A. Purpose
   To establish appropriate in-laboratory management of glassware for disposal, generated as the result of research operations.

B. Applicability Or scope
   This policy applies to all generators and EH&S members who handle glassware for disposal at Columbia University Morningside and Lamont campuses.

C. Definitions
   1. Pyrophoric Chemicals- Chemicals that readily combust in the presence of air.
   2. Water Reactive Chemicals- Chemicals that readily combust or give off toxic fumes in the presence of water.

D. Responsibilities
   1. Morningside
      a. Laboratories are responsible for
         1. Purchasing fiber containers for Uncontaminated Broken or Unbroken Glassware and request Sharps and Contaminated Broken or Unbroken Glassware containers through EH&S.
         2. Properly segregating and maintaining their glassware waste prior to EH&S pickup.
      b. EH&S is responsible for
         1. Proper disposal of glassware through its vendors.
         2. Recycle Uncontaminated Broken or Unbroken Glassware.
         3. Collect for incineration, Contaminated Broken or Unbroken Glassware.
         4. Collect all pipettes and biologically contaminated glass in red sharps containers to be disposed of as regulated medical waste.
      c. Chem Stores and Bio Stores are to collect Unbroken Chemical Containers to be scanned out of a laboratories chemical inventory and dispose through municipal waste.
      d. Facilities is to pick up all closed Uncontaminated Broken or Unbroken Glassware containers and manage their disposal.
   2. Lamont
      a. Laboratories are responsible for
         1. Contacting Lamont Safety Office for the drop off of new and pick up of full sharps/glassware containers.
         2. Properly segregating and maintaining their glassware waste prior to pick up.
      b. The Lamont Safety Office is responsible for the proper disposal of Glassware through its vendors.
         1. Recycle Uncontaminated Broken or Unbroken Glassware.
         2. Collect for incineration, Contaminated Broken or Unbroken Glassware.
         3. All biologically contaminated glass is collected in sharps containers to be disposed of as regulated medical waste.
      c. Lamont Shipping and Receiving by request of the laboratory are to collect Unbroken Chemical containers.
E. Procedures

1. Morningside
   a. Uncontaminated Broken or Unbroken Glassware
      1. Glassware is to be stored in a white fiber box, which is to be purchased by the laboratory through either Bio Stores or Chem Stores. For pictures of all Morningside glass containers, see Appendix I.
      2. Any glassware that does not contain acutely toxic, pyrophoric or water reactive chemicals, is to be rinsed, while collecting the rinsate as hazardous waste, and placed into the white fiber box for Uncontaminated Broken or Unbroken Glassware.
      3. When the container is full, the top is to be closed by pulling up the open circular flap and taping it shut. A white label is to be placed onto the top of the container cataloging the laboratory room number, building and PI name. A picture of the label can be found in the forms section.
      4. The container is then to be placed in the hall just outside the laboratory to be picked up by facilities.
   b. Contaminated Broken or Unbroken Glassware
      1. Blue poly containers for the storage of Contaminated Glassware are obtained through the EH&S Department.
      2. Glassware to be added must have residue chemical amount or less. The residue cannot be of acutely toxic, pyrophoric or water reactive chemicals. A chemical pickup request is required for the disposal of such glassware. A link to the chemical pickup request can be found in the forms section.
      3. For laboratories in chemistry, the containers are to be filled in the laboratory, keeping the lid on when not actively adding to it. The containers are then picked up and replaced with empties Tuesdays and Fridays by EH&S.
      4. For all other laboratories the containers are to be filled in the laboratory, keeping the lid on when not actively adding to it. When nearly full, a chemical pickup request is to be placed. The container will be picked up and replaced with an empty on the building’s designated pickup day.
   c. Unbroken Chemical containers
      1. All barcoded chemical bottles that do not contain acutely toxic, pyrophoric or water reactive chemicals, are to be rinsed, while collecting the rinsate as hazardous waste, and placed in the yellow receptacles on the laboratory floor. For bottles that are not to be rinsed, a chemical pickup request should be placed.
      2. When adding to the yellow receptacles, every effort should be made not to break the bottle, and they must be tightly capped.
      3. Chemstores will collect yellow receptacles containing Unbroken Chemical containers and replace with empty receptacles.
   d. Pipettes and Broken or Unbroken Glassware
      1. Rigid containers of 2, 10 or 17 gallons are to be used.
      2. Containers are not to be overfilled. For Chemistry, once full, a request is to be sent to EH&S for pickup. In all other locations at Morningside, once full, the containers are to be closed and left in the hall for service by the vendor.
      3. Pickups from EH&S and the vendor occur on Tuesday and Friday mornings.

2. Lamont
   a. Uncontaminated Broken or Unbroken Glassware
1. Glassware is to be stored in a white fiber box which is to be requested by the laboratory through the Lamont safety office. For pictures of all Lamont glass containers, see Appendix IV.

2. Any glassware that does not contain acutely toxic, pyrophoric or water reactive chemicals, is to be rinsed, while collecting the rinsate as hazardous waste, and placed into the white and green fiber box for Uncontaminated Broken or Unbroken Glassware.

3. When the container is full, the top is to be closed by pulling up the open circular flap and taping it shut.

4. The laboratory must then contact the Lamont Safety Office for pickup.

b. Contaminated Broken or Unbroken Glassware

1. White poly containers for the storage of Contaminated Glassware are obtained through the Lamont Safety Office.

2. Glassware to be added must be residue amount or less. This residue cannot be of acutely toxic, pyrophoric or water reactive chemicals. Such glassware must be disposed of separately through a request to the Lamont Safety Office for a chemical pickup.

3. Containers are to be filled in the laboratory, keeping the lid on when not actively adding to it. When nearly full, the Lamont Safety Office must be contacted for pickup.

c. Unbroken Chemical Containers

1. All barcoded chemical bottles that do not contain acutely toxic, pyrophoric or water reactive chemicals, are to be rinsed, while collecting the rinsate as hazardous waste, and placed into yellow receptacles on the laboratory floor. For bottles that are not to be rinsed, a chemical pickup request should be placed.

2. When adding to the yellow receptacles, every effort should be made to not break the bottle, and they must be tightly capped. The barcode stickers are to be removed and placed onto the barcode collection sheet.

F. Emergency contacts

EH&S Morningside Campus – 212-854-8749
Lamont-Doherty Safety Department – 845-365-8822

G. Medical Surveillance

N/A

H. Recordkeeping

N/A

I. Appendices

Morningside

Appendix I. Container Guide
Appendix II. Label for Uncontaminated Broken or Unbroken Glassware container
Appendix III. Label for Contaminated Broken or Unbroken Glassware container

Lamont

Appendix IV. Container Guide

J. Forms

Chemical pickup request form
K. References
   Toxic Substances Control Act (TSCA)
   6 NYCRR 371.4
   5Ls of hazardous waste management

L. Acknowledgements (optional)
   N/A

APPENDIX I, P. I
CONTAINER GUIDE

Morningside Campus
Disposal of Empty Laboratory Chemical Containers and Glassware

*Please visit http://www.ehrs.columbia.edu/HazardousWaste.html for details on hazardous waste management and waste pick-up/disposal procedures

Please contact EH&S with any questions @ 854-6749 or ehrs@columbia.edu

June 2006
## Glassware Collection

### APPENDIX I, P. II

**Morningside Campus**

**Disposal of Empty Laboratory Chemical Containers and Glassware**

<table>
<thead>
<tr>
<th>Chemical Tracking System (CTS)</th>
<th>Containers and Laboratory Glassware to be RECycled</th>
<th>Containers and Laboratory Glassware to be INCINERATED</th>
<th>Regulated Medical Waste (RMW) for Off-site Treatment</th>
</tr>
</thead>
</table>

### Unbroken Chemical Containers
- glass or plastic or metal and
- with or without barcode (DO NOT include cylinders)
- Follow all hazardous waste procedures* and **Do Not** pour chemicals down the drain.
- Rinse empty container with tap water and **DEFACE LABEL**. For containers holding chemicals that are highly toxic, pyrophoric or water reactive, Do Not rinse but rather submit to EH&RS on a chemical pick-up request form for proper disposal.
- Place container in Yellow Central Receptacle located on your floor.
- Containers must be tightly capped prior to deposit.
- Please make every effort not to break glass containers when inserting into receptacles.

### Uncontaminated Broken or Unbroken Glassware
- Follow all hazardous waste procedures* and **Do Not** pour chemicals down the drain.
- Rinse container with tap water, if necessary, and place in specially designated plastic-lined, cardboard Glassware Disposal Box in your lab.
- Glassware and Containers must be completely empty of chemicals.
- Close box once filled (do not overfill), tape closed and PLACE IN CORRIDOR for Facilities to recycle.
- Obtain replacement Glassware Disposal Box from Chem Stores or Bio Stores for your respective departments.

### Contaminated Broken or Unbroken Glassware
- Follow all hazardous waste procedures* and **Do Not** pour chemicals down the drain.
- Place contaminated (i.e., unable to be rinsed clean or is grossly contaminated) glassware in blue plastic containers in your lab **(note: blue containers are predominantly found in Department of Chemistry laboratories)**.
- Remove barcode, if applicable, or write down the numerical barcode sequence and provide to the barcode located within Chandler Chem Stores or Pupin Room 200 (adjacent to loading dock) so the chemical can be removed from inventory.

### All Pipettes and Biologically Contaminated Glass for disposal
- Place in large 8-gallon Sharps Container (sharps containers are predominantly found in Biological Sciences).

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*Please contact EH&RS with any questions @ 654-8749 or ehrs@columbia.edu*
APPENDIX II

Label for Uncontaminated Broken or Unbroken Glassware container

CLEAN BROKEN GLASS

FOR RECYCLING**

INVESTIGATOR: ____________________________

BUILDING: ______________________________

FLOOR/ROOM#: __________________________

**Attention Custodians:

DO NOT discard this box unless the above information is filled in, and the box has been securely taped closed.
APPENDIX III

Label for Contaminated Broken or Unbroken Glassware

BUILDING: ___________ ROOM # ___________

CHEMICALLY CONTAMINATED GLASS ONLY

- NO Sharps (Syringes, Needles, or Razors)
- NO Garbage (Food or Beverage Containers)
- NO Hazardous waste
- NO Chemicals (Powders, Free Liquids etc.)

Any glass bins not in compliance WILL BE RETURNED to the lab.
APPENDIX IV, P. I

CONTAINER GUIDE

Disposing of empty chemical containers (e.g. Fisher, Sigma-Aldrich):

- Thoroughly rinse empty containers with tap water; place a blue “RINSED” label on the container and then place the container in the fume hood overnight so that all remaining water evaporates. Once dry, place the cap securely on the container.
- Carefully place rinsed container into yellow bin located in hallway.
- NOTE: Do not put Safe-Coil / Rubber coated glass containers in the yellow bin. Instead, these containers will be picked up from your lab with your hazardous waste.
- **DO NOT** rinse extremely toxic, pyrophoric, or water reactive chemical containers. Instead, these containers are to be labeled with a Hazardous Waste label and treated as such.

DEPOSIT GLASS HERE / BROKEN GLASS containers are for disposing of:

- Non-contaminated broken glass
- Clean glass or plastic pipettes (no needles)
- Clean beakers and other pyrex type glassware

NON-MEDICAL SHARPS Containers are used for disposing of:

- Needles
- Razors
- Other non-biological contaminated sharps
- Clean glass or plastic pipettes
APPENDIX IV, P. II

CHEMICALLY CONTAMINATED GLASS Containers are used for disposing of:

- All chemically contaminated broken or unbroken glassware (i.e. unable to be rinsed clean or is grossly contaminated)
- Pipettes with chemical residue
- NO Sharps (Syringes, Needles, or Razors)
- NO Hazardous waste