

Title: Spill cleanup for GM plant material, soil, and seed spills, and for spills involving material from plants infected with GM or non-GM microorganisms.

Purpose: To provide step-by-step instructions for the clean-up of spills involving materials from GM plants or plants infected with microorganisms.

Contents

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

Spill clean-up

1. Notify others in the area not to walk through any spilt material and ask for assistance with spill clean-up if required.
2. Collect spill clean-up materials, including a dustpan and brush, biohazard bin bags and PPE.
3. Put on long-sleeved lab coat or gown, gloves, and if you are cleaning up soil, also wear a dust mask/surgical face mask.
4. Pick any dropped or broken sharp items out of the spill area using tongs or forceps and discard in a sharps container or broken glass bin.
5. Pick up any large pieces of plant material and either dispose in a biohazard waste bag or contain in a sealed container for later use.
6. Pick up any pots or contaminated labware and put in a container for later decontamination and reuse.
7. Sweep up spilt soil, seeds, etc. using the dustpan and brush. Place into biohazard waste bag for disposal.
8. Sweep the spill area and the surrounding area again to make sure that any small seeds or bits of soil have been collected. Place material into biohazard waste bag.
9. Brush the bottoms of your shoes to remove any seeds, soil or plant material and dispose of any residue in the biohazard waste bag. Clean brush and dustpan, collecting residue into biohazard waste bag.
10. If spill was from plants infected with experimental microorganisms, spray area with suitable disinfectant, leave for 10 minutes, wipe with paper towel then repeat this step. Dispose paper towel into biohazard waste.
11. Remove PPE, dispose gloves and face mask into biohazard waste bag and send coat/gown to laundry.
12. Wash hands at sink with soap and water, or use hand sanitiser.
13. Notify the IBC of the incident and spill clean-up procedure.
14. If the spill has occurred outside of a PC2 plant facility, and involved a GMO plant with seeds, the area will need to be monitored weekly for any signs of germination. Where this occurs, spray area with glyphosate (or another herbicide effective for the GMO being handled) and report to IBC.

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	<p>Have a 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.</p> <p>A good spills clean-up kit for plant facilities should include the following items:</p> <ul style="list-style-type: none"> • Forceps or tongs to pick up any sharps • Disposable gloves (several pairs) • Long-sleeved laboratory gown or coat • Dust mask / surgical face masks • Dust pan and brush • Absorbent material – e.g., paper towel

	<ul style="list-style-type: none"> Disinfectant: Bleach, Phytoclean, or Vantocil FHC (undiluted and within expiry date), as approved in your area and/or in the associated IBC approval. 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.

Hazard Management:

- Remember that soil has the potential to contain microorganisms that can cause injury or illness in exposed personnel. Soil from GM plant studies may, in some cases, contain GM seed or pollen that cannot be released from containment.
- Remember that GM material or plant pathogens released from a containment facility have the potential to cause damage to the environment.
- Take care when selecting disinfectants for spill cleanup.
 - The disinfectant must be effective against microorganisms that may be present.
 - Ensure chemical safety is considered – e.g., be aware the using sodium hypochlorite/bleach for a spill that contains acids, ammonia or formaldehyde can produce toxic vapours.

General precautions

- Wear PPE during spill clean-up, including but not limited to a long-sleeved gown or lab coat, disposable gloves, and a dust mask / surgical face mask (the latter should be worn to protect against microorganisms carried in dust when cleaning up spilt soil).
- Ensure that you undertake cleanup for any spill occurring outside of a containment facility as soon as possible, and that you notify the IBC of the incident. Additional cleanup or monitoring may be required in some cases.

Legislation, Guidelines and Standards:

- Australian/New Zealand Standard 2243.3 Safety in Laboratories – Part 3: Microbiological Safety and Containment
- Gene Technology Act 2000
- OGTR Guidelines for Certification of PC1/PC2 Physical Containment Facilities/Laboratories/Plant 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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