WASTE MANAGEMENT PLAN

for

University of North Texas

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Prepared and updated by

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1. PURPOSE

To outline the management plan for the proper handling of hazardous and non-hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) and the State of Texas at the University of North Texas (UNT). UNT is a non-industrial large quantity generator (LQG) of hazardous waste. EPA considers a LQG to be one that generates more than 1,000 kilograms/month of hazardous waste, more than 1 kilogram/month of acute hazardous waste, or more than 100 kilograms/month of acute spill residue.

2. DEFINITIONS

2.1. Accumulation Start Date: The date 55 gallons of hazardous waste (or 1 quart of liquid acute hazardous waste, or 1 kilogram of solid acute hazardous waste) accumulates within a Satellite Accumulation Area (SAA), or when a container containing hazardous waste is placed in a Central Accumulation Area (CAA). This date is noted on the Hazardous Waste Label affixed to the container of hazardous waste.

2.2. Battery: A device consisting of one or more electrically connected electrochemical cells which is designed to receive, store, and deliver electric energy. An electrochemical cell is a system consisting of an anode, cathode, and an electrolyte, plus such connections (electrical and mechanical) as may be needed to allow the cell to deliver or receive electrical energy. The term battery also includes an intact, unbroken battery from which the electrolyte has been removed.

2.3. Central Accumulation Area (CAA): An area that is designed and managed for the accumulation of hazardous waste in containers. CAAs, by definition, may accumulate more than 55 gallons of one or more individually characterized hazardous wastes. Containers must not be stored on-site greater than 90 days from the Accumulation Start Date noted on the Hazardous Waste Label affixed to the container. The designated CAA must be under the direct control of personnel trained in the management of less than 90-day hazardous waste accumulation storage areas.

2.4. Container: Any portable device in which a material is stored, transported, or otherwise handled. This includes drums, pails, cans, cups, jars, totes, and any other portable devices.

2.5. Hazard Mark: A mark indicating the hazard(s) associated with a particular container of hazardous waste. Examples include the applicable hazardous waste characteristic(s) (i.e., ignitable, corrosive, reactive, toxic), hazard communication consistent with DOT labeling and/or placarding requirements, a hazard statement or pictogram consistent with the OSHA Hazard Communication Standard at 29 CFR 1910.1200, or a chemical hazard label consistent with the NFPA code 704.

2.6. Hazardous Material: A substance or material capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and which has been so designated. The term includes hazardous substances, hazardous wastes, marine pollutants, and elevated temperature materials.

2.7. **Hazardous Waste:** A "solid waste" that is specifically listed or that exhibits the characteristics of ignitable, corrosive, reactive, or toxic as defined by RCRA.

2.8. **Hazardous Waste Label:** Typically, a label or combination of labels affixed to a container with the words "HAZARDOUS WASTE." Additional information found on a Hazardous Waste Label is dependent upon its location in the waste management process (i.e., in a Satellite Accumulation Area, in a Central Accumulation Area, or in preparation for shipment). Examples are found in Appendix A.

2.9. **Lamp:** The bulb or tube portion of an electric lighting device. A lamp is specifically designed to produce radiant energy, most often in the ultraviolet, visible, and infra-red regions of the electromagnetic spectrum.

2.10. **Large Quantity Generator (LQG):** A facility that generates more than 1,000 kilograms/month of hazardous waste, more than 1 kilogram/month of acute hazardous waste (P-listed), or more than 100 kilograms/month of acute spill residue or soil. Large quantity generators may accumulate hazardous waste on-site for 90 days without a permit.

2.11. **Mercury-containing Equipment:** A device or part of a device (including thermostats, but excluding batteries and lamps) that contains elemental mercury integral to its function.

2.12. **Non-industrial Waste Generator:** Generators such as schools, hospitals, churches, dry cleaners, most service stations, and laboratories serving the public.

2.13. **Owning Entity:** The entity on campus that generates a given waste.

2.14. **Resource Conservation and Recovery Act (RCRA):** RCRA is the acronym for the Resource Conservation and Recovery Act ("RCRA"). It is often used to refer to the overall program resulting from the Act including the implementing regulations. RCRA is a federal program with a goal to ensure that solid wastes and hazardous waste are managed in an environmentally sound manner. The State of Texas has adopted by reference the federal RCRA regulations for generators of hazardous waste but has amended portions of those regulations, so that Texas regulations are more stringent in some regards.

2.15. **Solid Waste**: Any discarded material that is abandoned, recycled, or considered inherently waste-like as defined by RCRA.

2.16. **Paint and Paint-related Waste (PPRW):** Any mixture of pigment and a suitable liquid that forms a closely adherent coating when spread on a surface, or any material that results from painting activities.

2.17. **Pesticide:** Any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant, or desiccant, other than any article that: (a) Is a new animal drug under FFDCA section 201(w), or (b) Is an animal drug that has been determined by regulation of the Secretary

of Health and Human Services not to be a new animal drug, or (c) Is an animal feed under FFDCA section 201(x) that bears or contains any substances described by (a) or (b).

2.18. **P-listed Waste:** Waste that is listed under RCRA as "Acutely Hazardous Waste". These wastes are listed in 40 CFR § 261.33 of the federal regulations. P-listed wastes have lower satellite area accumulation threshold quantities (1 quart for liquids, 1 kilogram for solids) than other RCRA hazardous wastes.

2.19. **Satellite Accumulation Area (SAA):** An area for the accumulation of less than 55 gallons of hazardous waste (or 1 quart of liquid acute hazardous waste, or 1 kilogram of solid acute hazardous waste) at or near the point of waste generation, and is under the direct control of the operator of the process generating the hazardous waste.

3. SCOPE

This procedure outlines the compliance requirements of applicable federal and state regulations for managing and storing containerized waste in non-permitted storage areas at UNT.

4. PROCEDURE

4.1. Hazardous Waste Determinations

Accurate waste determinations are the basis for a properly functioning waste management program. The **generator** of a solid waste is responsible for determining if the waste is a hazardous waste. The determination may be based on testing and/or applying generator knowledge of the hazardous characteristics in light of the materials or the processes used. If it is uncertain as to whether a waste is hazardous, it must be handled as a hazardous waste.

4.1.1. Hazardous Waste Determination Form

The Hazardous Waste Determination Form documents the hazardous waste determination (Appendix B). A trained Risk Management Services (RMS) team member will characterize a waste by considering several sources of information provided by the owning entity, including safety data sheets (SDS), laboratory analysis, and/or the knowledge of the materials and process. A waste profile sheet from a contracting waste service provider may also be used to characterize waste. Containers will be appropriately labeled upon characterization.

4.2. Types of Hazardous Waste Accumulation Storage Areas

There are two types of regulated container accumulation storage areas for hazardous wastes at UNT: (1) Satellite Accumulation Areas (SAA) and (2) Central Accumulation Areas (CAA).

4.3. Satellite Accumulation Area Requirements

4.3.1. General

SAAs must be at or near the point of waste generation and under the control of the operator of the process generating the waste. All SAAs must have a

"Hazardous Waste Satellite Accumulation Area" sign posted as found in Appendix C.

4.3.2. SAA Volume and Time Limits

A SAA is limited to no more than 55 gallons of hazardous waste, 1 quart of liquid acutely hazardous waste (P-listed), or 1 kilogram of solid acutely hazardous waste. Once these quantities are exceeded, the excess must be marked with the date and removed within three calendar days. If waste is not removed within three calendar days, the area becomes a CAA and is subject to all applicable requirements.

4.3.3. Container Labeling

Upon waste collection, all hazardous waste containers must be labeled with a completed Hazardous Waste Label consistent with SAAs as found in Appendix A. Alternative methods can be used for labeling as long as the same information requested on the SAA label is present. In this case the container must also indicate the hazards of the materials within. This can be accomplished through an appropriate Hazard Mark.

4.3.4. Container Requirements

All containers must meet the following requirements: (1) they must be in sound condition and compatible with its contents; (2) they must be constructed of an appropriate material to prevent leakage; (3) they must be closed except when adding or emptying waste material from the container; (4) they must be kept clean of any spilled material; and (5) they must be handled and stored so as not to cause rupture or leakage.

4.3.5. SAA Movement

Hazardous waste may not move between SAAs. Once a hazardous waste leaves a SAA, it must be destined for a CAA or transported to an authorized treatment, storage, and disposal facility (TSDF). Movement or consolidation of hazardous waste within a SAA is permissible, as long as it meets the general SAA requirements in Section 4.3.1.

4.3.6. Ignitable and Reactive Wastes

Precautions must be taken to prevent accidental ignition or reaction of ignitable or reactive waste. This waste must be separated and protected from sources of ignition or reaction including, but not limited to open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks, spontaneous ignition, and radiant heat.

4.3.7. Incompatible Wastes

Incompatible wastes or materials must not be placed in the same container unless it is certain that they will not (1) generate extreme heat or pressure, fire or explosion, or violent reaction, (2) produce uncontrolled toxic or flammable mists, fumes, dusts, or gases, (3) damage the structural integrity of the container.

Hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material.

A container holding a hazardous waste that is incompatible with any waste or other materials stored nearby must be segregated as to not allow accidental ignition or reaction of the waste.

4.4. Central Accumulation Area Requirements

CAAs may be used to store greater than 55 gallons of non-acute, 1 quart of liquid acute, and/or 1 kilogram of solid acute hazardous waste without a RCRA hazardous waste permit provided the waste is transferred off-site to a TSDF within 90 days of the accumulation start date.

4.4.1. Container Labeling

All hazardous waste containers must be labeled and marked with the words "Hazardous Waste" and contain information regarding the container contents, waste generator, accumulation start date, associated EPA waste codes, and weight of waste. This can be accomplished through application of both the SAA and CAA labels found in Appendix A, or any means in which the above information is present. If the combination of these labels are not used, then a Hazard Mark indicating the hazards associated with the container will also be required.

4.4.2. Container Requirements

All containers must meet the following requirements: (1) they must be in good condition; (2) they must be compatible with the designated contents; (3) they must be kept closed except when adding or emptying waste from the container (4) they are handled and stored so as not to cause rupture or leakage; (5) they must be kept clean of any spilled material.

4.4.3. Time Limitations

Containers of hazardous waste placed in a CAA must be shipped to an approved TSDF within 90 days of the date noted as the Accumulation Start Date on the Hazardous Waste Label.

4.4.4. Area Signage

The CAA must be well-defined with signs designating the area using the text "Caution: Hazardous Waste Storage Area Unauthorized Persons Keep Out," or similar conspicuous text of the same meaning. If ignitable or reactive waste is being stored, "No Smoking" signs must also be posted.

4.4.5. Ignitable and Reactive Wastes

Precautions must be taken to prevent accidental ignition or reaction of ignitable or reactive waste. This waste must be separated and protected from sources of ignition or reaction including, but not limited to open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks, spontaneous ignition, and radiant heat.

4.4.6. Incompatible Wastes

Incompatible wastes or materials must not be placed in the same container unless it is certain that they will not (1) generate extreme heat or pressure, fire or explosion, or violent reaction, (2) produce uncontrolled toxic or flammable mists, fumes, dusts, or gases, or (3) damage the structural integrity of the container.

Hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material.

A container holding a hazardous waste that is incompatible with any waste or other materials stored nearby must be segregated as to not allow accidental ignition or reaction of the waste.

4.4.7. Required Aisle Space

Aisle space in hazardous waste accumulation areas must be maintained to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless aisle space is not needed for any of these purposes.

4.4.8. Required Postings

The following information must be posted in each CAA next to the telephone 1) telephone number of the Emergency Coordinator; (2) location of fire extinguishers and spill control material, and, if present, fire alarm; (3) telephone number of the fire department.

4.4.9. Inspections

The CAA must be inspected at least every seven calendar days. The inspections must be documented including the date and time of the inspection, name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions. The inspection is the responsibility of trained UNT RMS team members and should be documented on CampusOptics.

4.5. Manifests

4.5.1. Content

A manifest must include, but is not limited to, the following information: (1) generator, transporter, and TSDF information, (2) DOT description of the waste, quantity of the waste, units of measure, and EPA, and/or state waste codes, (3) emergency response telephone number, (4) generator and transporter signatures and dates. A signed and dated land disposal restriction form must accompany the manifest.

4.5.2. Recordkeeping

In addition to the above-mentioned information, the following actions must be taken: (1) sign and date the generator manifest certification statement, (2) obtain the signature of the initial transporter and date of acceptance, (3) retain the generator copy(s) of the manifest, (4) retain a copy of the land disposal

restriction documents.

RMS will maintain a manifest-tracking log. The log will include, at a minimum, the following entries: (1) date shipped, (2) date signed TSDF copy of the manifest or disposal certification is received, and (3) manifest tracking number.

4.5.3. Exception Reporting

If the signed TSDF copy of the manifest or disposal certification is not received within 35 days of the date the waste was accepted by the initial transporter, RMS will contact the transporter and/or owner or operator of the TSDF to determine the status of the hazardous waste.

If the signed TSDF copy of the manifest or disposal certification is not received within 45 days, a legible copy of the manifest along with some indication that UNT has not received confirmation of delivery, must be sent to the EPA Region 6 Administrator.

4.6. RCRA Contingency Plan and Emergency Response Procedures (RCPERP)

A contingency plan must be present at UNT facilities that is designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water.

4.6.1. Content of RCPERP

The RCPERP must be written to incorporate all content required by 40 CFR 265.52.

4.6.2. Arrangements with Local Authorities

Copies of the RCPERP will be submitted to the local fire department, police department, hospitals, and state and local emergency response teams that may be called upon to provide emergency services.

4.6.3. Amendment of RCPERP

The RCPERP must be reviewed, and immediately amended, if necessary, whenever: (1) applicable regulations are revised; (2) the plan fails in an emergency; (3) the facility changes in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency; (4) the list of emergency coordinators changes; or (5) the list of emergency equipment changes.

4.6.4. Implementation of RCPERP

The provisions of the RCPERP must be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

4.7. Preparedness and Preventative Procedures

Accumulation areas must be maintained and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

4.7.1. Required Equipment

The following required equipment is located throughout the UNT campus: (1) internal communications and alarm systems capable of providing immediate emergency instruction (voice or signal) to campus personnel; (2) telephones, two-way radios, and cellular phones available at the scene of operations capable of summoning emergency assistance; (3) portable fire extinguishers, fire control equipment, spill control equipment, and decontamination equipment; (4) water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.

4.7.2. Testing and Maintenance of Equipment

All campus communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure their proper operation in time of emergency.

4.7.3. Access to Communications or Alarm System

Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee.

If there is ever just one employee on the premises while the facility is operating, that person must have immediate access to a device capable of summoning external emergency assistance.

4.8. Waste Minimization

As a LQG, UNT must have a program in place to reduce the volume and toxicity of waste generated to the degree internally determined to be economically practicable.

4.8.1. Pollution Prevention (P2) Plan

A P2 Plan must be developed and implemented in 5 year cycles in accordance with 30 TAC 335.476.

4.8.2. Annual Progress Reports

Annual progress reports shall detail UNT's progress in implementing the P2 Plan in accordance with 30 TAC 335.476.

4.9. Personnel Training

All employees assigned to work with hazardous waste must successfully complete a program of classroom instruction or on-the-job training within six-months of employment or job assignment that teaches them to perform their duties in compliance

with the requirements of RCRA. The program must be directed by a person trained in hazardous waste management procedures, and must include instruction which teaches personnel hazardous waste management procedures (including RCPERP implementation) relevant to the positions in which they are employed.

4.9.1. Emergency Response Training

All employees assigned to work with hazardous waste must successfully complete a program of classroom instruction or on-the-job training within six-months of employment or job assignment designed to ensure that personnel are able to respond to emergencies in accordance with 40 CFR 265.16(a)(3). Personnel that receive Hazardous Waste Operations and Emergency Response (HAZWOPER) training pursuant to 29 CFR 1910.120(p)(8) and 1910.120(q) have met this requirement and are not required to receive additional emergency response training.

4.9.2. Refresher Training

Personnel assigned to work with hazardous waste must take part in an annual review of the initial required training outlined in Section 4.9.

4.9.3. Department of Transportation (DOT) Training

All employees assigned to prepare or offer hazardous waste for shipment and/or sign a hazardous waste manifest must receive training pursuant to 49 CFR 172.704(a). This training must be completed at least once every three years.

4.9.4. Training Records

The following training documents and records are required to kept on site: (1) the job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job; (2) a written description for each position including the requisite skill, education, or other qualifications and the required duties of the personnel; (3) the type and amount of both introductory and continuing training that will be given to each person filling a hazardous waste position; and (4) records documenting the training and job experience aforementioned.

4.10. Reporting

UNT will submit an Annual Waste Summary (AWS) to TCEQ in accordance with 30 TAC 335.9(a)(2). The AWS will be submitted on or before March 1 of each year through the State of Texas Environmental Electronic Reporting System (STEERS). The content of the AWS should detail the management of each hazardous waste.

4.11. Recordkeeping

The following is an outline of the regulatory requirements for record retention. Unless otherwise indicated, Risk Management Services maintains all records.

4.11.1. Training Records

For current employees, records must be maintained until closure of the site. Records must be maintained for three years from the date last worked for former employees.

4.11.2. Hazardous Waste Accumulation Storage Area Inspections

Inspection documentation must be maintained for three years from the date of inspection.

4.11.3. Waste Analyses and Determination Records

Waste analysis records must be maintained for three years from the date the waste was last sent off-site.

4.11.4. Manifests

Manifests must be maintained for three years from the date of shipment.

4.11.5. Land Disposal Restrictions

Land disposal restriction documents must be maintained for five years from the date that the waste was last sent off-site for treatment, storage, or disposal.

4.11.6. Exception Reporting

Exception reports must be maintained for three years from the date of the report.

4.12. Lab Pack Wastes

Lab packs are small containers of hazardous waste placed in overpacked drums. Alternate treatment standards are available for lab packs given they meet the requirements of 40 CFR 268.42(c) and the transportation restrictions of 49 CFR 173.12(b). As such, lab packs will be utilized as when feasible.

4.13. Aerosol Cans

Waste aerosol cans must be managed as hazardous waste if they are determined to have a characteristic of a hazardous waste or contain a listed hazardous waste using the procedure described in section 4.1 of this Plan. Aerosol cans are RCRA Empty, and therefore not considered a hazardous waste, when they meet the definitions outlined in section 4.15.1 of this Plan. Aerosol cans that are not empty are deemed to be a hazardous waste and may be managed as Universal Waste as described in section 4.16.6 of this Plan.

4.14. Solvent-Contaminated Wipes

Solvent-contaminated wipes that are sent for cleaning and reuse (40 CFR 261.4(a)(26)) or disposal (40 CFR 261.4(b)(18)) are excluded from the definition of a solid waste or hazardous waste respectively, if they meet the conditions of their exclusions as summarized below.

4.14.1. Applicability of exclusion from definition of solid waste

Eligible wipes containing listed waste. Wipes eligible for their respective exemptions include those containing one or more F001-F005 listed solvents listed in 40 CFR 261.31 or the corresponding P- or U- listed solvents found in 40 CFR 261.33 including: acetone, benzene, n-butanol, chlorobenzene, creosols, cyclohexanone, 1,2-dichlorobenzene, ethyl acetate, ethyl benzene, 2-ethoxyethanol, isobutyl alcohol, methanol, methyl ethyl ketone, methyl isobutyl ketone, methylene chloride, tetrachloroethylene, toluene, 1,1,2-trichloroethane, trichloroethylene (for reusable wipes only), and xylenes.

Eligible wipes exhibiting a hazardous characteristic. Eligibility also includes wipes that exhibit a hazardous characteristic resulting from a solvent listed in 40 CFR 261 and those that exhibit only the hazardous characteristic of ignitability when containing one or more non-listed solvents.

4.14.2. Solvent-contaminated wipes that do not meet the conditions of exemption and that are determined to be hazardous waste must be managed as such. Eligible wipes do not include either: (1) wipes that contain listed hazardous waste other than solvents and those that exhibit the characteristic of toxicity, corrosivity, or reactivity due to non-listed solvents or contaminants other than solvents; or (2) disposable wipes that are hazardous waste due to the presence of trichloroethylene (TCE) are also not eligible.

4.14.3. Storage Requirements

Wipes must be accumulated, stored, and transported in non-leaking, closed containers that can contain free liquids, should such free liquids occur.

4.14.4. Labeling

Containers must be labeled "Excluded Solvent-Contaminated Wipes" and include the date the first wipe was added to the container.

4.14.5. Accumulation Time Limits

Wipes may be accumulated up to 180 days from the start of accumulation prior to being sent for cleaning or disposal.

4.14.6. Recordkeeping

Documentation must include: (1) name and address of the laundry, dry cleaner, landfill, or combustor; (2) documentation that the 180-day accumulation time limit is being met; (3) description of the process the generator is using to meet the "no free liquids" condition.

4.14.7. Condition of Wipes Prior to Transport

Wipes must contain no free liquids prior to being sent for cleaning or disposal and there may not be free liquid in the container holding the wipes. This must be confirmed using the Paint Filter Liquids Test (EPA Methods Test 9095B).

4.14.8. Management of Free Liquids

Free liquids removed from the wipes or from the wipes container must be managed as hazardous waste if the liquid is determined to be so under section 4.1 of this Plan.

4.14.9. Eligible Handling Facilities

Reusable solvent-contaminated wipes must go to a laundry or dry cleaner whose discharge, if any, is regulated under sections 301 and 402 or section 307 of the Clean Water Act.

Disposed solvent-contaminated wipes must go to a combustor regulated under section 129 of the Clean Air Act or to a hazardous waste combustor, boiler, or

industrial furnace regulated under 40 CFR 264, 265, or 266 subpart H. They may also go to a municipal solid waste landfill regulated under 40 CFR 258 (including 258.40) or to a hazardous waste landfill regulated under 40 CFR 264 or 265.

4.15. Empty Containers

Containers that once held hazardous waste, but are by definition empty, are not subject to regulation as a hazardous waste.

4.15.1. RCRA Empty Container Definition

A container or an inner liner removed from a container that has held any hazardous waste, except a waste that is a compressed gas or that is identified as an acute hazardous waste listed in 40 CFR 261.31 or 261.33(e) is empty if (1) all wastes have been removed that can be removed using practices commonly employed to remove materials from that type of container, e.g., pouring, pumping, and aspirating, and (2) no more than 2.5 centimeters (one inch) of residue remains on the bottom of the container or inner liner, or (3) no more than three percent by weight of the total capacity of the container remains in the container or inner liner if the container is less than or equal to 119 gallons in size, or (4) no more than 0.3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is greater than 119 gallons in size.

4.15.2. RCRA Empty Compressed Gas Cylinder Definition

A container that has held a hazardous waste that is a compressed gas is empty when the pressure in the container approaches atmospheric pressure. This also applies to pressurized containers such as aerosol cans.

4.15.3. RCRA Empty Container that Held Acute Hazardous Waste

A container or inner liner removed from a container that has held an acute hazardous waste listed in 40 CFR 264.31 or 261.33(e) is empty if (1) the container or inner liner has been triple rinsed using a solvent capable of removing the commercial chemical product or manufacturing intermediate, (2) the container or inner liner has been cleaned by another method that has been shown in the scientific literature, or by tests, to achieve equivalent removal, or (3) in the case of a container, the inner liner that prevented contact of the commercial chemical product or manufacturing intermediate with the container has been removed.

4.15.4. Shipment Off-site

Containers, liners, or compressed gas cylinders that are empty under RCRA regulations may only be offered for shipment off-site as empty if they are sufficiently cleaned of residue and purged of vapors to remove any potential hazard. Otherwise, the container, liner, or cylinder must offered for transportation and transported in the same manner as when it previously contained a greater quantity of hazardous waste per DOT regulations.

4.16. Universal Waste

Managing eligible classes of waste as Universal Waste provides an alternative to managing certain streams as hazardous waste. Universal Waste must first be a hazardous waste, but is exempted if managed under 40 CFR Part 273. If the waste is not managed correctly, it will become a hazardous waste by losing its exemption. Wastes subject to the Universal Waste Program include (1) batteries, (2) pesticides, (3) mercury and mercury-containing equipment, (4) lamps, (5) paint and paint-related materials, and (6) aerosol cans.

4.16.1. Batteries

4.16.1.1. Applicability

Batteries such as nickel-cadmium and sealed lead-acid batteries are subject to the Universal Waste program. Batteries not subject to the Universal Waste program are those that are not yet wastes, those that are not a hazardous waste, and those spent lead-acid batteries being managed under 40 CFR part 266, subpart G.

4.16.1.2. Waste Management

Batteries must be managed in such a way that prevents releases of any Universal Waste or component of a Universal Waste to the environment. Universal Waste batteries must remain intact.

Any Universal Waste battery that shows evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions must be confined within a container. The container must be closed, structurally sound, compatible with the contents of the battery, and must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.

The following activities may be conducted as long as the casing of each individual battery cell is not breached and remains intact and closed (except that cells may be opened to remove electrolyte, but must be immediately closed after removal): (1) sorting batteries by type; (2) mixing battery types in one container; (3) discharging batteries so as to remove the electric charge; (4) regenerating used batteries; (5) disassembling batteries or battery packs into individual batteries or cells; (6) removing batteries from consumer products; or (7) removing electrolyte from batteries.

If electrolyte or any other material is removed from the battery during any of the above mentioned activities, it must be determined if the material is a hazardous waste, and if so, handled according to the hazardous waste procedures outlined in this Plan.

4.16.1.3. Labeling and Marking

All Universal Waste batteries or containers holding Universal Waste batteries must be labeled, “Universal Waste – Battery(ies).” Individual

Universal Waste batteries must be labeled with the date it became a waste. Containers holding Universal Waste batteries must be labeled with the date the first Universal Waste battery is added to the container. Examples of appropriate container labels can be found in Appendix D, although any label including the information required in this paragraph may be used as an alternate.

4.16.2. Lamps

4.16.2.1. Applicability

Examples of common Universal Waste electric lamps include, but are not limited to, fluorescent, high intensity discharge, neon, mercury vapor, high pressure sodium, and metal halide lamps. Lamps not covered under the Universal Waste program are those that are not yet wastes and those that are not hazardous waste.

4.16.2.2. Waste Management

Lamps must be managed in such a way that prevents releases of any Universal Waste or component of a Universal Waste to the environment.

Universal Waste lamps must be stored in containers or packages that are structurally sound, adequate to prevent breakage, and compatible with the contents of the lamps. Such containers and packages must remain closed and must lack evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions.

Employees handling Universal Waste lamps must immediately clean up and place in a container any lamp that is broken and any lamp that shows evidence of breakage, leakage, or damage that could cause the release of mercury or other hazardous constituents to the environment. Containers holding broken, leaking, or damaged lamps must be closed, structurally sound, compatible with the contents of the lamps and must lack evidence of leakage, spillage or damage that could cause leakage or releases of mercury or other hazardous constituents to the environment under reasonably foreseeable conditions.

4.16.2.3. Labeling and Marking

All containers holding Universal Waste lamps must be labeled, "Universal Waste – Lamp(s)" along with the date the first Universal Waste lamp is added to the container. Examples of appropriate container labels can be found in Appendix D, although any label including the information required in this paragraph may be used as an alternate.

4.16.3. Mercury and Mercury-Containing Equipment

4.16.3.1. Applicability

A device or part of a device (including thermostats, but excluding batteries and lamps) that contains elemental mercury integral to its function may be managed under the Universal Waste program. Mercury-containing equipment not covered under the Universal Waste program are those that are not yet wastes, those that are not hazardous waste, and those from which the mercury-containing components have been removed.

4.16.3.2. Waste Management

Mercury-containing equipment must be managed in such a way that prevents releases of any Universal Waste or component of a Universal Waste to the environment.

Any mercury-containing equipment with non-contained elemental mercury or that shows evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions, must be contained within a container. The container must be closed, structurally sound, compatible with the contents of the device, must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions, and must be reasonably designed to prevent the escape of mercury into the environment by volatilization or any other means.

If mercury-containing ampules from Universal Waste mercury-containing equipment are removed: (1) the ampules must be managed in a manner designed to prevent breakage; (2) the ampules must be removed over or inside a containment device such as a tray or a pan; (3) have a mercury spill kit readily available and immediately transfer any spillage to a container that satisfies the hazardous waste requirements of this Plan; (4) the ampules must be removed in a well-ventilated and monitored area such as a fume hood to ensure compliance with OSHA exposure limits for mercury; (5) store the removed ampules in closed, non-leaking containers that are in good condition; and (6) pack the removed ampules in the container with packing materials adequate to prevent breakage during storage, handling, and transportation.

If mercury is to be removed from mercury-containing equipment that is not contained in an ampule, the original housing holding the mercury must be immediately sealed (air-tight) and the procedures for ampules in the preceding paragraph followed.

Any spills or contaminated materials generated from the removal of mercury from mercury-containing equipment must be handled as hazardous waste according to this Plan if it exhibits a characteristic of hazardous waste.

4.16.3.3. Labeling and Marking

All Universal Waste mercury-containing equipment (each device) or containers holding Universal Waste mercury-containing equipment must be labeled, "Universal Waste – Mercury Containing Equipment." Individual Universal Waste mercury-containing equipment must be labeled with the date it became a waste. Containers holding Universal Waste mercury-containing equipment must be labeled with the date the first mercury-containing equipment is added to the container. Examples of appropriate container labels can be found in Appendix D, although any label including the information required in this paragraph may be used as an alternate.

4.16.4. Pesticides

4.16.4.1. Applicability

Pesticides that can be managed as Universal Waste include recalled pesticides that are (1) stocks of a suspended or canceled pesticide that are part of a voluntary or mandatory recall under FIFRA Section 19(b) or (2) stocks of a suspended or cancelled pesticide, or a pesticide that is not in compliance with FIFRA, that are part of a voluntary recall. Additionally, stocks of other unused pesticide products that are collected and managed as part of a waste pesticide collection program may be managed as Universal Waste.

4.16.4.2. Waste Management

Universal Waste pesticides must be managed in a way that prevents releases of any Universal Waste or component of a Universal Waste to the environment.

Universal Waste pesticides must be stored in a container that remains closed, is structurally sound, is compatible with the pesticide, and that lacks evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions. A compromised container containing Universal Waste pesticides must be overpacked with a container meeting the preceding requirements.

Universal Waste pesticides can be stored in a transport vehicle that is closed, structurally sound, compatible with the pesticide, and that lacks evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.

4.16.4.3. Labeling and Marking

Any container that stores Universal Waste Pesticides must be labeled with the words, "Universal Waste – Pesticides," and must include the date in which the waste was first generated. Examples of appropriate container labels can be found in Appendix D, although any label including the information required in this paragraph may be used as an alternate.

4.16.5. Paint and Paint-related Material (PPRW)

4.16.5.1. Applicability

Used or unused paint and paint-related material that is considered hazardous waste may be managed as a Universal Waste.

4.16.5.2. Waste Management

PPRW must be managed in a way that prevents releases of any Universal Waste or component of a Universal Waste to the environment.

PPRW must be contained in a container meeting the following two conditions: (1) the container remains closed, except when necessary to add or remove waste; and (2) the container is structurally sound, compatible with the waste, and that lacks evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.

A compromised container containing PPRW must be overpacked with a container meeting conditions (1) and (2).

PPRW that is ignitable, reactive, or incompatible must be managed under the procedures outlined in sections 4.4.5 and 4.4.6 of this Plan.

4.16.6. Aerosol Cans

4.16.6.1. Applicability

Used or unused aerosol cans that are considered hazardous waste may be managed as a Universal Waste. Aerosols are substances that emit a fine mist or spray under pressure through a propellant such as butane, isobutene, or propane.

4.16.6.2. Waste Management

Aerosol cans must be managed in a way that prevents releases of any Universal Waste or component of a Universal Waste to the environment.

Aerosol cans are non-refillable receptacles containing a compressed gas, liquefied or dissolved under pressure. Aerosol cans typically have the characteristic of ignitability and when not empty are universal hazardous waste. They can also container other substances that may be listed hazardous wastes, such as cadmium and chromium or other metals above regulatory limits, in additional to P or U listed wastes containing commercial chemical products. An aerosol can that is empty is not a hazardous universal waste and can be thrown in the trash.

Aerosol cans that are is ignitable, reactive, or incompatible must be managed under the procedures outlined in sections 4.4.5 and 4.4.6 of this Plan.

4.16.6.3. Labeling and Marking

A container or multiple container package that contains aerosols must be labeled or marked clearly with the words "Universal Waste - Aerosol Cans, Waste Aerosol Cans or Used Aerosol Cans." Examples of appropriate container labels can be found in Appendix D, although any label including the information required in this paragraph may be used as an alternate.

4.16.7. Accumulation Time Limits

Universal Waste may be accumulated for no longer than one year from the date the Universal Waste is generated unless such activity is solely for the purpose of accumulation as necessary to facilitate proper recovery, treatment, or disposal. If Universal Waste is accumulated longer than one year, documentation must be available as proof it was solely for the purpose of facilitating proper recovery, treatment, or disposal.

Handlers of Universal Waste must be able to demonstrate the length of time that the Universal Waste has been accumulated from the date it becomes a waste. UNT makes this demonstration by (1) placing the Universal Waste in a container and marking or labeling the container with the earliest date that any universal waste in the container became a waste, (2) marking or labeling the individual item of Universal Waste with the date it became a waste, or (3) placing the Universal Waste in a specific accumulation area and identifying the earliest date that any Universal Waste in the area became a waste or was received.

4.16.8. Training

Employees who handle or have responsibility for managing Universal Waste must receive training. The information in the training must describe proper handling and emergency procedures appropriate to the type(s) of Universal Waste handled.

4.16.9. Response to Releases

All releases of Universal Waste and other residues from Universal Wastes must be immediately contained. It must be determined if any material resulting from the release is hazardous waste, and if so, must be managed in compliance with the hazardous waste procedures in this Plan.

4.16.10. Off-site Shipments

UNT is prohibited from sending or taking Universal Waste to a place other than another Universal Waste handler, a destination facility, or a foreign destination.

If a Universal Waste being offered for off-site transportation meets the definition of hazardous materials under 49 CFR parts 171 through 180, the

Universal Waste shipment must be packaged, labeled, marked and placarded, and proper shipping papers prepared in accordance with applicable DOT regulations under 49 CFR parts 172 through 180.

Prior to sending a shipment of Universal Waste to another Universal Waste handler, UNT must ensure that the receiving handler agrees to receive the shipment.

If a shipment of Universal Waste is rejected by another handler or destination facility, UNT must either (1) receive the waste back when notified that the shipment has been rejected, or (2) agree with the receiving handler on a destination facility to which the shipment will be sent.

4.17. Used Oil

EPA does not intend to make Used Oil subject to hazardous waste management requirements as long as it is recycled.

4.17.1. Applicability

Used Oil management standards only apply to oil that is derived from crude or synthetic oil that has been used for its intended purpose and has become contaminated or is no longer useable as a result.

Used Oil may be managed as such provided it meets any of the following requirements: (1) non-hazardous; (2) characteristically hazardous through use; (3) mixed with Very Small Quantity Generator (VSQG) or household hazardous waste; (4) mixed with characteristically hazardous waste, but does not result in a characteristically hazardous mixture; (5) contained in materials that are to be burned for energy recovery; (6) removed or drained from materials.

Used Oil must be managed as either a solid waste or hazardous waste if it is employed in any of the following manners: (1) disposed of rather than recycled; (2) mixed with a listed waste; (3) mixed with characteristically hazardous waste so that the resulting mixture exhibits hazardous waste characteristics.

4.17.2. Rebuttable Presumption

Used Oil that contains over 1,000 ppm of halogens is presumed to have been mixed with a hazardous waste. UNT can rebut this presumption by proving through documented process knowledge or analytical testing that the Used Oil has not been mixed with a halogenated-listed hazardous waste.

Any Used Oil that may contain more than 1,000 ppm of halogens must have the following information documented: (1) records of the Used Oil's origin; (2) records of the Used Oil's use; (3) records of the process it has undergone; (4) identification of possible contaminants; (5) other information as needed.

Metal-working fluids contaminated with chlorinated paraffins and refrigeration oil with chlorofluorocarbons do not require a rebuttable presumption.

4.17.3. Storage

Used Oil is to only be stored in containers that are in good condition (no severe rusting, apparent structural defects or deterioration) and not leaking. Containers used to store Used Oil must be labeled or marked clearly with the words "Used Oil."

4.17.4. Response to Releases

Upon detection of a release of Used Oil to the environment, the following cleanup steps should be implemented: (1) stop the release; (2) contain the released Used Oil; (3) clean up and manage properly the released used oil and other materials; (4) if necessary, repair or replace any leaking used oil storage containers prior to returning them to service.

All releases of oil should be responded to in accordance with the UNT Spill Prevention, Control, and Countermeasures (SPCC) Plan.

5. RESPONSIBILITIES

5.1. UNT Administration

Holds the ultimate responsibility for implementation of this procedure.

5.2. Risk Management Services

(1) Provides commitment, support, and resources to the UNT Waste Management Plan and procedures.

(2) Has the responsibility for overseeing the UNT Waste Management Plan and procedures, and has the responsibility for initiation, re-issuance, administration, interpretation, and training of personnel on this procedure.

(3) Provides the necessary information to prepare, sign, and issue manifests and land disposal restriction documents.

(4) Develops, implements, and maintains the UNT Pollution Prevention Plan (P2 Plan).

(5) Maintains files of all records mandated by RCRA.

(6) Completes waste profiles.

(7) Provides the labeling requirements and information to obtain and complete waste container labels.

(8) Supervises hazardous waste shipments.

(9) Monitors quantities of hazardous waste generated monthly and takes steps to ensure compliance with regulatory requirements accordingly.

(10) Maintains hazardous waste inventories.

(11) Monitors manifests to ensure delivery of waste to TSDF and follows-up/performs exception reporting when necessary.

(12) Assists with training of all personnel involved with the management of hazardous waste according to RCRA and this Plan.

(13) Initiates emergency procedures as required for spill or fires.

(14) Performs weekly inspections of hazardous waste storage areas.

(15) Signs and certifies regulatory reports when required.

5.3. Owning Department

(1) Ensures all containers are marked and labeled in accordance with this Plan.

(2) Ensures employees receive and understand hazardous waste management requirements as it relates to their activities.

(3) Must notify RMS team members when new waste streams are created or when significant changes to existing waste streams occur.

(4) Identify deficiencies and correct activities not in compliance with this Plan.

APPENDIX A

HAZARDOUS WASTE LABELS

EXAMPLE LABEL FOR SATELLITE ACCUMULATION AREA

HAZARDOUS WASTE **START DATE**

University of North Texas

Chemical Composition (no abbreviations)	**%**
Generating Process:	
☐ Corrosive ☐ Reactive ☐ Ignitable ☐ Toxic ☐ Oxidizer ☐ Other:_____	
Labeled by:	
Department:	**Phone:**
Building/Room:	

EXAMPLE LABEL FOR CENTRAL ACCUMULATION AREA

HAZARDOUS WASTE

University of North Texas; 2310 N I-35E; Denton, TX 76205

Accumulation Start Date: _____

EPA Waste Codes:

_____ _____ _____

_____ _____ _____

_____ _____ _____

Tare Weight (lbs): _____

APPENDIX B

HAZARDOUS WASTE DETERMINATION FORM

	HAZARDOUS WASTE DETERMINATION FORM University of North Texas

Waste Name:	Waste ID #:

Description of Process:

Physical State:
Solid Liquid Semi-solid Gas

Waste Determination:
Hazardous Non-hazardous Universal Waste

Basis for Determination (check all that apply and attach applicable documentation):
Analysis Process Knowledge

EPA Waste Codes:	TX Waste Codes (if applicable):

Is this Waste….	Yes	No	Applicable EPA Waste Codes:	Notes:
Solid Waste			N/A	
Ignitable (D001)				
Corrosive (D002)				
Reactive (D003)				
Toxic (D004-D043)				
F-listed				
K-listed				
U-listed				
P-listed				
Universal Waste			If yes, which category? Batteries Pesticides Lamps Mercury-containing Equipment Paint and Paint-related Material	
Specifically Exempt			If yes, attach documentation.	

Additional Comments:

Name of Reviewer:	Title:	Date:

Definitions to Accompany "Hazardous Waste Determination Form"

Solid Waste: Any garbage, refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility, and other discarded material, including solid, liquid, semisolid, or contained gaseous material, resulting from industrial, commercial, mining and agricultural operations and from community activities.

Discarded Material: Material that is abandoned, inherently waste-like, military munitions, or recycled in certain ways. Consult 40 CFR 261.2 for further clarification.

Ignitable: A waste carries the code D001 if it is ignitable by meeting one of the following criteria:

- A liquid with a flash point less than 60°C (140°F).
- A non-liquid and under standard temperature and pressure is capable of causing fire through friction, absorption of moisture, or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a fire hazard.
- Meets the definition of an ignitable compressed gas according to 49 CFR 173.300.
- Meets the definition of an oxidizer according to 49 CFR 173.151.
- Contains more than 24% alcohol.

Corrosive: A waste carries the code D002 if it is corrosive by meeting one of the following criteria:

- An aqueous liquid with a pH less than 2 or greater than 12.5.
- A liquid that can corrode steel at a rate greater than 6.35 mm (0.250 inches) per year.

Reactive: A waste carries the code D003 if it is reactive by meeting one of the following criteria:

- Capable of detonation or explosive decomposition or reaction at standard temperature and pressure, if subjected to a strong ignition source, or if heated under confinement.
- When mixed with water, the waste is potentially explosive, reacts violently, or generates toxic gases or vapors.
- Cyanide or sulfide-bearing and when exposed to pH conditions between 2 and 12.5 can generate enough toxic gases to present a danger to human health or the environment.
- Normally unstable and readily undergoes violent change without detonating.
- A forbidden explosive as defined in 49 CFR 173.54, or is a Division 1.1, 1.2, or 1.3 explosive as defined in 49 CFR 173.50 and 173.53.

Toxic: A waste carries the code (D004-D043) of the toxic contaminant causing it to be hazardous if it surpasses the corresponding regulatory level when subjected to a Toxicity Characteristic Leaching Procedure (TCLP) found in Table 1 of 40 CFR 261.24.

F-listed: Spent waste materials from non-specific sources as listed in 40 CFR 261.31(a). A waste will carry the corresponding code (F001-F039) if it matches the description of one of the items in the table.

K-listed: Waste from specific sources as listed in 40 CFR 261.32(a). A waste will care the corresponding code (K001-K181) if it matches the description of one of the items in the table.

U-listed: Waste materials that have never been used in a process and are Commercial Chemical Products (CCP) will carry the corresponding code (U001-U411) if listed in 40 CFR 261.33(f). This includes any residue remaining in a container or inner liner, as well as residue or contaminated soil, water, or other debris resulting from the cleanup of a spill from a U-listed material.

P-listed: Waste materials that have never been used in a process and are Commercial Chemical Products (CCP) will carry the corresponding code (P001-P205) if listed in 40 CFR 261.33(e). This includes any residue remaining in a container or inner liner, as well as residue or contaminated soil, water, or other debris resulting from the cleanup of a spill from a P-listed material.

Universal Waste: Waste batteries, lamps, pesticides, and mercury-containing equipment that meet the definitions, applicability, and are managed as outlined in 40 CFR 273. Paint and paint-related waste can be managed as Universal Waste in Texas as outlined in 30 TAC 335.262.

Specifically Exempt: Some wastes are exempt or excluded from being a Solid Waste or a Hazardous Waste. Such exclusions and exemptions can be found in 40 CFR 261.4.

APPENDIX C

HAZARDOUS WASTE
SATELLITE ACCUMULATION AREA SIGNAGE

Hazardous Waste Satellite Accumulation Area

Post this sheet to designate your accumulation area

Satellite Storage Areas – Federal regulations (40 CFR 262.34(c)(1)) allow a generator to accumulate as much as 55 gallons of non-acute hazardous waste or one quart of acutely hazardous waste (P listed) in containers at or near any point of generation.

STORAGE REQUIREMENTS

1. The area should be labeled as "Hazardous Waste Satellite Accumulation Area"
2. The storage area must be under the control of the operator of the process generating the waste.
3. The waste must be placed in containers that are in good condition.
4. The waste must be compatible with the containers.
5. The containers must be closed except during adding or removing of waste.
6. The accumulation area MUST be at or near any point of generation.
7. If hazardous waste is moved from the SAA, the material must be dated at the time of the move and a time limit becomes effective.

LABELING REQUIREMENTS

1. The containers must be marked with the words "Hazardous Waste" and acknowledge any hazards associated with the waste.
2. Mark through the old label or remove it to ensure there is no confusion about the container contents.
3. Each container must be labeled with the full name of each chemical component and its concentration, with a percentage equaling 100%.
4. Do not use abbreviations or chemical notation.
5. NO date is necessary for hazardous waste in this area.

Important Note: *Any accumulation of hazardous waste at a satellite area in excess of 55 gallons, or one quart of any acutely hazardous waste (P listed) must be marked with the date the excess amount began accumulating and must be moved to a hazardous waste storage facility outside of the lab within three days. While at the storage facility a weekly inspection log must be kept and you have 90 days from the date it was moved to the storage facility to ship the waste off campus.*

- Find a location accessible but out of the way of normal lab traffic, preferably in a chemical cabinet.
- Secondary containers are highly recommended (trays, buckets, etc.).
- Dispose of your hazardous waste at the next hazardous waste shipment.
- **Any questions, contact Risk Management Services, at (940) 565-2109 or email at AskRMS@unt.edu.**

APPENDIX D

EXAMPLE UNIVERSAL WASTE LABEL


UNIVERSAL
WASTE
CONTENTS
ACCUMULATION START DATE
SHIPPER
ADDRESS
CITY, STATE, ZIP
UNIVERSAL WASTE
S-13829 ULINE 1-800-295-5510