

WSU ORGANIC CHEMISTRY LABORATORY SAFETY RULES AND CONTRACT

- Chemical splash-proof goggles must be worn **AT ALL TIMES** in the lab except during pre-lab lectures or when indicated by the instructor. Only indirect-vented goggles marked as Z87.1 are acceptable.
- **Report** all injuries to your laboratory instructor or TA as soon as possible.
- Know the locations and proper use of the fire extinguisher, safety shower, and eyewash station.
- Be prepared for your work. Prepare a pre-lab plan including the planned procedures and safety considerations before every lab.
- All work is to be carried out in a fume hood. Keep all chemicals in your hood whenever possible. (Rinse glassware to be cleaned preliminarily in your hood before bringing to the sinks.)
- Gloves must be worn when instructed to do so.
- No work is permitted outside of the scheduled lab periods unless you have been given permission.
- Unauthorized experiments are not allowed.
- Read the labels on chemicals to be used very carefully.
- Do not bring food or drinks into the lab.
- Wash your hands and gloves with soap and water after using chemicals and again before leaving lab.
- No horseplay is allowed!
- Coats should be left on the hooks provided inside the lab and bags should be placed out of the way.
- Keep electrical cords away from water sources.
- Chemical wastes should be disposed of properly. (See page 3 of this document.)
- Disposable/broken glassware should be placed in the glassware container (the 5-gallon tub near the doorway).
- Clean up broken glassware using the broom and dustpan. Never pick up a piece of broken glass with your hands.
- Never force glassware.
- Dress appropriately:
 - Hair must be pulled back away from the face.
 - Clothing must completely cover legs.
 - Leggings or other items of tight clothing are not permitted.
 - Shoes must completely cover the foot. No sandals are allowed.
 - Contact lens wearers should be aware of potential risks.
 - Tight jewelry, such as finger rings, which cannot be easily removed, should not be worn.
- When wearing gloves, treat the gloves as you would your hands. Wash them frequently with soap and water.
- Clean up all spills, including water, immediately. Ask the instructor or TA for help cleaning up chemical spills.
- For acid/base spills: Neutralize acid with sodium bicarbonate or base with boric acid then sponge up with plenty of water.
- Do not insert pipettes or medicine droppers into reagent bottles.
- Do not return unused chemicals to their bottles. Dispose of them in properly labeled waste containers.
- Make sure spatulas are clean and dry before using them to remove solid chemicals from reagent bottles.
- When preparing diluted acid solutions, always pour the acid into the water.
- If you are exposed to a chemical:
 - Eyes – use eye wash for at least 15 minutes
 - Skin – flush immediately with cold water for 10-15 minutes
 - Clothing – use safety shower, remove affected clothing.
 - Inhalation – go outside and breathe fresh air for 10 minutes.

All incidents involving chemical exposure will be documented by the lab instructor and/or campus security. Anyone needing to use the eyewash or safety shower will be required to seek follow-up medical attention.

Should an accident in the lab involve human blood or other potentially infectious materials, please keep in mind:

- If you are bleeding, you **must** notify your lab instructor and/or TA. Fellow students in lab should avoid assisting in situations involving potentially infectious materials- the potential for others to be exposed to potentially infectious materials must be limited. Campus security is always available to assist if the situation warrants.
- If you are able, you will be asked to clean up any contaminated area involved. Again, this is to reduce the potential of others being exposed to potentially infectious materials.
- If you need assistance, security will be called. Be aware that they will put on gloves to protect themselves and you- please do not take this personally!
- Any area contaminated with potentially infectious materials has to be properly disinfected and all materials used to clean up the area have to be disposed of as infectious waste. No infectious waste can go into the regular trash.

If you are pregnant, contact your health care provider about possible risks associated with the chemicals used in the lab. You may wish to inform your lab instructor. Your instructor may inform you about possible alternative accommodations.

As a general rule, use common sense and if you are not sure about procedures, chemicals, etc., then ask the instructor?

Please help keep our labs safe- if you observe any potential hazards, notify somebody.



Chemical Hazardous Waste: Rules for Safe Handling in the Classroom

Products we use every day can be harmful to humans and the environment depending on their quantity, concentration, or physical, chemical or infectious condition when improperly treated, stored, transported, or disposed of, or otherwise managed inappropriately. The Minnesota Pollution Control Agency regulates the generation, storage and disposal of hazardous waste.

You are responsible to properly handle the chemical wastes you generate:

- **Always** put the wastes in the designated and labeled hazardous waste containers. Your instructor will show you the proper location in the laboratory or classroom for each type of waste generated.
- **Never** mix one type of waste with another.
- **Never** dispose of hazardous waste using sinks, intentional evaporation, or as regular trash. Those are harmful for the environment and against the law. All campus laboratories and classrooms must abide by strict Minnesota Pollution Control Agency and federal Environmental Protection Agency waste disposal requirements. You may be held liable for violations of applicable laws.
- **Immediately report** any spills to the instructor.
- **Remember**, simply because a waste is nonhazardous does not mean it may go into a dumpster or a drain. Other regulations may apply. Ask your instructor.

Hazardous waste includes many types of materials. They are categorized by state and federal laws. The categories are referred to as “lists.” Examples that may be found in a chemistry lab include:

Distillation residues, solvents, aqueous acid/base solutions, reaction products and side products, spent drying agents, u
unnneeded reactants.

What hazardous wastes will I come in contact with in my academic program?

Your instructor will discuss specific hazardous wastes you may encounter in your class. Each type of hazardous waste is separately stored in a special container designed for that waste. Your classroom has containers for types of wastes you will generate in your academic program.

What happens to the waste after it is put in the labeled waste containers?

From the classroom, the hazardous wastes typically are transferred to a holding spot on campus such as the “satellite accumulation center” or “central disposal storage location”. Eventually, an authorized and licensed waste disposal facility will dispose of the waste. Each waste is separately disposed of in a way that prevents it from polluting the air, water and land.

Additional Resources

Campus environmental health and safety officer is [Erin Paulson](#).

Minnesota Pollution Control Agency

<http://www.pca.state.mn.us/waste/index.html>

Hazardous Waste Compliance Guide:

<http://www.pca.state.mn.us/publications/w-hw5-25.pdf>

Minnesota State Colleges and Universities Hazardous Waste Management Plan and additional resources:

<http://www.firecenter.mnscu.edu/ehs/environmental/documents/Appendix1toAnnexK.pdf>

Upon request, this publication is available in alternative formats by calling the Minnesota State Colleges & Universities Fire/EMS/Safety Center at: (651) 649-5454; or toll free number: (800) 311-3143; or TTY: (651) 282-2660.

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Infectious and Biohazardous Waste: Rules for Safe Handling in the Classroom

Products we use every day can be harmful to humans and the environment depending on their quantity, concentration, or physical, chemical or infectious condition when they are improperly treated, stored, transported, or disposed of, or otherwise managed inappropriately. The Minnesota Pollution Control Agency regulates the generation, storage and disposal of hazardous waste.

Waste is classified in state and federal law as “infectious / biohazardous” if it has potential to transmit disease. Infectious or biohazardous waste must be segregated from other wastes and go through a decontamination process before it is considered safe for routine handling as a solid waste. Hence, it is collected in special containers.

You are responsible for proper disposal of the infectious or biohazardous wastes you handle.

1. **Always** put the wastes in the designated and labeled infectious / biohazardous waste containers. Your instructor will show you the proper location in the laboratory or classroom for each type of waste generated.
2. **Never** dispose of hazardous waste using sinks or intentional evaporation or as regular trash. It is harmful for the environment – and against the law. All campus laboratories and classrooms must abide by strict Minnesota Pollution Control Agency and federal Environmental Protection Agency waste disposal requirements. You may be held liable for violations of applicable laws.
3. **Remember:** Simply because a waste is nonhazardous does not mean that it can go into a dumpster or in a drain. Other regulations may apply. Ask your instructor.

Examples of infectious or biohazardous waste:

Blood and blood products, other regulated body fluids, items dripping with body fluids, sharps (e.g. syringe needles)

What happens to the waste after it is put in the labeled waste container?

Your classroom has containers specifically labeled for infectious / biohazardous waste. After the wastes are collected from the classroom, they are decontaminated, either by campus personnel or a contracted service provider. Eventually, they are disposed by an authorized and licensed waste disposal facility.

Additional Resources

Campus environmental health and safety officer is [Erin Paulson \(starting July 6\)](#).

Waste – health care industry: Minnesota Pollution Control Agency <http://www.pca.state.mn.us/industry/healthcare.html>

Managing waste from health care providers:
<http://www.pca.state.mn.us/publications/w-hw3-34.pdf>

Minnesota State Colleges and Universities Hazardous Waste Management Plan and additional resources:
<http://www.firecenter.mnscu.edu/ehs/environmental/documents/Appendix1toAnnexK.pdf>

LABORATORY AGREEMENT FORM

I have read the laboratory safety rules and agree to abide by them.

NAME _____

SIGNED _____

DATE _____

In the case of an emergency, it is important to act quickly and cautiously. In doing so, it is important to be fully aware of any pre-existing conditions or circumstances that may affect treatment.

In addition, other health conditions, such as prescription allergies or seizures, may exist that would make it difficult to administer proper emergency treatment. If such a case were to occur, it is important that the lab instructor be aware of such conditions.

The disclosure of any special circumstances/conditions that you may have is completely voluntary. However, if you would like to make the instructor aware of any of these situations, please indicate those that should be taken into consideration in an emergency.

Circumstance/condition

Normal treatment/action taken

_____	_____
_____	_____
_____	_____

I do do not normally wear contact lenses.

Some experiments may require distinguishing colors to observe results. In order to prepare for these experiments, it is beneficial to know if you have this condition. Please indicate this, if you are willing, by answering the following statement.

I do do not have difficulty distinguishing between different colors.