
Hazardous Waste Exclusions Guidance Document



**Colorado Department
of Public Health
and Environment**

**Hazardous Materials and Waste Management Division
(303) 692-3300**

Second Edition
April 2009

Purpose of this Guidance

This is intended as general guidance for generators of hazardous waste and is meant to assist in compliance with the hazardous waste regulations. The guidance is not meant to modify or replace the adopted regulations which undergo periodic revisions. In the event of a conflict between this guidance and adopted regulations, the regulations prevail. Some portions of the hazardous waste regulations are complex and this guidance does not go into details of these complex situations. If a regulatory situation is not described in the guidance or clarification is desired, an official interpretation of a specific hazardous waste regulation can be requested by writing to the Hazardous Materials and Waste Management Division at the address on page 28.

**HAZARDOUS WASTE EXCLUSIONS
GUIDANCE DOCUMENT**

1.0 INTRODUCTION 1
2.0 REGULATORY SUMMARY..... 1
 2.1 HAZARDOUS WASTE IDENTIFICATION PROCESS..... 2
 2.2 DEFINITION OF SOLID WASTE 4
 2.3 SOLID WASTE EXCLUSIONS 5
 2.4 DEFINITION OF HAZARDOUS WASTE 14
 2.5 HAZARDOUS WASTE EXCLUSIONS 15
 2.6 RAW MATERIAL, PRODUCT AND PROCESS UNIT WASTE EXCLUSION..... 23
 2.7 WASTE CHARACTERIZATION SAMPLE EXCLUSION..... 24
 2.8 TREATABILITY STUDY SAMPLE EXCLUSION..... 24
 2.9 DREDGED MATERIAL EXCLUSION 25
3.0 PETITIONS TO THE COMMISSION..... 25
4.0 SPECIAL ISSUES..... 26
 4.1 FEDERALLY OWNED TREATMENT WORKS..... 26
 4.2 HOUSEHOLD HAZARDOUS WASTE COLLECTION PROGRAMS..... 27
 4.3 MUNICIPAL WASTE COMBUSTION ASH..... 27
5.0 CONTACT INFORMATION..... 28

FLOWCHART 1 Wastes Specifically Exempt as RCRA Subtitle C Solid Wastes
FLOWCHART 2 Solid Wastes Specifically Exempt as RCRA Subtitle C Hazardous Wastes
FLOWCHART 3 Secondary Materials that are Solid Wastes When Recycled
FLOWCHART 4 Solid Wastes Specifically Exempt as Hazardous Wastes or Subject to
 Special Standards When Recycled
FLOWCHART 4A Recycling Activity Listed in 261.4(a)(7)-(15) or 261.4(b)(12) [6 CCR
 1007-3]
FLOWCHART 4B Recycling Activity Listed in 261.6(a)(2) [6 CCR 1007-3]
FLOWCHART 4C Recycling Activity Listed in 261.6(a)(3) [6 CCR 1007-3]
FLOWCHART 5 Wastes Not Exempt as RCRA Subtitle C Solid or Hazardous Wastes

1.0 INTRODUCTION

Proper hazardous waste identification is important because whether or not a waste qualifies as hazardous usually dictates whether all, some or none of the extensive Resource Conservation and Recovery Act (RCRA) hazardous waste regulations will apply to its handling. Proper hazardous waste identification can also be quite difficult because the hazardous waste regulations establish a complex definition of the term "hazardous waste." Because of the risks posed by mishandled hazardous wastes and the cost of hazardous waste management, the hazardous waste identification process is critical to operating any hazardous waste program effectively.

There are three basic steps in the hazardous waste determination process:

- 1) Determine if your waste meets the definition of a RCRA Subtitle C solid waste,(this document).
- 2) If so, determine if your waste is excluded from being a RCRA Subtitle C solid or hazardous waste, ("CDPHE Hazardous Waste Recycling Guidance Document" and this document).
- 3) If not excluded, determine if your waste is a listed hazardous waste and/or exhibits a characteristic of hazardous waste ("CDPHE Hazardous Waste Identification Guidance Document").

Evaluating whether a waste is a RCRA Subtitle C hazardous waste may require detailed process review and reference to the U.S. Environmental Protection Agency (EPA) background documents, regulatory preambles, Colorado Hazardous Waste Statute Title 25 Article 15 and/or Colorado Hazardous Waste Regulations (CHWR) 6 CCR 1007-3. If you need assistance in this process, you can request an interpretation on the classification of your waste in writing by providing detailed design and/or process knowledge to the Hazardous Materials and Waste Management Division (HMWMD) of the Colorado Department of Public Health and Environment (CDPHE, the Department). Unless otherwise noted, all regulatory citations in this document refer to the Colorado Hazardous Waste Regulations.

This document is intended to be used as "plain English" guidance on determining if a waste is a RCRA Subtitle C solid waste and if it meets one of the exclusions from regulation as a solid or hazardous waste. The information in this document is by no means a complete representation of EPA or the Department's regulations or policies. This document is not intended and cannot be relied upon to create any rights, substantive or procedural, enforceable by any party in litigation with Colorado.

2.0 REGULATORY SUMMARY

Under RCRA Subtitle C, Congress granted EPA the authority to regulate hazardous wastes. The principal objective of hazardous waste regulation is the protection of human health and the environment. Hazardous waste regulation is also intended to encourage the conservation and recovery of valuable materials. The definition of solid waste under RCRA, which serves as the

starting point for the hazardous waste management system, reflects EPA's effort to obtain the proper balance between these two underlying objectives.

According to the hazardous waste regulations, a material must be a solid waste before it can be considered a hazardous waste. The regulatory definition of solid waste, found in the Colorado Hazardous Waste Regulations 6 CCR 1007-3 Section 261.2(a), encompasses: (1) materials that are abandoned; (2) materials that are recycled; (3) materials that are inherently waste-like; and (4) waste military munitions. Materials that do not fall within one of these broad categories are not subject to regulation as hazardous wastes.

Materials that are recycled are a special subset of the solid waste universe. When recycled, some materials may qualify for an exclusion from the definition of solid waste and fall out of hazardous waste regulation or be subject to less stringent regulatory controls. Based on the material and the type of recycling, the generator of a recyclable solid waste must determine if it is excluded, subject to reduced requirements or subject to full regulation.

2.1 HAZARDOUS WASTE IDENTIFICATION PROCESS

Hazardous waste identification begins with an obvious point: in order for any material to be a hazardous waste, it must first be a solid waste. A waste is essentially a thing that someone throws away, an item with no value. RCRA uses the term "solid waste" in place of the common term "waste." Under RCRA, the term "solid waste" means any waste, whether in solid, semisolid, liquid, or contained gaseous physical form. Thus, the first step in the RCRA hazardous waste identification process is deciding whether an item qualifies as a RCRA solid waste.

Only a small fraction of all RCRA solid wastes actually qualify as hazardous wastes. At first glance, one would imagine that distinguishing between hazardous and nonhazardous wastes is a simple matter of chemical and toxicological analysis. Other factors must be considered, however, before evaluating the actual hazard that a waste's chemical composition poses. Regulation of certain wastes may be impractical or otherwise undesirable, regardless of the hazards they pose. For instance, household waste often contains dangerous chemicals, but making households subject to the strict RCRA waste management regulations would create a number of practical problems. Therefore, EPA exempted or excluded certain wastes, like household wastes, from the hazardous waste definition and regulations. Other materials were excluded because it was mandated in federal statute, the material was already subject to regulation under another statute, EPA wanted to provide an incentive to recycle certain materials, or because there was not enough information on the material to justify its regulation as a solid or hazardous waste.

The second step in the hazardous waste determination process requires the generator to determine if the waste fits any of the six categories of exclusions identified in CHWR Section 261.4. The first category of exclusion in Section 261.4 includes wastes that are excluded from being solid wastes (FLOWCHART 1). The second category covers wastes that are excluded from being hazardous wastes (FLOWCHART 2). The other four categories are conditional exclusions that only apply when the provisions established under each section are met. The third

category contains an exclusion for hazardous waste generated in raw material, product storage, or manufacturing units. The fourth category is a limited exclusion for laboratory samples, while the fifth category applies to waste treatability studies. The final exclusion applies to dredged material that is permitted under the Clean Water Act or the Marine Protection Research and Sanctuaries Act. If a waste is excluded under any of these categories, the hazardous waste requirements do not apply. The exclusions don't mean that these wastes are not regulated at all. In fact, most of the exclusions in Section 261.4 are conditional exclusions that provide relief from only a portion of the hazardous waste regulations. The exclusions provided in Section 261.4 are very specific, and it is important to understand the scope of the exclusion to ensure that you meet all requirements and/or conditions of the exclusion.

Certain wastes are exempt from regulation as hazardous wastes or are subject to special requirements if they are recycled in specific ways (FLOWCHART 3 and FLOWCHART 4-4C). Only after determining that a solid waste is not somehow excluded from hazardous waste regulation should the analysis proceed to evaluate the actual chemical hazard that a waste poses.

Facilities that claim a waste is not a solid waste or is conditionally exempt from regulation must provide appropriate documentation to support their claim that the waste meets the terms or conditions of the exclusion. In addition, the facility must show that they have the necessary equipment for recycling if they make such a claim. [CHWR Section 261.2(f)]

The third step in the hazardous waste identification process is determining whether a waste actually poses a sufficient chemical or physical hazard to merit regulation. This step in the hazardous waste identification process involves evaluating the waste in light of the regulatory definition of hazardous waste (FLOWCHART 5 and CDPHE Hazardous Waste Identification Guidance Document).

Since proper hazardous waste identification is essential to the success of the hazardous waste management program, the Colorado Hazardous Waste Regulations (CHWR) at 6 CCR 1007-3 Section 262.11 require that any person who produces or generates a waste must determine if that waste is hazardous. In addition to the wastes that EPA considers hazardous, the Department can determine that certain wastes are hazardous wastes if the Colorado Solid and Hazardous Waste Commission makes a written finding that such action is necessary to protect public health and the environment. Such Colorado-specific wastes are not regulated as hazardous waste by EPA and other states. The only examples of Colorado-specific hazardous wastes are the listings of chemical munitions mustard, mustard agent, mustard gas, sarin agent and waste chemical weapons.

Some wastes may be identified as hazardous by one or more RCRA hazardous characteristics and/or listings. Process knowledge and origin of the waste are crucial in determining which, if any, hazardous waste codes apply. All applicable hazardous waste codes must be used when managing these wastes.

Some widely generated wastes are subject to different management standards in order to reduce the regulatory burden while still ensuring the wastes are managed in a way that is protective of human health and the environment. These wastes include certain pesticides, mercury-containing

devices, batteries, mercury-containing lamps, electronics, and aerosol cans that contain hazardous waste when discarded [known as Universal Wastes, CHWR Part 273] and used oil that is recycled [CHWR Part 279]. If these wastes are managed in accordance with these management standards, the generator is subject to reduced notification requirements, reduced recordkeeping requirements, does not have to use a hazardous waste manifest or hazardous waste transporter to ship their waste, and can store the waste longer than if it were managed under the full hazardous waste requirements.

2.2 DEFINITION OF SOLID WASTE [CHWR Section 261.2]

The statutory definition of a solid waste is not based on the physical form of the material, (i.e., whether or not it is a solid as opposed to a liquid or gas), but on the fact that the material is a waste. RCRA Section 1004(27) defines solid waste as:

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.

The regulatory definition of solid waste is any discarded material that is not specifically excluded by 6 CCR 1007-3 Section 261.4(a) as being a solid waste or that is not otherwise excluded by a variance given by the Colorado Solid and Hazardous Waste Commission. Discarded material encompasses three categories of materials: (1) materials that are abandoned; (2) materials that are recycled; or (3) materials that are inherently waste-like.

2.2.1 ABANDONED

A material is abandoned if it is disposed of, burned, or incinerated. In addition, a material that is stored prior to, or in lieu of, one of these activities, is also considered to be abandoned. The term abandoned simply means thrown away.

2.2.2 RECYCLED

A material is recycled if it is used, reused, or reclaimed. These three terms have specific regulatory definitions. A material is reclaimed if it is processed to recover a usable product or if it is regenerated (e.g., regeneration of spent solvents). A material is used or reused if it is either employed as an ingredient in an industrial process to make a product (e.g., distillation bottoms from one process used as feedstock in another process) or if it is employed as an effective substitute for a commercial product (e.g., spent pickle liquor used as a sludge conditioner in wastewater treatment), without being reclaimed first.

Some materials that are recycled are classified as solid wastes, while others are exempt from regulation as wastes. Sections 261.2 (c), (d), and (e) describe the general requirements that determine whether wastes are considered solid wastes when recycled. Section 261.2(c) designates as solid wastes certain materials that are recycled in particular ways (i.e., used in a manner constituting disposal, burned for energy recovery, reclaimed, or speculatively

accumulated). Section 261.2(d) lists inherently waste-like materials that are solid wastes no matter how they are recycled. Other materials that are recycled through use or reuse of the material may qualify for exemptions from the solid waste definition under Section 261.2(e). Section 261.6 describes the regulations that apply to hazardous wastes that are recycled.

2.2.3 INHERENTLY WASTE-LIKE

Some materials are always considered solid wastes, even if they are recycled in some manner (i.e., they are considered to be “inherently waste-like”). Because these materials may pose a threat to human health and the environment when they are recycled, they do not qualify for any recycling exemptions. Inherently waste-like materials include the dioxin-containing listed wastes F020, F022, F023, F026 and F028. Hazardous waste meeting the F021 listing is also considered inherently waste-like unless it is used at the site of generation as an ingredient in a product. In addition, any secondary materials that are characteristic or listed hazardous wastes are considered to be inherently waste-like when they are fed to a halogen acid furnace. This provision was added to ensure that halogen acid furnaces, which burn some of the most toxic wastes generated in this country, would be regulated when burning any type of hazardous waste.

After determining that a waste is a solid waste, the next step in the hazardous waste determination process is to determine if the waste fits any of the exclusions identified in Section 261.4 of the Colorado hazardous waste regulations.

2.3 SOLID WASTE EXCLUSIONS [CHWR Section 261.4 (a)]

If a material is listed under CHWR Section 261.4(a), it is not a solid waste and therefore cannot be a hazardous waste. It does not matter if the material exhibits a characteristic of hazardous waste (ignitable, corrosive, reactive, or toxic) or would otherwise be a listed hazardous waste.

Currently there are 20 exclusions under this section. These materials are excluded for a variety of reasons, including public policy, economic impacts, prior regulation, lack of data, or the waste's high volume and low toxicity. The decision to exclude these materials from the solid waste definition is a result of either Congressional action (embodied in the statute) or EPA policy making (embodied in the regulations). The exclusions to solid and hazardous waste cover very specific wastes. Other exclusions exist for recyclable materials that cover less specific wastes. Recyclable materials are discussed in the “CDPHE Hazardous Waste Recycling Guidance Document” available from the Hazardous Materials and Waste Management Division.

CHWR Section 261.4(a) specifically excludes: 1) domestic sewage; 2) industrial wastewater discharges regulated by the Clean Water Act; 3) irrigation return flows; 4) certain radioactive materials as defined by the Atomic Energy Act; 5) materials subjected to in-situ mining techniques which are not removed from the ground as part of the extraction process; 6) inert material fill; 7) pulping liquors that are reclaimed in a pulping liquor recovery furnace and then reused in the pulping process; 8) secondary materials that are reclaimed and returned to the original process in which they were generated in a closed loop process; 9) spent sulfuric acid used to produce virgin sulfuric acid; 10) spent wood preserving solutions and wastewaters from the wood preserving process that are reclaimed and reused for their original intended purpose;

11) certain coke by-products if these materials are recycled to coke ovens, to the tar recovery process as a feedstock to produce coal tar or mixed with coal tar prior to the sale or refining of the tar; 12) nonwastewater splash condenser dross residue from the treatment of K061 in high temperature metals recovery units; 13) recovered oil from petroleum refining, exploration and production; 14) scrap metal being recycled; 15) shredded circuit boards being recycled; 16) certain secondary materials generated within the primary mineral processing industry from which valuable materials are recovered; 17) certain recovered oil from associated petrochemical facilities; 18) certain spent caustic solutions used as feedstock; 19) secondary materials used to make zinc fertilizers; and 20) zinc fertilizers made from hazardous waste.

Colorado did not include exclusions for certain comparable/syngas fuels, kraft mill steam stripper condensate combusted at the generating mill, or cathode ray tubes sent to a recycler.

Materials listed in this section are not solid wastes and so cannot be further classified as hazardous waste. Other materials which would normally be classified as solid wastes may qualify for exclusions from regulation if a generator petitions the Colorado Solid and Hazardous Waste Commission for a variance from classification as a solid waste. If a material is not excluded by CHWR Section 261.4(a) or by a variance and it is discarded, it meets the definition of a solid waste.

2.3.1 DOMESTIC SEWAGE AND MIXTURES OF DOMESTIC SEWAGE

Sanitary wastes that come from households that pass through a publicly or privately owned sewer system are considered to be domestic sewage and are excluded from regulation as hazardous wastes. Mixtures of domestic sewage and other wastes that pass through a sanitary sewer system to a Publicly Owned Treatment Works (POTW) are also excluded from hazardous waste regulation because once mixed with sewage in the POTW's sewer system, the mixture is regulated under the Clean Water Act regulations. Wastewater discharges from publicly owned wastewater treatment facilities are strictly regulated under the Clean Water Act. Because POTWs are not designed to handle hazardous wastes and are themselves regulated for their discharges and wastes, waste generators are required to have their discharges meet pretreatment standards imposed by the local POTW under the Clean Water Act. As a practical matter, a POTW will not permit discharges of contaminated wastewaters to their system beyond what their system is designed to handle because they do not want to violate their own discharge permit or dispose of sludge that is a characteristic hazardous waste.

The Department interprets this exclusion to begin at the point that the hazardous waste actually mixes with the domestic sewage in the POTW's sewer line. Prior to entering the publicly owned sewer system, the waste may be a hazardous waste subject to hazardous waste regulation during generation, storage, and treatment. If the mixed hazardous waste/domestic sewage leaks from the sewer line downstream of the point where the hazardous waste entered the system, but before it reaches the POTW, it is not covered by the exclusion. Similarly, if a sludge is removed from a sewer line downstream of the point where the hazardous waste was discharged but upstream of the treatment plant, it loses the exclusion because the sludge did not pass through a POTW.

The exclusion does not apply to private or other treatment works not owned by a state or municipality because they are not subject to the same Clean Water Act requirements. In certain circumstances, this exclusion may be applied to domestic sewage and mixtures of domestic sewage that pass through a federally owned treatment works (see section 4.1 of this document).

Hazardous wastes discharged into a sanitary sewer system in an industrial setting is not subject to this exclusion unless and until it enters a POTW's sewer line and becomes subject to the Clean Water Act pretreatment requirements. Industries and businesses should obtain specific written approval from their POTW before discharging wastes into municipal sewers. This exclusion does not include any waste directly transported to the POTW by truck, rail or dedicated pipeline.

When sludge is generated at the POTW from the treatment of the waste, it is subject to a hazardous waste determination because it is a new point of generation. If the newly generated waste exhibits a characteristic of hazardous waste (ignitable, corrosive, reactive, or toxic), it would be subject to hazardous waste regulation. If the POTW accepted hazardous waste by truck, rail, or dedicated pipeline, the domestic sewage exclusion doesn't apply and any listed or characteristic waste codes still apply to the sludge. (Note: the characteristic waste codes will apply only if the sludge also exhibits the characteristic.)

2.3.2 INDUSTRIAL WASTEWATER DISCHARGE

Industrial wastewater discharges that are subject to the Clean Water Act Section 402, also called point source discharges, are excluded from hazardous waste regulation. Point source discharges are "discernible or discrete conveyances" from which pollutants may be discharged, such as a pipe or other conduit. The Clean Water Act regulates such discharges under a permitting program. To avoid duplicative regulation, this exclusion applies at the discharge point where the wastes are first subject to Clean Water Act regulation (i.e., at the discharge or outfall point where the waste actually enters surface water). "Point source discharge" doesn't apply to an internal midway point in the wastewater treatment train that is still within the facility boundary. EPA has determined that water bodies that are entirely within the facility's boundary and upgradient of the permitted discharge point are not subject to this exclusion. Any hazardous waste generation, treatment, or storage prior to the point source discharge is subject to the hazardous waste regulations.

2.3.3 IRRIGATION RETURN FLOW

When agricultural land is irrigated, excess water may return to the water basin either as surface water runoff or through groundwater percolation. Though these return flows may often carry hazardous constituents from pesticides or fertilizers or exhibit a characteristic of hazardous waste, these wastes are excluded from regulation as hazardous waste.

2.3.4 CERTAIN RADIOACTIVE WASTES

To avoid double regulation of some materials under the hazardous waste regulations and the Atomic Energy Act, there is an exclusion for certain radioactive wastes (i.e., source, special nuclear, or by-product materials) since they were first regulated under the Atomic Energy Act.

“Source material” includes uranium, thorium and other materials determined by the Atomic Energy Act to be source materials, and ores containing these materials. “Special nuclear material” includes plutonium and uranium 233 and 235 and other materials determined to be special nuclear material, and any material artificially enriched with these materials. “By-product material” includes radioactive material that becomes radioactive during the process of making or using special nuclear material, and the tailings and other wastes generated by processing uranium or thorium from ore.

If these radioactive wastes are mixed with a RCRA hazardous waste, however, the commingled waste is regulated by both the Atomic Energy Act of 1954, as amended, and the hazardous waste regulations because mixed wastes generally cannot be easily separated. In the rare case where the requirements differ, the Atomic Energy Act requirements would take precedence..

2.3.5 IN-SITU MINING

In-situ mining of oil shale, uranium, and other minerals may involve the use of solvent solutions directly in a mineral deposit in the ground. The solvent passes through the ground, collecting the mineral as it moves. The mineral and solvent mixtures are then collected in underground wells where the solution is removed. The solvent-contaminated earth produced, or the solution that is not recovered, by the in-situ mining process are not subject to hazardous waste regulation when left in place. If removed or otherwise disturbed, however, a hazardous waste determination would have to be made.

2.3.6 INERT MATERIAL FILL

Inert materials that are deposited as fill material in anticipation of construction at the site or for changes in land contours for agricultural or mining purposes are not considered solid wastes for the purposes of hazardous waste regulation. Inert material is defined as any “non-water-soluble and non-decomposable inert solids together with such minor amounts and types of other materials as will not significantly affect the inert nature” of the fill material. For materials to be considered inert, they cannot contain hazardous wastes, or leach hazardous constituents above appropriate surface or groundwater protection levels. This term includes dirt, sand, gravel, rock, concrete which has been hardened at least 60 days, masonry, asphalt paving fragments and other materials as may be included by the Colorado Solid and Hazardous Waste Commission.

It should be noted that for the purposes of the Colorado Solid Waste regulations, a site or facility where inert materials are deposited as fill material is required to obtain a certificate of designation (CD) as a solid waste disposal site. If the inert materials are generated at the same site where they are deposited, a CD may not be required if the design and operations are in compliance with the Colorado Solid Waste regulations [6 CCR 1007-2]. Although the Hazardous Materials and Waste Management Division must conduct a technical review of the proposed disposal plan, the actual decision to issue a CD is up to the local governing body having jurisdiction.

2.3.7 PULPING LIQUORS

Pulping liquor is a corrosive material used to dissolve wood chips. Pulping liquors, also called black liquors, that are reclaimed in a pulping liquor recovery furnace and then reused in the pulping process are excluded from being solid waste, unless accumulated speculatively or reclaimed in another manner.

2.3.8 RECLAMATION IN ENCLOSED TANKS

This exclusion, known as the closed-loop recycling exclusion, covers secondary materials (e.g., spent materials or sludges) generated during production processes which are reusable in those same processes. These secondary materials, if reclaimed and returned to the original process(es), are excluded, provided:

- Only tank storage is involved and the entire process, through the completion of reclamation, is a closed system by being entirely connected with pipes or other comparable enclosed means of conveyance (i.e., the process does not require any human intervention to occur).
- Reclamation does not involve incineration or other controlled-flame combustion (boilers or furnaces).
- Secondary materials are never accumulated in tanks for more than 12 months without being reclaimed.
- Reclaimed materials are not used to produce a fuel, or used to produce products that are used in a manner constituting disposal.

2.3.9 SPENT SULFURIC ACID

Spent sulfuric acid is typically used to produce virgin sulfuric acid by reintroduction into the sulfuric acid production process. Spent sulfuric acid that is recycled in this manner is excluded from the definition of solid waste, unless accumulated speculatively. Spent sulfuric acid that is not recycled in this manner may still be excluded from being a regulated waste, however, if it is used or reused as an ingredient or as a product substitute.

2.3.10 SPENT WOOD PRESERVATIVES

Spent wood preservatives are typically collected and reclaimed through a series of drip pads connected integrally to the production process, closely resembling a closed-loop scenario. Because the use of drip pads will not allow this reclamation process to fit the closed-loop exclusion, however, EPA developed this exclusion for reclaimed spent wood preserving solutions and wastewaters containing spent preservative that are reused for their original purpose.

Both spent preserving solutions and wastewaters are solid and hazardous wastes until they are reclaimed (normally by filtration), but cease being solid wastes once reclamation is completed if the reclaimed material is used to treat wood onsite. These materials must be managed to prevent releases and the drip pads that collect wood preserving solutions must meet hazardous waste design and operating requirements. Prior to using this exclusion, the plant owner or operator must prepare a one-time notification stating that the plant intends to claim this exclusion. A copy of this document must be maintained in the plant's onsite records until closure of the facility.

2.3.11 COKE BY-PRODUCT WASTES

Certain coke by-product wastes are excluded from the definition of solid waste. Coke, a product used in the production of iron, is manufactured by carbonizing coal in high temperature coke ovens. Throughout the production process, many by-products are created. The initial by-product in the production process is coke oven gas, which is refined to create products such as coal tar, light oil, and sodium phenolate. The coal tar is then further refined into pitch, naphthalene, refined tar, bitumen, and creosote oil. The refinement of these coke by-products generates several listed and characteristic wastestreams.

EPA granted an exclusion for K060, K087, K141, K142, K143, K144, K145, K147, and K148 listed wastes, and any other waste coke by-product wastes which exhibit the toxicity characteristic, if they are recycled in one of the following ways:

- Returned to the coke oven as a feedstock to produce coke.
- Returned to the tar recovery process as a feedstock to produce coal tar.
- Mixed with coal tar prior to coal tar refining or sale as a product.

In addition, to qualify for the exclusion, the coke by-product waste cannot be placed on the land from the time it is generated to the point it is recycled. EPA based its decision to exclude coke by-product wastes on the fact that recycling these wastes did not have a significant effect on the chemical composition of the products. Further, coke by-product residues are often managed as raw materials rather than wastes, thereby reducing the risk posed to human health and the environment because the material has an intrinsic value that promotes its safe management.

2.3.12 SPLASH CONDENSER DROSS RESIDUE

The treatment of emission control dust/sludge from the primary production of steel in electric furnaces (K061) generates a zinc-laden dross residue from the splash condenser in a high temperature metal recovery process, known as splash condenser dross residue. This splash condenser dross residue is typically considered a partially reclaimed secondary material because it contains 50 to 60 percent zinc. Splash condenser dross residue is commonly sent offsite for further reclamation, reused onsite in the high temperature metal recovery process, or reprocessed by the high temperature metal recovery process onsite.

EPA determined that the splash condenser dross residue material generated by certain high temperature metal recovery processes does not pose a significant threat to human health and the environment as managed currently and therefore is exempted from hazardous waste regulation. The splash condenser dross residue exclusion applies when the material is used as a source of zinc in zinc recovery operations, provided it is shipped in drums (if sent offsite) and not disposed of on the land at any point prior to further recovery.

2.3.13 RECOVERED OIL FROM PETROLEUM OPERATIONS

Many hazardous sludges, by-products, and spent materials are generated throughout the petroleum refining process. Often, these secondary materials can be recycled back into the refining process to recover their oil content. In order to promote recycling of these materials, EPA made an exclusion for oil-bearing secondary materials that are generated and recycled by the petroleum refining industry (SIC code 2911). This exclusion applies to any oil-bearing material generated at a petroleum refinery, including oil-bearing wastes commonly regulated as listed hazardous wastes (i.e. F037, F038, K048-K052 and K169-K170), when these materials are reinserted into the petroleum refining process. These secondary materials can be recycled in an onsite refining process or can be sent directly to an offsite petroleum refining facility to be reinserted back into the refining process. Secondary materials that are excluded from the definition of solid waste under this exclusion cannot be placed on the land prior to recycling and cannot be speculatively accumulated. Any residues generated from the recycling of oil-bearing hazardous secondary material, which otherwise would have met another listing description, are considered to be F037 listed wastes if intended for, or sent for, disposal.

In addition to the exclusion for secondary materials generated by and recycled within petroleum refineries, oil recovered from secondary materials that are generated within the broader petroleum industry (not just refineries), may be excluded from the definition of solid waste as recovered oil. Recovered oil is a generic term that refers to secondary materials that are primarily oil and that are recovered from secondary materials generated during any phase of petroleum exploration, production, refining, and related transportation (SIC codes 1311, 1321, 1381, 1382, 1389, 2911, 4612, 4613, 4922, 4923, 4789, 5171, and 5172). This includes oil/water separator skimmings from plant wastewaters, slop oil and emulsions, oil skimmed from ballast water tanks, oil from refinery process units, oil recovered from oil and gas drilling operations, and oil recovered from wastes removed from crude oil storage tanks. It does not include listed oil-bearing hazardous wastes (i.e., F037, F038, K048-K052 and K169-K172). This exclusion from the definition of solid waste applies to recovered oil that is inserted into a petroleum refinery along with the normal process streams, provided the oil is not managed on the land or accumulated speculatively before placement in the refinery process. The exclusion does not apply to water-in-oil emulsions before the oils are recovered or to used oil as defined in the used oil management standards of CHWR Part 279. The original exclusion required the placement of the recovered oil back into the process at a point prior to distillation or catalytic cracking. EPA has since amended this exclusion to include points elsewhere in the refining process where separation of contaminants occurs. The current exclusion applies to recovered oil inserted into the petroleum refining process at or before a point "where contaminants are removed."

2.3.14 SCRAP METAL

Processed scrap metal, unprocessed home scrap metal, and unprocessed prompt scrap metal being recycled are all excluded from the definition of solid waste and are therefore not subject to the hazardous waste regulations. Processed scrap metal is scrap metal which has been manually or mechanically altered to either separate it into distinct materials to enhance economic value or to improve the handling of materials. Processed scrap metal includes scrap metal which has been bailed, shredded, sheared, chopped, crushed, flattened, cut, melted, or separated by metal type, and fines, drosses and related materials which have been agglomerated. Home scrap is scrap metal generated by steel mills, foundries, and refineries such as turnings, cuttings, punchings, and borings. Prompt scrap, also known as industrial or new scrap metal, is generated by the metal working/fabrication industries and includes scrap such as turnings, cuttings, punchings, and borings. Other scrap metals that don't meet the above criteria may still qualify for an exclusion under the requirements for recyclable materials in CHWR Section 261.6(a)(3)(ii). For purposes of Section 261.6, "scrap metal" means bits and pieces of metal parts (e.g., bars, turnings, rods, sheets, wire) or metal pieces that may be combined together with bolts or soldering (e.g., radiators, scrap automobiles, railroad box cars), which when worn or superfluous can be recycled.

Excluded scrap metal being recycled is distinct from other secondary materials defined as wastes when recycled because of the established markets for the material's use, inherent positive economic value of the material, the physical form of the material, and the absence of damage incidents attributed to the material.

Smelting and metal refining residuals, liquid wastes containing metals (e.g., spent solvents with heavy metal contamination), metal-containing wastes with a significant liquid component (e.g., lead-acid batteries), and liquid metal wastes (e.g., mercury) do not meet the definition of scrap metal. The Department does not consider intact computers to be scrap metal, though various parts of the computer may become scrap metal after processing (dismantling).

2.3.15 SHREDDED CIRCUIT BOARDS

Shredded circuit boards being recycled are excluded from the definition of solid waste provided they are stored in containers sufficient to prevent release to the environment and are free of mercury switches, mercury relays, and batteries. Shredded circuit boards that are not free of these materials are solid wastes (spent materials) when reclaimed. Shredded circuit boards are not considered to be scrap metal because the process of shredding the boards produces small pieces from the board that do not meet the regulatory definition of scrap metal. However, shredding is a common industry practice and is beneficial to the recovery process. This exclusion is justified because of the positive economic value and marketability of the shredded material, as long as they are managed in a manner that minimizes environmental risk. Whole circuit boards meet the definition of scrap metal and are exempt from regulation when recycled.

2.3.16 MINERAL PROCESSING SECONDARY MATERIALS BEING RECYCLED

Mining and the recovery of minerals from ores are processes that generate many wastes. These wastes fall into three general categories: extraction, beneficiation, and mineral-processing. All extraction and beneficiation wastes and 20 specific mineral-processing wastes are exempt from hazardous waste regulation in CHWR Section 261.4(b)(7) (see Part 2.5 of this document). However, other mineral-processing wastes are potentially regulated as hazardous wastes if they exhibit a characteristic.

Spent materials generated within the primary mineral processing industry (other than hazardous wastes listed in Subpart D of CHWR Part 261) are excluded from the definition of solid waste if they are reclaimed within the mineral-processing industry as long as the spent material is legitimately recycled to recover minerals, acids, cyanide, water or other valuable materials, is not accumulated speculatively, and the material is stored in an appropriate tank, container or building prior to reclamation. The owner or operator must notify the Department of these activities and if there is a change in the type of materials recycled or the location of the recycling process.

2.3.17 RECOVERED OIL FROM PETROCHEMICAL FACILITIES

Under certain conditions, petrochemical recovered oil generated at an associated organic chemical manufacturing facility is excluded from the definition of solid waste if the oil is inserted into the petroleum refining process along with normal petroleum refinery process streams. Recovered oil that is hazardous only because it exhibits the characteristic of ignitability and/or the toxicity characteristic for benzene is eligible for this exclusion. The recovered oil must not be speculatively accumulated or placed on the land prior to recycling into the petroleum refining process.

An “associated” organic chemical manufacturing facility is physically co-located with the refinery that provides hydrocarbon feedstocks to the manufacturing facility and recycles its recovered oil. “Petroleum recovered oil” includes secondary materials (like sludges, by-products, or spent materials), that are primarily oil, and that are generated from normal organic chemical manufacturing operations.

2.3.18 SPENT CAUSTIC SOLUTIONS FROM PETROLEUM REFINING

Spent caustic solutions from petroleum refining liquid treating processes are excluded from the definition of solid waste if they are used as a feedstock to produce cresylic or naphthenic acid. The spent caustics must not be placed on the land or speculatively accumulated prior to use as a feedstock.

2.3.19 SECONDARY MATERIALS USED TO MAKE ZINC FERTILIZER

Hazardous secondary materials used to make zinc micronutrient fertilizers are excluded from the definition of solid waste under certain conditions. Generators, intermediate handlers and

fertilizer manufacturers must store the excluded secondary materials in tanks, containers or buildings designed to prevent releases to the environment. Each must submit a one-time notice to the Department of their activities and maintain shipment records for at least three years. In addition, generators and intermediate handlers must provide written notice with each shipment to the receiving facility that the secondary materials are being managed under this exclusion. Fertilizer manufacturers must submit an annual report regarding all excluded hazardous material used to manufacture zinc fertilizer or zinc fertilizer ingredients that year. Hazardous secondary materials used to make zinc fertilizers must not be speculatively accumulated.

2.3.20 ZINC FERTILIZERS MADE FROM HAZARDOUS WASTE

Zinc fertilizers made from hazardous waste are also excluded from the definition of solid waste under certain conditions. The fertilizers must not exceed maximum concentration levels of five heavy metals and dioxin. The manufacturer must sample and analyze the fertilizer product on a specified basis to ensure that maximum contaminant levels are not exceeded, and analytical records must be maintained for at least three years.

2.4 DEFINITION OF HAZARDOUS WASTE [CHWR Section 261.3]

A solid waste is a hazardous waste if it has no commercial use or value and:

- It's not specifically excluded from regulation.
- It exhibits any of the characteristics of hazardous waste (ignitable, corrosive, reactive, toxic).
- It is a listed hazardous waste.
- It is a mixture of a solid waste and a hazardous waste.
- It is used oil with more than 1000 ppm total halogens.

A solid waste becomes a hazardous waste when it first meets the listing description in CHWR Part 261 Subpart D, when the waste first exhibits any of the characteristics in CHWR Part 261 Subpart C, or when a listed waste is first added to a solid waste. A solid waste will remain a hazardous waste unless and until it no longer exhibits any of the characteristics of hazardous waste and, in the case of a listed waste, it also has been excluded from regulation by a variance from the Colorado Solid and Hazardous Waste Commission. A solid waste that was hazardous only because it exhibited a characteristic of hazardous waste is not a hazardous waste if it no longer exhibits any hazardous waste characteristics at the point of disposal. A waste that is listed in CHWR Part 261 Subpart D solely because it exhibits one or more of the characteristics of ignitability, corrosivity or reactivity is not a hazardous waste if the waste no longer exhibits any hazardous waste characteristics at the point of disposal. These wastes may still be subject to the Land Disposal Restrictions of CHWR Part 268. Among other things, Part 268 prohibits the dilution of hazardous waste as a substitute for adequate treatment to avoid proper management and disposal of wastes exhibiting a characteristic of hazardous waste.

Generally, waste generated by the treatment, storage, or disposal of hazardous waste is also hazardous waste [“derived-from rule,” CHWR, Section 261.3(c)(2)]. There are five exclusions from the “derived-from rule”, unless the waste exhibits one or more hazardous waste characteristics. These include:

- Waste pickle liquor sludge generated by lime stabilization of spent pickle liquor from the iron and steel industry.
- Wastes from burning hazardous waste fuel produced or reclaimed from oil-bearing hazardous waste from petroleum refining, production, or transportation operations so long as the resulting fuel meets the used oil specifications in CHWR Part 279 and no other hazardous wastes were used to produce the fuel.
- Non-wastewater residues resulting from high temperature metals recovery processing of K061, K062, or F006 waste in specified units.
- Biological treatment sludge from the treatment of organic waste or wastewaters from the production of carbamates and carbamoyl oximes.
- Catalyst inert support media separated from spent hydrotreating catalyst and spent hydrorefining catalyst wastes.

2.5 HAZARDOUS WASTE EXCLUSIONS [CHWR Section 261.4 (b)]

Certain materials, while meeting the description of being a solid waste, are specifically excluded from being a hazardous waste. If a material is listed under Section 261.4(b), it is a solid waste, but not a hazardous waste, even if the material technically meets one or more listing descriptions and/or it exhibits a characteristic of hazardous waste (ignitable, corrosive, reactive, or toxic). If such an excluded waste is mixed with a listed or characteristic hazardous waste, it may no longer be excluded. Presently there are 14 exclusions of solid wastes from being hazardous wastes.

2.5.1 HOUSEHOLD WASTE

Household waste is exempt from the Colorado hazardous waste regulations. The term household waste refers to any garbage, trash, and sanitary waste from septic tanks derived from single and multiple residences, and other residential units such as hotels and motels. EPA expanded the definition of household wastes to include wastes from bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas. In order for household waste to be exempt from regulation, it must meet two criteria: the waste has to be generated by individuals on the premises of a household, and the waste must be composed primarily of materials found in the waste generated by consumers in their homes. This exclusion applies to all household waste, including household hazardous wastes normally found in household wastestreams such as paint cans, bug spray, and cleaning fluids. Although the collection, transportation, treatment, and disposal of household wastes are not subject to the hazardous

waste regulations, they are subject to federal, state, and local requirements concerning management of solid waste.

2.5.2 AGRICULTURAL WASTE

Solid wastes generated by crop or animal farming are excluded from hazardous waste regulation provided the wastes are returned to the ground as fertilizers or soil conditioners. Examples of such waste would be crop residues and manures. Congress did not intend to include silviculture waste (forestry waste such as foliage and branches) in this hazardous waste exclusion. As a result, generators of forestry waste need to determine whether their waste is hazardous.

2.5.3 MINING OVERBURDEN

Reclamation of surface mines commonly involves returning waste overburden (dirt, rocks) that is removed to gain access to the ore deposit in the mine. EPA excluded this waste since mining overburden is not a discarded material within the scope of RCRA. This exclusion is limited to overburden that is overlying a mineral deposit.

2.5.4 FOSSIL FUEL COMBUSTION WASTE

Fossil fuel combustion wastes are one of the many wastes EPA excluded from hazardous waste regulations until further studies could be done on the potential hazards posed by the common management practices used for these wastes. In order to accommodate effective study, fossil fuel combustion wastes were divided into two categories: large-volume coal-fired utility wastes and remaining wastes.

In 1993, EPA made the final regulatory determination on the first category, permanently excluding large-volume coal-fired utility wastes. This category includes fly ash, bottom ash, boiler slag, and flue gas emission control waste generated at electric utility and independent power producing facilities using coal that are not co-managed with low volume wastes.

In 2000, EPA published the final regulatory determination on the second category of wastes and concluded that these wastes do not warrant regulation under RCRA Subtitle C. Therefore, these wastes remain excluded under CHWR 261.4(b)(4). The wastes included in this decision were: large-volume coal combustion wastes generated at electric utility and independent power producing facilities that are co-managed together with certain other coal combustion wastes; coal combustion wastes generated by non-utilities; coal combustion wastes generated at facilities with fluidized bed combustion technology; petroleum coke combustion wastes; wastes from the combustion of mixtures of coal and other fuels (i.e., co-burning); wastes from the combustion of oil; and wastes from the combustion of natural gas. The 2000 decision also indicated that management under the Solid Waste regulations is warranted for both categories of coal combustion wastes disposed of in landfills or surface impoundments, and when these wastes are used for fill.

Low volume wastes that are not co-managed with large-volume coal combustion wastes, such as boiler blowdown, coal pile runoff, cooling tower blowdown, demineralizer regenerant and rinses,

metal and boiler cleaning wastes, pyrites, and sump effluents, are not included in either of these categories. Based on the original scope of the exclusion, they have always been subject to regulation as hazardous waste when managed independently.

Fossil fuel combustion wastes that are generated by co-processing raw materials and hazardous wastes are also exempt under this exclusion provided the wastes meet specific criteria outlined in CHWR 264.347.

2.5.5 OIL, GAS, AND GEOTHERMAL WASTES

After a study on the management, volume, and toxicity of waste generated by the exploration, development, and production of crude oil, natural gas, and geothermal energy, many of these wastes were permanently excluded by EPA from regulation as hazardous wastes. To be excluded, the waste must be associated with operations to locate or remove oil, gas or geothermal energy from the ground or to remove impurities from such substances and it must be intrinsic to and uniquely associated with oil, gas and geothermal exploration, development or production operations. Examples of excluded wastes include produced water, used drilling fluids, drill cuttings, used well completion, treatment and stimulation fluids, and workover wastes. Examples of nonexcluded wastes include unused fracturing fluids and service company wastes such as empty drums, spent solvents, spilled chemicals, and used oil.

EPA further clarified the scope of the exclusion by stating that wastes that have been brought to the surface during oil and gas exploration and production operations, or wastes that have otherwise been generated by contact with the oil and gas production stream during the removal of produced water or other contaminants, are generally covered by the exclusion, whether generated onsite by the principal operator or by a service company.

This exclusion ends once the product is transported from the exploration/production site and production-related activities cease. In the case of crude oil, a custody transfer of the oil or, in the absence of custody transfer, the end point of initial product separation of the oil and water (i.e. the point at which crude oil leaves the last vessel in the tank battery associated with the well or wells) defines the end of primary field operations and the beginning of transportation. For natural gas, primary field operations include those production-related activities at or near the wellhead and at the gas plant (regardless of whether or not the gas plant is at or near the wellhead), but prior to transport of the natural gas from the gas plant to market. Wastes generated at compressor stations and facilities located along the transportation and distribution network downstream from the gas plant are not covered by this exemption.

2.5.6 TRIVALENT CHROMIUM WASTES

Wastes from certain industries that exhibit the toxicity characteristic for chromium were excluded from regulation as hazardous wastes because specific industries petitioned EPA to exclude their wastes from the hazardous waste lists for the following reasons:

- The chrome they produce is nearly exclusively trivalent, which is not considered hazardous.

- Their process does not generate hexavalent chromium (a known carcinogen).
- The waste they produce is handled in a nonoxidizing environment (i.e., the trivalent chrome could not oxidize to hexavalent chrome).

EPA agreed with the data submitted by these industries and excluded three groups of wastes:

- Tannery wastes including chrome (blue) trimmings, shavings, buffing dust, sewer screenings, and wastewater treatment sludges from particular subcategories of the leather tanning and finishing industry (wastes fitting these descriptions had been listed as K053-K058, but these waste codes were subsequently deleted).
- Leather scrap wastes from the leather tanning, shoe manufacturing, and other leather manufacturing industries.
- Wastewater treatment sludges from the production of titanium oxide (TiO₂) pigment using chromium-bearing ores by the chloride process (waste fitting this description was listed as K074, but the waste code was subsequently deleted).

The exclusion is necessary despite the deletion of waste codes K053-K058 and K074 from the regulations because these wastes could still exhibit the toxicity characteristic for chromium, since the Toxicity Characteristic Leaching Procedure (TCLP) does not distinguish between hexavalent and trivalent chromium.

Only chromium-bearing wastes from these three industry groups discussed above automatically qualify for the exclusion. Other industries or individual generators who believe their wastes meet the same criteria must petition the Colorado Solid and Hazardous Waste Commission to be added to this exclusion or to delist their waste.

2.5.7 MINING AND MINERAL PROCESSING WASTES

When Congress enacted the Solid Waste Disposal Act of 1980, it added a section that created an exclusion from the definition of hazardous waste for wastes from the extraction, beneficiation, and processing of ores and minerals, pending further study on the hazards of these wastes and a final regulatory determination. EPA subsequently developed an exclusion for "solid waste from the extraction, beneficiation, and processing of ores and minerals (including coal), including phosphate rock, and overburden for the mining of uranium ore". This is one of the exclusions commonly referred to as a Bevill exclusion, named after a co-author of the statutory amendment, Congressman Bevill.

After studying these mining wastes, EPA concluded that regulation as hazardous waste was not appropriate. As a result, wastes from the extraction and beneficiation of ores and minerals remained exempt from hazardous waste management requirements. EPA limited the term beneficiation for the exemption to include only the following activities: crushing; grinding; washing; dissolution; crystallization; filtration; sorting; sizing; drying; sintering; pelletizing;

briquetting; calcining to remove waste and/or carbon dioxide; roasting, autoclaving, and/or chlorination in preparation for leaching (except where this produces a final or intermediate product that does not undergo further beneficiation or processing); gravity concentration; magnetic separation; electrostatic separation; flotation; ion exchange; solvent extraction; electrowinning; precipitation; amalgamation; and heap dump, vat, tank, and in situ leaching.

From 1980 until 1989, all wastes that met the descriptive definition of "...solid waste from the exploration, mining, milling, smelting and refining of ores and minerals" were considered exempt mineral processing wastes. In 1989, EPA published a rule that narrowed the scope of the exclusion as it applies to mineral processing by identifying and listing 25 excluded mineral processing wastes. Specifically, EPA finalized the exclusion for 5 mineral processing wastes and conditionally excluded 20 wastes pending additional studies. After completing a study of the remaining 20 wastes, EPA removed 5 of the wastes that had been subject to the 1989 conditional exclusion, bringing the total number of final excluded mineral processing wastes to 20. The excluded processing wastes include:

- Slag from primary copper processing.
- Slag from primary lead processing.
- Red and brown muds from bauxite refining.
- Phosphogypsum from phosphoric acid production.
- Slag from elemental phosphorus production.
- Gasifier ash from coal gasification.
- Process wastewater from coal gasification.
- Calcium sulfate wastewater treatment plant sludge from primary copper processing.
- Slag tailings from primary copper processing.
- Fluorogypsum from hydrofluoric acid production.
- Process wastewater from hydrofluoric acid production.
- Air pollution control dust/sludge from iron blast furnaces.
- Iron blast furnace slag.
- Treated residue from roasting/leaching of chrome ore.
- Process wastewater from primary magnesium processing by the anhydrous process.

- Process wastewater from phosphoric acid production.
- Basic oxygen furnace and open hearth furnace air pollution control dust/sludge from carbon steel production.
- Basic oxygen furnace and open hearth furnace slag from carbon steel production.
- Chloride process waste solids from titanium tetrachloride production.
- Slag from primary zinc processing.

EPA made special distinctions between extraction/beneficiation and mineral processing wastes. Wastes determined by EPA to be from the extraction/beneficiation of ores and minerals are covered by the exclusion, while wastes from mineral processing, except for the 20 wastes listed above, are subject to the hazardous waste regulations.

The beneficiation and processing of ores and minerals frequently occurs in industrial furnaces. These industrial furnaces may co-process ores and minerals with hazardous waste as feedstock. Residues from co-processing hazardous wastes with ores and minerals only remain exempt from hazardous waste regulation as long as more than 50 percent of the feedstock is primary ores and minerals, and as long as the hazardous waste portion of the feed does not significantly affect the concentrations of toxic compounds in the resulting residue. The beneficiation and mineral processing waste would remain exempt only if the residues were below levels established in CHWR 264.347.

2.5.8 CEMENT KILN DUST

Cement kiln dust is a fine-grained solid by-product generated by the control of particulate matter in stack emissions at cement production facilities. It is composed predominantly of substances present in the feed material and products of combustion, along with trace amounts of high-boiling point heavy metals that were not exhausted with gaseous emissions.

In 1995, EPA issued a final regulatory determination concluding that cement kiln dust required stricter management controls, but should not be placed under full hazardous waste regulation. At that time, EPA was expected to develop regulations for cement kiln dust under the joint authority of RCRA and the Clean Air Act. In 2002, EPA proposed a new approach where it would finalize proposed management standards under RCRA Subtitle D (solid waste) regulations. Until EPA develops these new regulatory controls, however, cement kiln dust remains exempt from all hazardous waste management requirements.

Often cement kilns combine fossil fuel with hazardous waste to heat the kilns. EPA is concerned about the industry's growing use of hazardous wastes as fuel and the potential impact this has on the character of the dust. Cement kiln dust generated in cement kilns which combine fossil and hazardous waste fuel do not automatically fall within the scope of the exclusion. The cement kiln dust would remain exempt under this exclusion only if the residues were below levels established in CHWR 264.347.

Cement kilns are subject to hazardous waste regulations regarding the storage of hazardous waste. Kilns that burn hazardous waste are also subject to the hazardous waste combustion requirements for boilers and industrial furnaces.

2.5.9 ARSENICALLY TREATED WOOD

A solid waste that consists of discarded arsenical-treated wood or wood products that fails the Toxicity Characteristic Leaching Procedure (TCLP) for D004 - D017 only, and is not hazardous for any other reason, is excluded from hazardous waste regulation. Once such treated wood is used, it may be disposed of by the user (commercial or residential) without being subject to hazardous waste regulation. This exclusion was granted in response to a petition from the American Wood Preserving Institute on the grounds that the use of arsenically treated wood in contact with the ground presents risks which are similar to land disposal of wood. Note that this exclusion applies only to end-users and not to manufacturers. Wastes generated by sawmills or facilities that apply the arsenic formulation to the wood are regulated under the hazardous waste regulations.

Although there is no specific regulatory exclusion, a similar situation applies to creosote-treated wood or wood products such as railroad ties and telephone poles. As long as they are not hazardous for any other reason, the treated wood is not likely to fail TCLP for cresols because of the extractive process required in the testing procedure. Most creosote-treated wood wastes are disposed of as nonhazardous solid wastes or recycled for other uses.

2.5.10 PETROLEUM-CONTAMINATED MEDIA AND DEBRIS FROM UNDERGROUND STORAGE TANKS (USTs)

EPA has deferred the application of the toxicity characteristic to petroleum-contaminated media and debris from underground storage tanks subject to 40 CFR Part 280 corrective action requirements and the equivalent Colorado Revised Statute Title 8 Article 20.5 [8-20.5-101 et seq CRS], and only to the 25 newly identified organic constituents (D018 through D043) under the toxicity characteristic in CHWR Section 261.24. This deferral does not apply to petroleum-contaminated media and debris from aboveground storage tanks or other surface spillage.

In order to fall under this exclusion, the waste must meet the specific criteria listed above. For example, this exclusion would not apply if soil failed the TCLP for lead (D008), since lead is not a newly identified waste under the TCLP. Rather, it would be subject to full hazardous waste regulation. On the other hand, if the soil only failed the TCLP for one of the new organic constituents, such as benzene (D018), the contaminated soil would not be a hazardous waste, but would be subject to the corrective action requirements under 40 CFR Part 280 and 8-20.5-101 et seq CRS and to the Colorado solid waste regulations.

2.5.11 USED CHLOROFLUOROCARBON REFRIGERANTS

Chlorofluorocarbons (CFCs) released to the atmosphere damage the ozone layer. To decrease the practice of venting used CFCs into the atmosphere in order to avoid regulation as hazardous

waste, EPA provided an exclusion of the toxicity characteristic rule to certain CFCs. These include used CFCs from totally enclosed heat transfer equipment including mobile air conditioning systems, mobile refrigeration, and commercial and industrial air conditioning and refrigeration systems that use CFCs as the heat transfer fluid in a refrigeration cycle, and only when the CFCs are reclaimed for reuse. It does not include CFCs used as solvents.

An example of this exclusion would be refrigerants containing CFC-11 that are likely to exhibit the toxicity characteristic for carbon tetrachloride or chloroform. If the spent refrigerants exhibited the toxicity characteristic for mercury (D009), a previously identified hazardous waste, they would be regulated as a hazardous waste. If the refrigerants failed the TCLP only for carbon tetrachloride (D019) or chloroform (D020), they would not be subject to hazardous waste regulations, as long as the refrigerants were being sent for reclamation.

Used oil includes heat transfer fluids such as refrigeration oils, which are sometimes contaminated with minor amounts of CFCs. Used oil contaminated with CFCs is not hazardous wastes if managed under the used oil management standards of CHWR Part 279. To be exempt from the rebuttable presumption, the used oil cannot be mixed with used oil from sources other than refrigeration units [CHWR Section 279.10 (b)(1)(ii)(B)].

2.5.12 USED OIL FILTERS

EPA has established an exclusion from the definition of hazardous waste for certain used oil filters. The exclusion is for non-terne plated used oil filters provided the filters are gravity hot-drained by one of the following methods:

- Puncturing the filter anti-drain back valve or the filter dome end and hot-draining (with this method, EPA recommends hot-draining for a minimum of 12 hours).
- Hot draining and crushing.
- Dismantling and hot-draining (EPA recommends separating each component and recycling it).
- Any equivalent method of hot-draining that will remove the oil.

Undrained used oil filters are not exempt. As a practical matter, if an oil filter is picked up by hand or lifted by machinery and used oil immediately drips or runs from the filter, the filter would not be considered drained. Properly drained non-terne plated used oil filters may be recycled or disposed of as solid wastes.

Terne plated used oil filters contain an alloy of tin and lead. They are not included in this exclusion because terne plated filters often exhibit the toxicity characteristic for lead (D008) and therefore are subject to hazardous waste regulation (i.e., a hazardous waste determination). A terne plated used oil filter that has been hot-drained using one of the methods listed above may be considered scrap metal, which is exempt from hazardous waste regulation when recycled.

The used oil filter exemption does not apply to fuel filters, transmission oil filters, or specialty filters such as cloth or railroad filters because EPA did not have sufficient quantitative data on these types of filters to include them in the categorical exemption. This exemption included only properly drained non-terne plated used oil filters used in light duty and heavy duty vehicles. A hazardous waste determination must be made on non-exempted used filters prior to disposal to determine whether the used filters exhibit any of the characteristics of hazardous waste. EPA guidance states that TCLP can be performed on used filters by crushing, grinding, or cutting the filter and its contents until the pieces are smaller than one centimeter and will pass through a 9.5 mm standard sieve. If the filters exhibit any of the characteristics of hazardous waste, the generator must manage them as hazardous waste and they cannot go to a solid waste landfill.

Used oil that is removed from filters is subject to regulation under 6 CCR 1007-3 Part 279 used oil management standards.

2.5.13 USED OIL DISTILLATION BOTTOMS

Distillation bottoms from the re-refining of used oil are exempted from regulation under the used oil management standards in CHWR Part 279 when the bottoms are used as ingredients in asphalt paving and roofing materials. EPA's decision not to regulate the bottoms is based on data indicating that these wastes do not exhibit the toxicity characteristic and that common industry practices are protective of human health and the environment.

2.5.14 CERTAIN LANDFILL LEACHATE AND GAS CONDENSATE

Landfill leachate and landfill gas condensate derived from wastes that were disposed of before the effective date of the listing, but that would now meet the listing description of one or more of the hazardous waste codes K169-K172, K174-K178 and K181 are deferred from the definition of hazardous waste provided their discharge is regulated under the Clean Water Act. These wastes cannot be managed in a surface impoundment prior to discharge unless the surface impoundment has a double liner and is only used to temporarily store landfill leachate or gas condensate in response to an emergency situation. The exclusion does not apply to landfill leachate or gas condensate that exhibits any of the characteristics of hazardous waste or is derived from any other listed hazardous waste.

2.6 RAW MATERIAL, PRODUCT AND PROCESS UNIT WASTE EXCLUSION [CHWR Section 261.4(c)]

Hazardous waste generated in raw material, product storage, or manufacturing process units is excluded from hazardous waste regulation until it exits the unit in which it was generated. These units include tanks, pipelines, vehicles, and vessels used in the manufacturing process or for storing raw materials or products. Surface impoundments are not included in this exclusion.

Once the waste is removed from the unit, the waste is considered to be generated and is subject to regulation. Thus, the generator accumulation standards apply once the waste is removed from a unit, or when a unit temporarily or permanently ceases operation for more than 90 days.

2.7 WASTE CHARACTERIZATION SAMPLE EXCLUSION [CHWR Section 261.4(d)]

Because samples are small, discrete amounts of hazardous waste that are essential to accurate characterization and proper hazardous waste management, samples of wastes are excluded from the requirements of CHWR Parts 262 through 266, 268, 100, and the notification requirements under Part 99 as long as they are being managed as analytical samples. Excluded samples include small amounts of solid waste, water, soil, or air that are collected and shipped for the sole purpose of determining hazardous waste characteristics or composition. Sample storage prior to sending it to the lab, transportation to the lab, storage at the lab before testing, testing of the sample, storage at the lab after testing but before return to the sample collector, and transportation from the lab back to the sample collector after testing are all excluded from hazardous waste regulation. Once the sample leaves this process, however, it is no longer exempt from RCRA regulation. If the laboratory disposes of the residual sample, the laboratory is the generator and must manage the waste appropriately. If the laboratory ships the residual sample back to the sample collector, the exemption ends as soon as the sample collector receives the materials. At that point, the material becomes a solid waste, potentially a hazardous waste, and the sample collector is the generator.

Although the sample is not regulated as a hazardous waste during the analytical process, it may be a hazardous material per the Department of Transportation regulations. When shipping the sample to or from the laboratory, the shipper must comply with all applicable Department of Transportation shipping requirements.

The lab sample exclusion is intended to apply to small samples (typically under one gallon). Even though the regulations do not specify a size limit, EPA has stated that typically no more than one gallon is needed to completely characterize a sample for purposes of compliance with the hazardous waste regulations or other federal, state, or local regulations.

2.8 TREATABILITY STUDY SAMPLE EXCLUSION [CHWR Sections 261.4(e) & (f)]

Various industry groups and individuals expressed concern that the waste characterization sample exclusion was too restrictive. In response to these comments, EPA developed regulations for waste samples used in small-scale waste treatability studies. Treatability studies are used to determine information such as whether a treatment process is efficient, or what types of wastes remain after the treatment is complete. Treatability samples are exempt from the requirements of Parts 261 through 263 and the notification requirements of Part 99 of the Colorado Hazardous Waste Regulations, as long as the provisions in Sections 261.4(f)(1) through (14) are met. These requirements include quantity and time limitations, packaging and labeling requirements, recordkeeping requirements, and shipment to a qualified facility. Activities that are excluded from regulation as hazardous waste include:

- Storage of the treatability sample prior to sending it to the testing facility.
- Transportation to the testing facility.

- Storage at the testing facility before testing.
- Testing of the sample.
- Storage at the testing facility after testing but before return to the sample collector.
- Transportation from the testing facility back to the sample collector after testing.

Once the sample leaves this process, it is no longer exempt from RCRA regulation. If the testing facility doesn't return the excess sample and/or treatment residues to the sample collector within the required time frame or if they dispose of the excess sample and/or treatment residues, the testing facility is the generator and must manage the waste appropriately. If the testing facility ships the excess back to the sample collector, the exemption ends as soon as the sample collector receives the materials. At that point, the material becomes a solid waste, potentially a hazardous waste, and the sample collector is the generator.

Although the sample is not regulated as a hazardous waste during the testing process, it may be a hazardous material per the Department of Transportation regulations. When shipping the sample to or from the testing facility, the shipper must comply with all applicable Department of Transportation shipping requirements.

2.9 DREDGED MATERIAL EXCLUSION [CHWR Section 261.4(g)]

Dredging large volumes of sediment from waterways is a common practice used to maintain navigable waterways, ports and marinas. In order to avoid duplicative regulation, dredged material subject to a permit that has been issued under Section 404 of the Clean Water Act or Section 103 of the Marine Protection, Research, and Sanctuaries Act is excluded from the definition of hazardous waste.

3.0 PETITIONS TO THE COMMISSION [CHWR Subpart C]

Any person may petition the Colorado Solid and Hazardous Waste Commission for regulatory relief from the hazardous waste regulations. The types of potential petitions include requests to:

- Modify or revoke any provision in CHWR Parts 260-268 and 273.
- Add an equivalent testing or analytical method.
- Exclude a specific waste or waste-derived material at a particular facility from regulation.
- Amend Part 273 to include additional hazardous wastes as universal wastes.

The petition process requires the petitioner follow a formal procedure as described in CHWR Part 260 Subpart C. The petitioner must demonstrate to the satisfaction of the Commission that their petition meets the requirements of the applicable regulatory section and that the planned

activities don't pose an unacceptable environmental risk. After due consideration of the request, the Commission will make a tentative decision to grant or deny the petition and will publish notice in the Colorado Register for written public comment. After evaluating all public comments, the Commission will make a final decision by publishing a regulatory amendment or a denial of the petition in the Colorado Register.

The Department may grant a variance from classifying a material as a solid waste or from classifying a particular unit as a boiler using a similar procedure. In the case of a variance, however, the notice will be provided by newspaper advertisement or radio broadcast in the locality where the facility is located. After evaluating all public comments, the Department will issue a final decision on the variance.

Since this process can be rather intensive, the petitioner should ensure that the cost and effort they put into the petition process can be justified by the benefits of a successful petition. They should also ensure that they understand the scope and limitations of their petition, if granted.

4.0 SPECIAL ISSUES

Although the scope of the exclusions is usually straightforward, there are many issues requiring clarification beyond the regulatory or statutory descriptions of the exclusions.

4.1 FEDERALLY OWNED TREATMENT WORKS

The original exclusion for domestic sewage and mixtures of domestic sewage only applied to wastes that passed through a sewer system to a publicly owned treatment works. However, the Federal Facilities Compliance Act of 1992 amended RCRA's statutory language to include solid or dissolved material introduced by a source into a federally owned treatment works if they comply with three requirements:

- The federally owned treatment works (FOTW) must be treating primarily domestic sewage before discharge under a point source discharge permit.
- The hazardous waste mixed into the domestic sewage must be subject to and meet a pretreatment standard under the Clean Water Act before discharge to the FOTW sewer OR meet land disposal restriction treatment standards and not be prohibited from land disposal before discharge to the FOTW sewer OR be generated by households or conditionally exempt small quantity generators and not be acutely hazardous.
- The hazardous waste must only be sent to the FOTW via mixing into domestic sewage flowing to the FOTW.

This expanded the scope of the exclusion to include both publicly owned treatment works and federally owned treatment works.

4.2 HOUSEHOLD HAZARDOUS WASTE COLLECTION PROGRAMS

Household hazardous wastes are solid wastes that are exempt from the definition of hazardous waste, but are still subject to the requirements of the Colorado solid waste regulations. This exclusion extends to those who collect household hazardous waste, either in community collection programs or private sector collection programs. Household hazardous waste that is mixed with commercial or industrial hazardous wastes, however, is subject to full regulation as hazardous wastes if the waste streams can no longer be differentiated. In addition, Comprehensive Environmental Response, Compensation & Liability Act (CERCLA) liability may exist for persons managing household hazardous wastes that contain a hazardous substance as defined by CERCLA, even if it is not within the definition of a RCRA hazardous waste.

4.3 MUNICIPAL WASTE COMBUSTION ASH

Municipal waste combustion ash generated by waste-to-energy facilities burning household waste and nonhazardous commercial and industrial waste is not exempt from hazardous waste regulations based on a judicial interpretation of RCRA Section 3001(i). The court stated that even though the waste-to-energy facilities remain exempt from hazardous waste requirements as a treatment, storage, or disposal facility, the ash they produce is subject to hazardous waste determination under the hazardous waste regulations.

5.0 CONTACT INFORMATION

24-hour Emergency Spill/Release Reporting Line (toll-free).....	(877) 518-5608
Colorado Department of Public Health and Environment	(303) 692-2000
Hazardous Materials and Waste Management Division	(303) 692-3300
Customer Technical Assistance Line	(303) 692-3320
Customer Technical Assistance Line toll-free	(888) 569-1831 ext. 3320
For an EPA I.D. Number	(303) 692-3360
Pollution Prevention Program	(303) 692-2977

Send Questions in Writing to:

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

OR

FAX (303) 759-5355

OR

Email address: **comments.hmwmd@state.co.us**

Please provide as much detail as possible regarding your question and the waste or process to which it applies.

Web Sites:

Hazardous Materials & Waste Management Division (including guidance documents)
<http://www.cdphe.state.co.us/hm/>

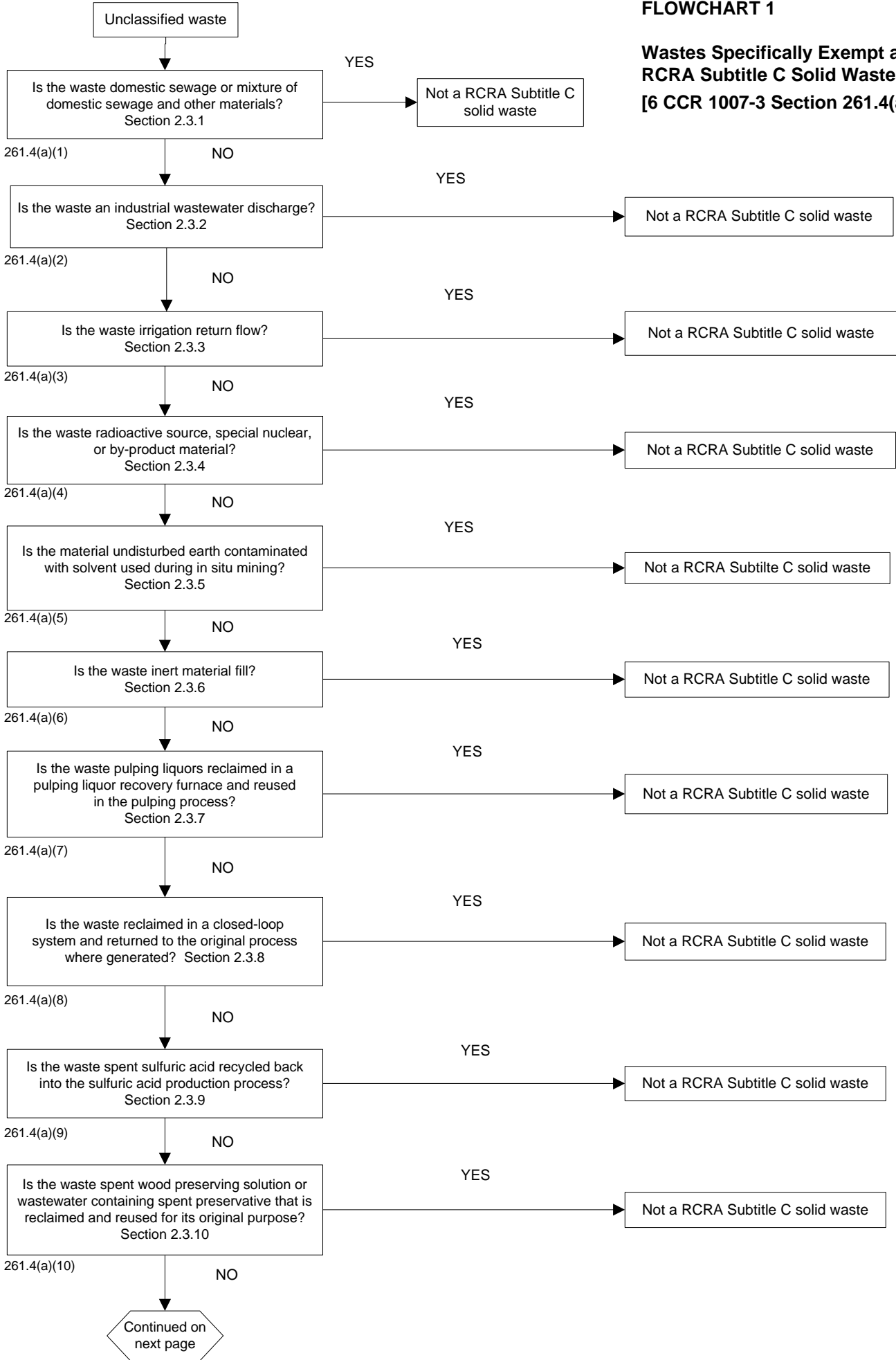
Hazardous Materials & Waste Management Division Regulations
<http://www.cdphe.state.co.us/hm/hmregulations.htm>

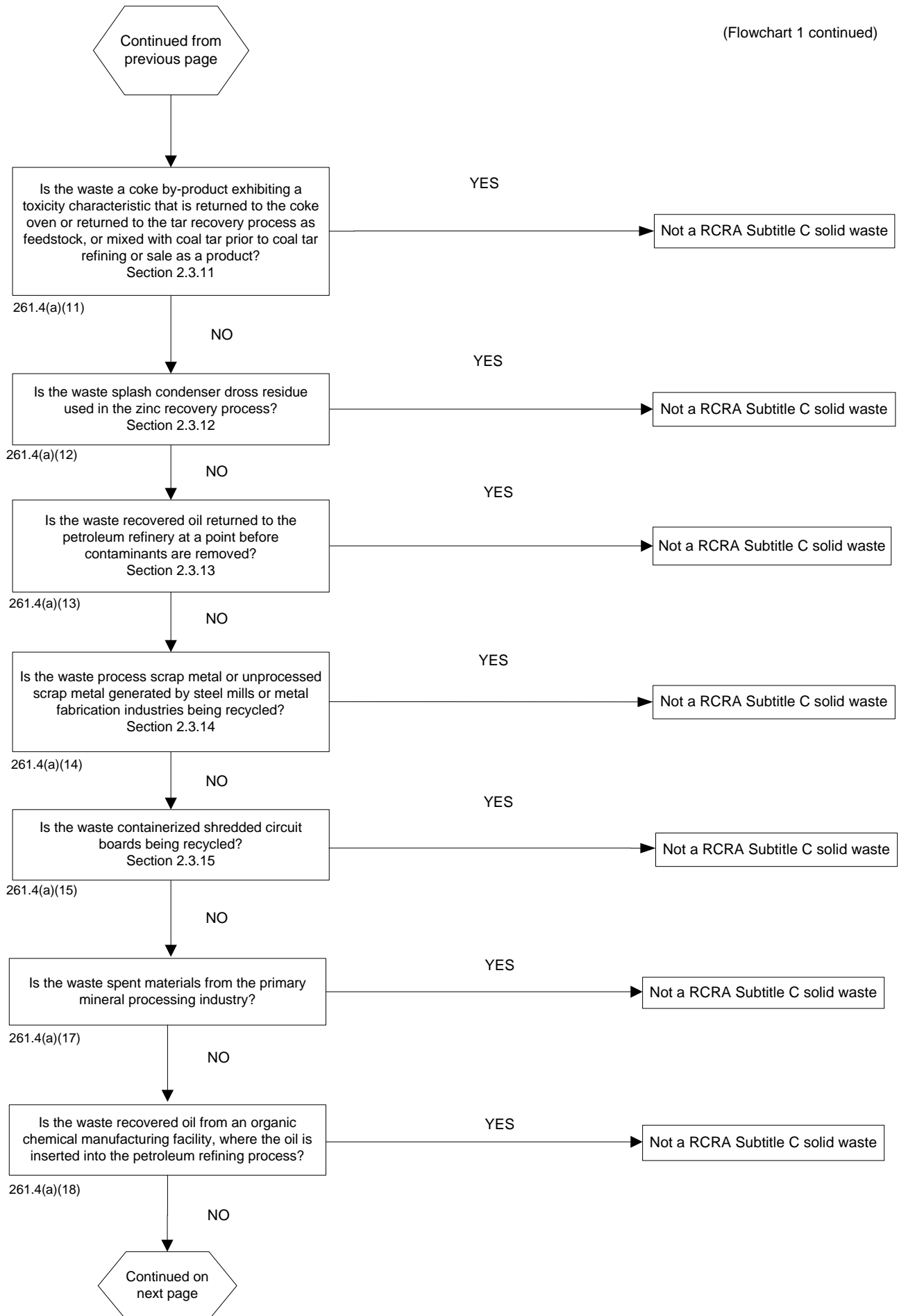
Solid and Hazardous Waste Commission
<http://www.cdphe.state.co.us/op/hwc/>

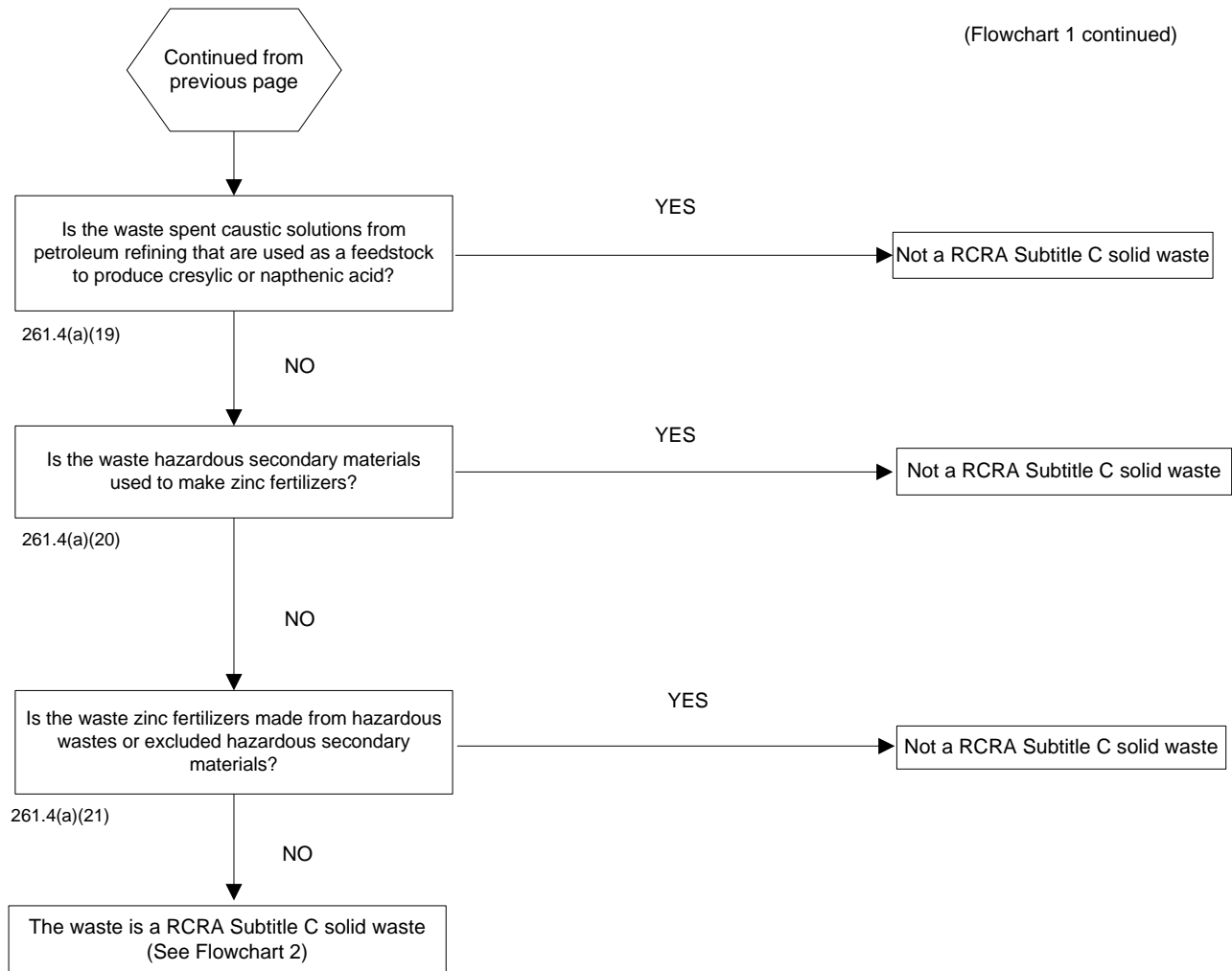
Colorado Department of Public Health and Environment
<http://www.cdphe.state.co.us/>

FLOWCHART 1

Wastes Specifically Exempt as RCRA Subtitle C Solid Wastes [6 CCR 1007-3 Section 261.4(a)]







Key

Is the waste an industrial wastewater discharge?
Section 2.3.2

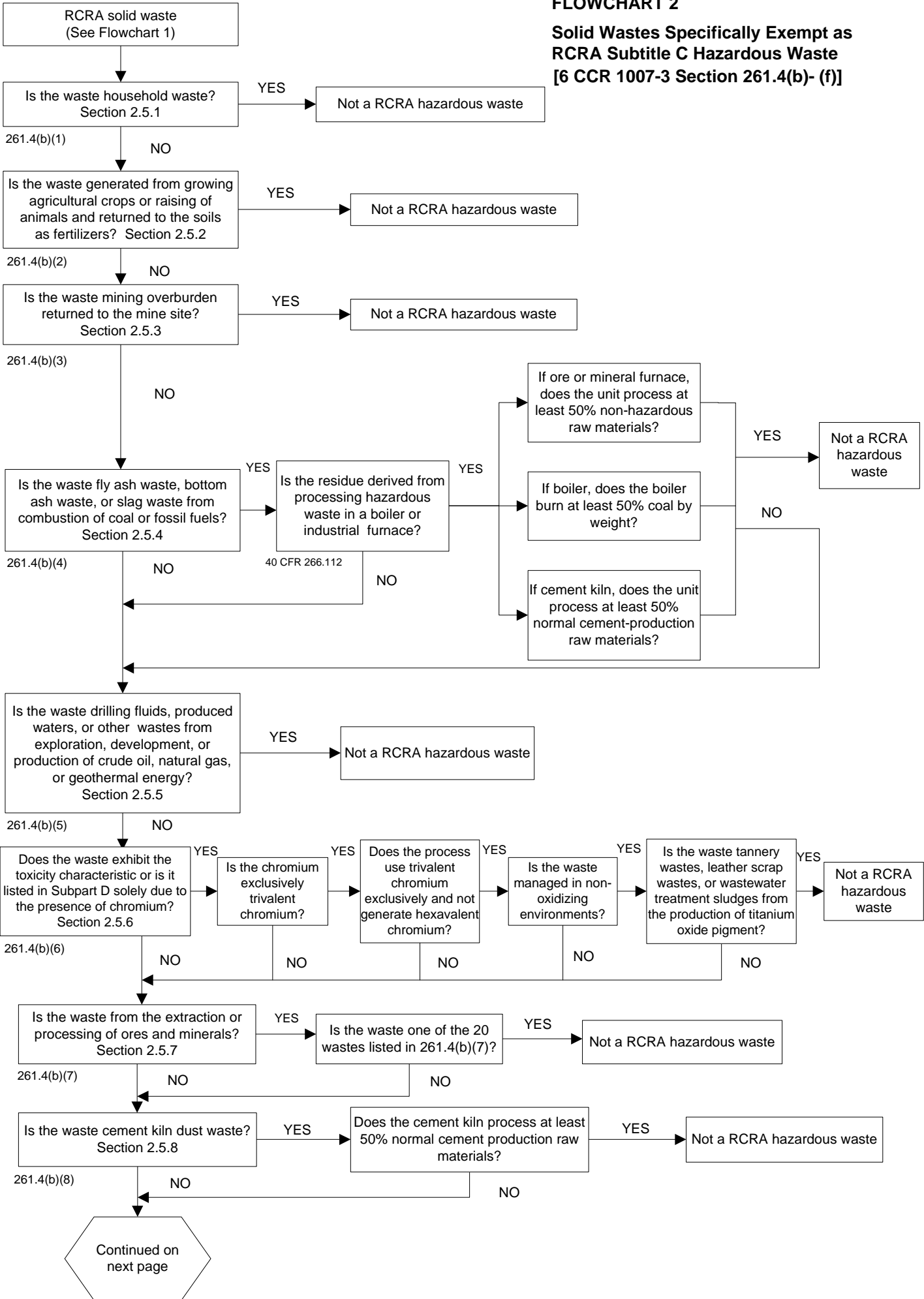
261.4(a)(2)

← Refers to the Colorado Hazardous Waste Regulations 6 CCR 1007-3

← Refers to the "CDPHE Solid Waste Definition and Solid and Hazardous Waste Exclusions Guidance Document"

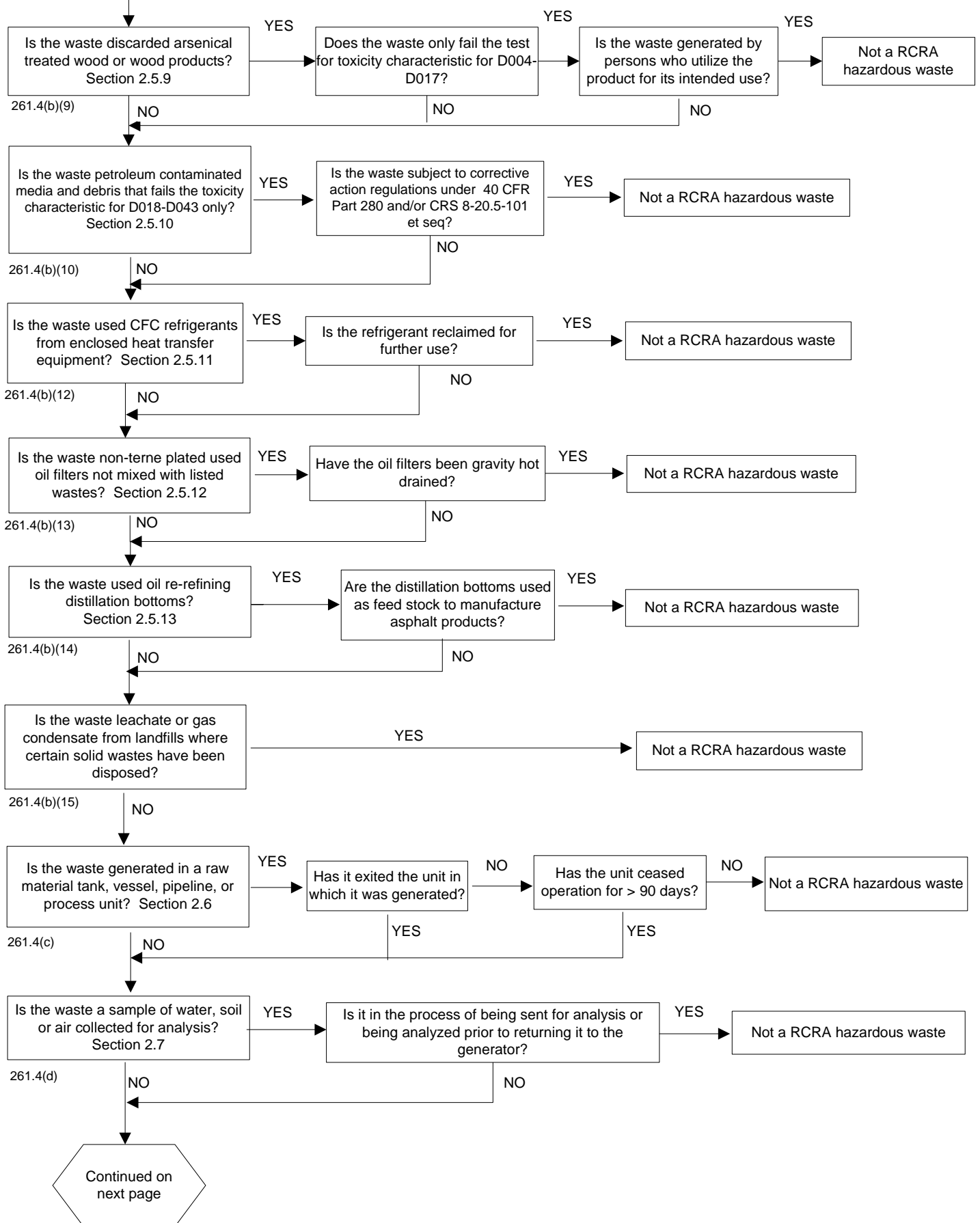
Note: Wastes that are not regulated as RCRA Subtitle C solid or hazardous wastes may be regulated under other statutes and/or regulations such as the Colorado Solid Waste Regulations, Colorado Water Quality Control Regulations, Colorado Radiation Control Regulations, Atomic Energy Act, and Clean Water Act.

FLOWCHART 2
Solid Wastes Specifically Exempt as
RCRA Subtitle C Hazardous Waste
[6 CCR 1007-3 Section 261.4(b)- (f)]



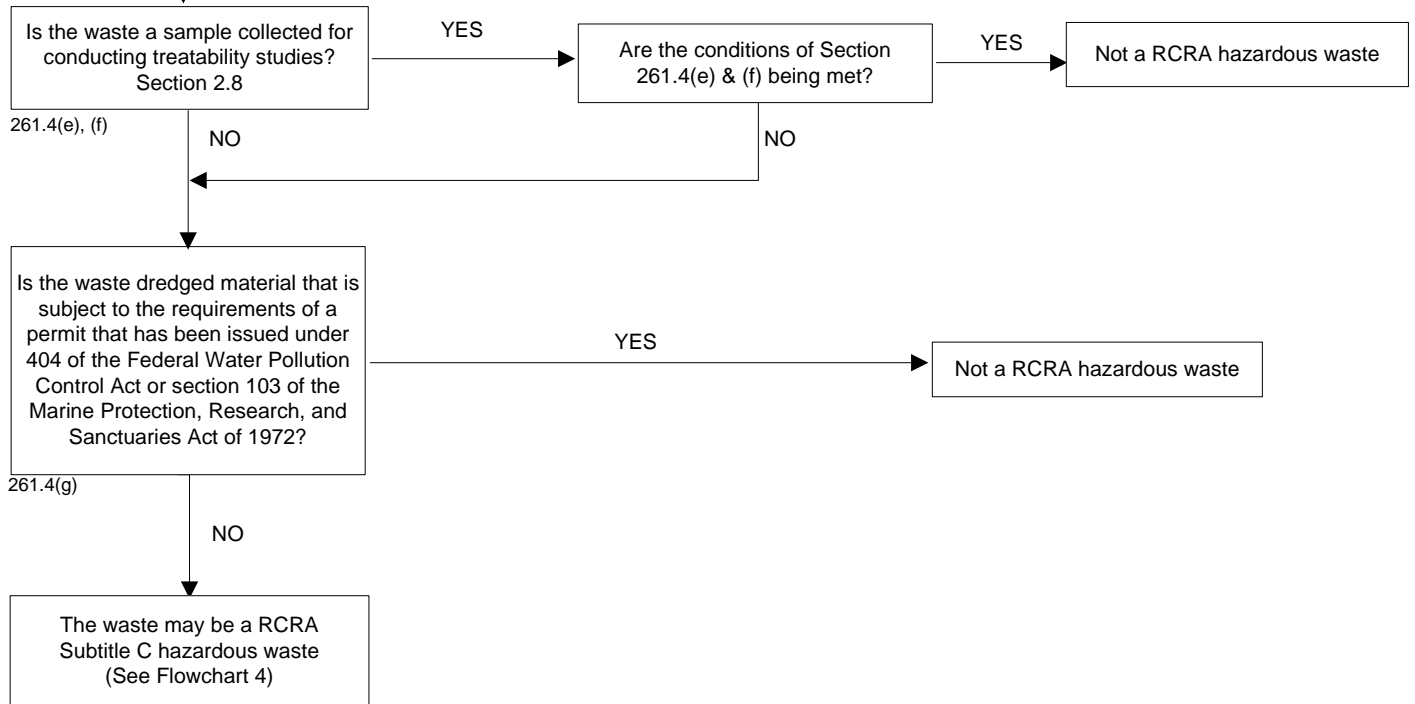
Continued from previous page

(Flowchart 2 continued)



Continued from previous page

(Flowchart 2 continued)



Key

Is the waste cement kiln dust waste?
Section 2.5.8

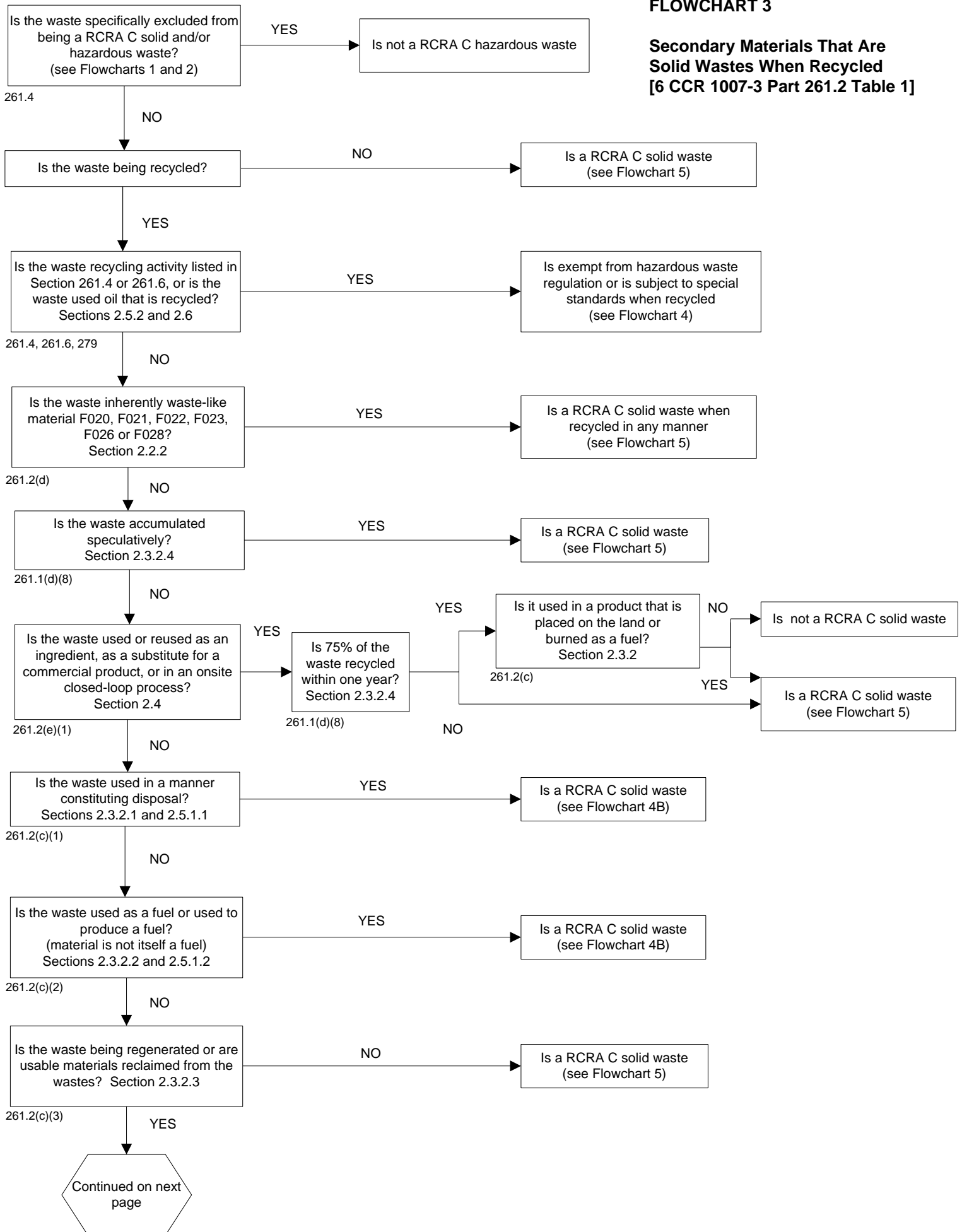
Refers to the "CDPHE Solid Waste Definition and Solid and Hazardous Waste Exclusions Guidance Document"

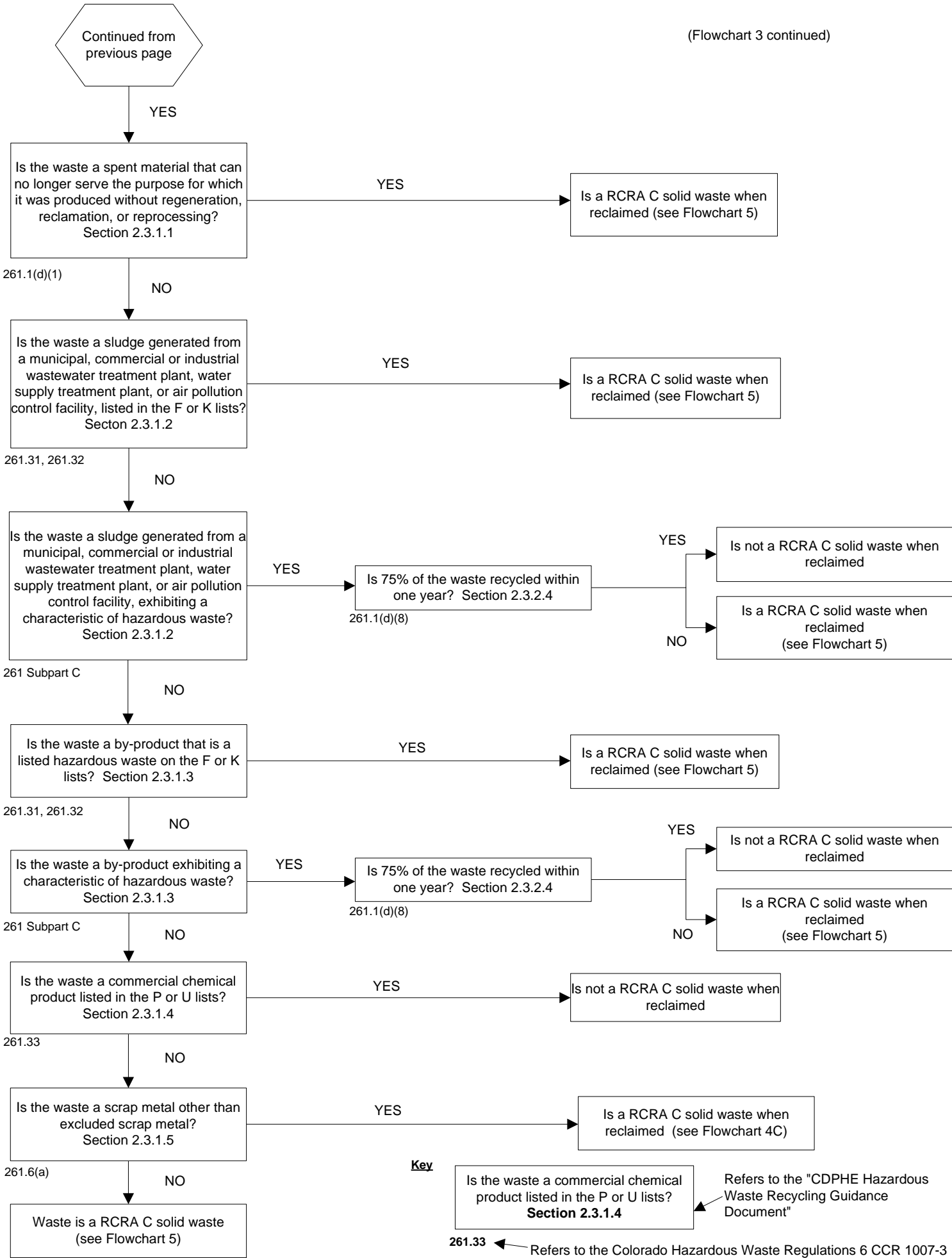
261.4(b)(8)

Refers to the Colorado Hazardous Waste Regulations 6 CCR 1007-3 unless otherwise noted

FLOWCHART 3

Secondary Materials That Are Solid Wastes When Recycled [6 CCR 1007-3 Part 261.2 Table 1]

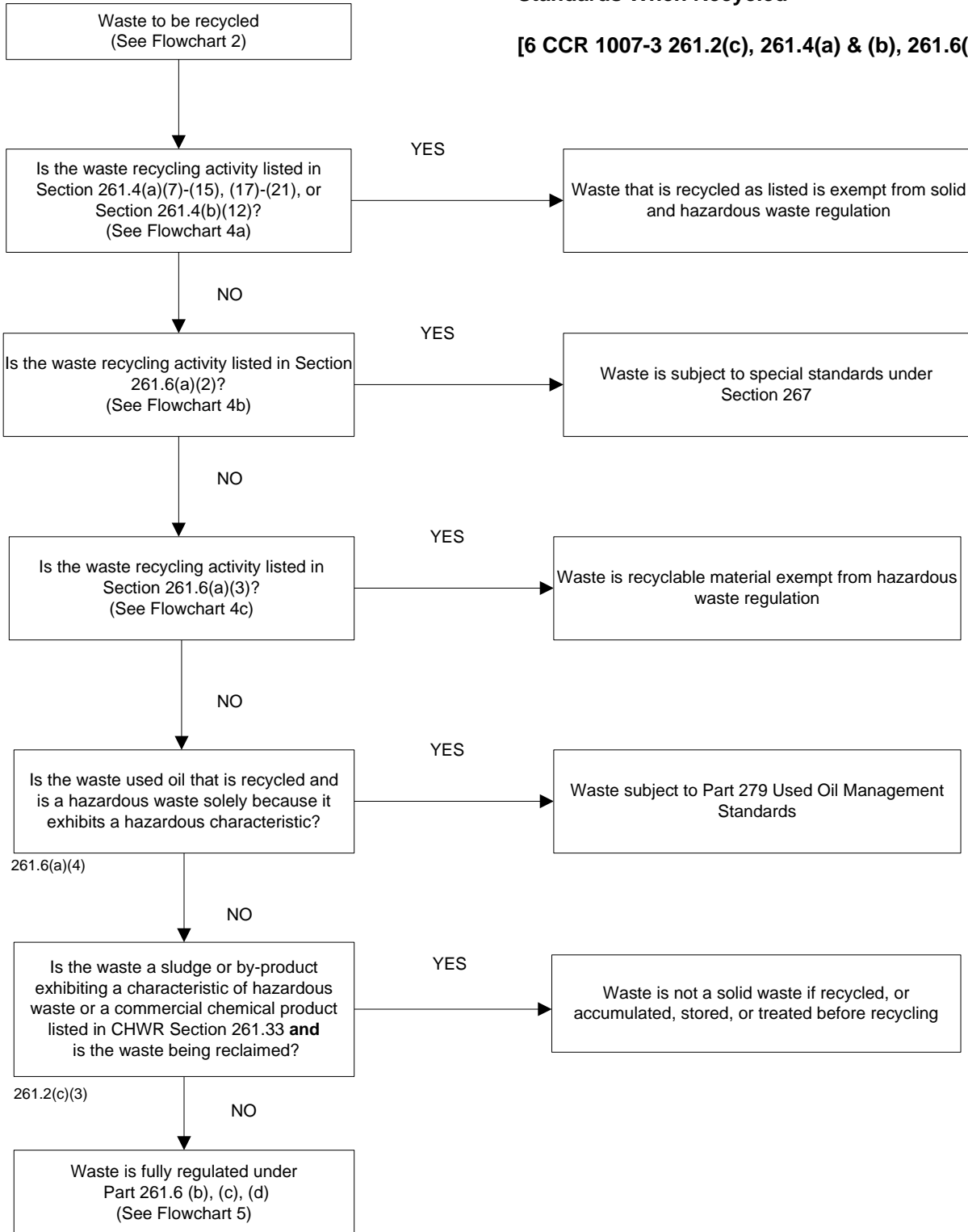




FLOWCHART 4

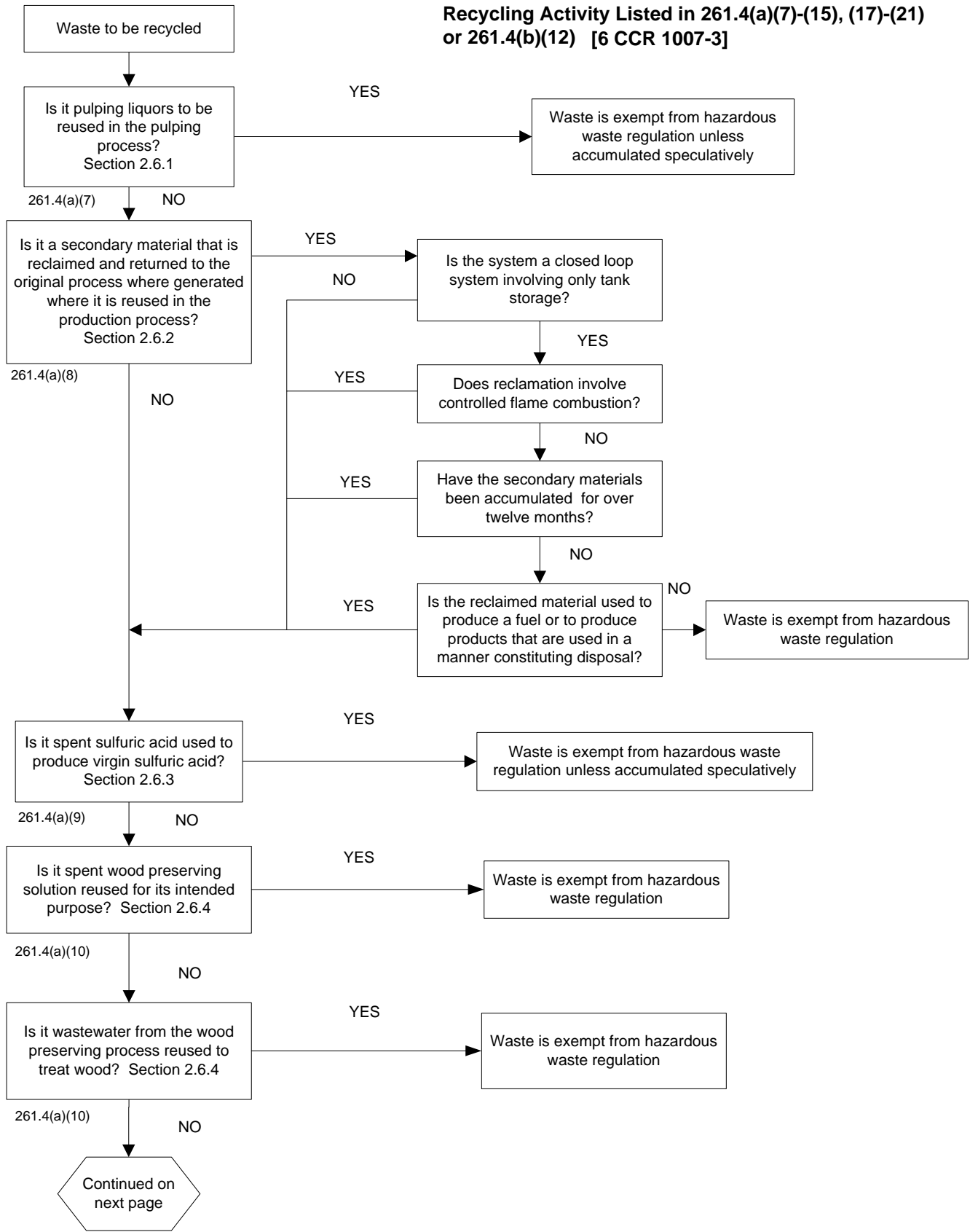
Solid Wastes Specifically Exempt as Hazardous Wastes or Subject to Special Standards When Recycled

[6 CCR 1007-3 261.2(c), 261.4(a) & (b), 261.6(a)]



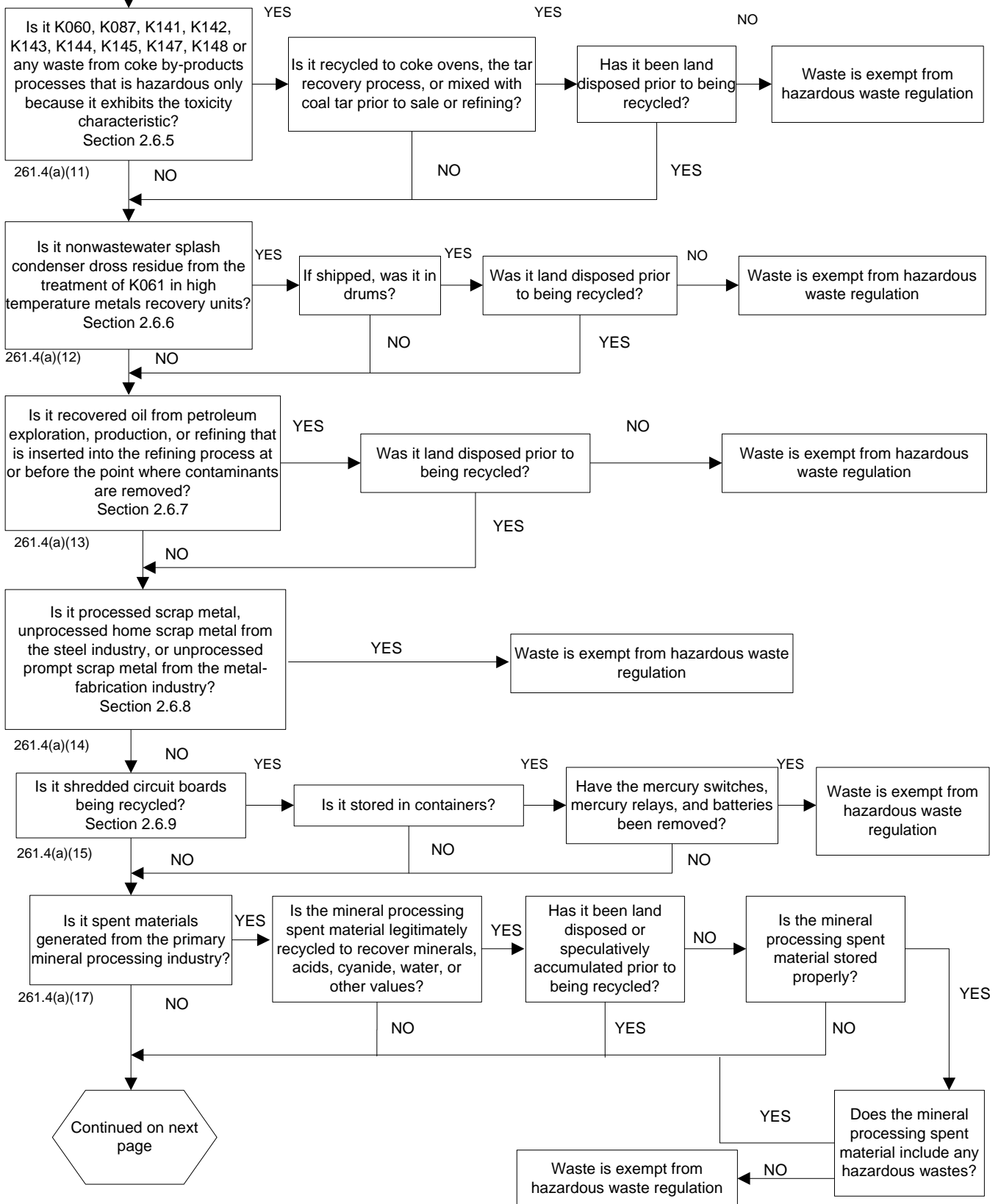
FLOWCHART 4A

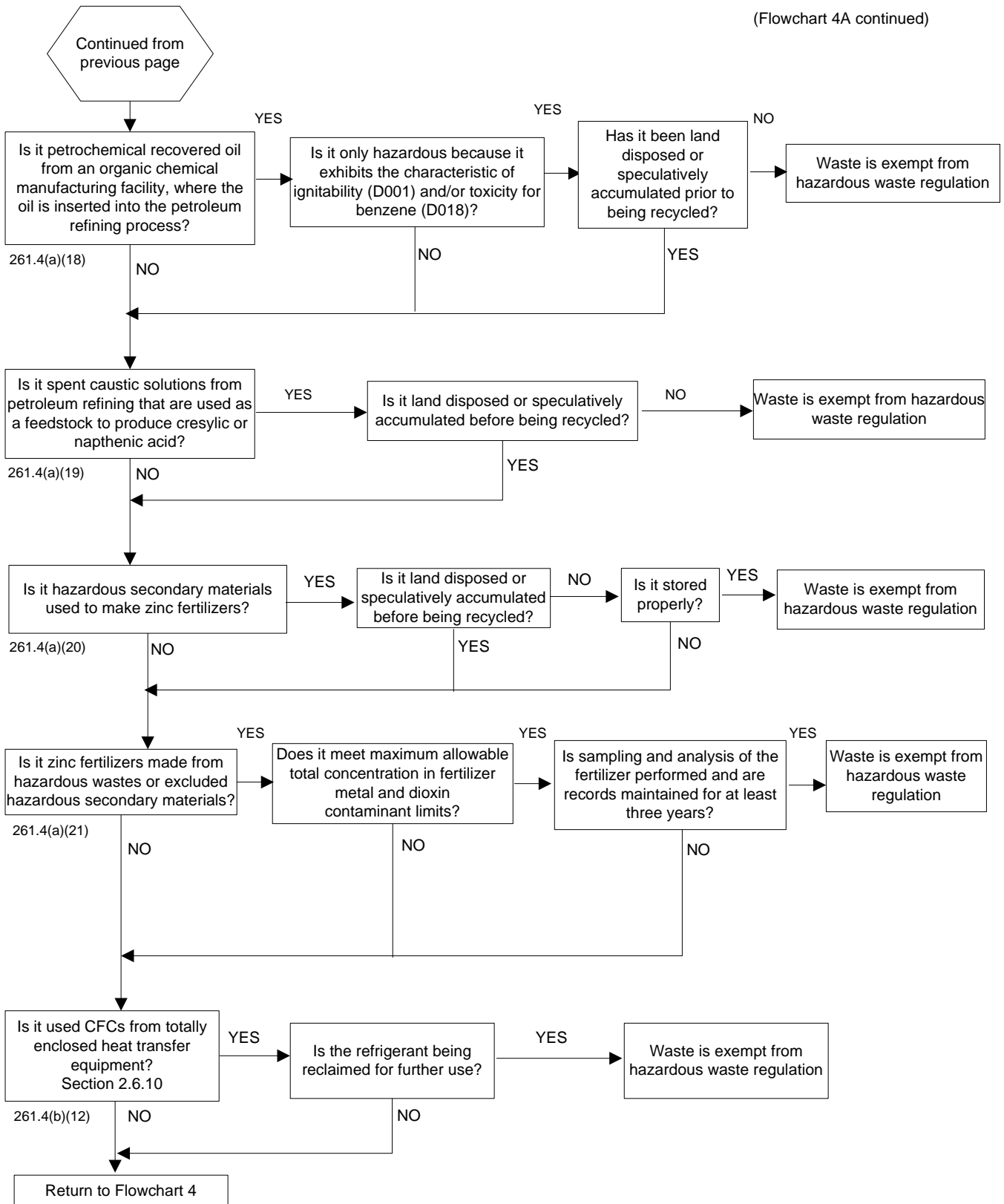
Recycling Activity Listed in 261.4(a)(7)-(15), (17)-(21) or 261.4(b)(12) [6 CCR 1007-3]



Continued from previous page

(Flowchart 4A continued)





Key

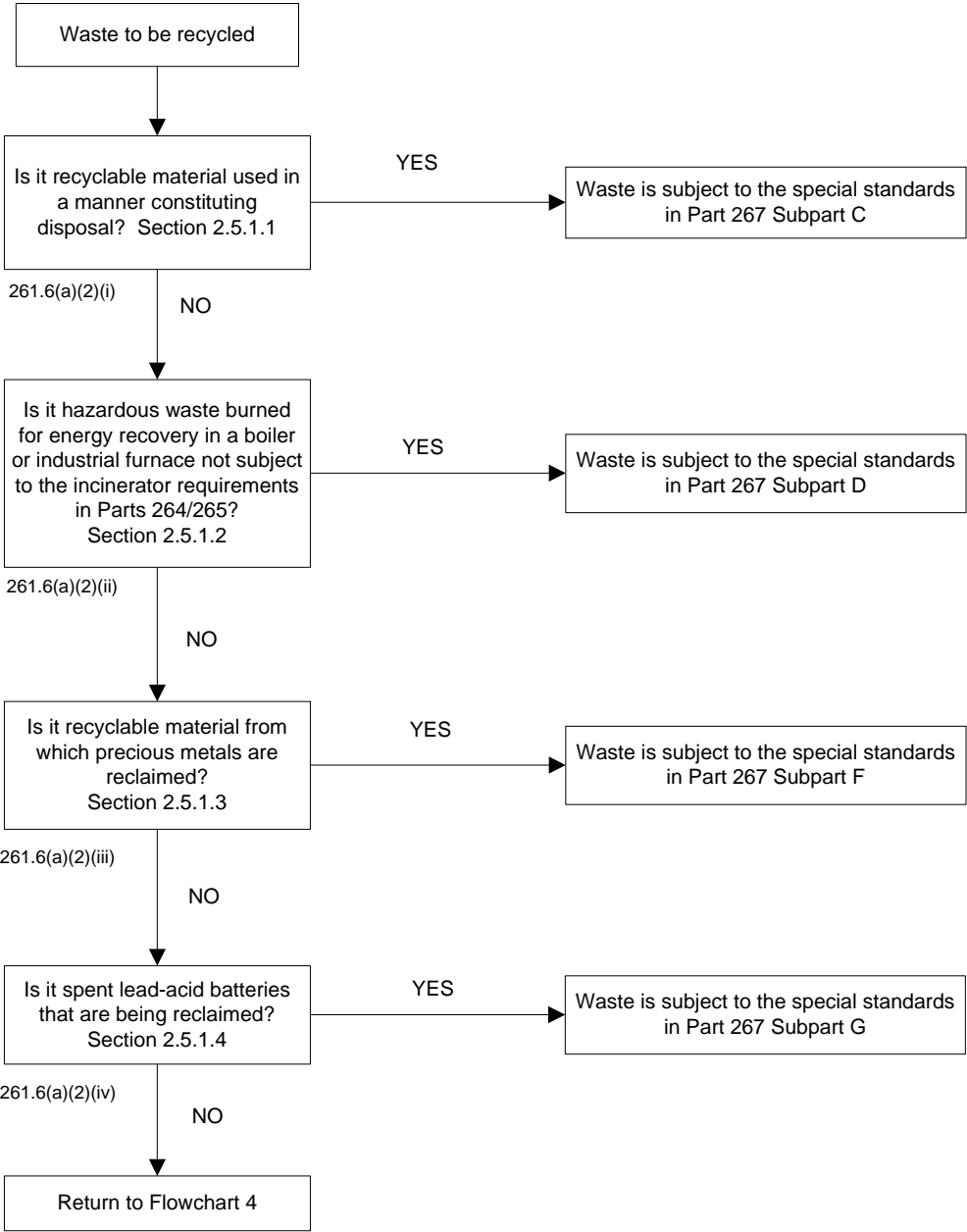
Is it spent sulfuric acid used to produce virgin sulfuric acid?
Section 2.6.3

Refers to the "CDPHE Hazardous Waste Recycling Guidance Document"

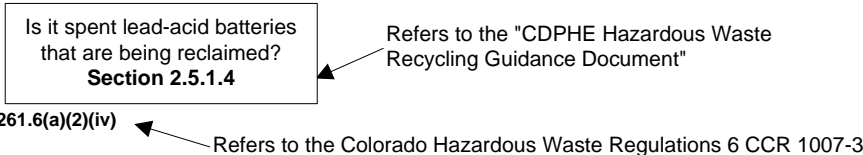
261.4(a)(9) ← Refers to the Colorado Hazardous Waste Regulations 6 CCR 1007-3

FLOWCHART 4B

**Recycling Activity Listed in 261.6(a)(2)
[6 CCR 1007-3]**

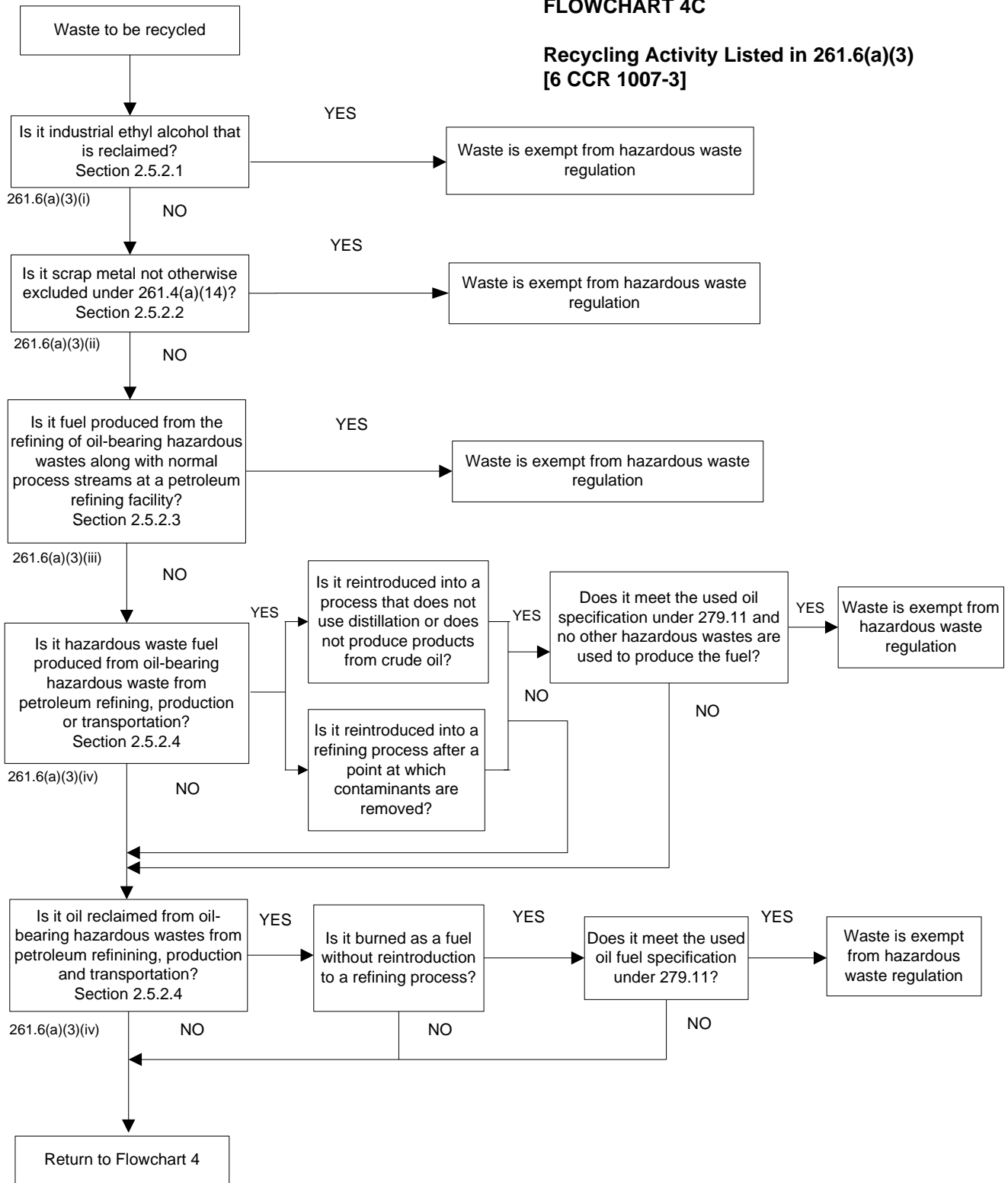


Key



FLOWCHART 4C

**Recycling Activity Listed in 261.6(a)(3)
[6 CCR 1007-3]**



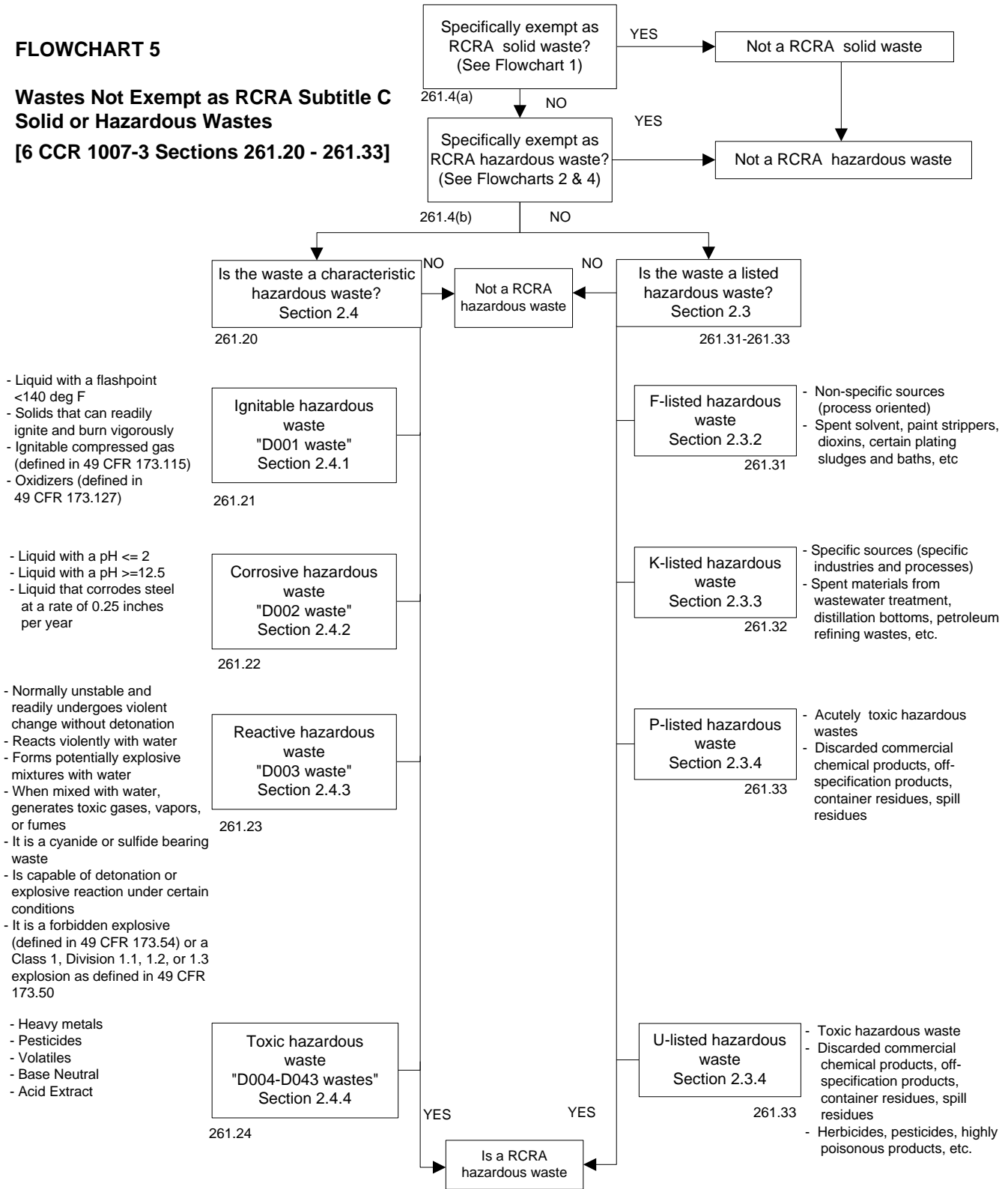
Key

Is it industrial ethyl alcohol that is reclaimed?
Section 2.5.2.1 ← Refers to the "CDPHE Hazardous Waste Recycling Guidance Document"

261.6(a)(3)(i) ← Refers to the Colorado Hazardous Waste Regulations 6 CCR 1007-3

FLOWCHART 5

Wastes Not Exempt as RCRA Subtitle C Solid or Hazardous Wastes
[6 CCR 1007-3 Sections 261.20 - 261.33]



Key

Note: More than one waste code may apply to a single waste.

Is the waste a characteristic hazardous waste? Section 2.4 ← Refers to the "CDPHE Hazardous Waste Identification Guidance Document"

261.20 ← Refers to the Colorado Hazardous Waste Regulations 6 CCR 1007-3