

Lamar University

Hazardous Waste Management Program

Reference:

[Part 261.5 of the Code of Federal Regulations \(40 CFR Part 261.5\)](#)

and/or

[Environment, Health and Safety Online - Summary of Requirements for CESQGs](#)

1. Purpose

The purpose of this program is to provide a safe and compliant process for the disposal of Hazardous Wastes at Lamar University. The program is designed to comply with Federal and State regulations for Hazardous Waste.

This program does not apply to the disposal of radioactive, infectious, or biological wastes. Compliance is critical and requires full cooperation from all University departments.

2. Hazardous Waste Regulation

In 1980 the Resource Conservation and Recovery Act (R.C.R.A.) was established and administered by the Environmental Protection Agency (EPA) U.S.C. Under this act the EPA has the responsibility for regulating hazardous chemical waste. R.C.R.A. established a 'cradle to the grave' hazardous chemical waste management requirement to protect the public health and environment from the improper disposal of chemical waste.

Hazardous wastes are those defined by the United States Occupational Safety and Health Administration (OSHA) as a substance for which there is a statistically significant evidence, based on at least one scientific study, showing that acute or chronic harm may result from exposure to that substance

(iv) EP Toxicity (Waste #s D00017): Extracts of the material contain high concentrations of heavy metals and/or specific pesticides that could be released into ground water.

Appendix 2 contains the list of the contaminants and their maximum allowed concentrations to exempt from EPA Toxic designation.

Hazardous Waste Accumulation and Storage:

- x Waste containers shall be arranged in the central accumulation area so that there is adequate aisle space to allow access for emergency personnel and equipment.
- x Lamar University shall comply with the Preparedness and Prevention Standard 40 CFR Part 265.37 concerning emergency arrangements with local and state authorities.

Procedures for Hazardous Waste Removal (Off-site)

The Department of Risk Management shall require all contracted hazardous waste transporters to comply with the requirements set forth by this plan, in addition to the federal, state and local hazardous waste regulations.

Packing

The contracted hazardous waste transporter shall package all hazardous waste in accordance with all Department of Transportation regulations under 49 CFR Parts 173, 173.12 & Subpart B, 178, and 179.

The Department of Risk Management shall require all contracted hazardous waste transporters to carry emergency spill cleanup materials when packing hazardous materials for transportation.

Labeling and Marking

Before transporting the hazardous waste, the transporter shall label packages in accordance with Department of Transportation labeling requirements (49 CFR Part 172 Subpart D and E).

The transporter shall mark all containers of 110 gallons or less used in transportation with the following words and information displayed in accordance with the requirements of 49 CFR 172.304: **“HAZARDOUS WASTE”**

Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the “U.S. Environmental Protection Agency”

Placarding

The transporter shall placard the transportation vehicle according to Department of Transportation regulations 49 CFR Part 172 Subpart F for hazardous materials.

Manifest

Lamar University Dept. of Environmental Health and Safety and Risk Management Hazardous Waste Coordinator and hazardous waste transporter will mutually designate on the manifest one primary facility that is permitted to handle the waste described on the manifest.

Procedures for Hazardous Waste removal On-site

As waste is classified it shall be accumulated and stored until it can be disposed of. The following rules shall be applied to the accumulation and storage of materials classified as hazardous waste:

- a. Hazardous wastes of differing classifications or physical properties shall be kept in separate closed containers, as shall wastes that are incompatible with one another. This will require that aqueous and organic wastes be separated. Halogenated and non halogenated organic wastes shall be kept separate from one another.
 - b. Hazardous wastes shall be stored in closed containers that can be sealed and are not subject to decomposition by the contents.
 - (i) Aqueous hazardous waste (i.e. >>BDC T</MCIDt)ted a Td ()Tk
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Wastes that meet none of the criteria of hazardous wastes are considered as nonhazardous. Following certification of a waste as nonhazardous it may be treated as general garbage. It is important however that the waste be certified first.

Disposal of Nonhazardous Wastes:

The City of Beaumont does regulate what wastes may be disposed of in the public sewers. Some of these rules are more stringent than the criteria for classification of a waste as hazardous.

Based on these rules, nonhazardous wastes that meet the following properties may NOT be disposed of in the sewer lines.

- x List all chemicals added including water. Lists can be continued on a separate label.
- x List the amounts of

Personal protective equipment shall be required during hazardous waste pickups. Safety personnel will determine the level of protection required to safely transport the materials.

Labels

Pbn – A written document issued by the Environmental Protection Agency (EPA) or the Texas Commission on Environmental Quality (TCEQ) that, by its conditions, authorizes the construction, installation, modification, or operation of a specified municipal hazardous waste or industrial solid waste storage, processing, or disposal facility in accordance with specified limitations.

PH Diamond shaped color coded signs placed on the outside of transporting vehicles indicating the hazards of the cargo.

SA –An area, system, or structure used for temporary accumulation of hazardous waste prior to transport to the central accumulation area.

MA The area used to log in and prepare appropriate labels for material collected as Chemical Waste prior to moving into the Central Accumulation Area.

Appendix 2

EPA HAZARDOUS WASTE CODES

For up-to-date information, consult US CFR Title 40, ~~Parts~~ **Subparts** GE.

(3) It is an ignitable compressed gas as defined in 49 CFR Part 173 and as determined by the test methods described in that regulation or equivalent test methods approved by the Administrator under 40 CFR Part 260. (4) It is an oxidizer as defined in 49 CFR Part 173.

D002 Corrosive waste: A solid waste exhibits the characteristic of corrosivity if a representative sample of the waste has either of the following properties:

(1) It is aqueous and has a pH less than or equal to 2, or greater than or equal to 12.5, as determined by a pH meter using either an EPA test method or an equivalent test method approved by the Administrator under the procedures set forth in 40 CFR Part 260.

(2) It 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 55 C (130 F) as determined by the test method specified in NACE (National Association of Corrosion Engineers) Standard TM 01069 or an equivalent test method approved by the Administrator under the procedures set forth in 40 CFR Part 260.

D003 Reactive waste: A solid waste exhibits the characteristic of reactivity if a representative sample of the waste has any of the following properties:

(1) It is normally unstable and readily undergoes violent change without initiating.

(2) It reacts violently with water.

(3) It forms potentially explosive mixtures with water.

(4) When mixed with water, it generates toxic gases, vapors or fumes in a quantity sufficient to present danger to human health or the environment.

(5) It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.

(6) It is capable of detonation or explosive decomposition or reaction at standard temperature and pressure.

(7) It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure.

(8) It is a forbidden explosive, a Class A explosive, or a Class B explosive as defined in 49 CFR Part 173.

EP Toxicity: A solid waste exhibits the characteristic of EP toxicity if, using the test methods described in 40 CFR Part 261 Appendix 11 (Toxicity Characteristic Leaching Procedure (TCLP) SW846 Test Method 1311) or equivalent methods approved by the Administrator under the procedures set forth in 40 CFR Part 260, the extract from a representative sample of the waste contains any of the contaminants listed as D004 thru D017 at a concentration equal to or greater than the respective value given. Where the waste contains less than 0.5 percent filterable solids, the waste itself, after filtering, is considered to be the extract for the purposes of this section.

TABLE 1—MAXIMUM CONCENTRATION OF

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(ii) Generators must maintain in their on-site records documentation and information sufficient to prove that the wastewater treatment sludges to be exempted from the F019 listing meet the conditions of the listing. These records must include: the volume of waste generated and disposed of off site; documentation showing when the waste volumes were generated and sent off site; the name and address of the receiving facility; and documentation confirming receipt of the waste by the receiving facility. Generators must maintain these documents on site for no less than three years. The retention period for the documentation is automatically extended during the course of any enforcement action or as requested by the Regional Administrator or the state regulatory authority.

[46 FR 4617, Jan. 16, 1981]

EDITORIAL NOTE: For FEDERAL REGISTER

P012 Arsenic trioxide
 P038 Arsine, diethyl
 P036 Arsenous dichloride, phenyl
 P054 Aziridine
 P013 Barium cyanide
 P024 Benzenamine, 4-chloro-
 P077 Benzenamine, 4-nitro-
 P028 Benzene, (chloromethyl)
 P042 1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]
 P046 Benzeneethanamine, alpha, alphasdimethyl
 P014 Benzenethiol
 P001 2H-1-Benzopyran-2-one, 4hydroxy-3-(3-oxo-1-phenylbutyl)and salts
 P028 Benzyl chloride
 P015 Beryllium dust
 P016 Bis(chloromethyl)ether
 P017 Bromoacetone
 P018 Brucine
 P021 Calcium cyanide
 P022 Carbon disulfide
 P022 Carbon disulfide
 P095 Carbonic dichloride
 P023 Chloroacetaldehyde
 P024 p-Chloroaniline
 P029 Copper cyanide
 P030 Cyanides (soluble cyanide salts), not otherwise specified
 P031 Cyanogen
 P033 Cyanogen chloride
 P034 2-Cyclohexyl-4,6-dinitrophenol
 P036 Dichlorophenylarsine
 P037 Dieldrin
 P038 Diethylarsine
 P041 Diethyl-p-nitrophenyl phosphate
 P040 O,O-Diethyl O-pyrazinylphosphorothioate
 P043 Diisopropyl fluorophosphates (DEP)
 P004 1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-(1-alpha, 4alpha, 4beta, 5alpha, 8alpha, 8abeta)

 P060 1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-(1-alpha, 4alpha, 4beta, 5beta, 8beta, 8abeta)

 P037 1,2,3,4,10,10-Hexahydro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydroendo,exo-4,5,8-dimethanonaphthalene

 P051 1,2,3,4,10,10-Hexahydro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydroendo,endo-4,5,8-dimethanonaphthalene

P067 1,2-Propylenimine
 P102 2-Propynol-ol
 P008 Pyridinamine
 P075 Pyridine, (S)-3-(1-methyl-2-pyrrolidinyl)-, and salts
 P111 Pyrophosphoric acid tetraethyl ester
 P103 Selenourea
 P104 Silver cyanide
 P105 Sodium azide
 P106 Sodium cyanide
 P107 Strontium sulfide
 P108 Strychnidin-10-one, and salts
 P018 Strychnidin-10-one, 2,3-dimethoxy
 P108 Strychnine and salts
 P115 Sulfuric acid, thallium(I) salt
 P109 Tetraethyl dithiopyrophosphate
 P110 Tetraethyl lead
 P111 Tetraethylpyrophosphate
 P112 Tetranitromethane
 P062 Tetraphosphoric acid, hexaethyl ester
 P113 Thallic oxide
 P113 Thallium(III) oxide
 P114 Thallium(I) selenite
 P115 Thallium(I) sulfate
 P109 Thiodiphosphoric acid, tetraethyl ester
 P045 Thiofanox
 P049 Thioimidodicarbonic diazide
 P014 Thiophenol
 P116 Thiosemicarbazide
 P026 Thiourea, (2-chlorophenyl)
 P076 Thiourea, 1-naphthalenyl
 P093 Thiourea, phenyl
 P123 Toxaphene
 P118 Trichloromethanethiol
 P119 Thiourea, phenyl
 P026 Thiourea, (1-naphthalenyl)

U070 Benzene, 1,2-dichloro-
 U071 Benzene, 1,3-dichloro-
 U072 Benzene, 1,4-dichloro-
 U060 Benzene, 1,1(2,2-dichloroethylidene)bis[4-chloro-
 U017 Benzene, (dichloromethyl)
 U223 Benzene, 1,3-diisocyanatomethyl
 U239 Benzene, dimethyl
 U201 1,3-Benzenediol
 U127 Benzene, hexachloro
 U056 Benzene, hexachloro-
 U220 Benzene, methyl
 U105 Benzene, 1-methyl-2,4-dinitro-
 U106 Benzene, 2-methyl-1,3-dinitro-
 U055 Benzene, (1-methylethyl)
 U169 Benzene, nitro-
 U183 Benzene, pentachloro
 U185 Benzene, pentachloronitro-
 U020 Benzenesulfonic acid chloride
 U020 Benzenesulfonyl chloride
 U207 Benzene, 1,2,4,5-tetrachloro
 U061 Benzene, 1,1(2,2,2-trichloroethylidene)bis[4-chloro-
 U247 Benzene, 1,1(2,2,2-trichloroethylidene)[4-ethoxy
 U023 Benzene, (trichloromethyl)
 U234 Benzene, 1,3,5-trinitro-
 U021 Benzidine
 U202 1,2-Benzisothiazolone, 1,1-dioxide and salts
 U203 1,3-Benzodioxole, 5(2-propenyl)
 U141 1,3-Benzodioxole, 5(1-propenyl)
 U090 1,3-Benzodioxole, 5propyl
 U064 Benzo[rs]pentaphene
 U022 Benzo[a]pyrene
 U197 p-Benzoquinone
 U023 Benzotrichloride
 U085 2,2'-Bioxirane
 U021 (1,1'-Biphenyl)-4,4'-diamine
 U073 (1,1'-Biphenyl)-4,4'-diamine, 3,3-dichloro-
 U091 (1,1'-Biphenyl)-4,4'-diamine, 3,3-dimethoxy
 U095 (1,1'-Biphenyl)-4,4'-diamine, 3,3-dimethyl-
 U027 Bis(2-chloroisopropyl)ether
 U024 Bis(2-chloromethoxy)ethane
 U028 Bis(2-ethylhexyl)phthalate
 U225 Bromoform
 U030 4-Bromophenyl phenyl ether
 U128 1,3-Butadiene, 1,1,2,3,4,4-hexachloro
 U172 1-Butanamine, N-butyl-N-nitroso-
 U031 1-Butanol

U159 2-

U060 DDD
U061 DDT
U062 Diallylate,
U063 Dibenz[a,h]anthracene
U064 Dibenzo[a,i]pyrene
U066 1,2-Dibromo-3-chloropropane
U069 Dibutyl phthalate
U070 o-Dichlorobenzene
U071 m-Dichlorobenzene,
U072 p-Dichlorobenzene
U073 3,3'-Dichlorobenzidine
U074 1,4-Dichloro-2-butene
U075 Dichlorodifluoromethane
U078 1,1-Dichloroethylene
U079 1,2-Dichloroethylene
U025 Dichloroethyl ether
U081 2,4-Dichlorophenol
U082 2,6-Dichlorophenol
U240 2,4-Dichlorophenoxy acetic acid salts and esters
U083 1,2-Dichloropropane
U084 1,3-Dichloropropene
U085 1,2:3,4-Diepoxybutane
U108 1,4-Diethyleneoxide
U086 N,N-Diethylhydrazine
U087 O,O-Diethyl-S-methyl-dithiophosphate
U088 Diethyl phthalate
U089 Diethylstilbestrol
U090 Dihydrosafrole
U091 3,3'-Dimethoxybenzidine
U092 Dimethylamine
U093 Dimethylaminoazobenzene
U094 7,12-Dimethylbenz[a]anthracene
U095 3,3'-Dimethylbenzidine
U096 alpha,alpha-Dimethylbenzylhydroperoxide
U097 Dimethylcarbamoyl chloride
U098 1,1-Dimethylhydrazine
U099 1,2-Dimethylhydrazine
U101 2,4-Dimethylphenol
U102 Dimethyl phthalate
U103 Dimethyl sulfate
U105 2,4-Dinitrotoluene
U106 2,6-Dinitrotoluene
U107 Di-n-octyl phthalate
U108 1,4-Dioxane
U109 1,2-Diphenylhydrazine
U110 Dipropylamine

U125 Furfural
 U124 Furfuran
 U206 D-Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosourcido)
 U126 Glycidylaldehyde
 U163 Guanidine, N-methyl-N'-nitro-Nnitroso-
 U127 Hexachlorobenzene
 U128 Hexachlorobutadiene
 U129 Hexachlorocyclohexane(gammaisomer)
 U130 Hexachlorocyclopentadiene
 U131 Hexachloroethane
 U132 Hexachlorophene
 U243 Hexachloropropene
 U133 Hydrazine
 U086 Hydrazine, 1,2-diethyl-
 U098 Hydrazine, 1,1-dimethyl-
 U099 Hydrazine, 1,2-dimethyl
 U109 Hydrazine, 1,2-diphenyl
 U134 Hydrofluoric acid
 U 134 Hydrogen fluoride
 U135 Hydrogen sulfide
 U096 Hydroperoxide,1-methyl-1-phenylethyl
 U136 Hydroxydimethylarsine xide
 U116 2-Imidazolidinethione
 U137 Indeno[1,2,3cd]pyrene
 U139 Iron dextran
 U190 1,3-Isobenzofurandione
 U140 Isobutyl alcohol
 U141 Isosafrole
 U142 Kepone
 U143 Lasiocarpine
 U144 Lead acetate
 U146 Lead, s -p78 0 Td (U)130 2 0 Td (-)Tete
 U092 (ac)4(tr)4 (s -p78 0 Td (-)Tj 0.3 0 Td (-)Tet)-(-)6(e)]T s5.91 0 4(0 Tw EM

U080 Methane, dichloro-
U075 Methane, dichlorodifluoro-
U138 Methane, iodo-
U119 Methanesulfonic acid, ethyl ester
U211 Methane, tetrachloro
U153 Methanethiol
U225 Methane, tribromo-
U044 Methane, trichloro
U121 Methane, trichlorofluoro-
U123 Methanoic acid
U154 Methanol
U155 Methapyrilene
U142 1,3,4Metheno

U217 Nitric acid, thallium(I+) salt
U169 Nitrobenzene
U170 p-Nitrophenol
U171 2-Nitropropane
U172 N-Nitrosodi-n-butylamine
U173 N-Nitrosodiethanolamine
U 174 N-Nitrosodiethylamine
U176 N-Nitroso-N-ethylurea
U 177 N-Nitroso-N-methylurea
U179 N-Nitroso-N-methylurethane
U179 N-Nitrosopiperidine
U180 N-Nitrosopyrrolidine
U181 5-Nitro-o-toluidine
U193 1,2-Oxathiolane,2,2-dioxide
U058 2H-1,3,2-Oxazaphosphorin-2-amine,N,N-bis(2-chloroethyl)tetrahydro 2-oxide
U115 Oxirane
U126 Oxiranecarboxyaldehyde
U041 Oxirane, (chloromethyl)
U182 Paraldehyde
U183 Pentachlorobenzene
U184 Pentachloroethane
U185 Pentachloronitrobenzene (PCNB)
U242 Pentachlorophenol
U186 1,3-Pentadiene
U187 Phenacetin
U188 Phenol
U048 Phenol, 2chloro-
U039 Phenol, 4chloro-3-methyl-
U081 Phenol,2,4dichloro-
U082 Phenol,2,6dichloro-
U089 Phenol,4,4(1,2-diethyl-1,2-ethenediyl)bis, (E)-U101 Phenol,2,4dimethyl-
U052 Phenol, methyl
U132 Phenol,2,2methylenebis[3,4,6trichloro-
U170 Phenol, 4nitro-
U242 Phenol, Pentachloro-
U212 Phenol, 2,3,4,5tetrachloro
U230 Phenol, 2,4,5trichloro-
U231 Phenol,2,4,6trichloro-
U150 L-Phenylalanine,4bis(2-chloroethyl)amino}
U145 Phosphoric acid, lead salt
U087 Phosphorodithioic acid, O,O-diethyl,S-methyl-, ester
U189 Phosphorous sulfide
U190 Phthalic anhydride
U191 2-Picoline
U179 Piperidine, 1nitroso-
U192 Propamide

U 194 1-Propanamine
 U111 1-Propanamine, Nitroso-N-N-propyl-
 U101 1-Propanamine, N-propyl-
 U066 Propane, 1,2-dibromo-3-chloro-
 U149 Propanedinitrile
 U171 Propane,2,2-dybis[2-chloro-
 U193 1,3-Propane sulfone
 U235 1-Propanol,2,3-dibromo-, phosphate(3:1)
 U140 1-Propanol, 2methyl-
 U002 2-Propanone
 U084 1-Propane, 1,3-dichloro-
 U152 2-Propanenitrile,2methyl-
 U007 2-Propenamide
 U243 1-Propene, hexachloro
 U009 2-Propenenitrile
 U008 2-Propenoic acid
 U113 2-Propenoic acid, ethyl ester
 U118 2-Propenioc acid, 2methyl-, ethyl ester
 U162 2-Propenoic acid, 2methyl-, methylester
 U233 Propionic acid, 2(2,4,5-trichlorophenoxy)
 U194 n-Propylamine
 U083 Propylene dichloride
 U148 3,6-Pyridazinedione, 1,2-dihydro-
 U196 Pyridine
 U191 Pyridine, 2methyl-U237 2,4(l H,3H)Pyrimidinedine,5[bis(2-chloroethyl)amino]
 U164 4-(1 H)-Pyrimidinone, 2,3 dihydro-6-methyl-2-thioxo-
 U180 Pyrrolidine, 1nitroso-
 U200 Reserpine
 U201 Resorcinol
 U202 Saccharin and salts
 U203 Safrole
 U204 Selenious acid
 U204 Selenium dioxide
 U205 Selenium sulfide
 U015 L-Serine U09 in 2025 1hyRese33 0 Td [(Td [(S)-8(e)-10(r)Td [(())3(2,4,5Tw 6.75 0 Td ()Tj

U214 Thallium(I) acetate
U215 Thallium(I) carbonate
U216 Thallium chloride
U217 Thallium(I) nitrate
U218 Thioacetamide
U153 Thiomethanol
U244 Thioperoxydicarbonic diamide, tetramethyl-
U219 Thiourea
U244 Thiuram
U220 Toluene
U221 Toluenediamine
U223 Toluene diisocyanate
U328 o-Toluidine
U353 p-Toluidine
U222 o-Toluidine hydrochloride
U011 1H-1,2,4-Triazol-3-amine
U226 1, 1, 1-

Addendum for handling DEA Controlled Substances

DEA Controlled Substances

Summary

Principal Investigators (PIs) using controlled substances in their laboratory research (including animal research) are subject to state and federal regulatory requirements.

Licensing and Registration

Since the University cannot, by law, maintain a campus wide registration for controlled substances, it is the responsibility of each PI to obtain appropriate licenses and registration, and to adhere to applicable state and federal regulatory requirements when working with controlled

In order to guard against theft or diversion, all controlled substances, regardless of schedule, must be kept under lock and key, and accessible only to authorized personnel. The number of authorized staff must be kept to the minimum essential for operation, and the stocks of controlled substances to the smallest quantity needed.

All controlled substances must be kept locked in their storage location except for the actual time required for authorized staff to remove, legitimately work with, and replace them.

Controlled substances must be stored in a substantially constructed cabinet. The cabinet must be kept locked at all times. The room in which the cabinet is located must have limited access during working hours and provide security after hours.

Disposal

Controlled substances may only be disposed by returning to a reputable Pharmaceutical company. Expired material or unused product must be accumulated and stored under lock and key until ready for disposal. Controlled substances injected into research animals, consumed in a reaction, or irrecoverably combined (if part of the research protocol) go into a hazardous waste stream for disposal through the University's routine waste disposal program.

Reporting of Loss, Destruction, Theft, or Unauthorized Use

