Hazardous Waste Management Plan

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1. Policy

The Hazardous Waste Management Plan (HWMP) was developed for Luna Community College full and part-time faculty and staff, who may generate, handle or store hazardous chemical wastes. This is to ensure protection for all faculty, staff, students as well as other community entities and individuals who may be using or participating in College campus activities.

2. Purpose

It is the purpose of this plan to provide guidance in the safe and proper storage, handling and disposal of hazardous waste. This document does not cover all regulatory requirements regarding hazardous materials, but shall be considered minimal requirements in order to comply with regulations which affect the management of hazardous materials.

3. Responsibilities

Luna Community College is registered with the NMED/HWB as a small quantity generator (SQG) of hazardous waste. It becomes the responsibility of each employee to identify any possible hazardous waste that he/she might be producing and to assure that the waste is handled in a manner consistent with these guidelines. LCC will contract all waste collection with a company that has a valid Environmental Protection Agency (EPA) ID number.

Life/Safety Coordinator

a. Maintain the HWMP, based on regulatory changes and the needs of the GWU community.
b. Assist in the implementation of the HWMP on campus.
c. Be the central repository for record keeping of all documents related to the accumulation, transportation, storage, treatment, and disposal of hazardous wastes.
d. Maintain names, job titles, and job descriptions for all personnel managing and handling hazardous wastes.

Department Head of Hazardous Waste Generators

a. Ensure that no chemicals are abandoned in place.
b. Ensure this plan is implemented within the department.
c. Become familiar with the HWMP.

Generators

a. Become familiar with the HWMP.
b. Identify or deem chemical waste as hazardous waste.
c. Work with their supervisor to properly label, date, segregate, and store hazardous wastes.
d. Develop and implement an active waste minimization program by investigating material substitution, scale reduction, chemical exchange, and purchase control.

4. Definitions

Hazardous Materials – any material or substance, which if improperly handled, can be damaging to the health and well-being of humans and the environment

Solid Waste - Solid wastes are materials that are no longer used, unwanted and are set aside for disposal. Solid wastes include abandoned items, materials that are ready to be disposed, or those that are ready to be recycled. Solid wastes may be a solid, liquid, or gas. EPA's regulations on waste also automatically exempt certain solid wastes from being considered hazardous (20 DCMR 4100.2). Among those subject to exemption are agricultural wastes that are returned to the ground as fertilizer.

"Inherently Waste like" *Materials* - Chemicals no longer suitable for use are considered "inherently waste like" materials and are subject to hazardous waste regulations. Some examples include:

- Chemicals that are no longer used, e.g., past the expiration date;
- Chemicals with obliterated labels, e.g., corroded, faded, or smeared;
- Chemicals with no labels, e.g., sample vials, jars, or beakers; or
- Samples that cannot be identified.

Hazardous Waste - a solid waste that because of its quantity; concentration; or physical, chemical, or infectious characteristics may cause or significantly contribute to an increase in serious; irreversible; or incapacitating, reversible illnesses or pose a substantial present or potential hazard to human health, safety, or welfare to the environment when improperly treated, stored, transported, used, or disposed of or otherwise managed.

5. Identifying Hazardous Waste

The Environment Protection Agency's Resource Conservation and Recovery Act (RCRA) establishes authority over the handling and disposal of all solid biological and chemical waste and discarded liquids and gases in containers. All generators of RCRA regulated waste are required to determine if the waste is hazardous. This is accomplished by determining if any of the constituents of the waste are specifically "listed" hazardous waste constituents or if the waste has a regulated characteristic of hazardous waste.

"Listed" Chemical Waste

A solid waste is a listed hazardous waste if it is not excluded from regulation and it is identified on any of the lists in 20 DCMR 4109, incorporating by reference 40 CFR 261 Subpart D. These lists include:

"K" listed waste from a specific source
"F" listed waste from a non-specific source
"U" listed waste from off-spec or discarded commercial chemicals.
"P" listed waste from off-spec or discarded commercial chemicals which have been designated as Acutely Hazardous.

Characteristics

A solid waste is a hazardous waste if it exhibits any of the following characteristics: ignitability, corrosivity, reactivity, or toxicity.

Ignitability – A solid waste that has any of the following properties displays the characteristic of ignitability and is considered a hazardous waste:

- A liquid, other than an aqueous solution containing less than 24 percent alcohol by volume, with a flash point below 60o C (140oF);
- A non-liquid, capable under standard temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes, and when ignited burns so vigorously and persistently that it creates a hazard;
- An ignitable compressed gas, which includes gases that form flammable mixtures at a concentration of 13 percent or less in air; or
- An oxidizer, such as permanganate, inorganic peroxide, or nitrate that readily stimulates combustion of organic materials.

Corrosivity – A solid waste that has any of the following properties displays the characteristic of corrosivity and is considered a hazardous waste:

- Is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, using EPA specified or approved test methods; or
- Is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (0.25 inch) per year at a test temperature of 55o C (130o F).

Reactivity - A solid waste that has any of the following properties displays the characteristic of reactivity and is considered a hazardous waste:

- Is normally unstable and readily undergoes violent change without detonation;
- Reacts violently with water;
- Forms potentially explosive mixtures with water;
- When mixed with water, generates toxic gases, vapors, or fumes in a quantity sufficient to present a danger
- Is a cyanide or sulfide bearing waste that generates toxic gases, vapors, or fumes at a pH between 2 and 12.5;
- Is capable of detonation or explosive reaction when subject to a strong initiating source or if heated in confinement;
- Is readily capable of detonation, explosive decomposition, or reaction at standard temperature and pressure; or
- Is an explosive, as defined in 49 CFR Sections 173.51, 173.53 or 173.88.

Toxicity – Toxicity Characteristics Leaching Procedure (TCLP) toxic chemicals are waste in which extracts contain high concentrations of heavy metals or pesticides that could be released into the ground.

6. Labeling

A chemical container must be labeled as hazardous waste at the time its content is designated as a hazardous waste. When a hazardous waste is added to a container, it must also be labeled as a hazardous waste at the time the first drop of hazardous waste is added to it. This is referred to as the First Drop Rule.

Once the hazardous waste is removed from the point of generation for storage, it must be dated and have the words "Hazardous Waste' clearly labeled on the container or it will not be accepted for disposal. The college has 180 days to properly dispose of the hazardous waste

Sample Label:

Hazardous Waste

Generator Information
Contact Person: _____
Department: _____
Building/Room # _____
Phone # _____
Accumulation:
Start Date: _____ Fill Date: _____

Hazard Class: □ Flammable □ Reactive □ Oxidizer
□ Corrosive Toxic □ Carcinogen

Chemical	% Volume
_____-	_____
_____	_____
_____	_____

7. Packaging

Waste storage must be non-leaking, chemical compatible, safe and clearly labeled. All Hazardous materials must be kept in appropriate, closed containers. All containers must remain closed at all times except when adding or removing material.

- Use a leak proof container that will safely contain the contents.
- Do not over fill the container with liquid waste. Allow an empty space of approximately five percent of the container volume to allow for thermal expansion.
- Be suspicious of any pressure build-up inside the container.
- Old cans of either, picric acid and other peroxide forming or shock sensitive items are to be left in place and not disturbed until safety personnel have evaluated the condition of the container.
- Do not mix incompatible chemicals.
- Do not mix hazardous materials with non-hazardous materials.

- Loose solid materials must be placed in a sealed container or in a covered cardboard box lined with two polyethylene bags.
- Do not leave funnels in the collection container.

8. Oil Collection

Used Oil – any oil that has been refined from crude oil or any synthetic oil that has been used and as a result of such use is contaminated by physical or chemical impurities. New oil is never considered "used oil".

Examples of substances that are considered used oil. (This is not an all inclusive list)

- spent oil from gasoline and diesel engines
- spent refrigerant lubricating oil
- spent lubricating oil from aircraft reciprocating and jet engine
- spent hydraulic fluid
- spent heat transfer fluids
- spent transmission fluid
- spent refrigeration oil

Example of materials that are not used oil

- spent antifreeze
- spent brake fluid
- solvents of any kind
- unused motor oil
- vegetable and animal oil, even when used as a lubricant

The following area stores used oil in designated containers:
Vocational Education (automotive)

Do not mix used oil with any other materials, keep materials properly labeled and sealed. Maintain adequate aisle space between containers to facilitate material transfer, close used oil containers between filling or emptying. All containers, tanks, drums and receptacles of used oil will be clearly marked "USED OIL".

9. Batteries

Listed below are some types of batteries used and proper disposal methods. If you have batteries that are not included below, please contact the Physical Plant for disposal instructions. (Appendix A will list some resources for recycling).

<u>Alkaline (AA, AAA, C, D, 9V, Carbon Zinc (Heavy Duty AA, AAA, C, D, 9V) :</u>
These are typical non-rechargeable batteries that most people use. They are classified as non-hazardous and can be disposed of with regular trash.

<u>Button Batteries (size varies):</u>
These are typically found in hearing aids, watches, greeting cards and shall be disposed of as hazardous waste. Maintenance shop will store batteries for proper disposal (recycled).

Sealed Lead-acid Batteries (rechargeable):
These are typically found in, video cameras, cameras, power tools, clocks and are considered hazardous waste and shall be disposed (recycled) of properly.

Lead-acid Batteries (vehicle batteries):
Used in cars, truck and motorcycles are considered hazardous waste and shall be disposed of properly. Most retail locations that sell these batteries will accept old batteries for disposal (recycle).

Nickel-cadmium Ni-Cad (rechargeable):
Typically found in items such as flashlights, toys, cell phone and computer packs and are considered hazardous waste and shall be disposed of properly. Maintenance will have an area for storage until disposal arrangements can be made.

Nickel Metal Hydride (rechargeable):
Typically found in items such as flashlights, toys, cell phone and computer packs and are not considered hazardous waste and can be disposed of with regular trash.

10. Toner Cartridges
Used printer cartridges are to be recycled in the pre-paid packages supplied by the manufacturer. These cartridges will be delivered to shipping and receiving which will arrangements for pick-up.

11. Cooking Oil
Used cooking oil is stored in a drum outside the Instructional Program Center (IPC); this container is picked up on a regular basis by an appropriate company.

12. Sharps
All sharps are to be disposed of in an appropriate sharps container; these containers are red in color and have the biohazard symbol on them. They are made of puncture resistant plastic and have a lid.

Sharps include, but are not limited to any item that may cause puncture or cut; discarded hypodermic needles, syringes, pipettes, broken medical/contaminated glassware, razor blades, scalpels, slides and cover-slips. Even if not infectious, many of these items can be physically dangerous and be treated as medical sharps.

Sharps containers and other biological waste will be picked up by a qualified hazardous waste management firm designated by LCC or delivered to the New Mexico Behavioral Health Institute which will assume responsibility for legal disposal.

13. Anti-Freeze
Used anti-freeze will be stored in appropriately marked drums until picked up for recycling or legally disposed of. Do Not mix anti-freeze with other wastes.
Anti-Freeze barrels are located at Vocational Education (automotive).

14. Parts Washer Solvent

Parts washing machines on campus should use a parts washing solvents with a flash point of 140 degrees. The machines will be contracted to be cleaned and solvent recycled on an as need basis. Do Not use other solvents (Gunk, Carburetor Cleaner, thinner, etc.) in the parts machine.

15. Paint and Paint Related Materials

Most paints fall into one of two categories; water-based or oil-based. Water –based formulas are sometimes referred to as latex, vinyl or acrylic, oil-based formulas are sometimes referred to as alkyd, polyurethane or varnish. Paints may be regulated as a "hazardous waste" when disposing of depending on the formulation.

Oil-based paints are regulated due to their flammability and the presence of regulated solvents such as xylene and toluene. Water-based paints are generally not regulated since they are non-flammable. However, paints both water-based and oil-based that contain certain metallic pigments or fortifiers are regulated as a hazardous waste when being disposed. These regulated metals include the following: cadmium, chromium, lead, silver, barium, mercury, arsenic and selenium. Information concerning the presence of regulated materials and the type of formulation can be obtained from the label, Material Safety Data Sheet or the Manufacturer.

- Water-based Paint – disposal of water-based that does not contain regulated metal can be accomplished by spreading the pant on a piece of plastic or cardboard and allowing it to dry completely. When completely dry it can be disposed of with regular trash. When washing paint brushes, pans, etc. always use a drain that is connected to a sanitary sewer. Never wash paints into a storm sewer.
- Oil-based Paint – where possible, substitute water-based paint for oil-based. If oil-based paint must be used, follow the instructions for use. Excess oil-based paints, since they contain regulated materials cannot be dried but must be collected. If paints have missing or deteriorated labels, write the contents on the can in some permanent manner. Include manufacturer, product name, product number and chemical constituents.
- Paint Thinners and Mineral Spirits – must be collected and stored in appropriately marked containers until full. Once the container is full, a company contracted by LCC will be contacted for pick-up.

16. Aerosol Cans (spray paint, etc)

Use cans until empty. Do not puncture the empty cans; dispose of in regular trash. If the cans still contain aerosol and are not to be used, handle as hazardous waste.

17. Photo Developing Chemicals

All photography chemicals will be stored in properly labeled containers. The MSDS of the chemicals will be used to determine how to properly disposal. The following are options for proper disposal.

- Return it to the company that sells the photo processing chemicals.

- Buy or lease a treatment unit to reclaim fixer. Be sure treated fixer meets the limits set by the City of Las Vegas sewer utility. Waste water with silver at concentrations greater than five ppm is considered hazardous waste; the City of Las Vegas may have stricter guidelines. If purchasing a treatment unit; two chemical recovery cartridges in series are needed.
- Hire a waste management firm to dispose of waste chemicals.

18. Computer Monitors

Monitors that are broken and can no longer be used should be deemed hazardous waste. They will be stored and arrangements made for an authorized company to pick-up and dispose of or recycle properly.

Monitors that are in working order will be stored until they can be donated or auctioned off.

19. Housekeeping

Suggestions:

- Inspect equipment such as pumps, pipes, storage tanks, valves and material handling equipment fro signs of corrosion, support or foundation failure or other deterioration. Remove, repair or replace defective tanks or containers.
- Stock cleaning and spill response materials where they are readily available.
- Provide instruction on securing containers

Responding to Spills

- Spill kits should be located in areas that store used oil and chemicals
- Construct dikes around material storage areas to contain spills
- Do not allow spills into floor drains, dike if necessary
- For large spills contact the Physical Plant Director, who will coordinate the safe control and clean-up of the spill

20. Wastes That Does Not Fall Under HWMP

Biomedical waste:

Sharps, needles, broken glass or biohazard material. These items must be disposed of through an independent contractor.

Infectious waste boxes are the cardboard boxes with the red plastic liners that are used for the disposal of research materials that are contaminated with hazardous biological agents or chemicals to include: tissue samples, animal cadavers, animal organs, slides, broken lab glassware, absorbent pads, pharmaceuticals, and small quantities of chemicals. Sharps should be collected in the red puncture resistant collection containers. The red puncture resistant sharps collection containers are purchased by each department.

Following are instructions for the infectious waste boxes:

- The boxes are delivered constructed (from Housekeeping).
- All sharps must be placed in a puncture resistant collection container inside of the infectious waste box.

- Do not pour liquids in the boxes or over pack -- weight limit is 40 lbs.
- Use only the infectious waste boxes provided.
- Do not deliver the boxes to the loading dock of Shipping and Receiving.
- Do not use for disposal of non-hazardous material.

When the infectious waste box is ready for disposal:

- Label the box with the building name and lab room #.
- Seal the plastic liner, NOT the cardboard top.
- Call the company that has been contracted; request a pickup and a replacement box.

21. Training

Faculty and staff that perform work at or for Luna Community College will receive appropriate training necessary to protect their health and perform in a safe and environmentally sound manner. Training must include information about job hazards, possible health effects and required work practices and procedures. Safety training is designed to meet the requirements of federal, state and local regulatory laws.

To accomplish this, departments will provide training programs that satisfy all federal, state and local (where applicable) safety related laws and regulations, and will promulgate appropriate policies, standards and procedures for governing departmental safety training programs.

Job Specific Training:

Job duties must often be supplemented with additional safety training that is specific to operations, tasks, and facilities. Department Heads and Supervisors are generally more knowledgeable in this regard; as such this job specific training is the responsibility of the department and direct supervisor. This can include on-the-job training, formal mentoring, hazard specific training or training given off site by another facility or organization.

On-the-job training is conducted and evaluated in the work environment. It is designed to teach the employee specifics of a task or operation and is often used to supplement general safety training.

Appendix A
Example of Recycling Centers

(*may not accept items from a commercial source)

Recycle Center:	Location:	Recyclable Items Accepted:
*Radio Shack	607 Mills Ave.	NiCad Batteries Rechargeable Batteries
Capitol City Scrap	702 Railroad Ave.	Car Batteries Aluminum Nonferrous Metals
*Oriley's Auto	2514 7th St.	Car Batteries Used Oil