

Policy 3

Disposal Policy for Materials of Uncertain Composition ("Chemical Unknowns")

Disposal of hazardous waste is dangerous and expensive even when the contents of the waste are identified. Fortunately, most of the chemical waste produced by the Department is identifiable. However, when the contents of a reagent bottle, reaction flask or gas cylinder are not identified, the process of disposal is much more dangerous, expensive and difficult. Without mitigating information, all unknown materials have to be treated as if they were potentially lethal and hazardous. In all cases, chemical unknowns cannot be disposed of until a general profile of the unknown has been generated. Even then, the cost of disposal is a premium. Additionally, there is a constant threat of personal injury or death to the individuals required to handle these potentially dangerous materials. No price tag can be attached to an avoidable personal injury.

The obvious goal is to reduce the number of "unknowns" to as close to zero as possible by following the Chemical Hygiene Plan and the Hazard Communication Protocol. Labeling all chemical containing glassware; disposing of all old, outdated and questionable chemicals and samples; recycling unneeded chemical reagents; maintaining separate waste containers for different classes of chemical wastes; and keeping a running log of the amounts and quantities of all wastes placed into disposal containers will reduce the number of unknowns and should be considered standard laboratory practice. This policy details the procedures that should be followed when an "unknown" is discovered and a request for disposal is to be generated.

Procedure

It is the responsibility of the generator to identify each "unknown" as completely as possible before submitting an "unknown" to the Safety Office. The generator is defined as the Principal Investigator (PI) or Laboratory Supervisor initiating the disposal request.

The three steps to be followed by the generator are:

1. Complete an UNKNOWN PROFILE FORM, available from the Safety Office.
2. Attach the sheet to the material being submitted for disposal.
3. Call the Safety Office at 9-679-1820 or 9-679-1438.

Instructions for Completing the UNKNOWN PROFILE FORM

1. Container Identification Number

The Generator will supply a Container Identification Number which should include the Generator's surname, the year and a number unique to the container submitted. This number should be included on all information attached.

2. Generator Knowledge.

If the Lab Supervisor has adequate knowledge of the material, then "Generator Knowledge" can be a substitute for analytical tests and can greatly simplify the process of dealing with the "unknown". Provide a physical description to include the appearance, odor and quantity of the unknown; the source and/or history of the unknown; and, especially, a listing of potential elements for inorganic waste or compounds for organic waste, even if the percentages or absolute amounts are not known. The presence of specific hazard classes should be indicated with a "Y" when known. If the presence of a material is likely (but not certain), indicate with a "?". When compounds or classes of compounds are known to be absent, a "N" should be placed in the appropriate blank

3. Analytical Tests

In the absence of generator knowledge, the results of screening tests should be provided by the Laboratory Supervisor to provide an indication of the major components present. Suggested screening tests include a determination of the pH and a general qualitative analysis. If radioactive contamination is suspected, the Office of Radiation Safety must be contacted to schedule an accurate test for Alpha and Beta emissions. Specific additional tests that will assist the Safety Office in the disposing the materials are strongly recommended, but are at the discretion of the Laboratory Supervisor. Use of Departmental instrumentation to test unknowns in preparation for disposal will not be charged to the Laboratory Supervisor.

4. Signature

Each sample must be accompanied by a signature of the PI or Laboratory Supervisor or designated individual certifying the above information is the best "Good Faith Effort" to describe and identify the unknown.

Notice

Individuals who dispose of hazardous wastes in an inappropriate manner will face disciplinary action as outlined in the Departmental Enforcement Policy.

Adopted 10/2/96

Unknown Profile Form
Department of Chemistry

I. Container Identification Number (Name/Year/#) _____

Laboratory Supervisor _____

Contact Name (If different than Laboratory Supervisor) _____

Contact Telephone Number _____ Building/ Room Number _____

II. Generator Knowledge

Source of Material Lab Clean Out Reagent Lab Waste
 Unknown Other _____

Physical Description Solid Liquid Gas

Color _____

Odor _____

Quantity _____

Potential Contents: (Y = Present, ? = Possible, N = Known Absent)

General Classification

Organic Only Inorganic Only Mixture

Potential Hazard Classes (* Critical Information for Disposal)

<input type="checkbox"/> Strong Acids*	<input type="checkbox"/> Strong Bases*	<input type="checkbox"/> Mercury*	<input type="checkbox"/> Flammable*
<input type="checkbox"/> Radioactive*	<input type="checkbox"/> Peroxides*	<input type="checkbox"/> Cyanide	<input type="checkbox"/> Air Reactive
<input type="checkbox"/> Water Reactive	<input type="checkbox"/> Oxidizer	<input type="checkbox"/> Picrates	<input type="checkbox"/> Pyrophoric
<input type="checkbox"/> Heavy Metals	<input type="checkbox"/> Perchlorates	<input type="checkbox"/> Sulfide	<input type="checkbox"/> Biological

III. Analytical Tests Performed

pH _____

Qualitative Analysis (attach results) _____

Additional Tests Performed (attach results) _____

IV. Laboratory Supervisor (Print) _____

Signature _____ **Date** _____