Guidance Document
for
Conditionally Exempt Small Quantity Generator
Nursing Home and Institutional Hospice
Self-Certification Checklist

Purpose of this Guidance

This document is intended as general guidance for nursing homes and institutional hospice facilities that are Conditionally Exempt Small Quantity Generators (CESQGs) of hazardous waste and is meant to assist in compliance with the hazardous waste regulations. More specifically, this document gives line-by-line guidance and instruction on how to complete this compliance checklist. The guidance is not meant to modify or replace the promulgated regulations, which undergo periodic revisions. In the event of a conflict between this guidance and promulgated regulations, the regulations govern. Some portions of the hazardous waste regulations are complex and this guidance does not go into the details of these complex situations.

Phone Numbers for the Hazardous Materials and Waste Management Division

Division Main number ..... (303) 692-3300
Division toll free number outside of the 303/720 area codes ..... (888) 569-1831
For an EPA Identification Number ..... (303) 692-3360
Generator Assistance Program..... (303) 692-3415
Customer Technical Assistance Line..... (303) 692-3320
Pollution Prevention Program..... (303) 692-2977

Other Phone Numbers

National Response Center.....(800) 424-8802
Colorado 24-hour Emergency Spill/Release Reporting Line ..... (877) 518-5608
Environmental Leadership Program..……..…..(303) 692-3477

If you are interested in developing an environmental management system or becoming an Environmental Leader, please contact Lynette Myers at (303) 692-3477.

Web Sites

Colorado Department of Public Health and Environment Regulations Download Index (air, water, waste): http://www.colorado.gov/pacific/cdphe/environmental-regulations

Hazardous Materials & Waste Management Division, (medical and pharmaceutical waste guidance, regulations, and resources) http://www.colorado.gov/cdphe/medicalwaste

Mailing Address

Colorado Department of Public Health and Environment
Hazardous Materials and Waste Management Division
4300 Cherry Creek Drive South (HMWMD-B2)
Denver, CO 80246-1530

Section A - General

Questions and Answers

Line A-1

Has your facility determined which wastes generated at your facility are hazardous wastes and which wastes are not hazardous wastes?
6 CCR 1007-3, section 262.11

When disposed, some pharmaceuticals, such as insulin, silver sulfadiazine cream, physostigmine, warfarin, and some chemotherapeutic agents, are regulated as a hazardous waste. For the purposes of this guidance and its associated checklist, the term "hazardous waste" refers to wastes that meet the definition of a RCRA hazardous waste according to the Colorado Hazardous Waste Regulations (6CCR 1007-3). "Hazardous waste" does not necessarily include infectious (biohazardous) waste, or waste chemicals that are designated as hazardous according to OSHA, NIOSH or other regulatory agencies.

Hazardous Waste Can be One of Two Types

Not all pharmaceuticals that are disposed are considered hazardous wastes. Waste pharmaceuticals that are "listed" or "characteristic" are considered hazardous wastes:

1. **Listed wastes:** Your waste is considered hazardous if it appears on one of four lists in the Colorado Hazardous Waste Regulations. Listed wastes are hazardous regardless of their concentration.

   - **F listed hazardous wastes** are wastes from *non-specific* sources such as spent solvents or wastewater treatment sludges.
     - Common F-listed wastes used in degreasing or used as solvents containing methylene chloride, methyl ethyl ketone, xylene, acetone, or toluene.

   - **K listed hazardous wastes** are wastes from a *specific* source. For example, wastewater treatment sludge from the production of chrome yellow and orange pigments is listed as K002. K listed wastes are not generated by healthcare facilities.

   - **P and U listed wastes** are unused, off-specification or discarded commercial chemical products. Some waste pharmaceuticals and waste laboratory reagents are P or U listed hazardous wastes.

     In the case of P listed wastes, any residue remaining in a container or any contaminated media resulting from the cleanup of a spill is also included in the P listing. Blister packs or other packaging that came in direct contact with P-listed waste pharmaceuticals is assumed to contain residue of the waste pharmaceutical and thus the packaging is considered hazardous waste.

2. **Characteristic wastes:** Even if a waste does not appear on one or more of the four lists above, it is considered hazardous if it falls under one of the following hazardous waste categories:

   - **D001 - ignitable**
     - It is a liquid (other than a liquid with less than 24% alcohol) with a flash point less than 140°F.
     - It is not a liquid but is capable of causing a fire that burns so vigorously that it creates a hazard.

- Is an oxidizer.
- It is an ignitable compressed gas.

- **D002 - <u>corrosive</u>**
  - It is a liquid that dissolves steel.
  - It is a liquid and has a pH less than or equal to 2 or greater or equal to 12.5.

- **D003 - <u>reactive</u>**
  - It is unstable.
  - It is explosive.
  - It undergoes rapid or violent chemical reaction.
  - It produces toxic gases when mixed with water or other materials.
  - 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.
  - The Division holds that waste meets this definition if:
    - It contains a releasable sulfide concentration of 500 mg H_2S/kg.
    - It contains a releasable cyanide concentration of 250 mg HCN/kg.

- **D004 through D043 - <u>toxic</u>**
  - It is a metal, pesticide or organic chemical at high enough concentrations that it is toxic based on the Toxicity Characteristic Leaching Procedure (TCLP) test method 1311.
  - Common metals that are hazardous at certain levels are lead, arsenic, barium, chromium, cadmium, silver, and mercury. .

How Do You Determine if You are Generating a Listed or Characteristic Hazardous Waste?

- Review Part 261 of the Colorado Hazardous Waste Regulations 6 CCR 1007-3 on the Internet at <u>http://www.colorado.gov/pacific/cdphe/environmental-regulations</u> . Part 261 describes the listing and the identification of hazardous wastes. The Division also has a number of guidance documents to assist you in making this determination, which are available on the Internet at <u>http://www.colorado.gov/pacific/cdphe/hwguidance</u>.

- Apply knowledge of your process and use Material Safety Data Sheets (MSDS) or other manufacturer for information regarding the products you use at your facility.

  When making hazardous waste determinations, MSDSs often contain information that can be useful such as flashpoint, pH, or details about ingredients. However, be aware that the Material Safety Data Sheets may not provide <u>all</u> the information that you need to make a hazardous waste determination. In most instances, OSHA only requires that the MSDS list ingredients that are health hazards if they are 1% or more of the material's composition (1% = 10,000 parts per million). Therefore, some ingredients in a product that may be a hazardous waste when disposed may not be listed on the Material Safety Data Sheet if they are included in the product at amounts less than 1%. Since it is your responsibility to ensure all your hazardous wastes are managed and disposed of properly, it is wise to send samples to an environmental analytical lab that is familiar with the methods of analysis for hazardous waste, so you can make an accurate hazardous waste determination.

- Talk to other health organizations. Many hospitals and/or health care facilities have already inventoried their medication and other chemicals, have made hazardous waste determinations, and

have assigned waste codes. They may be able to share their information, or provide you with the contact information of consultants or other resources that they used to accomplish these tasks.

See Appendix A of this guidance document for a list of examples of health care wastes that may be RCRA hazardous wastes. Please note that Appendix A is not a comprehensive list, it is just meant to provide some examples. A comprehensive list would require a database, which CDPHE does not have.

Line A-2

Does your facility dispose of all hazardous waste through a permitted treatment, storage, and disposal facility? 6 CCR 1007-3, section 100.10

You are required to choose a treatment, storage and disposal facility that has been fully permitted under the hazardous waste regulations by the State of Colorado, other states, or the U.S. EPA. In addition to a full permit, the treatment, storage, and disposal facility must have a current EPA Identification number.

Enter the contact information for the disposal facility that receives the hazardous waste generated by your facility. The most commonly generated hazardous wastes generated by nursing homes and institutional hospices are hazardous waste pharmaceuticals.

Line A-3

Does your facility dispose of all non-hazardous pharmaceutical waste at a facility that is approved for that type of waste (not in the drain, sharps container, or trash unless specifically approved)? 6 CCR 1007-2, Section 13.9.3

Even if your pharmaceutical waste is not RCRA hazardous it must still be properly disposed. Generally disposal in the sharps container, red bag waste container or down the drain is not acceptable. In many cases, disposal in the regular trash is also not an acceptable disposal method. Some examples of acceptable disposal methods for non hazardous pharmaceuticals are: incineration at a municipal, medical waste, or hazardous waste incinerator; disposal through a mail-in program that properly disposes of the waste; or disposal at a landfill that is specifically authorized to accept non hazardous pharmaceutical waste. Enter the contact information for the disposal facility that receives the non-hazardous pharmaceutical waste generated by your facility.

Line A-4

Does your facility ensure that no hazardous waste is disposed of on the ground or to a sanitary sewer, storm drain, bodies of water, in the sharps or red bag waste containers, or in the trash? 6 CCR 1007-3, section 100.10

You must not dispose of any hazardous waste on the ground; in the sanitary sewer (down the sink or toilet), storm drains, bodies of water, sharps or red bag waste containers; or in the trash. Examples of hazardous wastes commonly, but illegally, thrown into the trash include nicotine patch wrappers, warfarin packaging, chemo IV bags, certain solvent-contaminated rags, partially full aerosol cans, and fluorescent light bulbs.

Companies are liable for all or part of the cleanup costs from contamination resulting from the illegal disposal of hazardous waste. Non-compliance with the Colorado Hazardous Waste Regulations can result in fines of up to $25,000 a day per violation, as well as possible criminal charges.

Line A-5

Do you manage your fluorescent lights, batteries, computers, aerosol cans and mercury containing devices as hazardous waste or universal waste instead of throwing them into the trash? 6 CCR 1007-3, Part 273 and section 100.10

You have the option of managing your fluorescent lights, batteries, computers, aerosol cans and mercury-containing devices as a universal waste instead of as a traditional hazardous waste. Under the universal waste regulations, there are reduced management standards so you are not subject to the full hazardous waste requirements. Part of the reduced management benefit is that universal wastes do not count towards your monthly generation volume of hazardous waste and therefore do not affect your generator category. The reduced management standards are designed to encourage recycling and still protect the environment by ensuring proper recovery of hazardous constituents in these wastes.
If you choose to manage your fluorescent lights, batteries, computers, aerosol cans and/or mercury-containing devices as universal waste, you must make sure to label them as "Universal (waste type)," "Used (waste type)" or "Waste (waste type)," and hold them on site for no more than one year. Make sure to store your universal wastes in a way to prevent potential releases of hazardous constituents to the environment.

Example of poor fluorescent lamp accumulation practices; store in packaging that will protect them from breakage.

Line A-6

Does your facility always generate less than 220 pounds of non-acute hazardous waste per calendar month? (Do not include universal waste.)

In order for your facility to be considered a Conditionally Exempt Small Quantity Generator (CESQG) of hazardous waste, your facility must generate less than 220 pounds of non acute (non P-listed) hazardous waste. Once you have determined what hazardous wastes your facility generates, you will need to devise a way to quantify how much non-acute hazardous waste you generate on a monthly basis. The regulations do not specify how you are to do this, so you have the latitude to choose the method that works best for your facility. Some health care facilities weigh their waste (less the weight of the container) on a monthly basis and record the weights on a log or spreadsheet.

Some common examples of non acute hazardous waste pharmaceuticals include insulin, silver sulfadiazine cream, and vaccines preserved with mercury. See Appendix A for more examples of RCRA hazardous waste pharmaceuticals. All hazardous wastes that are not P-listed wastes are non acute hazardous wastes. (Only P-listed wastes are acute hazardous wastes).

Do NOT count wastes that are discharged directly to Publicly Owned Treatment Works (POTWs) without being stored or accumulated first. Caustic cleaners are an example. Discharges to a wastewater treatment plant must comply with the Clean Water Act. Publicly Owned Treatment Works are public utilities, usually owned by the city, special districts or the county that treat industrial and domestic sewage for disposal. Check with your wastewater treatment plant before discharging ANY chemical to the sewer.

Do NOT count the weight of empty containers that might contain residues of non P-listed wastes, as long as the containers that have been thoroughly emptied through conventional means such as pouring or pumping. An example would be a bottle that once held liquid medication but that no longer drips medication when inverted (even though the bottle may have some residual medication clinging to its interior surface.)

If you exceed the 220 pound threshold for conditionally exempt small quantity generators, you will have to comply with additional requirements, including notifying HMWMD that you are above the threshold. See Appendix B of this guidance to compare the requirements for the different generator categories.

Line A-7

Does your facility always have less than 2200 pounds of non-acute hazardous waste onsite at any one time? (Do not include universal waste.)

Since the regulations allow facilities to accumulate hazardous waste onsite for more than one month, you will need to make sure that your facility does not ever accumulate more than 2200 pounds of non acute hazardous waste at any one time. The regulations do not specify how you show that this requirement has been met, so you have the latitude to choose the method that works best for your facility. Many health care facilities rely on hazardous waste manifests or other shipping papers to show that no more than 2200 pounds of hazardous waste sent offsite in any single shipment. (This assumes that when a shipment of hazardous waste is made, all hazardous waste is shipped offsite.)

If you exceed the 2200 pound threshold for conditionally exempt small quantity generators, you will have to comply with additional requirements, including notifying HMWMD that you are above the threshold. See Appendix B of this guidance to compare the requirements for the different generator categories.

Line A-8

Does your facility generate less than 2.2 pounds of acute hazardous waste (for example, warfarin or nicotine) per month and accumulate less than 2.2 lbs at any one time?

Hazardous wastes with a "P" waste code are called "acute" hazardous wastes and are considered a greater hazard than other hazardous wastes. Generators must stay below the 2.2 pound threshold to avoid triggering additional hazardous waste requirements. Although it would be rare for a nursing home or institutional hospice facility to generate more than 2.2 pounds of P-listed hazardous waste, facilities will need to verify that they fall below the 2.2 pound threshold. The regulations do not specify how you show that your facility falls below this threshold, so you have the latitude to choose the method that works best for your facility. Some facilities work with their consulting pharmacists to track the amount of P-listed pharmaceuticals that have been *dispensed*. Assuming that the amount dispensed is less than

2.2 pounds per month and during the time period between hazardous waste shipments, one can be certain that the amount *disposed* is well below the 2.2 pounds as well.

The most common examples of P-listed pharmaceuticals wastes are warfarin (Coumadin), nicotine patch wrappers, arsenic trioxide, physostigmine, and physostigmine salicylate.

If you exceed the 2.2 pound threshold for conditionally exempt small quantity generators, you will have to comply with large quantity generator requirements, including notifying HMWMD that you are above the threshold. See Appendix B of this guidance to compare the requirements for the different generator categories.

Line A-9

Is the facility operated in a manner that minimizes the potential for releases of hazardous waste? 6 CCR 1007-3, sections 262.34(d)(4) and 265.31(a)

You must maintain and operate your facility in a manner that minimizes the possibility of a fire, explosion, or any release of hazardous waste or hazardous waste constituents to the air, soil, or water, which could threaten human health or the environment. This can be accomplished through the use of fire protection systems, standard operating procedures, effective maintenance schedules and comprehensive emergency response procedures. In addition to these elements, incidents and any impacts can be further minimized through prevention elements like locating hazardous waste containers away from high-traffic areas and uncontrolled floor drains, providing secondary containment in container storage/accumulation areas through the use of chemical-resistant floor coatings or secondary-containment pallets, ensuring compatibility of waste with containers, keeping incompatible wastes separated, keeping containers closed and labeled for easy identification, and repairing cracked or damaged floors in waste storage areas.

An example of a facility that does NOT minimize potential releases of hazardous waste is a nursing home or institutional hospice that spills pharmaceuticals or causes them to become airborne during drug destruction procedures such as shredding or other drug destruction activities.

Line A-10

If you answered "NO" to any of the questions listed in Section A, please indicate the item (for example A.2.) and explain how and by what date you plan to return to compliance.

This certification is designed for you to identify problems before you are inspected so that you may correct any violations and return to compliance. Correct any deficiencies as soon as you identify them and write a brief description of the corrective actions. If there will be a delay in correcting the deficiency, please provide a brief explanation of why and the date you will return to compliance.

Section B – Waste Stream Description

Questions and Answers

Lines B1 – B5

List the approximate volume of each of the wastes shown on lines 1 and2 below that are generated by your facility in your busiest month. If your facility does not generate one or more of these wastes, enter "0" in the appropriate Quantity box.
6 CCR 1007-3, section 262.11

This question is intended to increase your awareness of the hazardous wastes your facility generates by requesting that you conduct an inventory of the hazardous wastes you generate in your busiest month. Look not only at the hazardous wastes you ship off site but also include hazardous waste solvent you recycle if you have a distillation unit. In addition, if you have just become aware of hazardous wastes you may have previously improperly disposed of, make sure to properly manage them as hazardous wastes in the future and list them below.

Some health care facilities sort hazardous waste pharmaceuticals from non hazardous waste pharmaceuticals and handle each type of pharmaceutical waste differently. If your facility sorts pharmaceuticals in this way, please enter the amount of hazardous waste pharmaceuticals generated on line #1 in the table below and the amount of non hazardous waste pharmaceuticals generated on line #2. You do not need to identify individual pharmaceuticals.

Some health care facilities do not sort pharmaceutical waste and instead combine hazardous and non hazardous pharmaceutical waste together. If this is the case, your facility must manage the combined waste as hazardous. If your facility combines pharmaceutical waste as described above you should enter the amount of combined pharmaceutical waste you generate as hazardous waste on line #1in the table below. You do not need to identify individual pharmaceuticals.

Some common examples of hazardous waste pharmaceuticals include insulin, Coumadin, nicotine patches, and silver sulfadiazine cream. See Appendix A for more examples of RCRA hazardous waste pharmaceuticals.

The following table is an example of typical waste streams and how you should fill out the table.

B.	**Waste Stream Description**	**Approximate Amount Generated During Busiest Month**
		Quantity in Pounds
1.	Hazardous Waste Pharmaceuticals	0.5
2.	Non Hazardous Waste Pharmaceuticals	6.2

Section C - Used Oil Management

Questions and Answers

Line C-1

Are containers of used oil marked with the words "Used oil"?
6 CCR 1007-3, section 279.22

Health care facilities have the potential to generate used oil in maintenance areas and sometimes with fleet vehicles. Used oil generators must store used oil in tanks or containers that are in good condition, not leaking, and labeled with the words "Used Oil." Fill pipes used to transfer used oil into underground storage tanks must also be labeled with the words "Used Oil." Do not label the containers, tanks or fill pipes as "Waste Oil."

Used oil tank incorrectly labeled as "Waste Oil."

Used oil tank correctly labeled as "Used Oil."

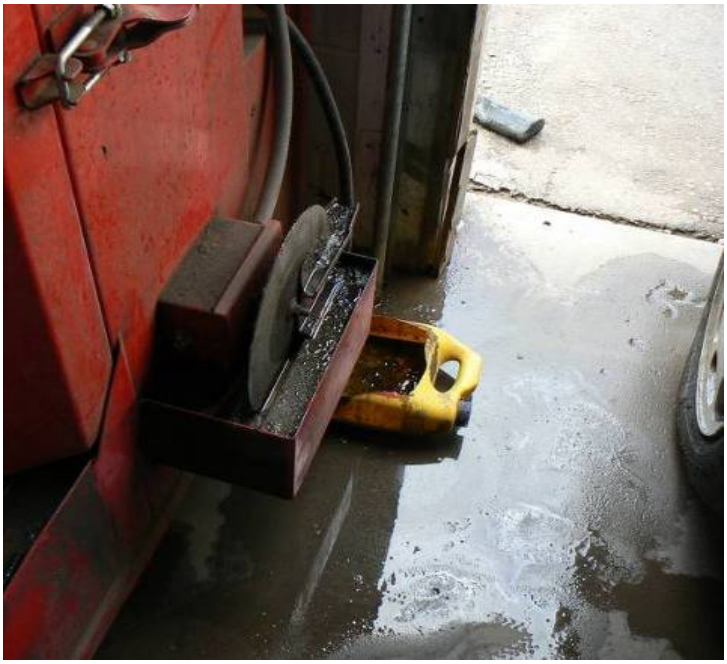
Lines C-2 & C-3

Are all used oil spills and releases cleaned up immediately and properly managed? Has your facility taken the measures specified in the guidance document to prevent the release of used oil to the environment?
6 CCR 1007-3, section 279.22

Upon detection of a release of used oil to the environment, a generator must stop the release, contain it, and clean up the release of used oil. You must also take measures to prevent future releases of used oil from occurring. Possible measures to prevent a release of used oil to the environment would be to use secondary containment, keep your containers closed, and do not store used oil near floor drains.

Absorbents contaminated with used oil must be properly disposed of. You may contact your used oil transporter for help in identifying the proper method for disposal or you can check with your local landfill. Landfills do not accept used oil liquid, but some landfills may accept oil contaminated soil or absorbent.

Used oil spills and releases must be cleaned up promptly. These photographs depict violations of the requirement to clean up releases of used oil because the oil spills have not been cleaned up.



Line C-4

Are all containers used to store used oil outside kept closed except when adding or removing waste? 6 CCR 1007-3, section 279.22

If containers storing used oil are being managed outdoors, the containers must be kept closed during storage except when it is necessary to add or remove used oil.

It is a violation of the regulations to store open containers of used oil outside. The closed container requirement prevents precipitation from getting into the container, potentially causing it to overfill and release used oil to the environment.

Line C-5

If you answered "NO" to any of the questions listed in Section C, please indicate the item (for example C.2.) and explain how and by what date you plan to return to compliance.

This certification is designed for you to identify problems before you are inspected so that you may correct any violations and return to compliance. Correct any deficiencies as soon as you identify them and write a brief description of the corrective actions. If there will be a delay in correcting the deficiency, please provide a brief explanation of why and the date you will return to compliance.

Appendix A

Examples of Health Care Waste That May be RCRA Hazardous Wastes

(Rev 6-5-13)

Examples of Health Care Wastes that May be RCRA Hazardous Wastes

Revised: 6-5-13

Colorado Department of Public Health and Environment

This list is provided as a guide to help environmental professionals in the health care sector identify hazardous wastes. It is based on the Colorado Hazardous Waste Regulation (6 CCR 1007-3) as of June 30, 2011. Hazardous wastes known or suspected to be present in the health care industry are included in this list. However, the listed items are not all inclusive; other hazardous wastes may occur in a health care setting. Facility chemical inventories should be checked for ALL hazardous wastes found in the Colorado Hazardous Waste Regulations. Also, please note that variations in formulations, brands, dosages, or other variations in a pharmaceutical waste may alter its hazardous waste status. Generators must make their own hazardous waste determinations for their own facilities. Some wastes may have more than one code

Examples of Potential **P-listed** RCRA Hazardous Wastes in Health Care [1,2,3,4]			
Waste Code	**Constituent of Concern**	**Other Names/Brand Names**	**Remarks**
P001	Warfarin & salts (concentration > 0.3%)	• Coumadin;	Blood thinner
P012	Arsenic trioxide	• Trisenox	Antineoplastic
P046	Phentermine	• Phentermine	Controlled Substance
P075	Nicotine & salts	• Nicotine patches (Habitrol, Nicoderm, Nicorette, Nicotrol, etc.)	Used for smoking cessation
P188	Physostigmine salicylate	• Eserine salicylate	Treatment for glaucoma (ophthalmic solution) & Alzheimer's
P204	Physostigmine	• Eserine	See above

[1] P-listed Wastes are considered acutely hazardous. Those who have more than 2.2 lbs of acutely hazardous waste on site at any one time are considered large quantity generators. (6CCR 1007-3, Section 261.33(e))

[2] For P-listed waste, any residue remaining in a container or any inner liner removed from a container that has held a P-listed waste must also be managed as a hazardous waste. (261.33(c) and 261.7(b)(3))

[3] In order for a waste to meet the strict definition of a U or P-listed waste, the material must be UNUSED. However, CDPHE recommends that health care facilities manage both used and unused wastes on the U or P lists as hazardous wastes.

[4] Colorado's regulations are more stringent than the federal regulations of 40 CFR § 261.33(d) with regard to application of P and U-listed waste codes to unused commercial chemical products. In Colorado, formulations may have more than one active ingredient and still meet the listing description. Preservatives are not considered active ingredients for the purpose of the P or U listings. (6CCR 1007-3, Section 261.33(d))

Examples of Potential **U-listed** RCRA Hazardous Wastes in Health Care [1,2]			
Waste Code	***Constituent of Concern***	***Other Names/Brand Names***	***Remarks***
U010	Mitomycin C	• Mitomycin; • Mitomycin C; • Mutamycin; • Mutamycin VHA Plus	antineoplastic
U015	Azaserine	• Azaserine	antineoplastic for leukemia
U034	Chloral / Chloral hydrate	• Chloral hydrate	Controlled Substance
U035	Chlorambucil	• Leukeran	
U044	Chloroform	• Chloroform	Not commonly seen
U058	Cyclophosphamide	• CTX; • Cytoxan injection, • Lycophilized/VHA Plus; • Neosar; • Procytox	antineoplastic
U059	Daunomycin	• Daunorubicin, • Cerubidin, • DaunoXome, • Rubidomycin; • Liposomal; • Idarubicin/Idamycin	antineoplastic
U075	Dichlorodifluoromethane	• Dichlorodifluoromethane	
U089	Diethylstilbesterol	• Diethylstilbestrol; • DES (synthetic estrogen); • Stilphostrol	
U122	Formaldehyde	• Formaldehyde	Waste formalin that has been used for tissue preservation does not meet the hazardous waste definition.
U121	Trichloromonofluromethane	• Trichlorofluoromethane	
U129	Lindane	• G-Well shampoo; • Kwell shampoo; • Lindane Lotion	Used for lice and scabies treatment

Examples of Potential **U-listed** RCRA Hazardous Wastes in Health Care [1,2]			
Waste Code	***Constituent of Concern***	***Other Names/Brand Names***	***Remarks***
U132	Hexachlorophene	• Phisohex disinfectant	
U150	Melphalan	• Alkeran; • L-PAM; • Melphalan	
U151	Mercury	• Mercury	
U182	Paraldehyde	• Paral; • Paraldehyde	Controlled Substance
U187	Phenacetin	• Acetophenetidin	Typically for veterinary use
U188	Phenol	• Phenol; • Liquified phenol	
U200	Reserpine	• Resperine	
U201	Resorcinol	• Resorcinol	
U205	Selenium sulfide	• Exsel shampoo; • Selenium sulfide; • Selsun	
U206	Streptozotocin	• Streptozotocin; • Streptozocin; • Zanosar	
U237	Uracil mustard	• Uracil mustard; • Uramustine	Not commonly seen
U248	Warfarin & salts (concentration ≤ 0.3%)	• Warfarin	Blood thinner

[1] In order for a waste to meet the strict definition of a U or P-listed waste, the material must be UNUSED. However, CDPHE recommends that health care facilities manage both used and unused wastes on the U or P list as hazardous wastes.

[2] Colorado's regulations are more stringent than the federal regulations of 40 CFR § 261.33(d) with regard to application of P and U-listed waste codes to unused commercial chemical products. In Colorado, formulations may have more than one active ingredient and still meet the listing description. Preservatives are not considered active ingredients for the purpose of the P or U listings. (6CCR 1007-3, Section 261.33(d))

Examples of Potential **F-listed** RCRA Hazardous Wastes in Health Care [1]			
Waste Code	**Constituents of Concern**	**Potential Examples**	**Remarks**
F003 [2]	Xylene		Used for slide processing in histology
F003[2]	Acetone		Used in laboratory
F003 [2]	Methanol		Used for gram stains in laboratory
F005 [2]	Toluene		Used for slide processing in histology

[1] - These F-listings apply to spent solvents and certain spent solvent mixtures/blends. The description of these wastes codes are abbreviated in this document. Please see 6 CCR 1007-3, Section 261.31(a) for the complete regulatory language.

[2] A hazardous waste that is listed solely because it exhibits one or more characteristics of ignitability as defined under § 261.21, corrosivity as defined under § 261.22, or reactivity as defined under § 261.23 is not a hazardous waste, if the waste no longer exhibits any characteristic of hazardous waste. (6CCR 1007-3, Section 261.3(g)(1))

Examples of Potential **D-Code** RCRA Hazardous Wastes in Health Care [1]			
Waste Code/ Characteristic	**Criteria**	**Potential Examples**	**Remarks**
D001/ Ignitable [2]	• A liquid, other than an aqueous solution containing less than 24 percent alcohol by volume, with a flash point less than 60°C (140°F) **OR** • A non-liquid 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 hazard **OR** • an ignitable compressed gas	• Erythromycin topical gel, 2%; • HurriCaine topical anesthetic spray; • Vi-Jon Antiseptic Mouthwaste; • Flexible Collodion; • Compound W Liquid Wart Remover; • Cyanide Antidote Kit (Amyl nitrate inhalant); • Ethyl Chloride (Skin Refrigerant); • Gram Stain, Safranin; • Listerine Antiseptic; • Toposar (chemo); • Etoposide (chemo); • Dexamethasone (anti-inflammatory); • PacliTaxel (chemo); • Silver nitrate applicator sticks (oxidizer); • Benzoin Compound Tincture	There are numerous pharmaceuticals and laboratory chemicals that exhibit the characteristic of ignitability. Reminder: These are just some examples- not a comprehensive list.
D002/ Corrosive [3]	• A liquid with a pH less than or equal to 2 or greater than or equal to 12.5 **OR** • A liquid that corrodes steel	• Decalcification solution used in histology; • Tresaderm (veterinary antibiotic) • Advia 120 EZ Kleen (lab) • Compounding chemicals	
D003/ Reactive [4]	• Waste that is normally unstable and readily undergoes violent change		No current health care sector examples available.

Examples of Potential **D-Code** RCRA Hazardous Wastes in Health Care [1]			
Waste Code/ Characteristic	**Criteria**	**Potential Examples**	**Remarks**
	without detonating **OR** • Waste that reacts violently with water **OR** • Waste that forms potentially explosive mixtures with water **OR** • Waste that is reactive when mixed with water **OR** • Waste that is cyanide or sulfide bearing and can generate toxic gases, vapors or fumes.		Note: Most formulations of medicinal nitroglycerin do not meet the definition of "reactive" and therefore are not hazardous wastes.
D004/Toxic [5]	Arsenic ≥5.0 mg/l	• Arsenic Trioxide; • Trisenox	
D005/Toxic [5]	Barium ≥100 mg/l	• Some barium contrasts used in radiology	
D006/Toxic [5]	Cadmium ≥1.0 mg/l	• Some mineral supplements	
D009/Toxic [5]	Mercury ≥0.2 mg/l	• Thimerosal; • Tetanus Toxoid (some); • Meningococcus vaccine (some); • Influenza vaccines (some); • Phenylmercuric acetate (some lab reagents) • Mercuric Chloride (some lab reagents)	Thimerosal contains mercury; may be used as a preservative for some multi-dose vaccines, ophthalmic drops, and nasal sprays. Phenylmercuric acetate, mercuric chloride, or other mercury compounds may be found in laboratory reagents.
D010/Toxic [5]	Selenium ≥1.0 mg/l	• Selsun Shampoo	Dandruff Shampoo
D011/Toxic [5]	Silver ≥5.0 mg/l	• Silver Sulfadiazine Cream; • SSD; • Silver nitrate applicator sticks	Used for wound care

Examples of Potential **D-Code** RCRA Hazardous Wastes in Health Care [1]			
Waste Code/ Characteristic	**Criteria**	**Potential Examples**	**Remarks**
D013/Toxic [5]	Lindane ≥0.4 mg/l	• Lindane lotion	Treatment of lice, scabies
D022/Toxic [5]	Chloroform ≥ 6.0 mg/l	• Chloroform	Not commonly seen
D024/Toxic [5]	m-cresol ≥ 200 mg/l	• Human Insulin (NovoLog; Novolin R; Novolin N; Novolin 70/30; Lantus, Humalog QuickPen, etc.)	Treatment of diabetes

[1] Wastes with D Codes are described in 6CCR 1007-3, Sections 261.20 through 261.24.

[2] The description of this waste category is abbreviated in this document. Please see the complete definition of the characteristic of "ignitability" at 6CCR 1007-3, Section 261.21.

[3] The description of this waste category is abbreviated in this document. Please see the complete definition of the characteristic of "corrosivity" at 6CCR 1007-3, Section 261.22.

[4] The description of this waste category is abbreviated in this document. Please see the complete definition of characteristic of "reactivity" at 6CCR 1007-3, Section 261.23.

[5] The description of this waste category is abbreviated in this document. Please see the complete definition of the characteristic of "toxicity"at 6CCR 1007-3, Section 261.24.

Appendix B

Hazardous Waste Generator
Matrix

HAZARDOUS WASTE GENERATOR MATRIX

GENERATOR REQUIREMENT	GENERATOR CATEGORY		
	CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR (CESQG)	SMALL QUANTITY GENERATOR (SQG)	LARGE QUANTITY GENERATOR (LQG)
Hazardous Waste Determination	Required through process knowledge or analysis (supporting documentation recommended)	Required through process knowledge or analysis (supporting documentation required)	Required through process knowledge or analysis (supporting documentation required)
On-site Storage & Disposal	Part "B" Permit required	Part "B" Permit required	Part "B" Permit required
Monthly Generation Rate	< 1 kg of acutely HW < 100 kg of HW*	< 1 kg of acutely HW >100 kg but <1,000 kg of HW*	> 1 kg of acutely HW >1,000 kg of HW*
Maximum Accumulation	< 1 kg of acutely HW < 1,000 kg of HW*	< 1 kg of acutely HW <6,000 kg of HW*	No limit
On-site Treatment	Unrestricted (knowledge of proper & safe treatment methods implied)	Part "B" Permit, Permit-by-Rule, Treat in WWTU or Treat to meet LDR	Part "B" Permit, Permit-by-Rule, Treat in WWTU or Treat to meet LDR
Accumulation Time Period	None	180 days or 270 days if TSD facility is > 200 miles away (30-day extension available)	90 days (30-day extension available)
EPA ID Number	Required if generating hazardous waste codes F001, F002, F004, and/or F005	Required	Required
Manifests & LDR	Not required (recommended)	Required	Required
Exception Reports	Not required (recommended)	Notify CDPHE within 60 days & include a copy of the Manifest	Contact handler within 35 days Report to CDPHE within 45 days
Biennial Reports	Not required	Not required	Required (March 1st of even numbered years)
Contingency Plan	Not required (recommended)	Basic Plan Required	Written Plan Required
Container Management	Not required (recommended)	Good Condition, Compatible with Waste, Labeled as Haz. Waste, Aisle Space, Lids, Weekly Inspections & Accumulation Start Date unless at Satellite Accumulation Area	Good Condition, Compatible with Waste, Labeled and Haz. Waste, Aisle Space, Lids, Weekly Inspections & Accumulation Start Date unless at Satellite Accumulation Area, Subpart AA,BB, & CC apply
Tank Management	Not required (recommended)	Good Condition, Compatible with Waste, Labeled as Haz. Waste, Accumulation Start Date Tracked & Daily Inspections	Good Condition, Compatible with Waste, Labeled as Haz. Waste, Accumulation Start Date Tracked & Daily Inspections, Subpart AA,BB, & CC apply & Secondary Containment is Required
Personnel Training	Not required (recommended)	Basic Training Required	Written Training Plan Required
Record Keeping	Disposal Receipts & Waste Analysis Records (recommended)	Manifests, LDR & Waste Analysis Records Training Records	Manifests, LDR & Waste Analysis Records, Training Records, Biennial Reports & Exception Reports

* 1 kg ~ 1 qt
100 kg ~ 27 gal (~ ½ of a 55 gallon drum) or 220 pounds, depending on material
1,000 kg ~ 270 gal (~ five (5) 55 gallon drums) **or** 2,200 pounds, depending on material
6,000 kg ~ 1,620 gal (~ thirty (30) 55 gallon drums) or 13,200 pounds, depending on material
For liquids, specific gravity x 8.3 ~ lbs/gal