

Controlled Compounds and Drugs Standard Operating Procedure

Revision: June 25, 2026

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The purpose of this procedure is to provide minimum safe work standards for personnel handling controlled compounds within a laboratory or other research areas; this includes special hazard compounds. Review this document and supply the information required in order to make it specific to your laboratory. Compounds that are considered controlled may have specific written special handling procedures or additional safe work practices. When specific procedures or work practices exist, they take precedence over the procedures in this document.

Description [Provide additional information as it pertains to your research protocol]

For controlled substance policies, purchasing, and other information please reference the University of Michigan's [Controlled Substances in Research Webpage](#).

Process [Write the steps for using the chemical in your research protocol]

Potential Hazards [Provide additional information as it pertains to your research protocol]

Controlled compounds being handled are often intended to have a specific medical effect as active pharmaceutical ingredients in drugs. These effects could be induced through exposure (via ingestion, dermal absorption, inhalation, etc.). Compounds in the research setting are sometimes so new that there are no toxicological studies available. Contact Environment, Health & Safety at (734) 647-1143 to determine proper laboratory design and setup when handling these compounds.

Engineering Controls [Provide additional information as it pertains to your research protocol]

At a minimum, a laboratory hood, vented balance enclosure, or other containment device (e.g. glove box) shall be used when handling open containers of controlled compounds. These activities include, but are not limited to:

- Weighing
- Vessel transferring of compound
- Filtrations
- Packaging and storage
- Extractions
- Sampling

Note: Drying ovens may be located outside the laboratory hood, but the drying tray must be covered both prior to placing in the oven and when removing from the oven.

An additional assessment to determine handling procedures shall be performed by Environment, Health & Safety (EHS) if a compound will be milled, aerosolized, or handled in a liquid readily absorbed through the skin (e.g. DMSO, DMA).

All unfamiliar or potentially dangerous reactions that contain controlled compounds must initially be conducted on a small scale to evaluate the potential hazards.

Reactions that may have the propensity to explode must be reviewed by EHS.

Work Practice Controls [Provide additional information as it pertains to your research protocol]

Controlled compounds should be used only when acceptable substitutes cannot be found. Personnel working with a controlled compound must communicate the compound's identified hazard information to other personnel working nearby. No employee should handle a controlled compound without knowledge of the identified hazards.

Pressure reactions involving controlled compounds must be conducted with care. Handle the smallest quantities possible for the reaction. Handle compounds in solution when possible and minimize the amount of energy imparted to the system to reduce aerosolization. Laboratory hood sashes shall be maintained in a closed position when not in use per the closed hood policy. Ensure any manipulation of the compound is conducted at least 6 inches inside the face of the hood or balance enclosure when handling.

Proper laboratory/area cleanliness is essential to minimize risks for exposures and contamination. Laboratory hoods perform more efficiently to protect the employee when there are limited materials blocking the air flow going into the hood and to the back of the hood baffles. Laboratory hoods should be kept free from materials and devices that are not used routinely. Items that are not used routinely should be kept on shelves, in appropriate cabinets, or in drawers. If the nature of an operation does not permit the compound to be handled in accordance with controls, contact EHS to perform an evaluation of the compound and process. Upon completion of laboratory activities, proper hand washing shall be done in accordance with good laboratory practices.

Personal Protective Equipment [Provide additional information as it pertains to your research protocol]

At a minimum, standard laboratory coats, safety glasses with integral side shields and gloves must be worn when handling controlled compounds. Disposable laboratory coats should be worn when handling powders. Flame resistant laboratory coats shall be worn when conducting operations with potential for fire. After handling controlled compounds, laboratory coats and gloves shall be removed prior to leaving the work area and must not be worn in office areas or hallways.

If the nature of an operation does not permit the controlled compound to be handled in an approved containment device, contact EHS to perform an evaluation of the compound and process. If the evaluation

determines the operation can be completed outside of a containment device without additional exposure potential, a disposable laboratory coat must be worn.

Gloves, appropriate to the hazard, are required when working with controlled compounds. Contact EHS for assistance with glove selection. Two sets of gloves (i.e. green nitrile gloves over purple nitrile examination gloves) should be worn whenever there is a potential for an outer glove to be impaired or damaged.

Used gloves should be carefully removed by peeling/rolling one glove inside the other.

Cuffed gloves shall be utilized for skin sensitizers, compounds in liquids that are readily absorbed through the skin, and compounds denoted as having a skin exposure potential.

When operations are properly contained, respiratory protection is not required; however, respiratory protection may be worn at the discretion of the employee. All EHS training and medical surveillance must be up-to-date, before any respiratory protection may be worn.

Transportation and Storage [Provide additional information as it pertains to your research protocol]

Transportation of any controlled compounds or other research and development materials in personal vehicles or in the shuttle vans is prohibited. For assistance with transporting compounds and other research and development materials between University of Michigan sites, contact EHS.

If transferring a controlled compound to another department onsite, it is the responsibility of the researcher to communicate all appropriate hazards to the receiving laboratory and personnel.

Rigid secondary storage containers must be used when transporting controlled compounds outside of the laboratory.

Waste Disposal [Provide additional information as it pertains to your research protocol]

All solid waste compounds (i.e. disposable laboratory coats, gloves, wipes, utensils) that are potentially contaminated with a controlled compound should be collected in a lined, suitable container per EHS Hazardous Materials Management (HMM) guidelines.

Waste solvents, containing controlled compounds shall be collected. The waste solvent should be disposed of through hazardous waste.

Do not dispose of any compound in the sewer that is not approved by EHS. Assistance with disposal can be obtained through EHS-HMM at (734) 763-4568. Also refer to the [EHS Hazardous Waste Web page](#) for more information.

Exposures/Unintended Contact [Provide additional information as it pertains to your research protocol]



If the employee is in need of emergency medical attention, call 911 immediately.





Contact EHS for advice on symptoms of chemical exposure, or assistance in performing an exposure assessment.

Report all work related accidents, injuries, illnesses or exposures to Work Connections within 24 hours by completing and submitting the [Illness and Injury Report Form](#). Follow the directions on the Work Connections website [Where to go for treatment](#) to obtain proper medical treatment and follow up.

Complete the [Incident and Near-Miss Report form](#).

Treatment Facilities

U-M Occupational Health Services -- Campus Employees

Mon-Fri 7:00 am - 4:30 pm

After hours - go to U-M Hospital Emergency Dept. -- Urgent Care Clinic

380 Med Inn building

1500 East Medical Center Drive, Ann Arbor (734) 764-8021

University Health & Counseling -- University students (non-life threatening conditions)

To view the hours of operation, please visit the [University Health & Counseling website](#).

207 Fletcher Street, Ann Arbor (734) 764 - 8320

UMHS Emergency Department -- after clinic hours or on weekends

1500 East Medical Center Drive, Ann Arbor (734) 936-6666

Spill Procedure [Provide additional information as it pertains to your research protocol]

A **minor (small) chemical spill** is one that the laboratory staff is capable of handling safely without the assistance of safety and emergency personnel, i.e., less than 1 gallon or 3.5 liters. A **major (large) chemical spill** requires active assistance from emergency personnel.

Minor Chemical Spill

- Alert people in the immediate area of the spill.
- If spilled material is flammable, turn off ignition and heat sources. Don't light Bunsen burners or turn on other switches.
- Open outside windows, if possible.
- Wear protective equipment, including safety goggles, gloves and long-sleeve lab coats.
- Avoid breathing vapors from spills.
- Confine spill to as small an area as possible.
- **Do not wash spill down the drain.**
- Use appropriate spill kits/sorbents to neutralize corrosives and/or absorb spill. Collect contaminated materials and residues and place them in containers. For powdered chemicals, sweep carefully to avoid generation of dust or, if appropriate, use moist sorbent pads or wet the powder with a suitable solvent and then wipe with a dry cloth. Label and manifest waste and contact EHS-HMM (734) 763-4568 for proper disposal.
- Clean spill area with water.



Major Chemical Spill

- Attend to injured or contaminated persons and remove them from exposure.
- Alert people in the laboratory to evacuate.
- If spilled material is flammable, turn off ignition and heat sources. Don't light Bunsen burners or turn on other switches.
- **Call University of Michigan Division of Public Safety and Security (DPSS) at 911 immediately for assistance.**
- Close doors to the affected area.
- Post warnings to keep people from entering the area.
- Have a person available that has knowledge of the incident and laboratory to assist emergency personnel.

For additional information regarding spill response procedures, refer to the [EHS Hazardous Waste Spill Response Web page](#).

Controlled Compound Spills

If a controlled compound is spilled, the proper decontamination procedure shall be followed. For spills that involve drug conjugates use the following:

- Apply excess decontaminant (e.g. 20% bleach or specific decontaminant) to the area.
- Allow to sit for 10 - 15 minutes.
- Absorb using the plastic absorbent pads.
- Contain in a bag.
- Dispose of as Hazardous Waste.
- For aqueous based solutions of drug conjugates use the following (Note: this does not involve solutions which are flammable):
- Very similar to current practices with the following deviations:
- Use the decontaminant (e.g. 20% bleach or specific decontaminant)
- Allow to sit for 24 hours (this will deactivate the API).
- Solution shall be disposed of as hazardous waste.

Emergency Reporting

Report all emergencies, suspicious activity, injuries, spills, and fires to the University of Michigan Police (DPSS) by calling 911 or texting 377911. Register with the [University of Michigan Emergency Alert System](#) via Wolverine Access.

Training of Personnel

All personnel are required to complete the **General Laboratory Safety Training** session (**BLS025w** or equivalent) via the [EHS My LINC](#) Web page. Furthermore, all personnel shall read and fully adhere to this SOP when handling controlled compounds and drugs.



Certification

I have read and understand the above SOP. I have received approval from my Lab Director to perform this procedure. I agree to contact my Lab Director if I plan to modify this procedure.

Name	Signature	UMID #	Date

Laboratory Director

Revision Date



Revision History (Do not print as part of the SOP)		
06/25/2026	Annual Revision	Revised and updated (JB)
03/04/2019	Annual Revision	
09/13/2018	Partial Revision	EHS name and logo were added, updated the formatting, and revised the content under Exposure/Unintended Content (AKJ).