

**University of Saskatchewan
College of Pharmacy & Nutrition
Division of
Standard Operating Procedure #
Chemical Spills**

Chemical Spills

Minimum Review Requirements: Annually

Creation Date: _____

Date of Next Review: _____

Administrator of Procedure:

Supervisor of Procedure:

Authorized by:

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1. Version History

Version #: _____

Supersedes: _____

The signatures below indicate the person(s) responsible to administer and supervise this procedure have read and agree to abide by the SOP attached	Date

Handwritten amendments to the official procedures can be made by a single line through the text, along with the date, and initialed by the authorized individual making the correction. Changes are to be noted below. Formal changes to this SOP are made on the date of revision or sooner, where required.

Section	Changes made to official copy	Date	Initials

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2. Introduction

Clean up of chemical spills must be done such that it prevents unsafe exposure to workers and others and damage to the environment. For spills involving chemicals and radioactive or biohazards, consult WMF or WSEP Chemical Safety, Radioactive Safety or Bioasafety Managers. **NOTE:** Household cleaners, detergents and sanitizers are classified as Consumer Products rather than WHMIS controlled products, and therefore they have no MSDSes. Safety information is found on the container labels.

3. Definitions

MSDS-Material Safety Data Sheet
WSEP-Department of Health, Safety and Environment
WMF-Waste Management Facility
THORV-Thorvaldson building

4. Personnel

SOP issued under authority of:

Persons authorized to perform this SOP:

(This will be the list of persons authorized and trained to perform the SOP. You will need training records for all these people.)

5. Safety

Chemicals can damage the environment and cause harm, ranging from irritation to injury, to workers when eyes, skin and respiratory tract are exposed and it may result in death.

With respect to chemicals that harm the environment:

Do not discard these or liquids used for clean up down the drain. Liquid from two or more rinses of water or other liquid must be contained and sent to WMF for disposal. See the WSEP Hazardous Waste Disposal Manual for procedures.

Manuals: WSEP Hazardous Waste Disposal Manual and LabSafety manuals

MSDSes: Chemicals in the area

NOTE: Household cleaners, detergents and bleach (for decontaminating biohazards by disinfection and sanitizing) are classified as Consumer Products rather than WHMIS Controlled Products, and therefore have no MSDSes. Safety information is found on the container labels.

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6. Procedure
Preparation

Call for help if the situation jeopardizes the health and safety of anyone
AND call every time for support for your own safety and wellbeing.

Know the names of contacts to call for help:

During regular hours of work: (University core hours 8:30 am-4:30 pm as per collective agreements)

The College General Office: ##### on campus phone (966-##### by cell or pay phone) can be called any time during regular hours of work to come to your aid or to arrange for any support that you need.

WSEP Chemical Safety: 8512 or 8493 by campus phone (966-8512 or 966-8493 by cell or pay phone)

WSEP Waste Management: 8497 on campus phone (966-8497 by cell or pay phone)

After hours: Call Security: 5555 on campus phone (966-5555 by cell or Security button on pay phone)

1. **Call** for help and deal with injuries or emergencies. **Alert** everyone to the hazard and contain a spreading spill, especially if it is nearing a floor drain by ringing it with disposable diapers, kitty litter or sand). Be aware of the nearest eyewash and safety shower.
2. **Assess** whether you are able to deal with the situation on your own based on your experience, training, equipment and circumstances: Consult reference material: MSDSes, labels, manuals.

If, at any time, you feel you are overwhelmed or unable to deal with it or if it becomes larger than you or your colleagues can handle:

-Call the Waste Management Facility (WMF) at 8497 on a campus phone (966-8497 by cell or pay phone) during regular working hours of 8:00 am to 4:30 pm or **Security** at 5555 on campus phone (966-5555 by cell phone or Security button on pay phone) after hours.

-Provide WMF with the following information, indicating the chemical that is spilled: your name and phone number, location and size of spill, any injuries or emergencies.

Complete an Incident Report found on the WSEP website Forward it to WSEP, saving a copy for yourself.

3. **After consulting** reference material and becoming familiar with the procedure, gather tools and supplies.
4. **Put on PPE:** Buttoned long lab coat, closed top and closed heel shoes with slip resistant soles, pants to the top of the shoes.

Put on two pairs of nitrile gloves or other gloves specified in the MSDS for the chemical. Tuck lab coat sleeves into the gloves, by forming a pleat in the sleeve and tucking it securely into the glove, adjusting the sleeve length to allow some ease for movement, but not so much that the sleeves will drag on surfaces and become contaminated.

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For the following chemicals (indicate location) in addition, based on the level of protection needed:

Group 1:

Snoop, liquid leak detector: safety glasses

Softcide handsoap, Alco sanitizer: safety glasses

Group 2:

Household chemicals: safety glasses, dust mask

Extran-MN-01 Detergent: safety glasses, dust mask

Dessicant-Type 4A & Type 13X: chemical goggles, dust mask

Indicating Drierite: safety glasses or chemical goggles, dust mask

Sodium sulfate, anhydrous: safety glasses or chemical goggles, dust mask

Group 3:

Dextran, M.Wt. 64-76,000: chemical goggles, dust mask **Carcinogenic in animals, no data for humans**

Group 4:

Barium dichloride, dihydrate: chemical goggles, respirator **Do not allow this chemical into the environment.**

4. **Absorb liquid** with kitty litter or disposable diapers.

5. **Gather and pick up** the chemical or absorbent material, starting at the outside and working inward, using tools rather than hands to prevent injury. Use disposable tools (e.g. disposable scoops, dustpans, large weigh boats or forceps) instead of those that are not (broom and dustpan or forceps). **Sweep away** from you and minimize dust and production.

6. **Place** the material and disposable tools in a suitable plastic container of suitable size with a snap lid.

7. **Decontaminate** the area, by carefully, wiping with several layers of paper towel or disposable diaper **dampened with a liquid that is not incompatible with the chemical, as outlined on its MSDS or container label.** (

8. **Deposit** used material in the container.

9. **Clean and dry** tools that are not disposable, using paper towels and a compatible liquid or soap and water. Deposit used towels in the container.

Do not allow Barium chloride to go down the drain. First, rinse the tools with water twice, collecting the rinse water in a suitable liquid hazardous waste disposal container. Send it to and other water rinses used to clean Barium chloride contaminated items to WMF for disposal.

10. **Remove** outer layer of gloves and deposit them in the container.

11. **Remove** dust mask and deposit it in the container. Remove and clean respirator, if used.

12. **Remove** and clean eyewear.

13. **Remove** lab coat and put it in a separate, small plastic bag to take to laundering. Do not reuse the lab coat before laundering. Close the bag with a twist tie.

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14. **Remove** inner layer of gloves and deposit in the container.
15. **Snap** the lid onto the container.
16. Thoroughly **wash hands** for 30 seconds or as long as it takes to sing the “ABCs”, using liquid handsoap, warm water and rotary motion on the fronts and backs and getting between the fingers and under fingernails. Rinse and dry thoroughly. Put on a clean lab coat to continue work.
17. **Alert** the janitors to wash the floor by speaking with them, leaving a note addressed to the custodial supervisor in their mailbox.
18. **Replenish** Spill Kit supplies.
19. **Label** the containers and complete disposal documents, according to the Hazardous Waste Disposal Guidelines. Take them, using safe transport procedures in a bin on a trolley for disposal to WMF.
Label the bag with the lab coat with “Contaminated with _____” and the name of the chemical the contaminant and take it to laundry pick up.
20. **Complete** an Incident Report found on the WSEP website. Forward it to WSEP, saving a copy for yourself.

7. Equipment or Materials Required

Nitrile gloves, dust masks or respirator, safety glasses or goggles, lab coats, disposable dustpans, forceps, scoops or large weighboats, broom and dustpan or forceps, small plastic bags, containers with snap lids, hazardous liquid collection containers and funnel, paper towels, soap, handsoap, pail, labels, pen, blank incident forms, tape, cordoning material.

8. Highlights / Critical Control Points

Prepare for the clean up before beginning by reading through the reference material, particularly the MSDS for the chemical or label for household chemicals. Assemble equipment before beginning clean up. Do not contaminate other areas in the lab, areas outside of the lab and the environment.

9. Reporting

Complete an Incident Report found on the WSEP website. Forward it to WSEP, saving a copy for yourself

10. Regulatory / Standards

Article 310: Accumulations, spills and leaks-SK Occupational Health & Safety Regulations, 1996

Article 40: Employer’s duties re substances and controlled products-SK Occupational Health & Safety Act, 1993

11. Trouble Shooting

This includes typical problems encountered with this procedure in the past. You can reference troubleshooting guides provided by equipment manufacturers or you can indicate common problems.

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The level of detail that is required really depends on what kinds of problems have been experienced. Often it's the unusual ones that need the troubleshooting guide the most.

Examples:

Problem:

Look for

Microscope doesn't work	Check light bulb, where are spares kept? Check power cord Is the rest of the lab dark? Maybe power is out or a breaker has been tripped.
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12. References

WSEP LabSafety Manual, February 2006

WSEP Hazardous Waste Disposal Manual, August 2007

MSDSes