



RCRA DEFINITION OF SOLID WASTE

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WHAT WE WILL TALK ABOUT TODAY



- The many factors that go into determining which materials are (and are not) “solid wastes” under RCRA.
- Important because in order to be regulated as a hazardous waste, a waste must first be a “solid waste” under RCRA.
- Focus is on federal (EPA) rules. CT’s state rules are different in some ways (see notes on slides).
- Definition of “solid waste” as described here isn’t relevant to state or federal solid waste regulations, just to RCRA Subtitle C (Hazardous Waste).

DEFINITION OF HAZARDOUS WASTE

- 40 CFR 261.3(a) – definition of hazardous waste:
 - (a) A solid waste, as defined in §261.2, is a hazardous waste if:
 - (1) It is not excluded from regulation as a hazardous waste under §261.4(b); and
 - (2) It meets any of the following criteria:
 - (i) It exhibits any of the characteristics of hazardous waste ...
or
 - (ii) It is listed in subpart D of this part (i.e., §§261.31 – 261.33).



HORSE OR CART FIRST?



- The language on the previous page and in EPA guidance suggests that one should first determine if a waste is exempt, and then determine if it's a solid and hazardous waste.
- The problem with this approach is that a person might not know that a waste is potentially hazardous, and might mismanage it if a change in how it is managed disqualifies the exemption.
 - Example: A CT company's baghouse was exempt when sent to a metals reclaimer, but fully regulated when sent to a fertilizer manufacturer.
- It's advisable to determine if something is potentially hazardous waste first, then you can be aware about the ramifications of even subtle changes in the management of the waste.

WHAT IS A “SOLID WASTE”?

- 40 CFR 261.1(a)(1):

A solid waste is any discarded material that is not excluded under §261.4(a) ...

- 40 CFR 261.1(a)(2):

A discarded material is any material which is:

- (A) Abandoned, as explained in paragraph (b) of this section; or
- (B) Recycled, as explained in paragraph (c) of this section; or
- (C) Considered inherently waste-like, as explained in §261.2(d); or
- (D) A military munition identified as a solid waste in §266.202.



DEFINITION OF “ABANDONED”

- 40 CFR 261.2(b):

Materials are solid waste if they are abandoned by being:

(1) Disposed of;

(2) Burned or incinerated;

- Fuel to fuel exemption (40 CFR 261.2(c)(2)(ii).

(3) Accumulated, stored, or treated (but not recycled) before or in lieu of being abandoned by being disposed of, burned or incinerated; or

(4) Sham recycled (40 CFR 261.2(g) and 260.43).



DEFINITION OF “RECYCLED”



- Definition of “recycled” in §261.1(c)(7):

A material is “recycled” if it is used, reused, or reclaimed.

- Definition of “used or reused” in §261.1(c)(5):

A material is “used or reused” if it is either:

(i) Employed as an ingredient (including use as an intermediate) in an industrial process to make a product (for example, distillation bottoms from one process used as feedstock in another process). However, a material will not satisfy this condition if distinct components of the material are recovered as separate end products (as when metals are recovered from metal-containing secondary materials); or

(ii) Employed in a particular function or application as an effective substitute for a commercial product (for example, spent pickle liquor used as phosphorous precipitant and sludge conditioner in wastewater treatment).

SPECIFIC TYPES OF RECYCLING



- 40 CFR 261.2(c):

Materials are solid wastes if they are recycled – or accumulated, stored, or treated before recycling – as specified in paragraphs (c)(1) through (4) of this section.

(1) Used in a manner constituting disposal;

(2) Burned for energy recovery;

(3) Reclaimed; or

(4) Accumulated speculatively prior to being recycled.

- Use/reuse – formerly 40 CFR 261.2(e).

DEFINITIONS OF “RECLAIMED” AND “ACCUMULATED SPECULATIVELY”



- Definition of “reclaimed” in §261.1(c)(4):

A material is “reclaimed” if it is processed to recover a usable product, or if it is regenerated. Examples are recovery of lead values from spent batteries and regeneration of spent solvents.

- Definition of “accumulated speculatively” in §261.1(c)(8):

A material is “accumulated speculatively” if it is accumulated before being recycled. A material is not accumulated speculatively, however, if the person accumulating it can show that the material is potentially recyclable and has a feasible means of being recycled; and ... [in CT – maximum of one year of storage].

“SECONDARY MATERIALS”



- This term is not officially defined in §261.2.
- “Hazardous secondary material” is defined in §260.10 for the DSW Rule.
- A term that is broader than “hazardous waste,” or “solid waste,” – it includes materials that are neither, and may or may not be subject to RCRA.
- Includes:
 - Spent materials.
 - Sludges.
 - By-Products (default secondary material category if none of the others apply).
 - Commercial chemical products.
 - Scrap metal.



SECONDARY MATERIAL DEFINITIONS

- “Spent material” – 40 CFR 261.1(c)(1): “any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing.”
- “Sludge” – 40 CFR 261.1(c)(2), referencing the definition in 40 CFR 260.10: “any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant.”
- “By-product” – 40 CFR 261.1(c)(3): “a material that is not one of the primary products of a production process and is not solely or separately produced by the production process. Examples are process residues such as slags or distillation column bottoms. The term does not include a co-product that is produced for the general public's use and is ordinarily used in the form it is produced by the process.”
- “Scrap metal” – 40 CFR 261.1(c)(6): “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.”

40 CFR 261.2 Table 1:

- Materials marked with a (*) are solid waste when recycled.
- Materials marked with a (-) are not solid waste when recycled.
- Table refers only to CCPs “listed in 40 CFR 261.33.” However, characteristically hazardous CCPs are regulated the same way ([ROL 11713](#), [50 FR 14219](#)).
- The term “commercial chemical product” is not defined in §261.1, but in §261.33.
- Tire burner example mentioned earlier switched from (-) to (*) due to change in destination facility.
- Note: In CT, CCPs are solid waste (*) when speculatively accumulated.

	Use constituting disposal (§261.2(c)(1))	Energy recovery/fuel (§261.2(c)(2))	Reclamation (§261.2(c)(3)), except as provided in §§261.4(a)(17), 261.4(a)(23), 261.4(a)(24) or 261.4(a)(27)	Speculative accumulation (§261.2(c)(4))
	1	2	3	4
Spent Materials	(*)	(*)	(*)	(*)
Sludges (listed in 40 CFR Part 261.31 or 261.32)	(*)	(*)	(*)	(*)
Sludges exhibiting a characteristic of hazardous waste	(*)	(*)	-	(*)
By-products (listed in 40 CFR 261.31 or 261.32)	(*)	(*)	(*)	(*)
By-products exhibiting a characteristic of hazardous waste	(*)	(*)	-	(*)
Commercial chemical products listed in 40 CFR 261.33	(*)	(*)	-	-
Scrap metal that is not excluded under 40 CFR 261.4(a)(13)	(*)	(*)	(*)	(*)

NOTE: The terms “spent materials,” “sludges,” “by-products,” and “scrap metal” and “processed scrap metal” are defined in §261.1.

Definition of Solid Waste

A material is a solid waste* if it is discarded.
[40 CFR 261.2(a)(1)]

A material is discarded if it is abandoned, recycled, inherently waste-like, or a military munition.
[40 CFR 261.1(a)(2)]

A material is abandoned if it is:

- Disposed of;
- Burned or incinerated;
- “Accumulated, Stored or Treated ... before or in Lieu of Being ... Disposed of, burned or incinerated;” or,
- Sham Recycled.

[40 CFR 261.2(b)]

A material is recycled if it is used, reused, or reclaimed.
[40 CFR 261.1(c)(7)]

Status of particular types of recycling varies for different types of secondary materials:

- Use Constituting Disposal.
- Burning for Energy Recovery.
- Reclamation. [40 CFR 161.1(c)(4)]
- Speculative Accumulation. [40 CFR 261.1(c)(8)]

[40 CFR 261.2(c) and Table 1]

Inherently Waste-like
[§261.2(d)]

A Military Munition
[Part 266, Subpart M]

A solid waste is a hazardous waste if: (1) It is not excluded under §261.4; and (2) It exhibits any of the characteristics of hazardous waste or is listed in §§261.31 – 261.33. [40 CFR 261.3(a)]

*Solid waste only for the purposes of determining if a material is a hazardous waste. Has no bearing on applicability of state or federal solid waste regulations.

EXEMPTIONS FROM THE DEFINITION OF SOLID WASTE (1 OF 3)

- Use/Reuse exemption:
 - 40 CFR 261.2(e).
 - Applies to materials that are:
 - Used or reused as ingredients in an industrial process to make a product, provided the materials are not being reclaimed; or
 - Used or reused as effective substitutes for commercial products; or
 - Returned to the original process from which they are generated, without first being reclaimed or land disposed...
 - Subject to:
 - Documentation of claims (40 CFR 261.2(f)), and
 - Sham recycling and legitimacy criteria provisions of the DSW Rule (not yet applicable in CT).



EXEMPTIONS FROM THE DEFINITION OF SOLID WASTE (2 OF 3)



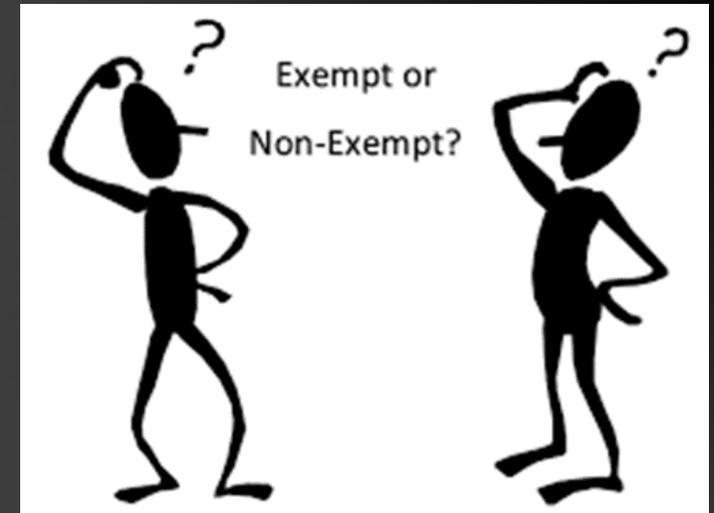
- 40 CFR 261.4(a) – 26 specific exemptions. Some notable ones:
 - (1) Domestic sewage (including discharges subject to CWA PT requirements).
 - Amended by the Pharms Rule to prohibit sewer disposal of hazardous pharms.
 - (2) Industrial wastewater point source discharges (NPDES).
 - (8) Secondary materials that are reclaimed and returned to the original process or processes in which they were generated where they are reused in the production process (“closed loop exemption”).
 - (13) Excluded scrap metal (processed scrap metal, unprocessed home scrap metal, and unprocessed prompt scrap metal) being recycled .
 - (14) Shredded circuit boards being recycled.
 - (20, 21) Hazardous secondary materials used to make zinc fertilizers and zinc fertilizers made from hazardous wastes (not yet applicable in CT).

EXEMPTIONS FROM THE DEFINITION OF SOLID WASTE (3 OF 3)

(22) Used cathode ray tubes (references 40 CFR 261.39- 261.41). Not yet applicable in CT.

(23, 24, 25, 27) Hazardous secondary materials exempt under the DSW Rule (references 40 CFR 260.42, 260.43, and 261 Subparts H, I, J, M, and AA – CC). Not yet applicable in CT.

(26) Solvent-contaminated wipes that are laundered.



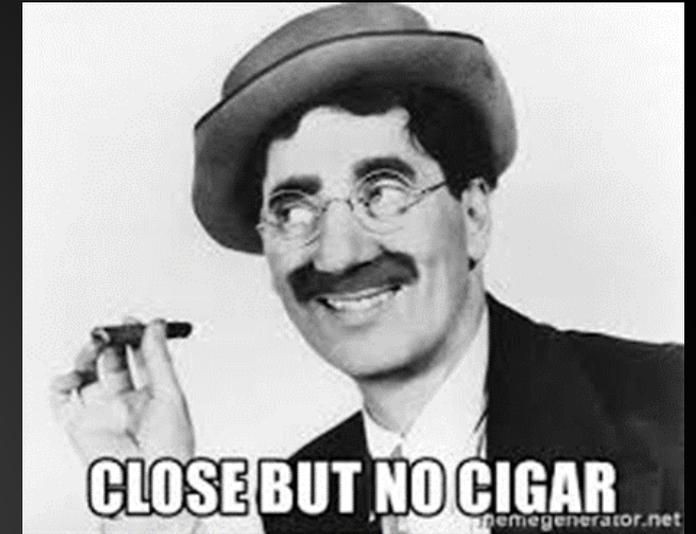
SOLID WASTES WHICH ARE NOT HAZARDOUS WASTES (1 OF 2)

- 40 CFR 261.4(b) – 17 specific exemptions. Some notable ones:
 - (1) “Household waste.”
 - (4) Fossil fuel combustion wastes.
 - (6) Trivalent chromium wastes (does not apply in CT).
 - (7) Certain exempt mining wastes (Bevill Amendment).
 - (8) Cement kiln dust waste.
 - (9) Arsenical-treated wood and wood products.
 - (10) Petroleum-contaminated media and debris generated during UST removals conducted under RCRA Subtitle D.



SOLID WASTES WHICH ARE NOT HAZARDOUS WASTES (2 OF 2)

- (12) Used chlorofluorocarbon refrigerants from totally enclosed heat transfer equipment that are reclaimed.
- (13) Non-terne-plated used oil filters.
- (18) Solvent-contaminated wipes that are sent for disposal.



OTHER EXEMPTIONS IN 40 CFR 261.4

- Manufacturing process unit exemption – 40 CFR 261.4(c).
- Samples – 40 CFR 261.4(d).
- Treatability study samples – 40 CFR 261.4(e) & (f).
- Dredged material generated from federally-regulated dredging projects – 40 CFR 261.4(g).
- Carbon dioxide stream injected for geologic sequestration – 40 CFR 261.4(h). Not yet in effect in CT.
- Airbag waste (e.g. recalled Takata airbags) – 40 CFR 261.4(j). Not yet in effect in CT.



PROVISIONS OF 40 CFR 261.6 REGARDING “RECYCLABLE MATERIALS” (1 OF 4)

- 40 CFR 261.6(a)(1):

Hazardous wastes that are recycled (“recyclable materials”) are subject to the requirements for generators, transporters, and storage facilities of paragraphs (b) and (c) of this section, except for the materials listed in paragraphs (a)(2) and (a)(3) of this section.



RECYCLABLE MATERIALS (2 OF 4)



- 40 CFR 261.6(a)(2):

The following recyclable materials are regulated under subparts C through N of part 266, and all applicable provisions in parts 268, 270, and 124 of this chapter.

- Recyclable materials used in a manner constituting disposal (266 Subpart C).
- Recyclable materials from which precious metals are reclaimed (266 Subpart F).
- Spent lead-acid batteries that are reclaimed (266 Subpart G).
- Recyclable materials burned in boilers and industrial furnaces (266 Subpart H).
- Other Part 266 materials not mentioned in this section:
 - Military Munitions (266 Subpart M) – not yet in effect in CT.
 - Low level mixed waste (266 Subpart N) – not yet in effect in CT.
 - Hazardous waste pharmaceuticals (266 Subpart P) – not yet in effect in CT

“RECYCLABLE MATERIALS” (3 OF 4)



- 40 CFR 261.6(a)(3):

The following recyclable materials are not subject to regulation under parts 262 through 268, 270, or 124.

- Industrial ethyl alcohol that is reclaimed.
 - Scrap metal that is not excluded under 261.4(a)(13) – i.e., processed scrap metal, unprocessed home scrap metal, and unprocessed prompt scrap metal.
 - Fuels produced from the refining of oil-bearing hazardous waste along with normal process streams at a petroleum refining facility.
- 40 CFR 261.6(a)(4) – used oil is regulated under part 279.

“RECYCLABLE MATERIALS” (4 OF 4)



- 40 CFR 261.6(b) and (c) address regulation of generators, transporters, and facilities that manage recyclable materials.
 - Generators and transporters are subject to the usual requirements (not exempt).
 - Owners and operators of facilities that store recycle recyclable materials before they recycle them are subject to all applicable TSDF requirements, including the need to get a storage permit.
 - Owners and operators of facilities that recycle recyclable materials without storing them prior to recycling do not need a TSDF permit, but do need to notify as a recycler, and must comply with TSDF manifest and biennial report requirements.
 - Recycling process itself is exempt from recycling (generators and facilities).
 - RCRA-permitted facilities must comply with air emissions requirements (AA, BB)

DOCUMENTATION OF CLAIMS



- 40 CFR 261.2(f).

“Respondents in actions to enforce ... RCRA” claiming that a material is not a solid waste must show there is a known market or disposition and that they meet the terms of the exclusion or exemption. In particular:

 - Must provide appropriate documentation supporting their claim (e.g. , recycling contract, shipping records to recyclers, etc.).
 - O/O of recycling facility must show they have the necessary equipment to recycle it.
- CT DEEP will ask for documentation of claims during inspections. If inadequate, we will cite a violation of 261.2(f).
- Example: CT precious metal recycling facility did not document claims re metal value of the various waste streams they generated from recycling activities.

SHAM RECYCLING (NOT YET IN EFFECT IN CT)



- 40 CFR 261.2(g) – if sham recycling, it’s a solid waste.
- Added with the 2008 DSW Rule. Amended in 2015 and 2018.
- References legitimacy criteria in 40 CFR 260.43:
 - Material must provide a useful contribution to the recycling process.
 - The recycling process must produce a valuable product or intermediate.
 - The generator and the recycler must manage the hazardous secondary material as a valuable commodity.
 - Must consider “toxics along for the ride.”
- States that haven’t adopted the legitimacy criteria can still make use of prior EPA guidance such as the 4/26/89 “[Lowrance Memo](#)” and others.

CLOSING THOUGHTS

- Don't accept claims of exemptions at face value – ask questions.
- Pay close attention to definitions.
- Correct assignment of secondary material category?
- Do all wastes meet the conditions of any claimed exemptions?
- Things to be aware of:
 - Speculative accumulation.
 - Abandoned if “accumulated, stored, or treated ... before or in lieu of being abandoned by being disposed of, burned or incinerated.”
 - Documentation of claims.
 - Sham recycling.



RESOURCES FOR FURTHER INFORMATION

- RCRA Online: <https://rcrapublic.epa.gov/rcraonline/>
- [EPA Hazardous Waste Recycling web page](#)
- [EPA web page](#) on recycling exclusions, etc.
- EPA RCRA Training Module: [Definition of Solid Waste and Hazardous Waste Recycling](#)
- [Guidance Manual on RCRA Regulation for Recycling Hazardous Waste](#)



QUESTIONS?



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