South Central College

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Hazardous, Universal, Bio-Hazard & Other Regulated Waste Plan

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Scope

This plan applies to all personnel, including employees, users, visitors, and subcontractors at South Central College involved with the generation, storage, transportation, and treatment of hazardous, universal and bio-hazard wastes.

Purpose

The purpose of this plan is to ensure that all hazardous, universal and bio-hazard waste is properly and safely managed, from its generation through handling, storage, and preparation for transportation. This plan covers the responsibilities of both the individuals and departments generating the waste as well as the responsibilities of the Maintenance Supervisors in conjunction with the Security & Safety Director in coordinating waste responsibilities with handling, storing, and preparation for transport of any type of hazardous, universal, and bio-hazard waste. The management of hazardous, universal and bio-hazard waste shall be conducted in accordance with all applicable local, state, and federal laws and regulations.

The U.S. Environmental Protection Agency (EPA) and the Minnesota Pollution Control Agency (MPCA) strictly regulate handling, storage, shipping, and ultimate disposal of hazardous, universal, and bio-hazard wastes. South Central College is committed to proper management of these wastes as outlined in this policy for protection of people and the environment, as well as to comply with applicable state and federal regulations.

Definitions

Minnesota Pollution Control Agency (MPCA): State regulatory agency responsible for enforcing federal and state environmental health rules.

Hazardous waste: Any material no longer of use to the possessor whose chemical or biological properties have the potential to endanger personnel, material, or the environment if handled improperly. Hazardous waste includes, but is not limited to items specifically identified as "hazardous waste" under federal and state statutes. Hazardous waste in Minnesota is defined by the Minnesota Pollution Control Agency as:

- It displays a hazardous waste characteristic as defined by MPCA
- It is recorded in one of the four MPCA lists of hazardous waste
- It contains polychlorinated biphenyls (PCBs)

Universal waste: A subset of hazardous wastes that may be managed in Minnesota under reduced requirements. These wastes are referred to as *universal* because, at some point, almost every business, non-profit organization, and government agency generates them. Universal wastes include:

- Batteries
- Lamps (Florescent)
- Mercury-containing equipment
- Pesticides
- In Minnesota, two additional wastes may be managed the same as universal wastes:
- Dental amalgam being recycled
- Pretreated dental wastewater

Bio-hazard waste: Any waste material whose biological properties present (or may be conceived to present) a risk or potential risk to the health of humans, or plant or animal life, either directly through infection or

indirectly through damage to the environment. Examples include; blood and other body fluids, sharps, human vaccines, infectious cultures, etc.

Used oil: Petroleum or synthetic oil used as a lubricant, heat transfer fluid, hydraulic fluid or any similar uses. Examples include:

- Engine oil
- Transmission fluid
- Lubricating oil
- Hydraulic oil
- Gear oil
- Transformer fluid
- Cutting oil
- Tempering or quenching oils
- Grease
- Brake fluid

NOTE: Antifreeze, fuels such as fuel oil, and solvents are **not** used oil

Unidentified waste: A waste of unknown constituents or origin. For the purposes of these procedures, unidentified wastes are managed as hazardous wastes until a definitive determination can be made by South Central College Maintenance Supervisors or Director of Security & Safety.

Assessing Materials within Programs and As Donations

As a part of this plan South Central College encourages acceptance of donated materials be done with due diligence in assessing the materials being considered for use as part of a new or changing academic program, process or function within campus operations , or as a simple donation to fully understand the potential costs impacts and liabilities before introducing or accepting the materials. Prior to accepting any new materials through programmatic changes, donations, or other means, the South Central College Security & Safety Director in conjunction with the campus appropriate maintenance supervisor will review all materials and non-monetary donations and determine:

If the materials donation meets one of the following Minnesota Pollution Control Agency (MPCA) waste definitions, they will not be accepted. The specific definitions are:

Hazardous Waste: Any material, product, or substance that meets one of the following as defined by the MPCA:

- It displays a hazardous waste characteristic as defined by the MPCA
- It is recorded in one of the four MPCA lists of hazardous waste
- It contains polychlorinated biphenyls (PCBs)

Universal Waste: A subset of hazardous waste that is managed under reduced requirements. These wastes are referred to as universal because almost every business, non-profit organization and government agency generates them.

Infectious/Biological Waste: Wastes that poses a biological risk. Examples include; blood and other body fluids, sharps, human vaccines, infectious cultures, etc.

1. If the acceptance of the donation will create a major impact on existing waste streams, create a new waste stream, and/or the acceptance impacts on the campus waste generator size. From this analysis, the benefit of accepting the donation versus the cost for disposal will be determined and if accepted, any extra cost for disposal and generator size changes will be assigned to the department or area holding the waste. This will be reviewed by the Security & Safety Director in conjunction with the campus appropriate maintenance supervisor.

2. If new campus programs or current program changes will create a major impact on existing waste streams, create a new waste stream, and/or impacts on the campus waste generator size. From this analysis, the cost for disposal will be determined and any extra cost for disposal and generator size changes will be assigned to the area of the new program or area of program change.

Waste Minimization

Environmental regulations and South Central College fiscal responsibilities require that as little hazardous waste as possible be generated. Good purchasing decisions are the first steps in minimizing waste generation. Every effort must be made to keep purchase quantities to a minimum. Remember "LESS IS BEST" when planning work and ordering chemicals. Stockpiling products for future use or to take advantage of unit cost savings doesn't always work. This is because any net savings in purchase are lost during disposal if the chemical is not completely used and shelf life expires. The average cost to dispose of unused hazardous materials may be two to three times the original purchase cost. Purchase only the quantity of material that will be completely used within a reasonable time frame. Unnecessary stockpiling of chemicals also uses valuable space that is often at a premium in laboratories and other facilities.

- Do not accept waste products that are intended to be added to our waste inventory. South Central College is not a licensed waste disposal processor.
- Limit the amount you order. Review stocks and needs before ordering.
- Do not stockpile chemicals.
- Prior to disposing of a product that is still viable, check other departments to see if there is an alternate use
- Use up chemicals before their shelf lives expire.
- Be wary of offers of "free" research materials or chemicals from outside South Central College. These products may be inadequately labeled, or are packaged in large, industrial quantities that will not be used up. Complete labels and material safety data sheets are required for any free materials.

Hazardous Waste Procedures

It is the responsibility of the generating department to provide suitable waste containers for waste accumulation. A container that is bulging, severely dented, rusted, cracked, or leaking would not be considered a container in good condition. Waste containers must be compatible with the waste collected, kept closed unless material is being added, capable of being transported, and appropriately labeled. Do not use containers over 5 gallons/20 liters without prior consultation with Maintenance Supervisors or Security & Safety Director. Multiple small containers, such as sample vials containing research products, should be consolidated into single packages. A log should be kept to record the date, amount and type of waste added to a container to prevent the mixing of incompatibles. Waste shippers and handlers cannot guarantee that re-useable containers will be returned to the waste generator. If a new container is needed for waste, contact the Maintenance Supervisors or Security & Safety Director for recommendations about obtaining a new container. Below are recommended best practices regarding the use and storage of containers. Additional required practices are specified within this procedure.

- Do not fill liquid containers completely full. As a rule of thumb, the volume in a container should be limited to no more than 95% of the total capacity of a container.
- Keep containers closed except when adding material to the container. This is to prevent spills, leaks, fires and exposure to fumes. Open head drums should be closed with a ring and bolt securing the lid to the container. If present, bung hole opening are closed. Smaller containers should be closed with a closed screw top lid. A funnel may help prevent spills when adding waste to containers; make sure it is clean and free of residues. Flip top funnels alleviate the necessity to remove the funnel and replace container caps after each use and, hence, are highly recommended. If you must leave a funnel in place, it must be maintained closed when not adding material to the container, and it must contain either a locking mechanism for the lid, or include or a gasket in the lid, to make it spill and vapor proof.

- Containers must be made of, or lined with, materials that are compatible with, and will not react with, the waste to be stored in the container. For example, a corrosive waste such as nitric acid is incompatible with a steel container because the acid reacts with the steel.
- South Central College does not recommend "red metal safety cans" for the storage of liquid wastes. These metal cans do not meet USDOT standards for transport and the spark arrestors with the cans corrode and become ineffective over time. It is also difficult to pour from metal cans into a bulk drum, which increases the risk of a spill.
- Consult Safety Data Sheet (SDS) to identify the appropriate personal protective equipment (goggles, face shield, gloves and lab coat or similar protective outer garment) required when adding waste to containers.
- Keep containers in good condition, handle them carefully, replace leaking ones immediately, and keep the outside clean.
- Segregate waste containers according to chemical compatibility just as you would unused chemicals - flammables, oxidizers, reactives, corrosive acids and bases must be stored separately.
- Do not store usable chemicals, reagents or unmarked bottles with waste containers. These may be mistaken for improperly labeled waste.
- South Central College requires the use of secondary containment for liquid waste. Secondary containment may be a tray, pan, bucket or other container capable of holding the entire contents of the primary container in the event of a leak or spill. Secondary containment aids in separating incompatible waste and in cleanup of leaks and spills.
- If you encounter an unknown waste product it must be managed with great care. Contact the Security & Safety Director or the campus appropriate Maintenance Supervisor. Containers encountered with unknown materials must not be moved or opened when there is any question as to the safety of such an operation. Some materials can be friction or shock sensitive and even the act of opening the cap (*e.g.*, picric acid) can cause a violent reaction. The area of origin must be able to identify if a container potentially includes a highly reactive or explosive component prior to management of the container and its material. The best way to prevent the generation of unknown waste materials is to properly use, label, and manage all chemical materials and byproducts, including solutions and mixtures prepared on campus.

Minnesota Hazardous Waste Regulations

The Minnesota Hazardous Waste Rules (Chapter 7045) are based on federal hazardous waste rules. As the federal government adopts new rules or amends existing rules, the State of Minnesota revises its rules. The state can choose to be more stringent than the federal government in its regulation of hazardous waste generators. An example of where the state of Minnesota is more stringent than the federal government is in its regulation of hazardous waste generators which produce below 100 kg of hazardous waste per month. The three size categories of hazardous waste generators as defined by Minn. Rules pt. 7045.0206 are:

• Large Quantity Generator (LQG) - generates greater than or equal to 1000 kg (2220 pounds)/month
• Small Quantity Generator (SQG) - generates between 100 kg (220 pounds) and 1000 kg (2200 pounds)/month
• Very Small Quantity Generator (VSQG) - generates less than or equal to 100 kg (220 pounds)/month

All hazardous waste generators have basic management requirements which provide for the safe handling and proper disposal of all hazardous waste. Each of the generator size categories has additional requirements, depending on the quantity of waste generated. The larger the generator, the more extensive the requirements.

Basic Management Requirements

The basic management requirements are contained within Minnesota Rules as defined.

- Generator Size (*Minn. Rule 7045.0206*)
- Hazardous Waste Management (*Minn. Rule 7045.0208*)

- Identification Number (*Minn. Rule 7045.0221*)
- Generator License (Application and Renewal) *(Minn. Rule 7045.0225-.0248*)
- Manifest (*Minn. Rule 7045.0261-.0265*)
- Pre-transportation Requirements (*Minn. Rule 7045.0270*)
- Proper Hazardous Waste Management (*Minn. Rule 7045.0275*)
- Universal Wastes (*Minn. Rule 7045.1400*)
- Accumulation of Hazardous Waste (*Minn. Rule 7045.0292*)
- Record Keeping (*Minn. Rule 7045.0294*)
- Preparedness and Prevention (*Minn. Rule 7045.0566*)
- Arrangements with Local Authorities for Emergencies (*Minn. Rule 7045.0568*)
- Use and Management of Containers (*Minn. Rule 7045.0626*)

South Central College is categorized as a Very Small Quantity Generator (VSQG) and is subject to the following additional requirements.

- Waste Accumulation (Minn. Rule 7045.0292 subp. 6)

No time requirement for waste shipment applies to VSQGs until 1000 kg (2200 pounds or about four drums of liquid) of hazardous waste is accumulated on site. Once the 1000 kg limit is reached, the waste must be shipped within 180 days.

- Very Small Quantity Generator Collection Programs (Minn. Rule 7045.0320)
- Acute Hazardous Waste Accumulation (Minn. Rule 7045.0292 subp. 7)

If acute hazardous waste is generated, no time requirement for waste shipment applies until accumulation of one kg (2.2 lbs or about one quart liquid) of acute hazardous waste or 100 kg or residue, contaminated soil, water, or other debris resulting from the cleanup of a spill of an acute hazardous waste into or on any land or water.

- Required Emergency Equipment List (Minn. Rules 7045.0292 subp. 6G, 7045.0566)

All generators sizes are required to have equipment available to respond to emergencies involving their hazardous waste. One item in each of the categories identified on the attached list must be available. The equipment should be checked periodically to ensure proper operation in the event of an emergency. In addition, aisle space must be provided for the unobstructed movement of personnel and emergency response equipment.

INTERNAL COMMUNICATIONS - for notifying employees of an emergency
Phone
Intercom
Alarm
EXTERNAL COMMUNICATIONS - for requesting assistance from local authorities
Phone
Two-way radio
Automatic alarm
SPILL CONTROL EQUIPMENT - of sufficient type and quantity to control any spills of hazardous waste
Floor dry
Absorbent pads
Clean-up equipment
DECONTAMINATION EQUIPMENT **-** enables employees to wash off or remove hazardous waste
Shower
Eye wash
Sink
FIRE CONTROL EQUIPMENT - compatible with the types of fire hazards associated with waste generated
Fire extinguishers

Foam
Inert gas
Dry chemical
Flammables storage room
Electrical grounding
WATER SUPPLY - at a volume and pressure adequate to supply one of the following options
Automatic sprinklers
Foam producing equipment
Spray systems
Company-owned fire hose
Water hose provided by the local fire dept, location of nearest hydrant

- Weekly Inspection Log (Minn. Rules 7045.0292 subp. 6B, 7045.0626)

All generators are required to conduct and document weekly inspections of hazardous waste storage areas and containers. The inspection log attached to this policy outlines some of the items which should be checked. Weekly inspection logs must be kept at the licensed site for at least three years from the date of the inspection and must be available for review during an inspection by Minnesota Pollution Control (MPCA). The South Central College weekly inspection log is attached to this policy as Addendum A. This log requires the following items be inspected:

1. Is the container closed?
2. Is the container labeled correctly?
3. Is the label visible and complete?
4. Is the storage time limits okay?
5. Are the accumulation dates okay?
6. Are there any spills or leaks?
7. Are there any cracks in the floor?
   (If stored outside, is the area secured and are the ignitable covered?)

Container Labeling/Waste Accumulation Sites

South Central College will use labels provided by the Security and Safety Director or the campus appropriate Maintenance Supervisor. Examples of all label types are attached with this plan. Labeling allows personnel and emergency responders to identify the contents of a container and determine a response to any incident. When labeling a container holding hazardous waste that is fully regulated, you must include the following information and ensure it is legible:

the words 'Hazardous Waste'
a clear description of the waste
the *accumulation start date* – the date you begin collecting waste in a container*

Wastes that are not fully regulated, such as used oil and universal wastes have different labeling requirements. For example, containers that hold used oil or related wastes need only a clear description of the waste.

If satellite accumulation containers are used for collection the following labeling exceptions apply:

- Satellite accumulation containers either must be under the direct control of the operator of the process producing the waste and visually inspected daily, *or* inspected weekly and the inspections documented.
- The accumulation start date for a satellite accumulation container is the date the applicable volume limit (1 quart of acute hazardous waste, 55 gallons of all other hazardous waste) is reached for a waste stream at a

satellite accumulation area *or* the date you begin to manage the container as a storage container, whichever occurs first. Until this date, no date needs to be placed on the container.

- Satellite accumulation containers must be moved to the storage area within three days of the accumulation start date. The container then becomes regulated for volume accumulation and time limits with all of your other hazardous waste.
- Satellite accumulation may occur at more than one location at your site and you may accumulate more than one waste at a location; however, you must not exceed the volume limits for each waste at each location. Satellite accumulation containers may be combined into a new satellite accumulation container.

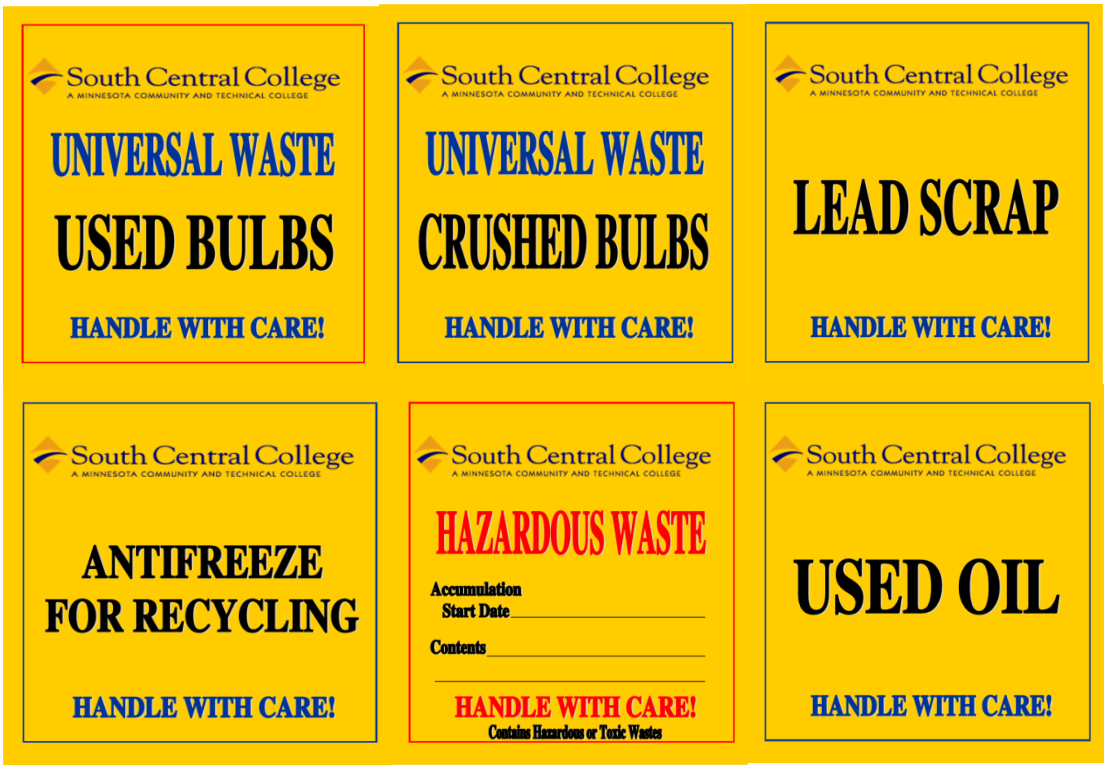
Current waste accumulation sites include:

North Mankato Campus

- Auto Collision Paint Room (Hazardous Waste)
- Biology Lab C-114 (Hazardous Waste)
- Chemistry Lab C-165 (Hazardous Waste)
- Auto Mechanics Lab (Used Oil, Antifreeze, Brake Fluid, Lead Scrap)
- Ag Mechanics Lab (Used Oil, Antifreeze)
- A-125 Custodial Room (Fluorescents)
- B-127 Custodial Room (Fluorescents)
- C-145 Custodial Room (Fluorescents)
- C-150 Custodial Room (Fluorescents)
- E-100 Custodial Room (Fluorescents)
- E-120 Custodial Room (Fluorescents)
- C-123 Medical Lab Tech (Bio Hazard)

Faribault Campus

- Boiler Room (Fluorescents)
- C-206 Medical Lab Tech (Bio Hazards)



Sewered Wastes

South Central College strives to work closely with the respective city waste water treatment facilities in both communities in which campuses are located. South Central College has agreements with both respective waste water treatment facilities to sewer a particular grouping of chemicals in defined amounts at each campus. It is extremely important to advise the respective waste water treatment facilities of any changes in chemicals used or amounts sewered. South Central College maintains an active inventory of chemicals that are sewered and such activity is documented by use of the Sewered Waste Inventory Form in Addendum B. This form shall be used by each department within the college that disposes of waste by approved sewering method. Approval of sewered waste is granted by either the Mankato or Faribault Waste Water Treatment Facilities, campus dependent.

All sewered disposals are to be completed by a trained staff member(college employee). Students are not to sewer any product. When disposing of liquid solutions check the pH first and if necessary adjust to neutral range (7.0 s.u.). Pre-purge your sink or drain with a good volume of cold tap water. This is to remove or displace any chemicals that may be lying in the drain lines and traps. With cold tap water running then drain your solutions and post-purge each solution again with cold tap water. Monitor for any physical signs of chemical interaction such as fumes, odors or smoke. Chemicals and reagents that are solids are not to be dumped to drain. They are to be disposed of with your solids handling protocol.

Bio-Hazard Waste

Biological wastes shall be segregated by separate containment from other waste at the point of generation. These wastes, except for sharps, are to be placed in orange or red plastic bags clearly identified with the universal biohazards symbol or the word “BIOHAZARD.”

Sharps containers are to be placed in standard biological sharps containers, and packaged separately from other wastes.

All Bio-Hazard waste must be held in a closed/covered Bio-Waste container. Filled or partially filled biological waste sharps containers will be marked with the Bio-Hazard label.

To prevent injuries, spills, and contamination, bags must always be lifted from by the tied end, placed upright in collection boxes, and never dragged on the floor during transfer. If moving from one area of the building to another a leak proof tray or container should be used.

A D2L training module has been created to cover this topic of Bio Hazards and is contained on the D2L Training site, https://southcentral.ims.mnscu.edu/.

Used Oil/Filters/Rags

Used oil means 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. Examples of used oil include motor oil, hydraulic fluid, lubricants and oil coolants.

Generators of used oil must store used oil in containers that are in good condition (no severe rusting, apparent structural defects or deterioration) and not leaking (no visible leaks). Remove damaged containers from use or repair immediately. Keep containers (including funnels) closed except when adding or removing used oil. Use secondary containment structures or other spill management practices to prevent oil from reaching the environment in the event of a leak or a spill. Used oil containers are potentially subject to the Spill Prevention, Control and Countermeasures rule (40 CFR Part 112).

Containers and aboveground tanks used to store used oil must be labeled or marked clearly with the words “Used Oil”, and NOT “Waste Oil.” Used Oil labels can be obtained from the Security & Safety Director. Used oil should not be mixed with solvents or other wastes. Used oil filters should be placed in a leak proof container.

Oil and solvent laden rags are potentially subject to hazardous waste regulation, meaning that they need to be collected in a proper container that is kept closed and labeled. Use wringing or other type of extraction process to recover excess solvent and achieve “no free liquids” state. Reuse the liquid where possible. Allowing oil or solvents to evaporate to achieve a “no free liquids” state is not permitted. Spray a minimum amount of solvent onto rags instead of soaking rags. Store rags in a closed, labeled container (“used shop rags” or similar). Contaminated rags or commercial wipes regulated as hazardous waste may not be burned. Absorbents used to clean up oil spills should be managed as chemical waste.

Universal Waste

Universal wastes would include management and disposal of used fluorescent lamps or other mercury containing lamps (e.g., HID bulbs) and ballasts as well as batteries. Generators of used lamps are responsible for their packaging and storage. Containers or packages must be structurally sound, adequate to prevent breakage, and compatible with the contents of the lamps. The container must be kept closed except when adding bulbs to the container. Containers of used lamps must be labeled with the words “Universal Waste – Used Bulbs” or “Universal Waste – Crushed Bulbs”. Pre-printed labels are available from the Security & Safety Director.

Lamps must be stored in a manner to prevent breakage or damage to the lamps. Identify a safe storage area to prevent the lamps from being accidentally broken or crushed before they are picked up. Any broken bulbs will be immediately cleaned up with the residue placed in a suitable container, marked as to contents (Universal Waste – Crushed Bulbs) and disposed of with spent bulbs.

Waste Disposal/Manifests

All waste disposals must be coordinated through the Security and Safety Director or Campus Maintenance Supervisors. South Central College is required, based upon waste generator size, to track and have available for inspection all records related to waste management and disposal. Hence, a coordinated effort in waste management is vitally important.

A generator must prepare a manifest before shipping hazardous waste off site for treatment, storage, or disposal. VSQGs must mail the initial manifest copy within five days of shipment and mail the final copy within 40 days of facility-acceptance. This however is typically done on behalf of South Central College by Veolia Environment, contract waste hauler for State of Minnesota. Mail to:

Hazardous Waste Manifest Program
Mail Code L609
300 South 6th Street
Minneapolis, MN 55487

Training

All individuals whose duties include the identification, handling, and management of chemicals wastes shall participate in a training program prior to their initial involvement of such activities and on a regular annual basis to refresh and refine their knowledge in this area.

Training of identified faculty and staff as outlined above, in the procedures within this plan as well as other pertinent information related to this topic will be the coordinated responsibility or the Security & Safety Director as well as the

Human Resource Department. Training in hazardous waste protocols at South Central College may be conducted in classroom sessions or through the D2L Software which the college utilizes for training purposes. The D2L programming can be found at the following link https://southcentral.ims.mnscu.edu/.

Addendum A

South Central COLLEGE

Hazardous Waste Inspection Log for: _____

(Area)

Check for the following:

1. Is the container closed? 2. Is the container labeled correctly? 3. Is the label visible and complete? 4. Is the storage time limits okay? 5. Are the accumulation dates okay? 6. Are there any spills or leaks? 7. Are there any cracks in the floor? (If stored outside, is the area secured and are the ignitable covered?)

Inspection Date:	**Problems noted during the inspection:**	**Visual Inspection by:** ***(Sign)***	**Corrective Action Date**	**Corrective Action:**	**Corrective Action by:** ***(Sign)***

Addendum B

South Central College
A MINNESOTA COMMUNITY AND TECHNICAL COLLEGE

Sewered Waste Inventory

Every program or department that discharges waste into the sewer must complete this part.

Program or Department Name	Campus	Lab, Experiment, or Process Name	Product ID (e.g., Waste Code, CAS#, Product Name, etc...)	Waste Name or Description	Volume Per Month (i.e., 30 Days) or Semester (i.e., 90 Days)	Volume Per Year	Dilution Ratio of Wastewater (if diluted)	Type of Treatment (if treated)	Type of Discharge (B, C, or O)