



**WASTE MANAGEMENT
& RADIATION CONTROL**

Sally Kaiser May 2023

Hazardous Secondary Materials Requirements

Overview



Step 1) Is the material determined to be a solid waste



Step 2) Is the secondary material excluded from the definition of solid waste under one of the four use/reuse recycling exclusions?



Step 3) If the material is excluded, does the reclamation meet the additional qualifying criteria?



Step 4) Is the recycling legitimate?



Step 5) For all materials determined not to be solid wastes, can the facility meet the prescribed documentation requirements?

Definition of Solid Waste

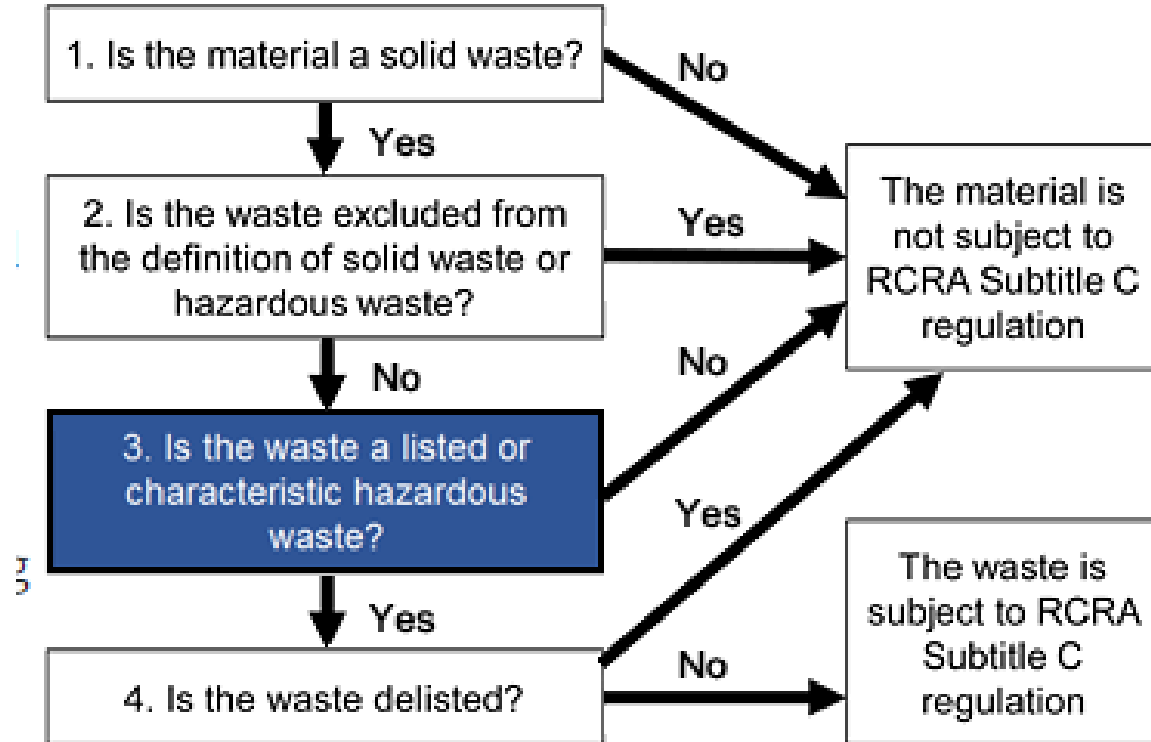
UAC R315-261-2

A solid waste is any discarded material that is not *excluded or granted a variance*. A discarded material is any material which is abandoned, recycled, military munitions, or considered inherently waste-like. Materials are solid waste if they are abandoned by being disposed of, burned, accumulated/stored/treated but not recycled, or sham recycled. Materials are solid wastes if they are recycled or accumulated, stored, or treated before recycling.

Materials that are not solid waste when recycled, are materials directly being used or reused. For instance, as an ingredient in an industrial process, as an effective substitute for a commercial chemical product, or in the original process from which it was generated.



What does it matter if a material is a solid waste?



If a material isn't a solid waste first, then RCRA doesn't regulate it – even if it is hazardous.



Exclusions from the definition of Solid Waste

	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 (R315-261-2(c)(4))
Spent materials	SOLID WASTE	SOLID WASTE	SOLID WASTE	SOLID WASTE
Sludges (listed in R315-261-31 or 261-32)	SOLID WASTE	SOLID WASTE	SOLID WASTE	SOLID WASTE
Sludges exhibiting a characteristic of hazardous waste	SOLID WASTE	SOLID WASTE	NOT SOLID WASTE	SOLID WASTE
By-products (listed on 261-31 & 261-32)	SOLID WASTE	SOLID WASTE	SOLID WASTE	SOLID WASTE
By-products exhibiting a characteristic of hazardous waste	SOLID WASTE	SOLID WASTE	NOT SOLID WASTE	SOLID WASTE
Commercial chemical products listed in 261-33	SOLID WASTE	SOLID WASTE	NOT SOLID WASTE	NOT SOLID WASTE
Scrap metal that is not excluded under 261-4(a)(13)	SOLID WASTE	SOLID WASTE	SOLID WASTE	SOLID WASTE



Classification of Solid Wastes



SPENT MATERIAL
UAC R315-262-1(c) (1)



SLUDGE
UAC R315-260-10 (134)



BY-PRODUCT
UAC R315-261-1(c) (3)



COMMERCIAL CHEMICAL
PRODUCTS



SCRAP METAL

By-Product

Residual in nature

Not intentionally produced

Not separately produced

Needs further processing

Co-Product

Highly processed

Intentionally produced

Ordinarily used as a commodity

No further processing necessary

By-Product vs Co-Product

Is the material excluded from the definition of solid waste under one of the four use/reuse recycling exclusions?

Materials are not solid wastes when they can be shown to be recycled by being:

1. Used or reused as ingredients in an industrial process to make a product, provided the materials are not being reclaimed; or
2. Used or reused as effective substitutes for commercial products; or
3. Returned to the original process from which they are generated, without first being reclaimed or land disposed.

Cont. to #4



Cont. Is the material excluded from the definition of solid waste under one of the four use/reuse recycling exclusions?

4. 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 provided.



If the material is excluded, does the reclamation meet the additional qualifying criteria?

The following four types of hazardous secondary materials will always be solid waste and potentially hazardous waste:

MATERIALS USED IN
A MANNER
CONSTITUTING
DISPOSAL OR USED
TO PRODUCE
PRODUCTS THAT
ARE APPLIED TO THE
LAND

MATERIALS
BURNED
FOR ENERGY
RECOVERY
USED TO
PRODUCE A
FUEL OR
CONTAINED
IN FUELS

MATERIALS
THAT ARE
ACCUMULATED
SPECULATIVELY

MATERIALS THAT
INHERENTLY WASTE-LIKE
LISTED IN UAC R315-261-2



The background of the slide is a landscape photograph. It features a bright blue sky with large, white, fluffy clouds. Below the sky, there are reddish-brown, rocky hills or mountains. In the foreground, there is a dry, grassy field with some sparse vegetation. A black metal fence with vertical posts runs across the bottom of the image.

Is the recycling legitimate?

Recycling of hazardous secondary materials for the purpose of the exclusions or exemptions from the hazardous waste regulations must be legitimate. Hazardous secondary material that is not legitimately recycled is discarded material and is a solid waste.

Determinations for legitimate recycling of HSM must include the following three factors to be complete:

For a recycling process to be “legitimate” it must:



- Involve an HSM that provides a useful contribution
- Produce a valuable product or intermediate
- Manage the HSM as a valuable commodity
- Produce a product comparable to a legitimate product or intermediate

1) The HSM provides a useful contribution to the recycling process or to a product or intermediate of the recycling process.
UAC R315-260-43(a)(1)

2) The recycling process must produce a valuable product or intermediate.
UAC R315-260-43(a)(2)

3) The HSM is managed as a valuable commodity by both generator and recycler, while under their control.
R315-260-43(a)(3)

One more
determination
must be
considered

The product of the recycling process does not:

- Contain significant concentrations of any hazardous constituents found in Section R315-261-1092 that are not found in analogous products; or
- Contain concentrations of hazardous constituents found in Section R315-261-1092 at levels that are significantly elevated from those found in analogous products, or
- Exhibit a hazardous characteristic, as defined in Subsections R315-261-20 through 24, that analogous products do not exhibit.



Speculative Accumulation

Hazardous Secondary Materials are subject to “speculative accumulation” limits, which means that:

- There must be a feasible means of recycling, and
- 75% must be recycled or moved off-site for recycling every calendar year. The recycling timeframe must be documented.



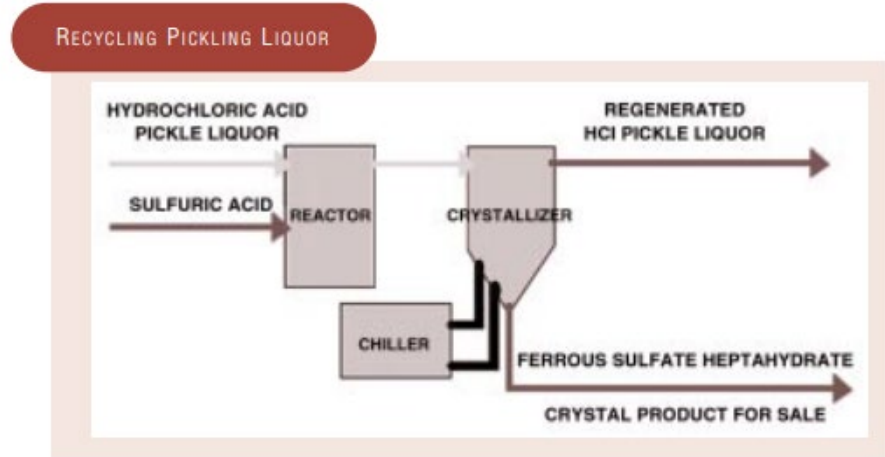
Use/Reuse Versus Reclamation

Reclamation occurs when a hazardous secondary material is processed to recover something of value or is regenerated.

- Spent materials, listed sludges, & listed by-products **are solid wastes** when reclaimed. However, these materials may be excluded.
- Characteristic sludges, characteristic by-products, and commercial chemical products being reclaimed **are not solid wastes**.
- Scrap metal other than excluded scrap metal when reclaimed **is a solid waste**.



Legitimate Recycling Examples



By replacing the costly neutralization and dumping method currently used in metal finishing, the steel industry can increase savings by recycling and reselling the spent pickling liquor.

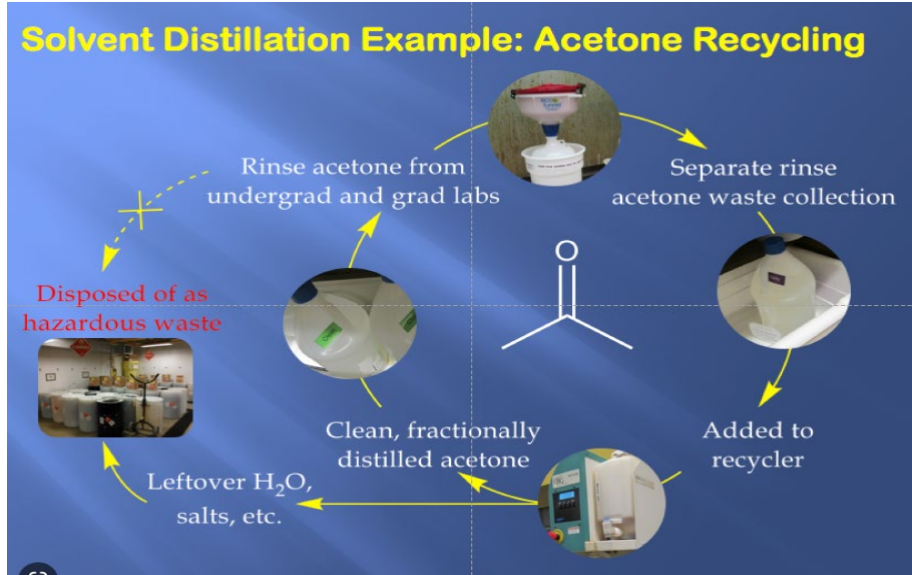
If a generator uses a material as a replacement for another chemical, the EPA is much more likely to consider it legitimate if the reused material is just as effective as the virgin chemical. Rather than giving an example of reuse that is not effective, the EPA felt it was easier to demonstrate this concept by giving an example of something that is effective reuse.



Legitimate Recycling Examples

Solvent recycling

Solvent recyclers remove soils, debris and oils from used cleaning solvent through distillation, and allow for reuse of the cleaning solvent. A solvent recovery system for used solvents can reduce solvent purchases by over 95% and reduce chemical waste disposal cost by over 90%.



Sham Recycling

Examples of sham recycling are aplenty, but one particular example would be using heavy metal sludges in concrete when said sludges don't contribute anything significant to the concrete's properties. Jan 15, 2020



If a waste is reused as an ingredient in a product, the waste must be used only in the amount needed for the process. If a chemical recipe asks for one gallon of ingredient, but the generator uses five gallons to get rid of excess materials, that would be sham recycling.

When reused materials are ineffective or only marginally effective for their claimed use, the generator cannot claim legitimate recycling. The example EPA gives is using certain heavy metal sludges in concrete. Since the sludges do not contribute any significant element to the concrete's properties, the EPA sees it as a method for disposing of the waste sludges, not recycling them.

➤ Is the claim to a recycling exclusion solely for the purpose of “evading HW regulation.”



Sham recycling

When reusing wastes as products, they should be handled and stored in the same way that a raw product would be handled and stored. Reused materials that are stored or handled in a manner that does not guard against significant economic loss would likely be considered sham recycling. For instance, reused materials that are stored in leaking storage areas are obviously not being stored like a usable chemical.



Sham recycling example

Sham Recycling Example – “Ugly Paint”

Hazardous spent solvent contaminated with ink from screen printing process designated by generator as “ugly paint” or “used thinner” (depending on solids content).



According to the owner, he was using the ugly paint on a concrete slab for an advertisement that would be visible by airplanes. The “advertisement” was never completed. (see picture, right)



The facility had no records of anyone taking the free ugly paint or used thinner. Feed material for these “products” are stored outside in containers covered with corrugated plastic.



“Advertisement” painted with “ugly paint”



How to count your recycled materials into your monthly generator totals.

UAC R315-262-13

In determining the quantity of hazardous waste generated in a calendar month, a generator need not include:

- Hazardous waste if it is removed from on-site accumulation, so long as the hazardous waste was previously counted once;
- Hazardous waste generated by on-site treatment, including reclamation, of the generator's hazardous waste, so long as the hazardous waste that is treated was previously counted once; and
- Hazardous waste spent materials that are generated, reclaimed, and subsequently reused on site, so long as such spent materials have been previously counted once.






PROCESSED scrap metal

Unprocessed **HOME** scrap metal

Unprocessed **PROMPT** scrap metal

Excluded Scrap Metals



Scrap metal that is not already excluded from the definition of solid waste is exempt from hazardous waste regulations if sent for RECYCLING/RECLAMATION.

Exempt Scrap Metals



WASTE MANAGEMENT
& RADIATION CONTROL

Sally Kaiser

385-499-4929

skaiser@utah.gov



Recycling Exemption & Exclusion Examples

Judy Moran, Environmental Scientist
jmoran@utah.gov
(385) 499-0184



UTAH DEPARTMENT *of*
ENVIRONMENTAL QUALITY
**WASTE MANAGEMENT
& RADIATION CONTROL**



Documentation of Claims

R315-261-2(f)

What are you claiming?

- Not a solid waste
- Conditionally exempt

How do you demonstrate the claim?

- Contracts
- Equipment

What about co-products and by-products?

- Director's authority
- Support for your position



Exemptions

R315-261-4(b)

Household hazardous waste

Drilling fluids and other wastes from the exploration, development, or production of oil, gas, or geothermal energy.

Used chlorofluorocarbon refrigerants from totally enclosed heat transfer equipment when the refrigerant is reclaimed.

Non-terne plated used oil filters that have been gravity hot-drained.

Samples

Solvent-contaminated wipes that are disposed.

Solid Waste Exclusions

R315-261-4(a)

Oil-bearing hazardous secondary materials generated and recycled within the petroleum refining industry. (R315- 261-4(a)(12))

Hazardous secondary materials generated and reclaimed under the control of the generator. (261-2(a)(2)(ii) and 261-4(a)(23))

Solvent-contaminated wipes that are sent for cleaning and reuse are not solid wastes from the point of generation. (261-4(a)(26))



Oil-Bearing Secondary Materials Exclusion R315-261-4(a)(12)(i)

- Generated at a petroleum refinery.
- Legitimately recycled into the refining process.
- Materials must actually be reinserted into the refining process.

— Solvent Recycling

Hazardous secondary materials generated and reclaimed under the control of the generator.

R315-261-4(a)(23)



Management

Label "Hazardous Waste"

Indication of the hazards

Keep container closed

Recordkeeping

Notification

Waste Counting

Solvent-Contaminated Wipes

“Excluded Solvent Contaminated Wipes”

Closed containers

No free liquids

180 days to accumulate

Recordkeeping

Laundering or Disposal requirements

Solvent- Contaminated Wipes

R315-261-4(a)(26)

Closed plastic bags with the neck tightly bound and sealed to prevent emissions can be used to accumulate, transport, and dispose of solvent-contaminated wipes.

A labeled, closed bag of solvent-contaminated wipes that are free of liquids may be placed in a dumpster and transported to a landfill with other solid waste trash.

Solvent-contaminated wipes may be laundered onsite if all the conditions of the exclusion are met, including the discharge being regulated by a NPDES permit or the facility being an industrial user of a POTW.

Questions?



Thank you



Judy Moran

Environmental

Scientist



PHONE

(385) 499-0184



EMAIL

jmoran@utah.gov

<https://deq.utah.gov/division-waste-management-radiation-control>