



**USAID**  
FROM THE AMERICAN PEOPLE



**KANSAS STATE**  
UNIVERSITY

UNIVERSITY OF  
**Nebraska**  
Lincoln



PHL Innovation Lab  
**Guatemala**

**TITLE: Procedure for Decontaminating and Disposing Materials used During Mycotoxin Analysis**

Written by: Luis Sabillón  
Effective date: 03/04/2015

Edited by: Andréia Bianchini  
Version: 2

**PURPOSE:**

1. To describe the procedure for properly disposing of organic solvents and decontaminating every material used after working with mycotoxins.

**PROCEDURES: DISPOSING OF ORGANIC SOLVENTS**

1. After extracting the mycotoxin of interest, separate the liquid from the solid portion by filtration.
2. For the extraction procedures involving organic solvents, collect waste chemicals (i.e., methanol) in individual, leak proof, sealed containers. The chemicals must be compatible with container material (e.g. acids must not be placed in a metal container).
3. For the extraction procedures involving water, collect waste water in individual, leak proof, sealed containers.
4. All containers must be clearly identified and labeled with the proper chemical name(s) of the substance(s) at the start of collection.
3. After collection, incinerate the wastes containing organic solvents and water in units operated in accordance with the technical operating requirements described by Universidad del Valle de Guatemala.

**PROCEDURES: DECONTAMINATION AND/OR DISPOSING OF SOLID MATERIAL**

All contaminated material should be treated as soon as possible. This includes glassware, culturing material, sample residues, etc.

1. After filtration, decontaminate the extraction residues and ground sample materials in 50% bleach for at least 30 minutes. Then, drain it through cheese cloth and discard it in garbage plastic bags.
2. Decontaminate the workspace and any other material used during the extraction procedure as follows:
  - 2.1 Glassware:** The preferred decontamination procedure is to soak in at least 10% bleach solution for 30-60 minutes. Glassware should **never** be left in bleach solution any longer than overnight, as etching can result. Decontaminated glassware should be rinsed with tap water and then washed in the conventional manner.

**2.2 Pipettes:** They are decontaminated by placing **tip down** in a pipette can containing 10% bleach. Pipettes should then be rinsed clear of bleach, dipped in nitric acid cleaning solution, rinsed and then washed by conventional methods.

**2.3 Metal and plastic utensils** (e.g. blender blades, spatulas, foam stoppers, vial caps, etc.): They should be immersed in a bleach solution for only 3-5 minutes. Soaking longer causes rusting and deterioration.

**2.4 Culture slants:** They should be filled to 1-2 inches from the top with 50% bleach while agar is still warm and molten, and allowed to stand for 30-60 minutes. Strain and discard.

**2.5 Work areas and equipment:** should be protected from toxin spills, as much as possible, by using plastic liners. The work area should be wiped down with a 10% bleach solution when finished, as should be any pens, pencils, and light equipment used.

**Extra sample not ground:** Retain these samples for the duration of the project. Once all samples have been processed and data evaluated then combine these retain samples and discard them according to the protocol used to dispose samples in the field (Protocol – Disposal of Grains).

## **PROCEDURES: DECONTAMINATION OF SPILLS**

Any spill should be treated as soon as possible according to the following procedure:

1. Treat any spill and any paper towels used with 100% bleach before discarding.
2. Place paper towels over bench top spills and then cover the towels with bleach.
3. Make sure that the entire spill area is treated with bleach. Larger spills or spills that are on the floor or other unprotected surfaces should be surround and covered with an absorbent material (paper towels, vermiculite or other material from a spill kit) then treated with full strength household bleach.
4. Carefully pick up the treated material with a scoop provided in the spill kit and place in a plastic bag.
5. Dispose of the material in the trash.
6. Treat cleaned spill area again by covering with paper towels and treating a second time with full strength bleach.
7. After 5-10 minutes pick up bleach soaked paper towels and place in a plastic bag and dispose of the towels in the trash.
8. Wash the spill area with soapy water.