Waste Classification

Session 2

Waste Classification Presentation & Examples

Texas Commission On Environmental Quality

Environmental Trade Fair

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2:45pm – 3:45pm

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Industrial & Hazardous Waste Permits Section

Presentation Agenda

Session 1
1:30pm – 2:30pm

Introduction (*Based on RG-022*)

Section I. *Solid Waste Generator Compliance*

Examples

Section II. *Solid Waste Categories : Hazardous Wastes and Industrial Wastes*

Examples

Session 2
2:45pm – 3:45pm

Introduction

Section III. *Texas Waste Code Assignments*

Examples

Section IV. *Universal Waste*

Examples

Section V. *Hazardous Waste Recycling*

Examples

Section III: Texas Waste Code Formula

Chapter 5 RG-022

Texas Waste Code Formula

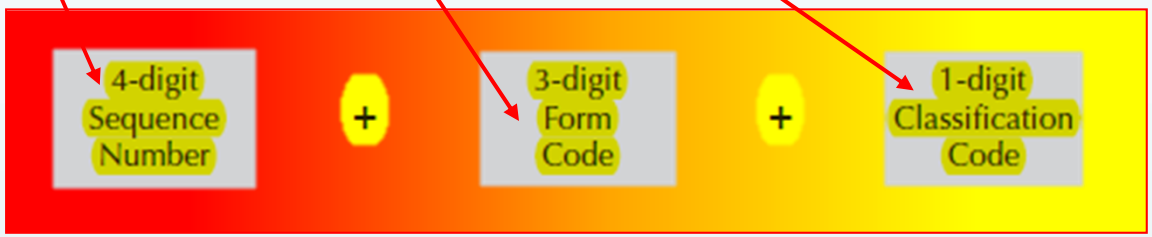
Regulatory Compliance

Unless exempt each hazardous and non-industrial waste stream must be identified by an 8-character Texas waste code which gives information about its origin, general nature and hazardous status to ensure proper and safe disposal.

Texas Waste Code Formula

8-Character Identification Number

- **Sequence Number**
- **Form Code**
- **Classification**



Texas Waste Code Formula

Sequence Number

Sequence numbers may actually contain only numbers, alphanumeric or letters alone:

1. Only numbers - Arbitrary and unique 4-digit number from 0001 to 9999 assigned by generator when adding stream to Notice of Registration (NOR);
2. Alphanumeric – Assigned by TCEQ and used for the one-time shipment program; and

Texas Waste Code Formula

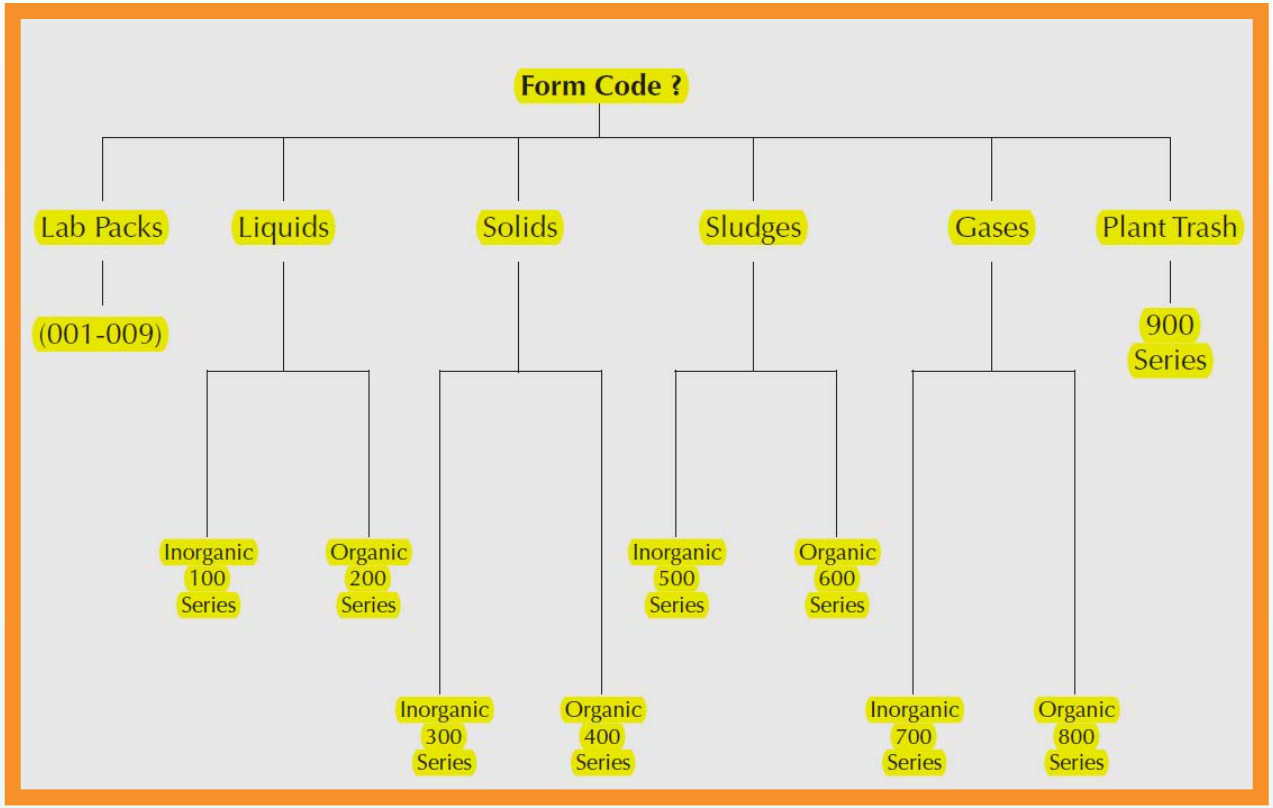
Sequence Number

3. Letters alone:
   - “SPIL” for spills regulated under the Emergency Response Program;
   - “OUTS” for wastes generated outside of Texas;
   - “CESQ” for municipal and industrial; and
   - “TSDF” for facilities that perform these services for multiple generators.

Texas Waste Code Formula

Form Code

Second series of numbers found in Appendix G of RG-022 (Pgs. 39 – 45).



Texas Waste Code Formula

Classification

The last digit completes the Texas waste code.

This will be an H, 1, 2 or 3.

Section III Exercises

Section III Example 1 - Container Waste

Example 1 - Container Waste

Background Information

Tony in Temple, Texas owns a small manufacturing facility. This is his first time registering with TCEQ as a small quantity generator. Tony generates: (1) Triple rinsed empty metal containers ≤ 5 gal; (2) > 5 gal metal containers **RCRA empty**; and (3) > 5 gal metal containers **RCRA empty** and rendered unusable. Process knowledge indicates that all empty containers are metal previously containing the same liquid waste with a flash point <140° F.

How are these wastes classified and coded?

Example 1 - Container Waste

Empty VS. RCRA-Empty

Understanding the difference between “Empty” and “RCRA-Empty” is worth your time, as hazardous containers that are defined as “RCRA-Empty” are not subject to EPA regulation even when residue remains.

Example 1 - Container Waste

Empty VS. RCRA-Empty

There are two separate sets of conditions for containers that held: 1) non-acute hazardous wastes; and 2) acute hazardous wastes.

A container or inner liner that held a ***non-acute hazardous*** waste is RCRA empty when:

1. All wastes have been removed that can be removed using 'commonly employed practices'; ***and***
2. No more than 2.5 centimeters (1 inch) of residue remains on the bottom of the container; ***or***
3. No more than 3% by weight of the total capacity of the container remains for containers ≤ 110 gal. **or**
4. No more than 0.35% by weight of the total capacity remains for containers ≥ 110 gal.

Example 1 - Container Waste

Empty VS. RCRA-Empty

A container or inner liner that held an ***acute hazardous*** waste is RCRA empty when:

1. The container is triple rinsed with a solvent capable of removing the acute waste; ***or***
2. The container has been cleaned by another method that has been shown to achieve equivalent removal (e.g., scientific literature or by test conducted by the generator); ***or***
3. The inner liner that prevented contact between the acute waste and the container is removed.

Example 1- Container Waste

What do we know so far about the waste streams?

1. The Solid Waste is not exempt & is industrial.
2. The containers have held a hazardous waste.
3. Each container held the same waste.
4. There are two sizes of containers and a different condition for the containers >5 gal.
5. The is the facility's first time to notify the TCEQ.

Example 1- Container Waste

Step 1 – Classify Waste

- Empty containers ≤5 gal. are a Class 2 waste, regardless of whether they held a hazardous waste.
- RCRA -Empty containers >5 gal. are a Class 1 waste.
- RCRA empty containers 5> gal. and rendered unusable are Class 2.

Example 1- Container Waste

Step 2 – Determine Waste Streams

There are two distinct waste streams:

(1) Class 2 waste: a) ≤5 gal.; and b) >5 gal. (*RCRA empty and rendered unusable*); and

(2) Class 1 waste: >5 gal (*RCRA empty*).

Example 1- Container Waste

Step 3 – Assign Sequence Numbers

Tony has assigned the 4-digit sequence number 0001 to the Class 1 container wastes and 0002 to the Class 2 container wastes.

Step 4 – 3-digit Form Code (RG-022,App G, pg. 44)

Tony has reviewed all 10 major categories, then reviewed all form code descriptions in each category. He selected category Solids (Inorganic 300 series), and selected 308 – Empty or Crushed Metal Drums or Containers.

Example 1- Container Waste

Step 5 – 3-digit Form Code (App G)

Now putting it all together:

- Class 1 waste stream: **00013081**
- Class 2 waste stream: **00023082**

Section III Example 2 - Know the Difference

Example 2 – Know The Difference -

Background Information

Dr. Pain at Mercy hospital has generated a liquid waste that tested 2.0 ppm for lead, putting it below the hazardous waste regulatory limit for lead, but exceeding the regulatory limits for a Class 1 waste.

How does Dr. Pain classify this waste?

Example 2 – Know The Difference -

Background Information

- Solid waste is from a municipal source.
- Hospitals are not industrial facilities, and this is a non-hazardous waste. Non-hazardous, non-industrial wastes do not need to be classified.

Section III Example 3
Abrasive Blast Media Waste

Example 3 – Abrasive Blast Media Waste

Background Information

Houston Shipbuilding & Maintenance Company (HSMC) uses blasting media sand to remove paint from carbon and alloy steel during routine maintenance and repainting.

These paints usually contain heavy metals which act as anti-fouling and anti-corrosion agents necessary in the marine environment.

Facility has 10 waste codes on their NOR. Waste did not pass the 7- Day Distilled Water Leachate.

Example 3 – Abrasive Blast Media Waste

Background Information Continued

SDS available for sandblast material contains no levels of regulated materials.

SDS for carbon and alloy steel indicates that the steel also contains very small percentages of regulated metals.

The waste stream is comprised of sand, carbonized steel and dried paint.

A TCEQ accredited lab performs a TCLP analysis. All regulated metals test below hazardous and Class 1 regulatory levels.

Example 3 – Abrasive Blast Media Waste

What do we know so far?

- Solid Waste (not exempt) & industrial
- Sequence number is 0011
- Waste is not hazardous
- Waste is not Class 1 or Class 3 – Class 2 by default
- Form Code - for non hazardous sand blast waste from Appendix G (RG-022 pg. 39 or 30 TAC § 335 Subchapter R, Appendix 3) is **389**
- Process knowledge and analytical were used to make this determination

Example 3 – Abrasive Blast Media Waste

Texas Waste Code Assignment

00113892

Section III Example 4 - Wastewater Sludge

Example 4 - Wastewater Sludge

Background Information:

Brian's Industrial Plant generates wastewater sludge from sumps attached to their formaldehyde product tank. The sumps collect wash down water, transfer spills, pipe leaks and solids that settled in the product tank during cleaning.

SDS indicates that formaldehyde is listed waste (U122) and it is characteristically hazardous (D001) for ignitability and reactivity (D002). Waste is 85% water.

Example 4 - Wastewater Sludge

Brian knows the following:

- The aqueous waste stream is comprised of water, dirt/silt and formaldehyde;
- The SDS for formaldehyde, CAS# 500-00-0, states that it is a listed waste U122, and is a characteristic waste for ignitability and reactivity; and
- There are two waste streams (wastewater and solids).

Example 4 – Wastewater Sludge

- Process knowledge used from initial sampling year's prior, shows the aqueous waste stream and the sludge waste stream are not reactive and not ignitable at hazardous, or Class 1 regulatory limits at point of generation.
- Assumption, the facility has assigned the sequence numbers of 0006 and 0007 on their NOR.

Are these waste streams hazardous?

Example 4 Wastewater Sludge

No!

- U-Listing only apply to unused chemical products per 40 CFR §261.33(a)-(f).
- The “mixture/derived from” rule found in 40 CFR §261.3(c)&(d) does not apply which states that any sludge waste stream derived from a listed waste carries the applicable listing(s) as well.
- Waste water is not characteristically hazardous and becomes one waste stream.

Example 4 - Wastewater Sludge

Texas Waste Code Assignment

Putting It All Together

- Sequence numbers are 0006 and 0007.
- Form code for sludge with organic contaminants from Appendix G (30 TAC 335 Subchapter R, Appendix 3) is 609.
- Form code for wastewater is 102.
- Original sampling and process knowledge supports a Class 2 designation.

Sludge Waste Stream: 00066092

Wastewater Stream: 00071022

Section IV: Universal Wastes

Section IV: Universal Waste Covers 4 Topics

1. Universal Wastes (UW) Background
2. Categories of UW
3. UW Management Benefits
4. UW Handlers and Generator Categories

Topic 1: Universal Wastes Background

Universal Waste Background

Universal Wastes (UW) are hazardous Wastes

Regulations can be found in Title 40 CFR Part 273 and 30 TAC 335.262(b):

1. UW are common to all industry types and facilities;
2. Regulations allow less-stringent procedures for people who generate, store and transport these wastes;
3. Managing qualifying hazardous wastes as UW is a choice;
4. The regulation of UW starts where the wastes are generated; and
5. The federal program applies to four types of hazardous wastes and one in Texas.

Universal Waste Background

Universal Wastes (UW) are hazardous Wastes

Two primary goals were identified by EPA for the UV management program:

1. Increased recycling – by reducing complex waste management requirements; and
2. Reduce illegal disposal of UW in municipal landfills and combustors.

Topic 2: Categories of UW

Categories of Universal Waste - 5 Categories

5 Categories

(1) Batteries described in 40 CFR §273.2

Batteries must be intact (i.e., where the casing of each individual battery is not breached). Does not include spent lead-acid batteries that are managed under Part 266, Subpart G.

(2) Pesticides described in 40 CFR §273.3

Only pesticides that have been recalled or come from stocks of unused products gathered as part of a waste pesticide collection program are classified as UW.

Categories of Universal Waste

(3) Mercury-containing equipment (MCE) described in 40 CFR §273.4

A device or part of a device (including thermostats, but excluding batteries and lamps) that contains elemental mercury integral to its function.

(4) Lamps described in 40 CFR §273.5

The bulb or tube portion of an electric lighting device. All waste lamps that exhibit a characteristic are UW, including incandescent lamps (even though they are not specifically included in the definition).

What about Cathode Ray Tubes?

Categories of Universal Waste

Cathode Ray Tubes (CTRs)

NOTE: Cathode Ray Tubes (CRTs) may be managed as UW. However; on October 9, 2009, Texas adopted the Federal exclusion for CRTs that are recycled. If the CRTs get a full exclusion then it is no longer a solid waste and can't be hazardous. If you want to manage your CRTs as UW, then applicable rules at 40 CFR 273 and 30 TAC 335.261 must be followed.

Crushing of Universal Waste Lamps in Texas
30 TAC §335.261(e) allow for crushing of UW lamps under the following:
1. Exposure limits not exceeding the criteria in 30 TAC §335.261(e)(1) based on OSHA;
2. Notification requirements at 30 TAC §106.262 regarding emission and distance limitations;
3. Recordkeeping requirements; and
4. Approval of the crushing system, in writing, from the TCEQ executive director or designee.

Categories of Universal Waste

(5) Paint and paint related wastes (P&PRW) Texas only 30 TAC 335.262(b)

P&PRW are; (1) hazardous per 30 TAC 335.1, and (2) any mixture of pigment and suitable liquid that forms a closely adherent coating when spread on a surface; OR (3) any material that results from painting activities including but limited to the following:

1. Used or unused paint;
2. Spent solvents used in painting;
3. Personal protective equipment (PPE), gloves, contaminated rags and debris;
4. Coating waste paint, paint filters, paint booth stripping materials, paint sludge; and
5. Cleanup residues.

Topic 3: UW Management Benefits

UW Management Benefits

When managing UW the following **are not** required to:

- Register with TCEQ for a state identification number if you only manage UW;
- Count UW towards your generation status;
- Identify UW on your NOR;
- Report UW on you annual waste summary;
- Manifest when shipping UW;
- Use a registered waste hauler;
- Pay a hazardous waste generation fee on UW; or
- Ship UW off site within 90/180 days (UW may be kept on site for up to one year).

Topic 4: UW Handlers and Generator Categories

UW Handlers and Generator Categories

Generators of UW are Called Handlers

Small Quantity Handlers of UW (SQHUW) and Large Quantity Handlers of UW (LQHUW)

- Each separate facility (e.g., generating or collection) is considered a handler.
- Once generated, UW are usually shipped directly to the reclamation or disposal facility or an intermediate or consolidation facility, **also** called handlers.
- The UW program applies to the five groups of wastes regardless of whether they will ultimately be recycled or disposed.
- Handlers are prohibited from treating, recycling, or disposing of UW.

UW Handlers and Generator Categories

Universal Waste Handler Requirements		
	SQHUW	LQHUW
Quantity Limit *(At any one time on-site)*	<5,000 kg (≈11,000 lbs.)	*≥5,000 kg (≈11,000 lbs.)
EPA Identification Number and Texas Solid Waste Registration Number	Not Required §273.12	Required §273.32 prior to meeting the 5,000 kg (≈11,000 lbs.) storage limit.
On-site Accumulation Limit	<5,000 kg (≈11,000 lbs.) §273.9	No Limit
Storage Time Limit	1 year from date the waste was generated §273.15	1 year from date the waste was generated §273.35
Manifest	Not required §273.19	Not required, but must keep basic shipping records §273.39
**Once a person/entity becomes a LQHUW handler, the status must be retained for the entire calendar year [30 TAC 335.261(b)(16)(C)]. All UW handlers start out on January 1 of each year.*		

Section IV Exercises

Exercises

Problem 1

McJunkin Manufacturer, a LQG, is storing 10,000 kg of hazardous batteries under the full hazardous waste regulations under RCRA Subtitle C. The new RCRA compliance officer (Jay Walker) notices that the length of storage is at 89 days. He is unable to get these batteries off-site before the next day (*90-day max*). He decides that he will now manage these as UW so that he can extend the storage time and not be out of compliance.

Determine the following:

1. Can Mr. Jay Walker store these batteries as UW now?
2. What should Mr. Jay Walker do next?
3. Should McJunkin manage these wastes as UW?

Exercises

Problem 1 Answer

1. No. At the point of generation, these hazardous wastes were subject to the full hazardous waste regulations. They were not designated as UW at the point of generation and therefore cannot take advantage of the 1-year storage time allowed for generators of UW. In addition, McJunkin would have had to register with the TCEQ for an EPA and TX state identification number.
2. Call TCEQ and request extension or other options.
3. Yes, much more regulatory leniency and savings to the company.

Exercises

Problem 2

Wow-Facter Paint, a manufacturing company, is registered as a LQHUW. The company is very environmentally responsible and very conservative regarding disposal. They would also like to include their Class 1 P&PRW to the Hazardous UW for P&PRW. They figure this will be a better disposal option in case some of the Class 1 wastes are hazardous by federal standards. They don't want to dispose of anything incorrectly.

Determine the following:

1. Can Wow-Facter add Class 1 industrial wastes to their pile of P&PRW?

Exercises

Problem 2 Answer

1. No. By UWs definition, all are hazardous. Class 1 wastes are not hazardous. However, a generator of the Class 1 wastes can manage it the full hazardous waste regulations if they want to. Any suspected Class 1 waste testing positive for being hazardous could be a UW if it meets the definition of P&PRW.

Exercises

Problem 3

A grocery store that normally has about 500 kg of UW onsite receives a huge shipment of 15,000 kg in May. Less than a month later, the 15,000 kg of UW is sent to a destination facility and in June the grocery store resumes its practice of storing only 500 kg or UW onsite.

Determine the following:

1. Is this an industrial or municipal facility?
2. What is the designation of the facility with regards to a SQHUW?

Exercises

Problem 3 Answer

1. Municipal
2. Until the date the 15,000 kg shipment of UW was received, the grocery store was a SQHUW. From the date the large shipment was received until December 31 of that year, the grocery would be a LQHUW. January 1st of the next year, the facility returns to SQHUW status.

Section V: Hazardous Waste Recycling

Section V: Hazardous Waste Recycling Covers 4 Topics

1. Background (Hazardous Secondary Materials)
2. Five Hazardous Secondary Materials
3. 4 Recycling Categories Subject to RCRA Regulations
4. Table 1 [(40CFR 261.2(c)] and Exercises

Topic 1: Background (Hazardous Secondary Materials)

Hazardous Secondary Materials

This section discusses recycling of hazardous secondary materials.

EPA defines “Hazardous Secondary Material” in §260.10 as a secondary material (e.g., spent material, by-product, or sludge), that when discarded would be identified as hazardous waste.

Hazardous Secondary Materials

Background

- A material is recycled if it is used, reused, or reclaimed. EPA defines solid wastes to capture activities of recycling. And therefore, recycling activities are subject to RCRA control.
- When waste materials are recycled rather than disposed, generators must use the regulations in 261.2, 261.4(a)(8), and 261.4(a)(23-25) to determine if the wastes are RCRA-regulated.

Hazardous Secondary Material

Background

- The regulations in 40 CFR 261.2(c) are based on the premise that **all recycled hazardous secondary materials fit into five categories.**
- EPA identified **four categories of recycling activities** that were causing most of the environmental damage in the early 1980s.

Topic 2: Five Secondary Hazardous Materials

Five Secondary Hazardous Materials

Spent Material

1. Any material that has been used and **because of contamination** can no longer serve the purpose for which it was produced without processing.

Examples: Spent pickle liquor, used batteries, spent solvents, used mercury switches, spent acids and caustics, burned out light bulbs.

Five Secondary Hazardous Materials

Spent Material

1. What EPA really means: (1) contamination includes ***any circumstance*** that causes the material to be taken out of service for reprocessing and (2) A spent material ***does not*** mean it can no longer serve its original purpose, it means the material is no longer serving its original purpose and being reprocessed instead irrespective of the reason for its removal.

Five Secondary Hazardous Materials

Sludges

2. Any residue from a water or air pollution control device. EPA splits sludges into two categories:
   1) sludges that are listed in §261.31 or §261.32, and
   2) sludges that exhibit a characteristic of hazardous waste.

Examples: Flue and baghouse dust and wastewater treatment sludge.

NOTE: Listed sludges are Solid Waste (SW) when recycled in any of the ways addressed by Table 1 unless an exclusion applies. However; sludges exhibiting only a characteristic waste are not solid wastes when reclaimed (i.e., there is no asterisk at the intersection of Table 1).

Five Secondary Hazardous Materials

Sludges

2. What EPA really means: EPA requires that the ***primary purpose*** of an air filtration system be for air pollution control and not for other processing or manufacturing reasons. However; for water pollution control, the term “sludge” is not limited to materials generated from waste water treatment undertaken specifically to meet federal, state, or local discharge or pretreatment requirements.

Five Secondary Hazardous Materials

By-Products

3. A residual material that is not one of the primary products of a production process and unfit for end use without substantial processing. Defined in 261.1(c)(3). EPA splits by-products into two categories: 1) by-products listed in §261.31 or §261.32, and 2) by-products that exhibit a characteristic of hazardous waste.

Examples: Distillation-column bottoms, slags, drosses, and tank bottoms.

NOTE: Listed by-products are SW when recycled in any of the ways addressed by Table 1 unless an exclusion applies. However; by-products exhibiting only a characteristic waste are not solid wastes when reclaimed (i.e., there is no asterisk at the intersection of Table 1).

Five Secondary Hazardous Materials

By-Products

3. What EPA really means: These materials ***are not the intended product*** from a production process and should not be confused with co-products (e.g., gasoline, kerosene) that are intentionally produced. Co-products are usually managed as a valuable commodity and by-products have little value until processed. Co-products are not SW and considered products – by-products are not.

Five Secondary Hazardous Materials

Commercial Chemical Products

4. Commercial Chemical Products are:

   1) unused and essentially pure chemicals listed in §261.33 (i.e., the P- and U-lists); and

   2) unused products for purposes of determining whether a recycled material is a SW.

Examples: circuit boards, batteries, gasoline, paint and P- and U-listed chemicals.

NOTE: The definition doesn't apply when determining whether a product is a hazardous waste).

Five Secondary Hazardous Materials

Commercial Chemical Products

4. What EPA really means: All types of unused products are considered CCPs (*when determining whether a material is a solid waste when recycled only*), although Table 1 in 261.2(c) specifies "commercial chemical products in 40 CFR 261.33". EPA interprets the term to also include those products that are not listed in 261.33, but exhibit one or more characteristic of hazardous waste.

Five Secondary Hazardous Materials

Scrap Metal

5. Defined in 261.1(c)(6) as “bits and pieces of metal parts or metal pieces that may be combined together with bolts or soldering, which when worn or superfluous can be recycled.”

Examples: Bars, trimmings, rods, sheets, wire, radiators scrap automobiles, and railroad boxcars.

Five Secondary Hazardous Materials

Scrap Metal

5. What EPA really means: Other than **"<u>excluded scrap metal</u>,"** scrap metal is a SW when recycled (reclaimed). However; hazardous scrap metal (characteristic or listed) that is recycled is exempt from the hazardous waste regulations under 261.6(a)(3)(ii).

Scrap metal ***does not apply*** to residues generated from smelting and refining operations or liquid wastes containing metals (i.e., drosses, slags and sludges, spent acids, spent caustics or other liquid wastes with metals in solution).

Five Secondary Hazardous Materials

Excluded Scrap Metal

Defined in §261.1(c)(10-12) as processed scrap metal, unprocessed home scrap metal and unprocessed prompt scrap metal. Scrap metal being recycled is excluded from the definition of SW.

Topic 3: Four Recycling Categories Subject to RCRA Regulation

Four Recycling Categories Subject to RCRA Regulation

Use Constituting Disposal

1. Materials placed directly on land or are used to produce products that are applied to the land.

Examples: Road oilings, fertilizer and asphalt

Four Recycling Categories Subject to RCRA Regulation

Burning for Energy Recovery

2. Materials burned directly in boilers or industrial furnaces (BIFs) or blended into fuels burned in BIFs. NOTE: material burned in incinerators and other waste destruction units are considered discarded, ***not*** burned for energy recovery.

Examples: CCPs burned for energy recovery.

NOTE: Unused CCPs that are ***normal*** components of fuels (e.g., benzene, toluene and xylene) are not solid wastes if they are burned for energy recovery [§261.2(c)(2)(ii)].

Four Recycling Categories Subject to RCRA Regulation

Reclamation

3. Materials processed to recover or regenerate something of value.

Examples: Regeneration of spent catalyst and recovery of lead from dead batteries.

Four Recycling Categories Subject to RCRA Regulation

Speculative Accumulation

4. Materials accumulated prior to recycling if a facility does not recycle at least 75% *(by weight or volume)* in a calendar year. The definition, codified in §261.1(c)(8) allows accumulation of secondary materials for limited periods of time and a demonstration that the material has a feasible means or being recycled.

Four Recycling Categories Subject to RCRA Regulation

Speculative Accumulation

- EPA created this provision to minimize the risk posed by facilities that over accumulate hazardous secondary materials prior to recycling.
- This provision serves as a safety net by preventing recyclable materials that are not otherwise regulated under RCRA from being stored indefinitely.

Topic 4: Table 1 [(40CFR 261.2(c)] & Exercises

Recycling

Exercise Steps

For each problem, we will use Table 1 to determine if the materials are solid wastes and hazardous after the recycling activity. For the purposes of simplifying the exercise problems, exemptions will be provided.

First Step: Classify the material that is to be recycled under the title "Secondary Material."

Second Step: Determine if the recycling activity is addressed in one of the four column headings.

Recycling

Exercise Steps

Third Step: Determine whether there is an asterisk or slash at the intersection.

Fourth Step: Determine how the material is regulated when recycled. *Unless excluded* - ***If there is an asterisk at the intersection, the material is a solid waste when recycled in that manner.***

Table 1 [(40CFR 261.2(c)]

Determining If Recycled Materials Are Solid Wastes

Recycled Hazardous Secondary Material	*Activities*			
	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)(2)]
Spent Materials 40CFR §261.1(c)(1)	(*)	(*)	(*)	(*)
Sludges (listed in 40CFR §261.31 or §261.32)	(*)	(*)	(*)	(*)
Sludges exhibiting a characteristic of hazardous waste	(*)	(*)	_	(*)
By-products (listed in 40CFR §261.31 or §261.32)	(*)	(*)	(*)	(*)
By-products exhibiting a characteristic of hazardous waste	(*)	(*)	_	(*)
CCPs listed in 40CFR §261.33	(*)	(*)	_	_

Some Exceptions to Table 1 [(40CFR 261.2(c)] Asterisks *

1. **CCPs & Use Constituting Disposal** – CCPs that are applied to the land are not SW if that is their normal manner of use. [§261.2(c)(1)(ii)].
2. **CCPs & Burning for Energy Recovery –** CCPs that are themselves fuels, are not SW.
3. **CCPs & Reclamation –** CCPs (or mixtures of CCPs) are not SW or hazardous wastes. Nonlisted CCPs that exhibit a characteristic of hazardous waste are also not SW and therefore not hazardous.

Some Exceptions to Table 1 [(40CFR 261.2(c)] Asterisks *

4. **Scrap Metal and Reclamation** – Excluded scrap metal defined in §261.1(c)(10-12) are exempt from SW and hazardous scrap metal (characteristic or listed) that is recycled are exempt from the hazardous waste regulations under 261.6(a)(3)(ii).

Exercises

Problem 1 - An unused mixture of two U-listed chemicals is being shipped offsite to recover a usable product. The mixture is also ignitable. Must it be shipped as a hazardous waste?

Which Secondary Material? → Which Recyling Activity? → Solid Waste? Hazardous Waste?

Secondary Material	
Recycling Activity	
Asterisk or slash	
Solid Waste?	
Hazardous Waste?	

Exercises

Problem 1 Answers	
Secondary Material	Commercial chemical product
Activity	Reclamation
* or -	-
Solid Waste?	No
Hazardous Waste	No
Details	When a CCP (or mixture of products) is reclaimed, it is not a SW and therefore can't be a hazardous waste.

Exercises

Problem 2 - Planet Earth treatment, storage and disposal (TSD) facility is storing scrap metal that will go to recycling. Does Planet Earth have to manage this as hazardous waste during storage if it exhibits a characteristic?

Which Secondary Material?

Which Recyling Activity?

Solid Waste? Hazardous Waste?

Secondary Material	
Recycling Activity	
Asterisk or slash	
Solid Waste?	
Hazardous Waste?	

Exercises

Problem 2 Answers	
Secondary Material	Scrap metal
Activity	Reclamation
* or -	* But it meets exemption
Solid Waste?	Yes – scrap metal is a SW if it is recycled
Hazardous Waste	No
Details	Scrap metal is a SW if recycled, but **is exempt** from hazardous waste regulations found Part §§262-266, §268, §270 and §124 if it is recycled.

Exercises

Problem 3 - Gasoline recovered from a product storage tank will be put into a fuel blending program. Note: Gasoline is hazardous for ignitability characteristic (D001), and for the toxicity characteristic. How will this be regulated?

Secondary Material	
Recycling Activity	
Asterisk or slash	
Solid Waste?	
Hazardous Waste?	

Exercises

Problem 3 Answers	
Secondary Material	Commercial chemical product
Activity	Energy Recovery/Fuel
* or -	* But it meets exemption
Solid Waste?	No
Hazardous Waste	No
Details	Recovered gasoline is considered an off-spec CCP.

Exercises

Problem 4 - Company Zero generates a listed sludge which they propose to use as road base. How would this be regulated?

Which Secondary Material? → Which Activity? → Solid Waste? Hazardous Waste?

Secondary Material	
Recycling Activity	
Asterisk or slash	
Solid Waste?	
Hazardous Waste?	

Exercises

Problem 4 Answers	
Secondary Material	Listed sludge
Activity	Use constituting disposal
* or -	*
Solid Waste?	Yes
Hazardous Waste	Yes
Details	No hazardous sludges can be land applied.

Sign up for GovDelivery

Receive the I&HW Quarterly update, and notification of IHW forms, rule, guidance, and procedure updates:

http://www.tceq.texas.gov/permitting/waste_permits/ihw_permits/signupihw

How to Contact Us

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The End!

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