

POLICY ON REGULATED WASTE STREAMS

Date: July 2, 2014

Supersedes: SS.103 Waste Disposal dated May 20, 2002

I. PURPOSE

New York Medical College ("NYMC") is committed to preserving a balance between protecting the health and safety of individuals and the environment while meeting regulatory standards in energy conservation, decreased emissions, and waste minimization. Following these commitments, waste streams that are generated as a consequence of conducting normal research, operational, and educational activities need to be disposed of properly. Once a material is ready for disposal it is critical to consider whether it can be safely and legally disposed of in the regular garbage or if there are special requirements for hazardous waste disposal. Federal, state, and local agencies have defined what constitutes a hazardous and non-hazardous waste. These agencies regulate and strictly enforce proper waste disposal.

II. POLICY

All regulated waste streams that are generated at NYMC must be handled, stored, and prepared for transportation in accordance with all applicable federal, state, local regulations as well as with all NYMC policies and operating procedures.

III. SCOPE

This policy applies to all NYMC faculty, staff, students, volunteers, space licensees, and contractors.

IV. DEFINITIONS

Controlled Substance: refers to a drug or chemical whose manufacture, possession, or use is regulated by the United States government under the Controlled Substances Act (21 USC § 812 *et seq.*; 21 CFR Part 1300).

Electronic Waste: refers to used electronic equipment for disposal that may contain hazardous compounds, including lead, mercury, and cadmium, all of which can be hazardous if released into the environment. Examples of electronic waste include computers, monitors, televisions, cell phones, copiers, fax machines, DVD players, etc. Used electronic equipment that is sold or donated for reuse is not considered waste and is not subject to waste regulations.

Hazardous Waste: is defined by the Resource Conservation and Recovery Act ("RCRA") as either chemical waste that is specifically listed by the EPA as by definition hazardous waste via Subpart D of 40 CFR Part 261 (i.e. "F,K,P & U listed waste"), or is waste that exhibits one or more of the following characteristics:

- a. **Ignitable (D001):** Waste liquids with a flash point less than 60°C (140°F), solids that spontaneously combust and burn vigorously and persistently, and ignitable compressed gases and oxidizers as defined by the Department of Transportation (DOT) regulations.
- b. **Corrosive (D002):** Waste composed of aqueous solutions with a pH of less than or equal to 2 or greater than or equal to 12.5 or liquids that corrode steel. (Note: corrosive characteristics do not apply to solids materials.)
- c. **Reactive (D003):** Normally unstable and readily undergoes violent change, waste that reacts violently or forms potentially explosive mixtures with water without detonating; releases toxic gases when mixed with water; a cyanide or sulfide bearing waste that releases toxic gases when exposed to pH conditions between 2 and 12.5; capable of detonation or explosive reaction if subjected to a strong initiating force or if heated under confinement; is readily capable of detonation, explosive, decomposition, or reaction at standard temperature and pressure, or is a forbidden explosive under DOT.
- d. **Toxicity (D004-D043):** is based on the potential of a waste that is harmful to human health or the environment to contaminate groundwater. A waste sample fails the toxicity characteristic leaching procedure (TCLP) analysis if one or all of the 40 substances that were tested exceed the allowable standard set by EPA.

Mixed Waste: refers to waste material possessing any two (or more) of the types of regulated waste listed previously. Mixed waste requires special consideration prior to collection, processing and disposal to ensure it is handled properly.

Other regulated waste: refers to waste streams that are not commonly generated on the NYMC campus and include asbestos and construction debris.

Pharmaceutical Waste: Non-hazardous solid waste prescription and over the counter pharmaceuticals generated in research or health care facilities.

Radioactive Waste: refers to the waste byproduct(s) of any process that utilizes or generates radioactive materials (RAM).

Regulated Medical Waste (RMW): refers to waste generated during the manipulation of biological agents within research, educational, or production laboratories or diagnosis, immunization, or treatment of humans or animals. RMW includes all viral or bacterial cultures/stocks, human and animal cell lines, tissue samples, organs and organ cultures,

blood and blood products, live and attenuated vaccines, infectious agents, animal carcasses from research, and used sharp items, such as needles and scalpels.

Resources Conservation and Recovery Act (RCRA): enacted by Congress in 1976, the Resource Conservation and Recovery Act (RCRA) is the principal federal law in the United States governing the disposal of solid waste and hazardous waste. RCRA gives the Environmental Protection Agency (EPA) authority to control hazardous waste from "cradle-to-grave" which includes generation, transportation, treatment, storage, and disposal of hazardous waste. According to RCRA, entities (such as NYMC) that generate hazardous waste are subject to waste accumulation, manifesting, and recordkeeping standards.

Satellite Accumulation Area (SAA): refers to an area in the laboratory where waste that is generated is initially accumulated before removal to the main accumulation area. SAAs may accumulate up to 55 gallons of hazardous waste or up to one quart of acutely hazardous waste in containers at or near the point of generation and they must remain in control of the individuals generating the waste.

Universal Waste: refers to materials that contain low-level amounts of hazardous waste which are generated in large quantities. Universal waste includes fluorescent lamps (mercury), batteries (heavy metals), intact mercury containing equipment, and pesticides. (Note: lamps, batteries, and mercury-containing equipment that have been damaged are no longer considered universal waste; these broken materials must be handled as hazardous waste to prevent release into the environment).

V. PROCEDURES

A. Waste Stream Assessment

Once a material is no longer needed and is ready for disposal it is critical to assess the waste stream to determine the type of waste. Waste must be assessed for both physical and hazard characteristics. The category of waste will establish how the material will be handled, stored, and disposed at NYMC. The Environmental Health & Safety Department (EH&S) can assist with waste stream determination. Contact EH&S at extension 4078.

The assessment process should also include a step to determine if the waste stream can be minimized. Items to consider include the reason the waste is being generated, whether or not the waste stream can be eliminated or reduced, or if the process that generates the waste can be changed to no longer generate regulated waste streams.

B. Waste Management

1. Regulated Medical Waste (RMW)

All RMW waste must be handled according to OSHA's Bloodborne Pathogen Standard (29 CFR 1910.1030), New York State's Environmental Conservation Law, (6 NYCRR Subparts 360-10, 360-17, and Part 364), and the NYMC Biosafety Manual. Waste must be handled according to its physical form (i.e. sharps, non-sharps, liquid, and "mixed") and must be segregated appropriately.

- a. **"Sharps" Waste:** These are items that could puncture and/or tear plastic biohazard bags, including, but not limited to, needles, scalpel blades, broken glassware, serological pipettes, glass Pasteur pipettes, razor blades, microscope slides/cover slips, and broken plastic culture dishes. Contaminated sharps must be placed in NYMC-approved puncture resistant sharps containers that are supplied by housekeeping through the Department of Facilities Management (extension 4588). Non-contaminated sharps, (excluding needles, which must always be disposed of in a sharps container) may be disposed in the trash.
 - i. Sharps containers must not be filled above the specified fill line on the outside of the container (2/3 full).
 - ii. When sharps containers are full or when sharps waste is no longer anticipated containers should be placed outside of laboratories for pickup by housekeeping. Waste can also be scheduled for pickup by contacting Facilities Management at extension 4588.
 - iii. In advance of pickup, by housekeeping staff, sharps waste containers must be appropriately sealed.
 - iv. Non-sharp RMW or non-hazardous waste must not be disposed of in sharps containers.
 - v. Sharps that are contaminated with chemicals may need special sharps containers (i.e., "chemo sharps").
 - vi. Housekeeping staff transfers sharps containers in need of disposal to the appropriate collection area for pickup by the NYMC-approved regulated medical waste vendor.

- b. **"Non-sharp" Regulated Medical Waste (RMW):** Examples of these materials include paper towels, gloves, plastic backed pads, and transfer pipettes. These materials must be discarded in red bags that depict the universal biohazard symbol or the word biohazard.
 - i. Red bags containing non-sharp RMW must be stored inside leak proof secondary containers that have the

- universal biohazard symbol or the word biohazard.
Secondary containers can be obtained from EH&S.
- ii. Secondary containers must have lids and remain closed when waste is not being added.
 - iii. Red bags that are ready for disposal must be transferred to RMW satellite storage areas located in the hallways of each department. Bags must be placed, in the RMW satellite storage area, inside NYMC-approved collection bins for pickup by housekeeping staff through Facilities Management. (Note: RMW that has been autoclaved cannot be disposed as regular garbage; it must still be treated as RMW and disposed of as such.)
 - iv. Housekeeping staff transfers RMW from the satellite storage areas to the appropriate collection area for pickup by an NYMC-approved medical waste vendor.
- c. **Liquid Biological Waste:** biological liquid that does not contain any hazardous, radioactive, or other regulated waste component maybe treated for decontamination with an approved disinfectant for a minimum of thirty minutes and discarded down the sanitary sewer. Disinfectants are approved through EH&S and/or the Institutional Biosafety Committee depending on the nature of the material.
- d. **Pathological Waste:** waste that resembles human or animal body parts must be separated from other forms of regulated medical waste and discarded in red bags that show the universal biohazard symbol or the word biohazard. Pathological waste must be kept frozen until the scheduled day of pickup by the NYMC-approved medical waste vendor. On the day of pickup, pathological waste bags must be placed in approved cardboard boxes, supplied by Facilities Management, that are processed by incineration. The cardboard boxes must be transferred to the RMW collection area for pick up by the medical waste vendor.
- e. **Gross Anatomy Waste:** absorbent material, i.e., paper towels or absorbent pads, used to wipe up fluid or grease from cadavers must be discarded in red bags as regulated medical waste. Housekeeping staff removes the red bags from the Gross Anatomy suite to the appropriate collection area for pickup by an NYMC-approved medical waste vendor.

2. **Radioactive Waste Disposal**

Radioactive waste disposal must be in compliance with 10 NYCRR Part 16 (Ionizing Radiation), as well as with all policies and procedures outlines in the NYMC Radiation Safety Manual. EH&S provides yellow radioactive waste bags and approved secondary containers for the temporary storage of radioactive waste in the laboratory. Shielded containers are provided when appropriate.

- a. Waste must be segregated according to isotope, chemical waste characteristic (flammable, corrosive, reactive, or toxic), chemical compatibility, and physical form (solid, liquid, or mixed).
- b. Liquid waste must be labeled appropriately. The container label must include the isotope, activity, chemical constituents, pH value, date the container was started, date the container was disposed, and initials of the waste generator.
- c. Solid waste must be labeled appropriately to show the isotope, activity amounts, and date the waste was added.
- d. When radioactive waste containers are full and/or when additional waste generation is not anticipated, contact EH&S at extension 4078 to schedule a radioactive waste pickup.

3. **Hazardous Chemical Waste**

Hazardous chemical waste must be handled according to EPA and New York State Department of Environmental Conservation (DEC) regulations as well as the NYMC Chemical Hygiene Plan. Drain disposal of any liquid hazardous chemical waste and trash disposal of any solid hazardous chemical waste is strictly prohibited. Staff supervisors, Principal Investigators and/or contractors/space licensees are ultimately responsible for the proper management of hazardous waste in their laboratory or work area(s), including the appropriate labeling of containers, segregation, and maintenance of the laboratory SAA.

- a. All hazardous chemical waste must be collected in approved, appropriately labeled, containers and stored within approved Satellite Accumulation Areas. Secondary containment is required to contain material in the event of a spill or leak.
- b. Waste must be segregated according to the waste characteristic (toxic, flammable, corrosive, or reactive), chemical compatibility, and physical form.
- c. Waste containers must remain closed when not in use.
- d. When waste containers are full or the waste stream is no longer anticipated, contact EH&S at extension 4078 for a waste pickup. Or notify the weekly onsite waste contractor that a pick up is needed when he/she visits the lab.

- e. Unknown chemical waste must be properly identified before disposal. Wastes that cannot be identified by the generator will be tested for hazardous waste characteristics by the NYMC-approved hazardous waste vendor.
- f. Empty containers that held hazardous waste can be discarded in the regular garbage if the container has less than 3% by weight of waste remaining and the container has been triple rinsed with water.

4. **Universal Waste**

Disposal of universal waste must be in compliance with 6 NYCRR § 374-3 and 40 CFR Part 273. Universal waste generated in laboratories must be placed inside the lab satellite accumulation area (SAA) for pickup by the NYMC contracted onsite hazardous waste employee. Universal Waste from labs is transferred to a SAA specifically for the accumulation of universal waste. These areas are managed by the Facilities Management and allow for temporary storage near the point of generation for no more than one year from start of collection. The collection areas are located throughout the campus for convenience.

- a. Universal waste SAAs must be labeled with the words "Universal Waste."
- b. Universal waste must be collected in sturdy, leak proof containers.
- c. Waste must be segregated by type (lamps, batteries, etc.). Batteries must be segregated further (lithium ion, nickel-cadmium, alkaline, etc.) and have the leads taped to prevent fires.
- d. Collection containers must be labeled universal waste and the collection start date.
- e. At the end of one year or when storage areas are full universal waste is disposed of through the NYMC-approved hazardous waste vendor.

5. **Electronic Equipment Waste**

Options for managing used electronics include reuse, recycling, and disposal. To minimize land disposal of these materials and protect the environment electronics, at NYMC, are donated for reuse or recycled. Electronic equipment waste will be collected in areas to be managed properly for disposal, reuse, or recycling. The collection must be protected from inclement weather and must provide protection to minimize breakage of the equipment.

- a. **Disposal.** Any electronic equipment that cannot be reused or recycled must be handled in accordance with the NYSDEC's "Electronic Equipment Recycling and Reuse Act" and treated as hazardous waste.

- b. **Reuse.** Used electronic equipment that is donated for reuse must have documentation showing the equipment was not disposed of improperly and that the recipient plans to reuse it.
- c. **Recycle.** Most discarded electronics have sufficient quantities of scrap metal parts and they can be managed as scrap metal for recycling. The New York State DEC allows used electronic equipment to be exempted from management as hazardous waste if scrap metal will be recycled and there is notification to the DEC prior to shipping, of the facilities generating and receiving the materials. Notification is made using a "C7 Notification for Exempt Electronics Waste Collectors" form (scrap metal exemption of 6 NYCRR 371.1(g)(1)(iii)(b)).

6. Controlled Substance Waste

Controlled substances must be disposed of in accordance with 21 CFR Part 1307.21 (Procedure for Disposing of Controlled Substances) as well as 10 NYCRR Part 80 (Rules and Regulations on Controlled Substances).

- a. All controlled substances dispensed through the Department of Comparative Medicine must be returned to Comparative Medicine for disposal.
- b. Comparative Medicine will inventory and lock up substances for disposal. EH&S will facilitate disposal through the NYMC-approved hazardous waste vendor as needed.
- c. All controlled substances obtained by private license will be controlled from "cradle to grave" by the licensee. EH&S will assist with disposal per written request.

7. Pharmaceutical Waste

All pharmaceutical waste must be handled in accordance with the New York State Drug Management and Disposal Act. Pharmaceutical waste must not be disposed in the regular garbage. Pharmaceutical waste generated in laboratories should be collected in the lab SAA for pick up by the onsite hazardous waste contractor. Pharmaceutical waste generated in other campus areas should be collected for pickup. Contact EH&S at extension 4078 to arrange a pickup.

8. Other Regulated Waste

Other regulated waste streams must be handled in accordance with all federal, state, and local regulations. EH&S can provide guidance on the handling and disposal of other regulated waste streams.

C. Disposal

All waste streams collected at satellite accumulation areas are transferred to main accumulation areas per waste type. Chemical, universal, pharmaceutical and electronic waste streams are collected and transferred to the main accumulation area by the onsite hazardous waste contractor. RMW is transferred by Housekeeping staff (through Facilities Management), and Universal waste is transferred directly by Facilities Management staff. Main accumulation areas follow the waste management procedures described above. Regulated waste is packaged, manifested, transferred to treatments and disposal facilities in accordance with all regulations.

VI. EFFECTIVE DATE

This policy is effective as of the date signed below.

VII. POLICY RESPONSIBILITIES

A. New York Medical College faculty, staff, students, contractors and/or volunteers whom perform any work, research, or instruction that produces regulated waste streams:

1. Comply with all applicable federal, state, and local regulations, as well as All NYMC policies regarding waste disposal;
2. Report any waste management issues to EHS.

B. Department of Environmental Health & Safety

1. Ensures that proper waste management is performed for all regulated waste streams generated at NYMC;
2. Conducts periodic inspections of area's where work with hazardous, radioactive, infectious/ bio-hazardous agents occur to ensure proper waste disposal;
3. Conducts periodic inspections of universal waste, controlled substance, chemical, and radioactive waste storage areas;
4. Reports incidents and items of non-compliance to senior management at the College and regulatory agencies if required.

C. Department of Facilities Management

1. Ensures that proper universal waste management is performed. This includes controlled collection and storage with all relevant regulations, guidance, and policies;
2. Maintains supplies of RMW disposal containers and ensures proper collection and pick up of RMW;
3. Reports any incidents and items of non-compliance to EH&S.

VIII. POLICY MANAGEMENT

Responsible Executive: Senior Vice President and Chief Financial Officer

Responsible Officer: Director, Environmental Health & Safety

Responsible Department: Environmental Health & Safety

APPROVED:



Edward C. Halperin, M.D., M.A.
Chancellor for Health Affairs and
Chief Executive Officer



Date