Temple University
Environmental Health and Radiation Safety

TEMPLE UNIVERISTY

CONTROLLED SUBSTANCES FOR RESEARCH MANUAL

Published by
Temple University
Environmental Health & Radiation Safety
July 2021

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I. INTRODUCTION

OVERVIEW

This manual describes Temple University's Controlled Substance for Research Program and provides researchers with the knowledge needed to comply with applicable laws and regulations associated with the use of controlled substances in their research and instruction. Compliance with these procedures is required of all individuals authorized to conduct chemical analysis, instructional activities or research using controlled substances at Temple University.

APPLICABILITY

The controlled substance management procedures identified in this manual apply to all students, faculty, staff, and visitors who are authorized to conduct chemical analysis, instructional activities or research using controlled substances at Temple University.

ROLE OF ENVIRONMENTAL HEALTH AND RADIATION SAFETY (EHRS)

The principal role of EHRS is to serve as the primary universal resource for all matters pertaining to biological safety, chemical safety, radiation safety, occupational safety, and emergency response support within Temple University (TU). EHRS provides technical guidance, compliance assistance, remediation oversight and training to the TU community.

For the controlled substance program for research program, the main role of EHRS is to provide technical assistance, training, and support resources so that all TU personnel are aware of their individual responsibilities in helping the University meet the following goals:

- Ensure all controlled substances are managed in a way that protects the health and safety of all students, faculty, staff, and visitors to the University, and
- Comply with all local, state, and federal regulations regarding the use of controlled substances in research and disposal.

This manual will be revised and updated as necessary to reflect changing regulations and circumstances. The most current copy of this manual is available on the EHRS website. Copies of the written manual and related information may be obtained from Environmental Health & Radiation Safety (EHRS)

Environmental Health & Radiation Safety (EHRS)
Pharmacy-Allied Health Building
3307 N. Broad Street, Room B-49
Philadelphia, PA 19140
Phone: 215-707-2520
Email: ehrs@temple.edu
Web: www.temple.edu/ehrs

YOUR RESPONSIBILITY

Temple University is committed to providing a healthful and safe environment for all activities under its jurisdiction and complying with all applicable federal, safety, and local safety regulations and standards.
Registrants and authorized lab workers share the responsibility for properly managing controlled substances and maintaining compliance with this manual and additional published guideline(s) in Controlled Substance Program for Research. While Environmental Health and Radiation Safety (EHRS) serves as a resource to registrants and authorized lab workers for proper management of controlled substances, it is ultimately the registrant's responsibility to maintain and comply with all federal and state requirements. Failure to comply with all applicable DEA and PA-Department of Health regulations may result in criminal prosecution and civil penalties as well as disciplinary measure in accordance with University policies.

REGULATORY OVERVIEW

Controlled substances are drugs, immediate precursors, or other substances regulated under the Controlled Substance Act (CSA) by both the federal Drug Enforcement Administration (DEA) and the Commonwealth of Pennsylvania-Department of Health-Drugs, Devices and Cosmetics Program. The DEA classifies controlled substances into five schedules based on their medicinal value, harmfulness, risk to public health, and potential for abuse and/or addiction. Schedule I are the most restrictive. A comprehensive list of controlled substances, DEA drug numbers, and CSA schedules is available on the DEA website. A summary of the DEA schedule, descriptions, and examples of controlled substances is listed below:

Table 1. Controlled Substance Schedules

Schedule	Description	Examples
I.	Drugs, substances, or chemicals with no currently accepted medical use and a high potential for abuse.	*Heroin, Marijuana, Lysergic Acid Diethylamide (LSD), Methaqualone*
II.	Drugs, substances, or chemicals with a high potential for abuse, with use potentially leading to severe psychological or physical dependence.	*Adderall, Cocaine, Fentanyl, Hydromorphone, Methadone, Methamphetamine. Meperidine, Oxycodone, Ritalin*
III.	Drugs, substances, or chemicals with a moderate to low potential for physical and psychological dependence.	*Anabolic steroids, Tylenol with codeine, ketamine, testosterone, buprenorphine*
IV.	Drugs, substances, or chemicals with a low potential for abuse and allow risk of dependence.	*Zanax, Oma, Valium, Ativan, Talwin, Ambien, Tramadol*
V.	Drugs, substances, or chemicals with lower potential for abuse that Schedule IV and consist of preparations containing limited quantities of certain narcotics.	*Lomotil, Motofen, Lyrica, Parepectolin*

In addition to controlled substances, the DEA also regulates List I and List II precursor chemicals. Precursor chemicals are chemicals that can potentially be used in the illicit production of controlled substances. List I chemicals typically represent precursor reagents while List II mainly represent solvents that can be used in the synthesis and purification of controlled substances. Regulated List I and II chemicals are indicated below:

Table 2. Precursor Chemicals

List I Chemicals		
Alpha-phenylacetoacetonitrile	Pseudoephedrine	Benzaldehyde
Anthranilic acid	3,4-Methylenedioxyphenyl-2-propanone	Nitroethane
Benzyl cyanide	Methylamine	Gamma-Butyrolactone
Ephedrine	Ethylamine	Red Phosphorus
Ergonovine	Propionic anhydride	White phosphorus
Ergotamine	Isosafrole	Hypophosphorous acid
N-Acetylanthranilic	Safrole	N-phenetyyl-4-piperidone
Norpseudoephedrine	Piperonal	Iodine
Phenylacetic acid	N-Methylephedrine	Ergocristine
Phenylpropanolamine	N-Methylpseuodophedrine	
Piperidine	Hydriodic Acid	

List II Chemicals	
Acetic anhydride	Toluene
Acetone	Hydrochloric acid
Benzyl chloride	Sulfuric acid
Ethyl ether	Methyl Isobutyl Ketone (MIBK)
Potassium permanganate	Sodium Permanganate
2-Butanone (i.e., Methyl Ethyl Ketone)	

The DEA requires manufacturers, distributors, importers, and exporters to maintain records of the manufacture and distribution of precursor chemicals. Manufacturers and distributors require purchasers of List I chemicals to provide additional information (e.g., an authorized purchaser form, letter of intended use, etc.) prior to completion of the order, Additional information may also be required for List II chemicals that exceed certain order frequencies or threshold quantities.

Laboratory personnel are not required to have a controlled substance registration to purchase precursor chemicals. Precursor chemicals do not require additional storage or recordkeeping requirements. List I and List II chemical must be managed and stored with other compatible chemicals by hazard class as indicated in the Temple University Chemical Hygiene Manual.

Responsibility for compliance with controlled substances used in research at Temple University is the DEA registrant. The success of the Controlled Substance Program for Research depends on the conscientious efforts of all Temple University (TU) personnel who utilize controlled substances while conducting research.

II. TRAINING

All registrants and authorized lab workers must complete the online Controlled Substance Training for Research Module. The initial training must be completed prior to work with controlled substances. This module must be completed every three years by the DEA registrant and their authorized users.

III. REGISTRATION & RENEWELS

Prior to ordering controlled substances for use in (non-clinical) research, practitioners, principal investigators (PIs) and laboratory/facility managers must register and be approved by the federal Drug Enforcement Agency (DEA)

CAUTION: If you have a controlled substance practitioner's license and registration, and you are planning and/or conducting non-clinical (e.g., animal, analytical, or in vitro) research, the DEA requires that you obtain a separate research registration to conduct your activity using controlled substances.

Federal regulations require separate DEA registration for each location where controlled substances are stored. If controlled substances are being used in different rooms within the same building, but only storing controlled substances at one location, registration must only reflect the storage location. If controlled substances will be stored in more than one building or be stored in more than one location within the same building, DEA registrations are required for each building and/or storage location. The following procedures will be carried out when applying for a controlled substance registration for research:

STATE REGISTRATION

The Commonwealth of Pennsylvania does not require or issue registrations for the research use of controlled substances.

FEDERAL REGISTRATION

1. Complete the applicable Drug Enforcement Administration (DEA) Application. Registrants working in laboratories that use controlled substances for research purposes must complete DEA Form 225.

2. Pay the initial DEA registration fee.

   NOTE: TU registrants may be exempt from paying the federal fee. Registrants must complete section 6 on the form to claim the exemption.

3. Retain a copy of the registration certificate.
4. Verify or track the registration by calling 1-800-882-9539 or the local DEA Field Office.
5. Upon approval, a *Certificate of Registration* will be provided by DEA and must be maintained at the registered location in a readily retrievable manner and kept available for official inspection.

   CAUTION: A representative from the DEA may conduct a site visit prior to issuing final approval. EHRS must be present during any DEA visits.

TEMPLE UNIVERISTY REGISTRATION

All registrants must register with Environmental Health and Radiation Safety (EHRS) at the initial time DEA grants approval for the registrant to conduct research involving controlled substances. EHRS may periodically request resubmission of the EHRS registration to ensure accurate records.

1. Complete the applicable EHRS Registration. Registrants working in laboratories that use controlled substances for research purposes must complete and submit a Controlled Substance Registration form to ehrs@temple.edu.

   A single registration must be provided for Schedule I registrations and another registration for Schedule II, III, IV and V registrations.

DRUG ENFORCEMENT ADMINSITRATION (DEA) CONTROLLED SUBSTANCE REGISTRATION RENEWAL

DEA federal controlled substance registrations will expire each year for registrants using controlled substance for research purposes. DEA may contact the registrant approximately 65 days in advance of renewal. Registrants are required to complete DEA Form 225a to renew their registration.

MODIFICATION, TRANSFERS, OR TERMINATION OF EXISTING REGISTRATION

Federal Registration

Contact the DEA Field Office and inform them of your proposed changes. DEA will instruct you on the proper forms to modify, transfer, or terminate an existing registration.

> **CAUTION:** Transfers of controlled substances are allowed on a case-by-case basis among registrants if proper registrations, storage, and security measures are verified and approved by DEA. Transfer of controlled substances from TU registrants to another individual outside of TU is not permitted.

Temple University Registration

Contact EHRS when you have modified, transferred, or terminated your DEA registration.

IV. PURCHASING CONTROLLED SUBSTANCES

Purchase orders for Schedule I and II controlled substances must be submitted via online request using DEA from 222. Purchase orders for Schedules III, IV, and V controlled substances are placed by providing a copy of the registrant's DEA registration to the chemical supplier, vendor, or manufacturer that distributes the drugs. Orders may only be submitted for drug schedules covered by the registrant's registration.

Manufacturers and distributors of controlled substances are required to verify that registrants are registered and authorized to use the specific controlled substances being ordered. Registrants must use the proper codes when placing orders for controlled substances.

V. SECURITY & STORAGE

Controlled substances must be stored in compliance with federal regulations. Registrants will maintain stocks of controlled substances of all schedules in a secure area or location accessible only to specifically authorized personnel. Such specific authorization should be given by registrants only to the minimum number of lab workers essential for efficient operation. If a lab is shared between two or more registrants, separate approved devices and records must be maintained. The following guidelines for security and storage of controlled substances must be followed:

SECURITY

- Controlled substances must be maintained in a secure area such as a locked safe, steel cabinet, or other suitable storage location approved by the DEA.
- Approved storage devices must always remain locked, unless actively adding or removing controlled substances.
- All controlled substances must be double locked to prevent theft. A laboratory door that is locked when registrants and authorized lab workers are absent can serve as one of the locks and the approved safe or steel cabinet that cannot be moved or transported can serves as the second lock.
- Keys must never remain in an approved safe or other storage device.
- Keys to approved safes or other storage devices must be stored in a location that is only accessible to registrants and authorized lab workers.
- Controlled substances being used must be immediately returned to the approved storage location upon completion of each process if excess remains.

- Authorized lab workers must monitor maintenance personnel or other visitors occupying areas where controlled substances are stored.

STORAGE

- Schedule I and II controlled substances require greater storage requirements than Schedule III, IV and V.
- Safes for Schedule I and II controlled substances approved after January 1, 1975 must meet the following requirements:
    - Minimum of a B Burglary Rate.
    - Equipped with a relocking device.
    - Weight of 750 pounds or more or rendered immobile by being securely anchored to a permanent structure of the building.
    - Adequate interior space to store all controlled substances required to kept within the safe; and
    - Approved by the DEA.
- Schedules III, IV, and V controlled substances must be stored in a safe, lock box that is bolted down, a top drawer toa cabinet that is bolted down, or another suitable storage device and be approved by DEA.
- The minimum quantity of controlled substances(s) to maintain efficient operations must be stored.
- No additional chemicals can be stored with controlled substances.
- Expired controlled substances must be separated from non-expired control substances within the approved storage device and be clearly labeled as expired.
- If theft, burglary, or other loss of controlled substance has occurred, the DEA may require additional safeguards for storage.

Failure to comply with storage requirement may result in seizure of controlled substances by the DEA.

VI. RECORDKEEPING

Registrants are required to generate and maintain inventories and records of all transactions regarding the receipt, distribution, and disposal of controlled substances. Copies of records must be kept in a secure location, separate from non-DEA records, and be written in English. Records and inventories must be made available for inspection by federal and university

officials for a period of three years following disposition of the drugs. Retaining records for five years is recommended.

The following documents/records are required to be maintained:

FEDERAL (DEA) CONTROLLED SUBSTANCE REGISTRATION CERTIFICATE

- The registrants initial and subsequent copies of all DEA registrations.

CONTROLLED SUBSTANCE DISPOSAL, DESTRUCTION OR TRANSFER RECORDS

- All documentation related to the disposal, destruction, or transfer of all controlled substances.

CONTROLLED SUBSTANCE RECORDS OF ACCOUTABLE AND UNACCOUNTABLE LOSS/THEFT

- All documentation related to the accountable/ unaccountable loss or theft of a controlled substances.

PURCHASING RECORDS

Registrants must maintain records for each controlled substance purchased. Each purchasing record must be annotated with a handwritten date and time of receipt. Registrants and authorized lab workers must verify controlled substance shipments for accuracy upon delivery and relocate them to approved storage locations immediately after verification.

- Purchase records for **Schedule I and II** controlled substances must be maintained separately and include:
    - Copy of the invoice (if applicable); and
    - DEA Form 222.

- Purchase records for **Schedule III, IV and V** controlled substances may include:

- Copy of the invoice.
    - Copy of the shipping document, or
    - Copy of the packing slip.

RECEIPT RECORDS

Registrants must maintain an accurate receipt record of all controlled substance on hand in each registered location from the date received. Receipt records for **Schedule I and II** controlled substances must be maintained separately. All receipts records must include:

- Name of the registrant
- Name of the controlled substance
- Building
- Lab Number
- Vendor Name
- Vendor address
- Invoice Number
- Date and Time Received
- Form and Strength (e.g., 5mg tablet, 5mg/ml ampule)
- Total Quantity Received (e.g., 1 100- tablet bottle, 10-5ml ampules)
- Receiver Name
- Signature of Receiver

USE OF CONTROLLED SUBSTANCES RECORDS

Registrants and lab workers authorized to administer/dispense controlled substances must maintain general inventory records. Records must include the following information:

1. Name of the controlled substance.
2. Lot or serial #
3. Initial Container Amount
4. Concentration/Strength (e.g., 5 mg, 5mg/ml).
5. Date Received
6. Expiration Date (if applicable)
7. Form of controlled substance (e.g., tablet liquid, powder, etc.).
8. DEA Schedule
9. Container ID#-assigned by the registrant (e.g., KET-001).
10. Date Disposed
11. Name of the Registrant
12. Registrant address.
13. Date of administering/dispensing.
14. Amount Dispended

15. Remaining total quantity on hand
16. Name of the authorized lab worker dispensing on behalf of the registrant.

The remaining total quantity on the disposition records must match the total physical quantity of controlled substances) on hand. Records for **Schedule I and II** controlled substances must be maintained separately. Records must be retained for three years (EHRS recommends 5 years) from either the date of disposal or date the entire substance was used up.

The EHRS Controlled Substance General Inventory Log must be always utilized and available for review.

INITIAL INVENTORY RECORDS

New registrants must complete an initial inventory when controlled substances first enter the work area. Schedule I and II controlled substances must be listed together and on a separate initial inventory record from Schedule III-V. Registrants with no controlled substances on hand must still complete the inventory to confirm no controlled substances are in their possession.

The EHRS Controlled Substance Inventory Log must be always utilized and available for review.

BIENNIAL INVENTORY RECORDS

Registrants must complete a documented inventory every two years, including expired bottles, working solutions and unopened containers, of all controlled substances in their possession. The inventory may be conducted on any date within two years form the previous inventory date. Schedule I and II controlled substances must be listed together and on a separate initial inventory record from Schedule III-V. Registrants with no controlled substances on hand must still complete the inventory to confirm no controlled substances are in their possession.

The EHRS Controlled Substance Inventory Log must be always utilized and available for review.

LABORATORY WORKER AUTHORIZATIONS

Authorized laboratory workers may engage in approved research activities involving controlled substances under the direction of a DEA registrant. The registrant can authorize any employee who has been successfully screened and directly reports to him/her, works under his/her direction, and is directly involved with a research project related to the specific DEA registration.

DEA Registrants must ensure that a security and background check has been performed for all employees prior to granting authorization as an authorized laboratory worker. The registrant must ensure that employees have been successfully screened prior to granting them access to controlled substances by:

1. Verifying with the DEA that the employee has been approved for work with controlled substances under the DEA registrant.
2. Completing the Employee Questionnaire for Employees Who will Have Access to Substances Regulated by the US Drug Enforcement Agency. Completed questionnaires must be submitted to Human Resources (HRBackgroundcheck@temple.edu) for review. Human Resources will return verified forms back to the registrant.

CONTROLLED SUBSTANCES AUTHORIZED LAB WORKER LOG

Registrants are responsible for completing the controlled substances authorized lab worker log. The form acknowledges authorization of the worker to access controlled substances by the registrant. The log must be updated when authorized lab workers are added or removed from having access to controlled substances.

VII. LOSS, THEFT, OR MISUSE

Registrants and authorized lab workers are required to provide adequate control against the diversion, theft, and loss of controlled substances. Suspected misuse or theft of controlled substances must be immediately reported upon discovery to:

1. Drug Enforcement Administration within 24 hours.

   Philadelphia Field Division
   600 Arch Street, Room 10224
   Philadelphia, PA 19106
   Phone: (215)-238-5160
   Fax (215)-238-5170

   Central DEA Call Center: 800-882-9539

2. Temple University Campus Safety Services; and

   Phone: (215)-204-1234

3. Environmental Health and Radiation Safety

   Phone: (215) 707-2520

In addition to phone reporting, a report of Theft or Loss of Controlled Substances (DEA Form 106) must be completed and submitted to the Philadelphia Field Division office.

A copy of all reports and/or investigations must be kept on file by the registrant.

Additional information on the DEA requirements for the reporting of theft or loss of controlled substances can be found at https://www.deadiversion.usdoj.gov/21cfr_reports/theft/index.html

VIII. VACATING or RELOCATING a LABORATORY

Registrants must certify that all controlled substances have been removed, properly disposed, and/or transferred to another authorized DEA registrant prior to vacating area where controlled substances are used and/or stored. The registrant must provide EHRS with a completed "Laboratory Clearance Form".

IX. DISPOSAL

Registrants and/or authorized lab workers are responsible for properly disposing controlled substances. The preferred method of disposal of controlled substance is complete use of the substance. The registrant must properly dispose of any controlled substance in their possession prior to retiring, leaving the University, or allowing their registration to expire. Failure to do so is a violation of DEA regulations and the registrant may be subject to penalty that may include fines and imprisonment.

All disposal involving a controlled substance must be managed through an authorized "Reverse Distributor". Schedule I and II controlled substances should be transferred via the DEA Form 222, while Schedule III-V may be transferred using an invoice. All disposal records must be maintained on file.

Refer to the DEA Drug Disposal Information for additional information on the proper disposal of a controlled substance.

CAUTION: EHRS is not authorized by the DEA to remove and dispose of controlled substances.