Recycling and Reuse in Oregon

Oregon DEQ Hazardous Waste Program

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DEQ Department of Environmental Quality

Overview

- Definition of Solid Waste as Adopted in Oregon
- Opportunities to Recycle and Reuse in Oregon
- Case Studies of Recycling and Reuse

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Oregon's Definition of Solid Waste

- Mandatory provisions of revised DSW effective 1/1/2023
  - Not all the non-mandatory provisions adopted
  - More details on Oregon's DSW here
- Definitions adopted and modified:
  - **H**azardous **S**econdary **M**aterial (adopted but ≠ exclusion)
  - **HSM** Generator (adopted)
  - Speculative accumulation (adopted)
  - Legitimate recycling (adopted) – form to document 4 factors here
  - Sham recycling (adopted)
  - Contained (modified – see OAR 340-100-0010)
  - Facility (adopted)

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Oregon's Definition of Solid Waste

- Exclusions ***not*** adopted in Oregon:
  - Generator-based exclusion [40 CFR 261.4(a)(23)]
  - Transfer-based exclusion [40 CFR 261.4(a)(24)]
  - HSM export for reclamation exclusion [40 CFR 261.4(a)(25)]
  - Remanufacturing exclusion [40 CFR 261.4(a)(27)]

- Notification for HSM Mgt. – 40 CFR 260.42(a)
  - OAR 340-100-0042 ***removes*** reference to above exclusions
  - OAR 340-100-0042 ***adapts*** notification to Variances from DSW

Table 1

	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	(*)	(*)	(*)	(*)

What Column 3 in Table 1 or the Table of Asterisks Looks like in Oregon!

40 CFR 261.2(c)

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Oregon's Definition of Solid Waste

- Variances from DSW
  - 40 CFR 260.30 (Authority) – updated to include non-waste
  - 40 CFR 260.33 (Procedures) – updated to include non-waste
  - 40 CFR 260.31 (Standards and Criteria)
- Non-waste Determinations
  - 40 CFR 260.30 (Authority) – same for variances
  - 40 CFR 260.33 (Procedures) – same for variances
  - 40 CFR 260.34 (Standards and Criteria) – adopted

Opportunities to Recycle and Reuse HSM

Opportunity	Rule Citation
Variances from DSW for HSM	40 CFR 260.30, 31, 33; OAR 340-100-0042
Non-waste Determination for HSM	40 CFR 260.30, 33, and 34
Sludges exhibiting a HW characteristic	40 CFR 261.2(c)(3), Column 3 in Table 1 **(-)**
By-products exhibiting a HW characteristic	40 CFR 261.2(c)(3), Column 3 in Table 1 **(-)**
Materials not solid waste when recycled - ***not being reclaimed, effective substitute for product, or returned to the process from which they are generated***	40 CFR 261.2(e)

Always Meet the Terms of the Exclusion or Rule!

Opportunities to Recycle and Reuse HSM

Opportunity	Rule Citation
HSM reclaimed to original process ***via closed-loop***	40 CFR 261.4(a)(8)
Scrap metal that is recycled	40 CFR 261.4(a)(13)
Solvent-contaminated rags sent for laundering	40 CFR 261.6(a)(26); OAR 340-101-0004(3)
Certain ***recyclable materials*** that are HSM but regulated under Part 266 ***or*** not regulated as HW	40 CFR 261.6(a)(2) and (3)
Gasoline with or without lead is not HW**	40 CFR 261.2(c)(2)(ii)

Always Meet the Terms of the Exclusion, Exemption or Rule!

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Other Opportunities

When legitimately recycled, many materials are *excluded* from the DSW such as:

- Shredded circuit boards
- Used cathode ray tubes
- For more, see here

Recycled materials that are *solid waste but not HW*

- Spent CFC refrigerants when reclaimed
- Used oil filters
- For more, see here

Universal Waste pathway – Li-ion batteries, aerosol cans etc.

- See 40 CFR 273 for opportunities
- Avoids HW regulations

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Other Concerns in DSW, Recycling, Reuse

If considering reuse, see 40 CFR 261.2(d)(3):

- Inherently waste-like
  - Materials containing constituents in App. VIII of part 261
  - Materials that are hazardous to human health and environment

If claim HSM not solid waste/conditionally exempt/excluded:

- See 40 CFR 261.2(f)
  - Must demonstrate a known market
  - Must demonstrate it meets the terms of the exclusion/exemption
  - If claiming recycling on site, must have equipment to do so

Case Studies

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Not a Legal Reuse Option

Sand contaminated with lead when used for metal castings

Sand contains lead = Inherently waste-like = a solid waste

Inherently waste-like – see 40 CFR 261.2(d) for what qualifies

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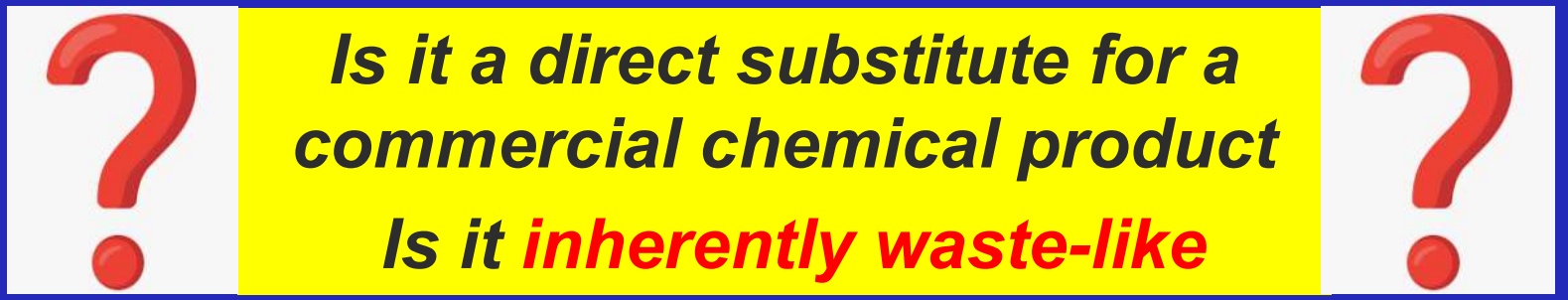
Reuse of a Sulfidic Caustic

- Sulfidic caustic from a Washington oil refinery
- Oregon facility is interested in it for its pulping process
- **Not a solid waste if recycled [40 CFR 261.2(e)] *<u>but</u>*:**



Consider Seeking a Non-waste Determination

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Reclaiming Acetone

Reclaiming spent acetone from fiberglass manufacturing:

- Is it closed-loop recycling per 40 CFR 261.4(a)(8)?
  - ➢ No!
- It must be counted as a HW!

See DEQ Reference on when to count spent solvent when reclaiming it

Consider seeking a variance from the DSW for this! Reclaimed in a continuous process

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Can a Product Ever Be a Solid Waste? Yes!

Gasoline/Fuel is not a solid waste – it's a product [40 CFR 261.2(c)(2)(ii)]

See EPA's 2013 Checklist to Determine if a Product is a Solid Waste

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This gasoline is not a commercial chemical product given it management. It is a solid waste and; therefore, a HW with a D001 and D008 HW code!

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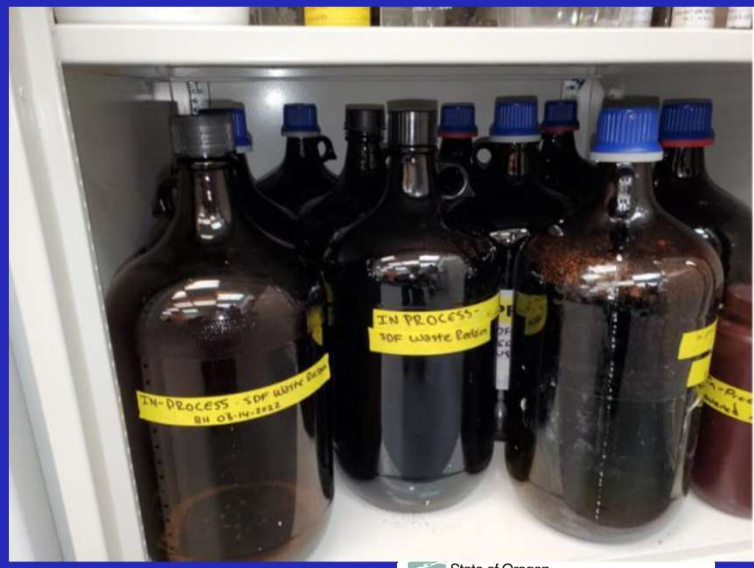
Precious Metal Recycling

- **40 CFR 266 Subpart F:**
  - Drug manufacturer:
    - Had spent silver chloride & silver fluoride in solution in storage (spent)
    - Several bottles labeled “in process – SDF Waste”
    - Silver can be reclaimed to recover its value
  - 40 CFR 266.70 terms weren’t followed:
    - No manifests for shipping to reclaimer
    - No Record – amount stored at start of year
    - No Record – generated during year
    - No Record – amount remaining at end of year
  - Speculative Accumulation = HW



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