Disposal of Controlled Substances and other Pharmaceuticals

A Controlled Substance is defined by the Drug Enforcement Administration (DEA) and is any drug or other substance listed in Schedules I, II, III, IV, or V of the Controlled Substances Act (Act). Controlled Substances Schedules can be found at: http://www.deadiversion.usdoj.gov/schedules/schedules.htm.

To purchase a controlled substance you must first register with the DEA. If a material in your lab can be found in one of these schedules, its management is regulated by the DEA and must be in compliance with all requirements set forth in the Act. These requirements include:

- Accounting for all materials – an accurate and current inventory must be maintained (a blank inventory log is attached at the end of this guidance document for your convenience).
- Security – all materials must be in the control of the responsible party and kept locked.
- Current registration and authorization through the DEA to accept and hold controlled substances.

For information on the use of controlled substances in research and how to register with the DEA go to: http://www.colorado.edu/VCResearch/integrity/substance.html

Disposal of Controlled Substances

Controlled substances that are expired, surplus, or contaminated must be disposed of according to federal regulations and DEA policy. Controlled substances and other pharmaceuticals must never be drained disposed or thrown out in the regular garbage. Disposal of controlled substances must be effected through the use of a ‘reverse distributor’. A ‘reverse distributor’ is a DEA registered entity that is legally allowed to handle controlled substance disposal. The CU System has established a reverse distributorship for the disposal of controlled substances. Prior to disposing controlled substances using this program, researchers need to be registered with the DEA. If abandoned controlled substances have been discovered, contact EH&S immediately for proper disposal – an alternate set of documentation will be required in this scenario.

On the CU Boulder campus, the point of contact for the disposal of controlled substances is the Environmental Health and Safety Department – Hazardous Materials Group. If you no longer have a use for your controlled substances or they have become expired, you can start the disposal process by contacting the UCB Hazardous Materials Group contacts listed below.

Information that will be needed to arrange disposal will include:

1. Trade name or chemical name of the compound or solution for disposal.
2. The concentration of active ingredients.
3. The original quantity of controlled substance acquired and the remaining quantity left for disposal.
4. The National Drug Code (NDC) number from each container.
5. A copy of your current DEA registration.
Disposal of dilutions and mixtures
When a dilution or mixture of a controlled substance is generated, the quantity of controlled substance used in the dilution or mixture should be removed from your controlled substances inventory. Because the quantity of controlled substance that was used to create the dilution or mixture is removed from inventory, the dilution or mixture is no longer considered a controlled substance. Even though a drug dilution or mixture is no longer considered a controlled substance, it must not be poured down a drain for disposal. Disposal of dilutions and mixtures that have not been used or that can no longer be used per IACUC policy must be disposed of through the EH&S hazardous waste program by completing a Hazardous Material/Waste Tag.

Unused or expired drug dilutions and mixtures should be consolidated into an existing hazardous wastestream that your lab already generates, if possible. Always ensure the compatibility of each waste before consolidation. Wastestreams such as flammable solvents or toxic aqueous wastestreams usually make perfect candidates for consolidation of excess drug dilutions and mixtures for disposal. Please be sure to list the proper chemical names of the drugs and any other ingredients added and their approximate concentration to your hazardous waste tag for disposal. If you have any questions about suitable wastestream consolidations contact the hazardous materials group.

Disposal of broken or damaged containers
If a container of a controlled substance is inadvertently broken or damaged, document this in your controlled substances inventory as “unintentional destruction” and list the amount of controlled substance lost. Have a witness sign and date this entry, if possible. All spill cleanup residues and materials used in the cleanup must be disposed of through the EH&S hazardous waste program by completing a Hazardous Material/Waste Tag.

Disposal of stock bottles
Rinse out stock bottles of controlled substances when they have been emptied. Rinse with water and ensure any trace amounts or residues that remain are properly removed. All rinsate must be collected and sent through the hazardous waste program for disposal. Once the stock bottles have been emptied and rinsed, they can be disposed in the regular garbage. See the EH&S guidance document on disposal of empty containers for further guidance.

Disposal of medical materials and supplies
Needles, syringes, catheters and other medical devices used in the administration of controlled substances must be disposed through the hazardous waste program for disposal. Unused drugs must not be left behind in syringes or catheters for disposal. Drugs must be emptied as much as reasonably possible, with the excess drugs being consolidated and disposed through the EH&S hazardous waste program. Needles must be autoclaved (even if used on “clean animals”) and disposed of through the EH&S hazardous waste program. See the EH&S guidance document on segregation and disposal of metal sharps for further guidance.
Disposal of other Pharmaceuticals

All pharmaceutical substances, including those that are not considered controlled substances, must be properly disposed of. Some are considered a regulated hazardous waste by the Environmental Protection Agency (EPA). However, even materials that are not regulated as a hazardous waste can pose hazards when released into the environment. Because many of these materials were not specifically regulated by the EPA or DOT as hazardous materials, when researchers found themselves with unwanted pharmaceutical drugs their approach has traditionally been to flush the unwanted materials down the drain. However, drain disposal of waste pharmaceuticals is illegal and is a violation of the campus wastewater discharge permit.

Unfortunately, pharmaceutical wastes aren’t captured and treated by wastewater treatment facility processes. As result, water discharged from these facilities is laced with untreated pharmaceutical drugs which make their way into drinking water supplies and over time have detrimental effects on ecosystems and aquatic life.

As the news media and recent research has highlighted, this pharmaceutical pollution (coupled with the drugs that pass through our digestive systems and also make their way through sewage treatment systems) may have long term health effects that we are only now beginning to study.

To ensure your lab is in compliance with regulations and to avoid polluting the environment and our drinking water, arrange for disposal of unwanted pharmaceuticals the same way you would dispose of any other chemical waste - submit a Hazardous Material/Waste Tag to EH&S for disposal.

Closing thoughts

By properly disposing of controlled substances and other pharmaceuticals, you are doing your part to ensure that future generations will have clean water for swimming, fishing, and drinking. You also ensure continued rights to purchase and hold controlled substances and avoid financial penalties or fines from the DEA or Colorado Department of Public Health and Environment. If you have any questions, please contact us at one of the numbers listed below.

Hazardous Materials Group Contacts:

Manager
Mark Lapham
303-492-8531

Lead Hazmat Specialist
Chris Quattrociocchi
303-492-6390

Hazmat Group
hazmat@colorado.edu
303-492-7845
# University of Colorado Boulder — Controlled Substances Ongoing Use Log

<table>
<thead>
<tr>
<th>DEA Registration Holder (First and Last Name):</th>
<th>Building and Room Number:</th>
<th>DEA Schedule:</th>
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<tr>
<td></td>
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<td>☐ I ☐ II ☐ III ☐ IV ☐ V</td>
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<tr>
<td>Controlled Substance Name:</td>
<td>Container Size:</td>
<td>Lot/Serial #</td>
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<tr>
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<td>Date Disposed of:</td>
<td>Destruction Documentation Received ☐</td>
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<tr>
<th>Date</th>
<th>Activity Used For</th>
<th>Amount Removed (ml, mg, tablets, etc.)</th>
<th>Amount Remaining (ml, mg, tablets, etc.)</th>
<th>Authorized Individual</th>
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*Starting Amount:*