contain acids, ammonia, or formaldehyde. 1% available chlorine is NOT the same as 1% bleach. For bleach containing 12.5% available chlorine (typical lab strength, but check the bottle), a 1:11 dilution of bleach to water is sufficient. For bleach containing 4% available chlorine (typical household strength, but check the bottle), a 1:3 dilution of bleach to water is required.

3. Before entering the spill area, put on a long-sleeved laboratory gown and clean disposable gloves.
4. Assess the extent of contamination, including any areas where splashes may have landed.
5. Avoiding personal contamination, collect any large animal material and return to a container or dispose. Where applicable, follow AEC-approved euthanasia procedures.
6. Wet your absorbent material (e.g., paper towels) with either F10SC or sodium hypochlorite solution and place the absorbent material over the spill. Leave it to sit for at least 10 minutes.
7. After 10 minutes, remove any sharp objects in the spill area using forceps or tweezers and discard in a sharps container. Remove absorbent material and place in biohazard waste bag.
8. Starting from the outside edge of the spill, wipe all surfaces with fresh disinfectant-soaked absorbent material. Wipe over surrounding areas that are likely to have been contaminated with splashes.
   a. If the spill has occurred in a biosafety cabinet, wipe down the inside of the biosafety cabinet, including the work area, sides, back and inside of the glass sash with paper towel wetted with disinfectant.
9. Following disinfection of any stainless-steel surfaces with sodium hypochlorite, re-wipe the area with clean water or ethanol to remove chlorine residue that will corrode the stainless steel.
10. Dispose of all paper towel and other absorbent material into biohazard waste bag.
11. Remove gloves and wash hands with soap and water or use hand sanitiser provided.
12. Remove gown and dispose or send to laundry services.
13. Seal biohazard bin bag and dispose to clinical waste wheelie bin.
14. Wash hands with soap and water, or where handbasin is unavailable, use hand sanitiser.
15. Notify the Animal Welfare Officer and Animal Ethics Committee of any adverse event.
16. Notify facility managers and the IBC that spill cleanup is complete.

Planning for control of spills before they happen	
1	Ensure that everyone working in the facility is aware of and familiar with these procedures.
2	Ensure that a copy of the spill clean-up poster is printed and available in the facility.
3	Have a biological spills clean-up kit available. This doesn't have to be a commercial kit – often making your own is a better option to make sure that the right items are available. Remember that chemical spill kits are different to biological spill kits. A good biological spills clean-up kit should include the following items: • Forceps or tweezers to pick up any sharps • Disposable gloves (several pairs) • Disposable gown or full-body apron • Absorbent material – e.g., paper towel, kitty litter, or lab absorbent pads • Sodium hypochlorite bleach (undiluted and within expiry date) • Biohazard waste bags
4	Have a contact list for trained staff who are available to assist with spills clean-up if required – technical officers, IBC research compliance officers, etc.

Legislation, Guidelines and Standards:

- Gene Technology Act 2000
- OGTR Guidelines for Certification of PC1 Facilities/PC2 Laboratories/PC2 Animal Facilities

This guidance document is supplied to specify requirements under relevant legislation, guidelines and standards relating to the compliant handling of regulated biological materials including, but not limited to GMOs, microorganisms and samples/organisms containing these.

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