# Resource Conservation and Recovery Act, 42 USC 6901, et seq.

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Mary Ellen Ternes, B.E. (ChE), J.D. Partner, Earth & Water Law, LLC



Earth & Water Lawuc

SOLUTIONS FOR BUSINESS AND THE PLANET

## Resources

- ▶ 42 U.S.C. § 6901, et seq.
- 40 C.F.R. Part 239-258 solid waste
- ▶ 40 C.F.R. Part 260-272 hazardous waste
- 40 C.F.R. Part 273 universal waste
- 40 C.F.R. Part 279 used oil
- 40 C.F.R. Part 280 underground storage tanks
- EPA RCRA Orientation Manual, at https://www.epa.gov/sites/production/files/2015-07/documents/rom.pdf
- EPA RCRA Hazardous Waste Pages, at:
  - https://www.epa.gov/hw
  - https://www.epa.gov/enforcement/waste-chemical-and-cleanup-enforcement#cleanup
  - https://www.epa.gov/compliance/resource-conservation-and-recovery-act-rcra-compliance-monitoring
- EPA's "List of Lists" with CERCLA and RCRA lists: https://www.epa.gov/sites/production/files/2015-03/documents/list\_of\_lists.pdf
- EPA Enforcement Database (choose "hazardous waste"), see: https://echo.epa.gov/
- EPA "RCRA Online" database (older guidance repository, updated Oct. 2017, watch broken links), see: https://yosemite.epa.gov/osw/rcra.nsf/how+to+use?OpenForm=

On October 21, 1976, Congress enacted amendments to the 1965 Solid Waste Disposal Act bringing the generation, management and disposal of solid and hazardous waste under federal regulation.

What is RCRA?

The Resource Conservation and Recovery Statute:

Waste Management Statute that regulates from "Cradle to Grave"

(as amended, Hazardous and Solid Waste Amendments, 1984)

#### **Regulates:**

Hazardous Waste Management from generation to disposal or reuse (RCRA Subtitle C)
Solid Waste Management (RCRA Subtitle D)

•Underground Storage Tanks (RCRA Subtitle I) •Solid Waste disposal requirements

- •RCRA hazardous waste definition, classification
- •Hazardous Waste determination by generator
- •Recordkeeping requirements to ensure tracking hazardous from generation through to disposal or reuse
- •Performance standards for management upon generation through to disposal
- •Treatment standards for treatment of hazardous waste
- •Disposal requirements for disposal of hazardous waste
- Waste minimization

Requires

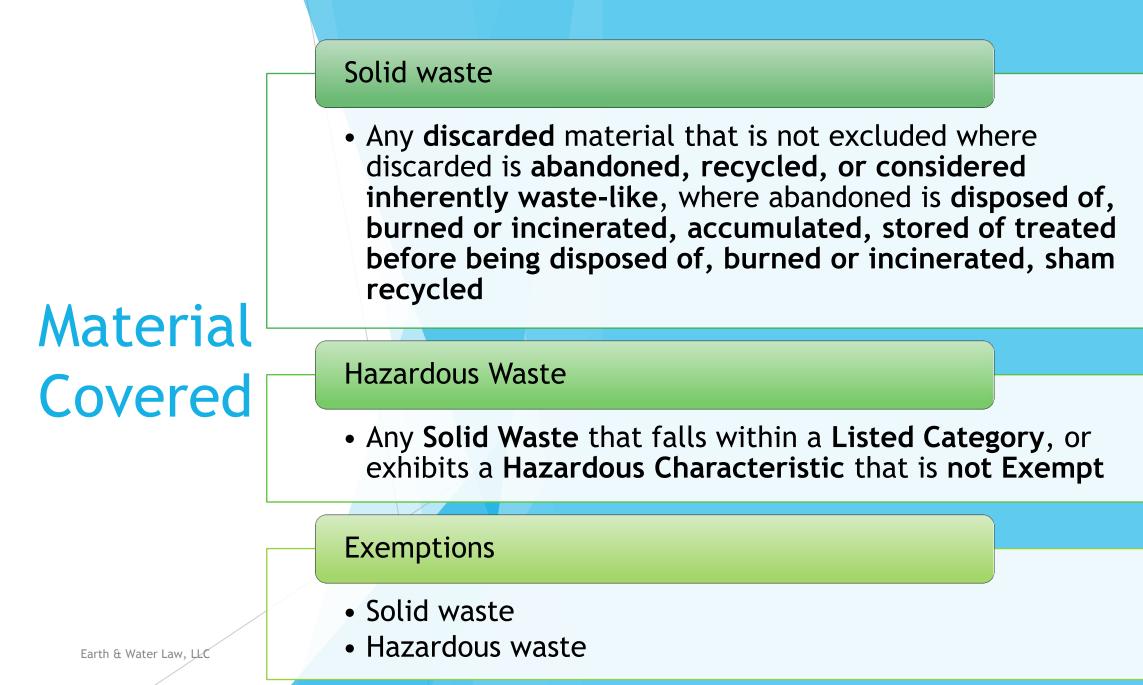
#### **Provides:**

- Civil and criminal penalties and citizen suits
- Delegated to States for implementation upon approval of state program no less stringent than federal, while EPA retains authority to enforce through "overfilling"

# RCRA "Cradle to Grave" covers "Generation" to "Disposal"

Figure III-1: RCRA's Cradle-to-Grave Hazardous Waste Management System





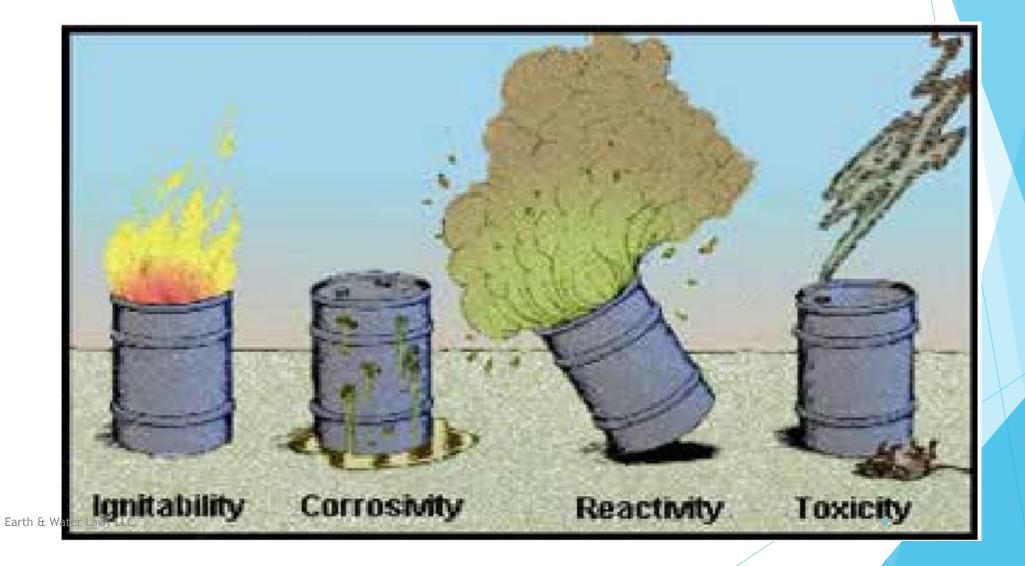
### Hazardous Waste

CERCLA	RCRA Characteristic	RCRA	Exemptions
Hazardous Substance	"D Codes"	Listed	
<ul> <li>300 plus substances</li> <li>metals</li> <li>chemicals</li> <li>RCRA Characteristic Hazardous Wastes and Some Listed</li> <li><b>fscluding</b> exempted substances such as "petroleum or fractions thereof"</li> </ul>	<ul> <li><u>D001</u> - Ignitable (flash point, for liquids)</li> <li>alcohols or solvents, compressed gases or solid oxidizers</li> <li><u>D002</u> - Corrosive (pH)</li> <li>lemon juice, bleach,</li> <li><u>D003</u> - Reactive</li> <li>readily explodes or undergoes violent reactions such as phosphorus</li> <li><u>D004 - D043</u> - Toxic</li> <li>TCLP for a RCRA metal, chlorinated solvent, etc.</li> </ul>	<ul> <li>F List -Non-specific sources</li> <li>K List -Specific Sources - Discarded</li> <li>P List - Acutely Hazardous</li> <li>U List -Toxic</li> <li>Mixture Rule - characteristic and listed</li> <li>Derived-From Rule</li> </ul>	It's NOT Solid Waste It's NOT Hazardous Waste

## Hazardous Waste

CERCLA Hazardous Substance	RCRA Characteristic "D Codes"	RCRA Listed	Exemptions
<ul> <li>300 plus substances</li> <li>metals</li> <li>chemicals</li> <li>RCRA Characteristic Hazardous Wastes and Some Listed</li> <li>Excluding exempted substances such as "petroleum or fractions thereof"</li> </ul>	<ul> <li><u>D001</u> - Ignitable (flash point, for liquids)</li> <li>alcohols or solvents, compressed gases or solid oxidizers</li> <li><u>D002</u> - Corrosive (pH)</li> <li>lemon juice, bleach,</li> <li><u>D003</u> - Reactive</li> <li>readily explodes or undergoes violent reactions such as phosphorus</li> <li><u>D004 - D043</u> - Toxic</li> <li>TCLP for a RCRA metal, chlorinated solvent, etc.</li> </ul>	F List -Non-specific sourcesK List -Specific Sources - DiscardedP List -Specific Sources - DiscardedU List - Acutely HazardousU List -ToxicMixture Rule - characteristic and listedDerived-From Rule	It's NOT Solid Waste It's NOT Hazardous Waste
Earth & Water Law, LLC		7	

## **RCRA Characteristic Wastes**



### Hazardous Waste

CERCLA	RCRA Characteristic	RCRA	Exemptions
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# Making Sense of RCRA Listings

#### Inherently Waste-like

- F Codes Waste derived from 7 groups of NonSpecific Sources including spent solvents, metal finishing such as electroplating, dioxins, chlorinated aliphatic hydrocarbons, wood preservation, petroleum refinery wastewater treatment sludge, multisource leachate
- K Codes Waste derived from 13 groups of Specific Sources including wood preservation, inorganic pigment, organic chemicals, inorganic chemicals, pesticides, explosives, petroleum, iron and steel, primary aluminum secondary lead processing, veterinary pharmaceuticals, ink, coking

#### **Discarded Commercial Chemical Products**

- **P Codes** ACUTELY HAZARDOUS
- **U Codes** TOXIC

### Hazardous Waste

CERCLA	RCRA Characteristic	RCRA	Exemptions
Hazardous Substance	"D Codes"	Listed	
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# Exemptions, 40 CFR 261.4

### **Solid Waste**, 40 CFR 261.4(a)

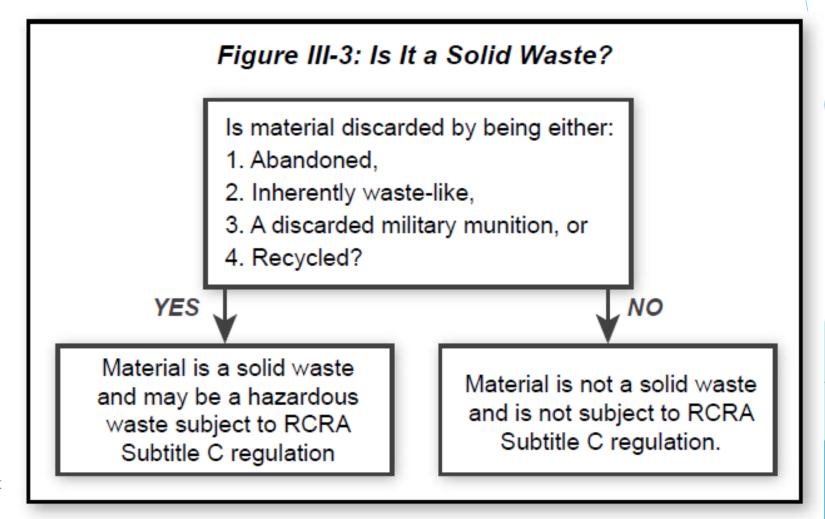
Domestic Sewage, clean water act regulated point source discharges, irrigation return flow, radioactive waste, in-situ mining, pulping liquors, spent sulfuric acid, reclamation in enclosed tanks, spent wood preservatives, coke by-product wastes, splash condenser dross residue, hazardous secondary materials from petroleum refining, excluded scrap metal, shredded circuit boards, pulping condensates from kraft mill steam strippers, spent materials from primary mineral processing where recovered, petroleum refining liquids used for cresylic or naphthenic acid production, zinc fertilizers from hazardous wastes, used cathode ray tubes, solvent contaminated wipes when sent for cleaning and reuse, <u>hazardous</u> secondary material when reclaimed or remanufactured.

#### Hazardous Waste, 40 CFR 261.4(b)

Household hazardous waste, agricultural waste, mining overburden, fossil fuel combustion waste (Bevill), oil, gas and geothermal wastes (Bentsen Amendment), trivalent chromium wastes, mining and mineral processing wastes (Bevill), cement kiln dust (Bevill), arsenical-treated wood, petroleum contaminated media & debris from underground storage tanks, injected groundwater, spent chlorofluorocarbon refrigerants, used oil filters, used oil distillation bottoms, landfill leachate or gas condensate derived from certain listed wastes, project XL pilot project exclusions.



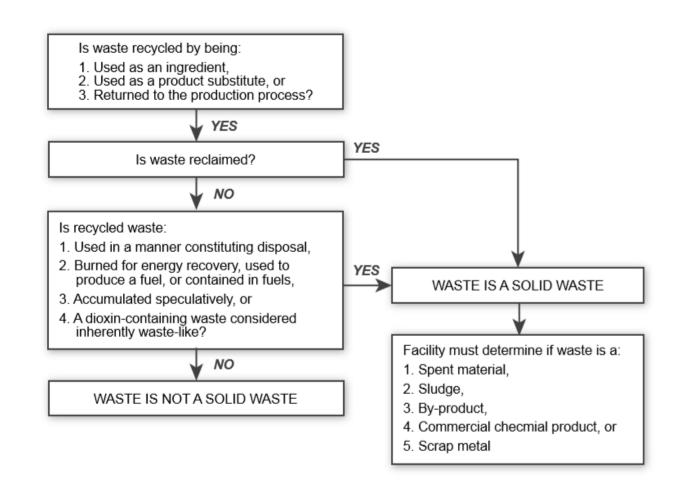
# Continued Use, Recycling and Reuse





# Continued Use, Recycling and Reuse

#### Figure III-2: Are All Recycled Wastes Hazardous Wastes?



## If it is a solid waste, it may also then be a hazardous waste when...

	Reclaimed	Used in a Manner Constituting Disposal	Burned for Energy Recovery, Used to Produce a Fuel, or Contained in Fuels	Accumulated Speculatively
Spent Materials	$\odot$	$\odot$	$\odot$	0
Listed Sludges	0	$\odot$	$\overline{\mathbf{O}}$	0
Characteristic Sludges		0	0	0
Listed By-Products	0	$\odot$	$\overline{\mathbf{O}}$	0
Characteristic By-Products		0	0	0
Commercial Chemical Products		<b>©</b> *	<b>⊘</b> *	
Scrap-Metal	0	0	0	0

### Activities and Persons Covered: Owners and Operators of RCRA "Facilities"

### Generation

### Storage

Identify - Complete HW "Determination" upon "Generation" using generator knowledge or chemical analysis using EPA methods, e.g., TCLP

Count -LQG (>1000 kg/m, 90 days), SQG (>100 kg/m, 180/270 days), V/CESQG (<100 kg/m)

Notify - EPA ID Number

Manage - accumulation time limits and technical standards for containers (good condition, closed, centralized location), tanks (secondary containment), drip pads and containment buildings

**Air Emissions** 

Waste Minimization

Personnel Training

Preparedness and Prevention

Contingency Plan and Emergency Procedures

**Recordkeeping and Reporting** 

Manifests and Labelling for shipping HW waste offsite for proper treatment and disposal TSD Permitting - imposing general facility standards where storage is not permit exempt, as well as Waste Analysis Plan and specific standards including:

Manage -accumulation time limits and technical standards for containers, tanks, surface impoundments, waste piles

Air Emissions and waste minimization

Personnel Training

Preparedness and Prevention

Contingency Plan and Emergency Procedures

Recordkeeping and Reporting

Financial Assurance

Corrective Action - releases, GW monitoring, closure and post-closure

### Treatment and Disposal

**TSD Permitting** - imposing general and applicable specific standards previously listed, as well as:

**Operate** - technical standards for treatment and disposal facilities:

**Treatment** - Land treatment, Thermal, physical, chemical, biochemical and other treatment processes,

**Disposal** - Landfills, Incinerators, Underground injection, Drip pads, etc.

Disposal includes:

- Use Constituting Disposal

- Burning for Energy Recovery, Used to Produce a Fuel, Contained in Fuels

-Speculative accumulation

-Dioxin=-Containing Wastes are inherently waste-like regardless of treatment method

Land Disposal Restrictions

#### Reuse and Recyling

No permitting required for Continued Use or Legitimate Recycling process **unless**, when recycled, materials are solid and hazardous wastes when recycled.

No "Sham Recycling"\*:

- Ineffective or only marginally effective for claimed use

- Used in excess of the amount necessary

- Handled in a manner inconsistent with use as a raw material or commercial product substitute

- Recycled product is not comparable to a product made form analogous raw material\*

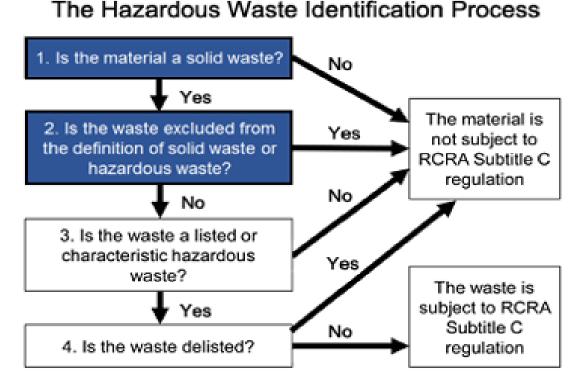
See API v. EPA, (D.C. Cir.) (2017) and (2018), discussed below

## What does Hazardous Waste Look Like?



- But it can look like household waste too, including any waste like:
  - Half empty bleach bottle (corrosive)
  - Half empty isopropyl alcohol bottle (ignitable)
  - Any kind of battery (toxic)
  - Mercury thermometers (toxic)

You open the process to clean it out and begin a new batch, placing unreacted chemicals, byproducts and other residue (sludge) in a drum thereby generating waste, then...



Click on a step in the hazardous waste identification process for

Earth & Water Law, LLC more information.

# Labeling Manifesting

#### HAZARDOUS FEDERAL LAW PROHIBITS IMPROP ER DISPOSAL.

IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY.

HANDLE WITH CARE!

ADDRESS	PI	IONE
CITY	STATE	20
ID NO. / DOCUMENT NO		1
ACCUMULATION	WASTE NO.	

1	8, Designated Facility Name and Site Address			U.S. EPAID	Number			
Ш	unageness reality mens and an manual 0.0 CPND RENDER							
L								
L	Facilit/s Phone:							
	Bo. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, HM and Packing Group (if any)	10. Conta No.	Type	11. Total Quantity	12 Uhit Wt./Vol.	13. Was	ste Codes	
GENERATOR -							_	
- GENEL	2							
	3							
	14. Special Handling Instructions and Additional Information							
	15. GENERATOR'S DEFERCR'S CERTFICATION: Thereby declare that the content of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled ylacarded, and are in all respects in proper conductor for transport according to applicable international and national growmmental regulations. If export shipment and I am the Primary Exporter, Lorefly that the contents of this consignment contains to be learns of the above displacement and exporters to any exporter. The substance of the above displacement of this consignment contains to be learns of the above displacement of the content of this consignment contains to be learned of the Above displacement of the content of this consignment contains to be learned of the Above displacement of the content of this consignment contains to be learned of the Above displacement of the content of the content of this consignment contains to be learned of the Above displacement of the content of the content of this consignment contains to be learned of the Above displacement of the content of the content of this consignment contains to be learned of the above displacement of the content							
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Page 1 of 3. Emergency Response Phone

Generator's Site Address (If different than mailing address)

Please print or type.

WASTE MANIFEST 5. Generator's Name and Mailing Address

Generator's Phone: 6. Transporter 1 Company Name

Printed/Typed Name

•

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete.

•

UNIFORM HAZARDOUS 1. Generator D

Number

•

•

Form Approved, OMB No. 2050-0039

Manifest Tracking Number

DESIGNATED FACILITY TO EPA's e-MANIFEST SYSTEM

U.S. EPA ID Numbe

# June 30, 2018 - e-Manifesting

- Paper, Electronic and Hybrid
- User fees Paper (\$20 \$7); e-Manifest (\$4)
- To use e-Manifest, need EPA ID Number to register and create account at <u>www.epa.gov/e-Manifest</u> (see https://www.epa.gov/e-manifest/monthlywebinars-about-hazardous-waste-electronic-manifest-e-manifest#materials)

	RCRAInfo	RCRAInfo Sign In		
	PICRAInto is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste	User Id		
	Amendments (HSVRA) of 1994. The system enables crade-to-grave waste fractions and social videor Amendments (HSVRA) of 1994. The system enables crade-to-grave waste fractions of many types of information responsing the regulated universe of FICRA hazardous waste handless. RCRUInfo	nt Password		
	enumention regaring the regulated universe or movies instantions where names is not account characterizes facility addisis, regulated activities, and compliance biointes in addition to capturing defailed data on the generation of hazardous waste from large quantity generators and on waste	Sign in		
	management practices from treatment, storage, and disposal facilities	Register	Forgot pastaword?	
	Warning Notice			
	In proceeding and accessing U.S. Government information and information systems, you acknowledge th			
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### Hazardous Waste in Context

CERCLA Hazardous Substance	RCRA Characteristic "D Codes"	RCRA Listed	Except Examples
About 800 substances - metals - chemicals	<ul> <li><u>D001</u> - Ignitable (flash point, for liquids)</li> <li>alcohols or solvents, compressed</li> </ul>	<u>F List</u> -Non- specific sources	Benzene - HS, D001, D018, F003, U018
<ul> <li>includes pollutants</li> <li>regulated by other</li> </ul>	gases or solid oxidizers <u>D002</u> - Corrosive (pH)	<u>K List</u> -Specific Sources -	Versus
statutes, such as RCRA with Characteristic	- lemon juice, bleach, D003 - Reactive	Discarded	HS exemption - Petroleum fraction
Hazardous Wastes and Some Listed	<ul> <li>readily explodes or undergoes</li> <li>violent reactions such as phosphorus</li> </ul>	<u>P List</u> - Acutely Hazardous	HW exemption - UST
-Excluding exempted	<u>D004 - D043</u> - Toxic - TCLP for a RCRA metal,	<u>U List</u> -Toxic	remediation
substances such as "petroleum or fractions	chlorinated solvent, etc.	Mixture and	
thereof" Earth & Water Law, LLC		Derived-From Rules <sup>21</sup>	

# Additional RCRA Requirements

- Universal Wastes ubiquitous categories of hazardous wastes classified for conditional exemption when properly managed per 40 C.F.R. Part 273:
  - Batteries, pesticides, mercury-containing equipment, bulbs
  - Less stringent management requirements
- Used Oil ubiquitous solid waste, managed separately in containers in good condition, not leaking, marked as "Used Oil," per 40 C.F.R. Part 279
  - Managed as hazardous wastes if mixed with listed hazardous wastes
- Underground storage tanks ubiquitous activity gas stations, regulated per 40 C.F.R. Part 280:
  - Strict requirements for design and operation including corrosion prevention, spill and overflow prevention, leak detection and groundwater monitoring
  - Broad exemptions for farms, septic, heating oil, hazardous waste, wastewater

### **RCRA Hot Topics**

Hazardous Waste Generator Improvements Rule

- Effective May 30, 2017, 81 Fed. Reg. 85,808 (Nov. 28, 2016), https://www.epa.gov/hwgenerators/final-rule-hazardous-waste-generator-improvements
- Provides for episodic generation to allow avoidance of LQG status
- Renames CESQG as VSQG and allows VSQG to send HW to LQG controlled by same entity

## **RCRA Hot Topics - Definition of Solid Waste**

### Legitimate Recycling

- American Petroleum Institute v. EPA, 862 F.3d 50 (D.C. Cir., July 7, 2017) Four Factors, codified from 1989 Lowrance Memo, at 40 CFR 260.43(a)(1)-(4), per Definition of Solid Waste, 80 Fed. Reg. 1694 (Jan. 13, 2015) (final rule):
  - 1. Hazardous Secondary Material must provide a useful contribution to the recycling process;
  - > 2. The recycling process must produce a valuable product or intermediate;
  - 3. Persons controlling the secondary material must manage the hazardous secondary material as a valuable commodity - UPHELD;
  - 4. The product of the recycling process must be comparable to the legitimate product or intermediates (expanded scope of 2008 "no toxics along for the ride" requirement)- VACATED.

## Definition of Solid Waste, 80 Fed. Reg. at 1773 (Jan 13, 2015)

(4) The product of the recycling process must be comparable to a legitimate product or intermediate:

(i) Where there <u>IS an analogous product or intermediate</u>, the product of the recycling process is comparable to a legitimate product or intermediate if:

(A) The product of the recycling process does not exhibit a hazardous characteristic (as defined in part 261 subpart C) that analogous products do not exhibit, and

(B) The concentrations of any hazardous constituents found in appendix VIII of part 261 of this chapter that are in the product or intermediate are at levels that are comparable to or lower than those found in analogous products or at levels that meet widely recognized commodity standards and specifications, in the case where the commodity standards and specifications include levels that specifically address those hazardous constituents.

(ii) Where there IS NO analogous product, the product of the recycling process is comparable to a legitimate product or intermediate if:

(A) The product of the recycling process is a commodity that meets widely recognized commodity standards and specifications (e.g., commodity specification grades for common metals), or

(B) The hazardous secondary materials being recycled are returned to the original process or processes from which they were generated to be reused (e.g., closed loop recycling).

(iii) If the product of the recycling process has levels of hazardous constituents that are not comparable to or unable to be compared to a legitimate product or intermediate per paragraph (a)(4)(i) or (ii) of this section, the recycling still may be shown to be legitimate, if it meets the following specified requirements. The person performing the recycling must conduct the necessary assessment and prepare documentation showing why the recycling is, in fact, still legitimate. The recycling can be shown to be legitimate based on lack of exposure from toxics in the product, lack of the bio availability of the toxics in the product, or other relevant considerations which show that the recycled product does not contain levels of hazardous constituents that pose a significant human health or environmental risk. The documentation must include a certification statement that the recycling is legitimate and must be maintained on-site for three years after the recycling operation has ceased. The person performing the recycling must notify the Regional Administrator of this activity using EPA Form 8700-12.

## **RCRA Hot Topics - Redefinition of Solid Waste**

### Legitimate Recycling

- American Petroleum Institute v. EPA, No. 09-1038 (D.C. Cir., Mar. 6, 2018) clarifies 2017 decision
  - 2015 Factor 4 VACATED regarding all RCRA exclusions including Generator-Controlled and Transfer-Based Exclusions
  - Reinstated 2008 Factor 4 requires consideration of "toxics along for the ride" in determining whether recyclable material is a solid waste when recycled

# Definition of Solid Waste, 73 Fed. Reg. at 64,759 (Oct. 30, 2008)

(2) The product of the recycling process does not:

(i) Contain significant concentrations of any hazardous constituents found in Appendix VIII of part 261 that are not found in analogous products; or

(ii) Contain concentrations of any hazardous constituents found in Appendix VIII of part 261 at levels that are significantly elevated from those found in analogous products; or

(iii) Exhibit a hazardous characteristic (as defined in part 261 subpart C) that analogous products do not exhibit.

## **Questions?**

# Mary Ellen Ternes Maryellen.ternes@earthandwatergroup.com

Mary Ellen Ternes | Earth & Water Law, LLC 5030 North May Avenue, No. 324, Oklahoma City, OK 73112 (202) 280-6362 (m) (405) 286-2042 (d) (405) 706-5794 (c) www.earthandwatergroup.com

