

# Five Common Misconceptions Associated With Hazardous Waste Management

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**Key Words:** RCRA, hazardous waste,  
satellite accumulation, TCLP, F List, U List

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## Abstract

**This presentation will provide clarification of five hazardous waste management requirements that are frequently misunderstood:**

1. Defining the proper hazard category of solvent wastes (F-listed, U-listed, other?)
2. Large Quantity Generators emergency arrangements with local authorities
3. When other analyses can substitute for a TCLP
4. Defining a Satellite Accumulation Area
5. The recycle exemption

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Hazardous Waste Management Strategies:

# Five Common Misconceptions Associated With Hazardous Waste Management

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Texas A&M University System



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# Number 1

Identifying solvent waste as F-listed or U-listed just because they contain F-listed or U-listed solvents as ingredients.

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## F-Listed Solvents

40 CFR Ch. I (7-1-80 Edition)

Industry and EPA hazardous waste file	Hazardous waste	Hazard code
Generic: F001	The following spent (or treated) solvents, when they are: (1) Tetrachloroethylene, perchloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, and chlorinated fluorocarbons; all spent solvents containing bromine, a total of 10 percent or more by volume of the above listed organic solvents; and all spent solvents from the above listed sources.	(T)
FOU1	The following spent (or treated) solvents, when they are: (1) Tetrachloroethylene, perchloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, and chlorinated fluorocarbons; all spent solvents containing bromine, a total of 10 percent or more by volume of one or more of the above listed organic solvents; and all spent solvents from the above listed sources.	(T)
F003	The following spent (or treated) solvents, when they are: (1) Tetrachloroethylene, perchloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, and chlorinated fluorocarbons; all spent solvents containing bromine, a total of 10 percent or more by volume of one or more of the above listed organic solvents; and all spent solvents from the above listed sources.	(T)

**Spent**

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## F-Listed Solvents

### Spent

The spent solvent listings (F001-F005) apply to only those solvents that are used for their "solvent" properties, such as to mobilize or dissolve other constituents, and not those used as an ingredient in the formulation of a commercial chemical product. (50 FR 53315; December 31, 1985).

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## U-Listed Solvents

§ 261.33

§ 261.33 Discarded commercial chemical products, off-specification materials, containing residues, and spill residues thereof.

The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded or, described in § 261.20(f)(1), when they are mixed with waste oil or used oil or other material and applied to the land for that application or read cross-media when they are otherwise applied to the land in lieu of their original intended use or when they are contained in products that are applied to the land in lieu of their original intended use, or when, in lieu of their original intended use, they are produced for use or use as a component of a fuel, distributed for use...

(d) Any commercial chemical product or manufacturing chemical intermediate having the generic name listed in... refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use which consists of the commercially pure grade of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient. It does not refer to a material, such as a manufacturing process waste, that contains any of the substances listed in paragraph (e) or (f). Where a manufacturing process waste is deemed to be a hazardous waste because it contains a substance listed in paragraph (e) or (f), such waste will be listed in either § 261.31 or § 261.32 or will be identified as a hazardous waste by the characteristics set forth in subpart C of this part.

Commercial  
Chemical  
Product

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## U-Listed Solvents

[Comment: The phrase "commercial chemical product or manufacturing chemical intermediate having the generic name listed in..." refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use which consists of the commercially pure grade of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient. It does not refer to a material, such as a manufacturing process waste, that contains any of the substances listed in paragraph (e) or (f). Where a manufacturing process waste is deemed to be a hazardous waste because it contains a substance listed in paragraph (e) or (f), such waste will be listed in either § 261.31 or § 261.32 or will be identified as a hazardous waste by the characteristics set forth in subpart C of this part.]

Pure Grade  
Technical  
Grade  
Sole Active  
Ingredient

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## U-Listed Solvents

### CCP - Commercial Chemical Products

261.33(d) states that "[t]he phrase 'commercial chemical product or manufacturing chemical intermediate having the generic name listed in...,' refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use and which consists of the commercially pure grade of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient." EPA Faxback 13530 March 1992

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**Example 1**

Roofing adhesive in 5 gallon pails contains acetone, toluene, and isobutanol. While being lifted to the roof, the load shifts and all of the pails fall to the unpaved ground releasing their contents. Acetone (U002), is on the F003 list and toluene (U220), and isobutanol (U140), is on the F005 list. Is the waste generated from the cleanup “F” or “U” listed?

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**Example 1**

The cleanup waste is not “F” listed because the solvents were not *spent* (used in a process).

The cleanup waste is not “U” listed because the adhesive was a “chemical mixture” where the listed chemical (acetone, toluene, or isobutanol), is neither *chemically pure, technically pure,* or the *sole active ingredient.*

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**Example 2**

A facility thins a paint product with toluene (F005 listed solvent) of greater than ten percent concentration before applying the paint to the facility, would any unused paint be considered F005 if it is disposed?

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**Example 2**

The paint mixture would not be considered a listed F005 waste when disposed. Although the toluene, when a spent solvent, meets the F005 listing description, use of a solvent as an ingredient is not covered by the spent solvent listings. Thus, when unused solvent is added to a product (e.g., paint, ink) as an ingredient, any unused product being disposed would not carry an F listing. However.....

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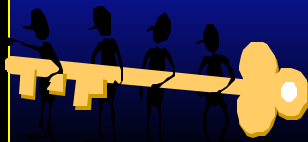
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**Example 2**

..... if the solvent served as the sole active ingredient for the function of the product (i.e., a solvent), then the disposed unused product may be a P- or U- listed hazardous waste. EPA Faxback 14109

Spent  
Solvent  
Pure Grade  
Technical Grade  
Sole Active Ingredient



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**Number 2**

**Failing to make arrangements with local authorities.**

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## LQG Notifications

### 40CFR 262.34(a)(4)

marked clearly with the words, "Hazardous Waste"; and

(4) The generator complies with the requirements for owners or operators in subparts C and D in 40 CFR part 265, with §265.16, and with 40 CFR 268.7(a)(4).

(b) A generator who accumulates hazardous waste for more than 90 days is an operator of a storage facility and is

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## LQG Notifications

### §265.37 Arrangements with local authorities.

(a) The owner or operator must attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for the services of these organizations:

(1) Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes;

(b) Where more than one police and fire department might respond to an



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## LQG Notifications

(4) Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

(b) Where State or local authorities decline to enter into such arrangements, the owner or operator must document the refusal in the operating record.



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## LQG Notifications

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(4) Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

(b) Where State or local authorities decline to enter into such arrangements, the owner or operator must document the refusal in the operating record.



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## Number 3

Requiring TCLP analysis when Totals analysis will do.

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## TCLP vs. Totals

- TCLP is performed on solids, not liquids
- Totals analysis is less costly
- Totals analysis is quicker

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## TCLP vs. Totals

- Under TCLP, liquid wastes containing less than 0.5% dry solids do not require extraction.
- Any hazardous constituents will already be in the liquid - there is nothing to “leach out” from.
- Totals analysis is used on liquids to determine if the appropriate regulatory limits under 261.24 have been exceeded.

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## Totals vs. TCLP

- Section 1.2 of the TCLP states, if a total analysis of the waste demonstrates that individual analytes are not present in the waste, or that they are present but at such low concentrations that the appropriate regulatory levels could not possibly be exceeded, the TCLP need not be run.

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## The Rule of 20

- To evaluate the regulatory status of a 100% solid, a generator can simply divide each total constituent concentration by 20 and then compare the resulting *maximum theoretical leachate concentration* to the appropriate regulatory limit.

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## The Rule of 20

- The division factor, 20, reflects the 20-to-1 ratio of extraction fluid to solid used in the TCLP analysis.
- If no *maximum theoretical leachate concentration* equals or exceeds the appropriate regulatory limit, the solid **cannot** exhibit the toxicity characteristics and the TCLP need not be run. EPA Faxback 13647

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### Example 1

The total constituent concentration for sand blast grit shows lead at 85 mg/kg.

85 mg/kg divided by 20 = 4.25

The regulatory limit for lead is 5.0 mg/L

4.25 is less than 5.0 - the *maximum theoretical leachate concentration* was not exceeded

The sand blast grit is not characteristically hazardous for lead under 261.24

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## Number 4

Improper identification  
of Satellite  
Accumulation Areas.

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## Satellite Accumulation

### 40CFR 262.34(c)(1)

(c)(1) A generator may accumulate as much as 55 gallons of hazardous waste or one quart of acutely hazardous waste listed in § 261.33(e) in containers at or near any point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste, without a permit or interim status and without complying with paragraph (a) of this section provided he:

(i) Complies with §§ 265.171, 265.172, and 265.173(a) of this chapter; and

(ii) Marks his containers either with



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## Satellite Accumulation

- Generators may accumulate up to 55 gallons of hazardous waste or 1 quart of acutely hazardous waste in Satellite Accumulation Areas provided the waste is collected:
  - “at or near any point of generation where wastes initially accumulate”
  - and
  - “under the control of the operator of the process generating the waste”

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## Satellite Accumulation

- EPA did not specify the type, size, or number of containers that may be used to accumulate waste in a satellite area.
- A container storing waste in a satellite area may be “any portable device in which material is stored, transported, treated, or disposed of, or otherwise handled.”

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**Satellite Accumulation**

- EPA did not put any restrictions on the types of waste that may be stored in satellite areas or on the amount of time that wastes may be stored in these areas.
- The satellite accumulation provisions do not require that satellite accumulation areas be labeled, marked, or otherwise designated as satellite accumulation areas.

EPA 7/1/93 RCRA Information Brief

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**Satellite Accumulation**

- The quantity limits, 55 gallons/1 quart acutely hazardous, apply to the total quantity of hazardous waste accumulated at a satellite area.
- The 90-day period begins on the date that the waste is removed from the satellite accumulation area or when the 55gallon/1quart amount is exceeded.

EPA 7/1/93 RCRA Information Brief

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**Satellite Accumulation**

- EPA did not limit the number of satellite accumulation areas that may be located at a generator's site or on the total amount of waste that may be accumulated when more than one satellite accumulation area is located at the generator's site.



EPA 7/1/93 RCRA Information Brief

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**Satellite Accumulation**

So what's the problem?!?



40CFR 262.34(c) does not require that a satellite accumulation area be within a certain distance of, or within the same structure as the process generating the waste.

EPA 7/1/93 RCRA Information Brief

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**Satellite Accumulation**

So what's the problem?!?



**Interpretation**

To some enforcement personnel, this means within the same structure as the process generating the waste. EPA 7/1/93 RCRA Information Brief

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**Example 1**

Due to space limitations within a laboratory, the 55-gallon solvent waste drum is kept locked in a storage closet right outside the lab. Lab employees empty small amounts of waste solvents into a 2-gallon metal solvent can. At the end of the day, or when full, the 2-gallon can is emptied into the 55-gallon satellite drum. Does this method meet the satellite accumulation requirements?

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**Example 1**

The 2-gallon solvent can is considered the satellite accumulation container since this is where the solvent waste is “initially accumulated at or near the point of generation.”

If the solvent waste was directly poured into the 55-gallon drum, then this would be the satellite accumulation area even though it is not in the same room as where the waste was generated.

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**Number 5**

Assuming hazardous waste that will be recycled is exempt from RCRA regulations.

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**Recyclable Hazardous Waste**

**§261.6 Requirements for recyclable materials.**

(a)(1) Hazardous wastes that are recycled 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. Hazardous wastes that are recycled will be known as “recyclable materials.”

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## Recyclable Hazardous Waste

- RCRA Subtitle C has jurisdiction over hazardous waste recycling.
- Hazardous wastes that are recycled are known as “Recyclable Materials”



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## Recyclable Hazardous Waste

- Hazardous Wastes that are recycled are subject to the requirements for Generators, Transporters, and TSDFs.
- The recycling unit itself is exempt from RCRA regulation.
- RCRA regulates the waste prior to recycling.
- RCRA regulates any new waste after recycling.

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## Recyclable Hazardous Waste

- When a material is classified as a solid waste because it is recycled (and does not qualify for an exemption in 261.2(e)) and it meets the the definition of a hazardous waste, 261.6 and 261.9 are used to determine the level of regulation placed on the waste and the recycling activity.

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## Recyclable Hazardous Waste

- 261.6
  - Requirements for recyclable materials
- 261.9
  - Requirements for Universal Waste

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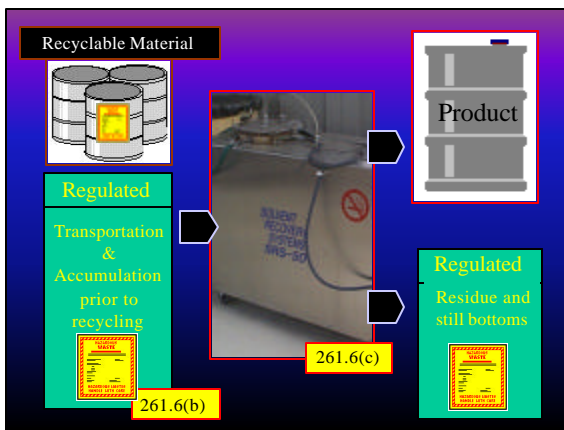
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## Recyclable Hazardous Waste

- Recyclable Materials that do not meet an exemption or are not subject to special requirements are regulated under:
  - 261.6(b) - Generators and Transporters
  - 261.6(c) - Facilities
  - 261.6(d) - Compliance with Air Emission

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