

HAZARDOUS WASTE
THE TOXICITY CHARACTERISTIC

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900 THREADNEEDLE

HOUSTON, TX 77079

CTL019615

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WHY IS THIS IMPORTANT?

- COST
- LIABILITY
- PRODUCT/RAW MATERIAL CHOICE

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KEY POINTS

- THIS APPLIES TO WASTE
- SUSPENSION PVC WASTE IS UNLIKELY TO BE HAZARDOUS
- MANY MORE WASTES WILL BE HAZARDOUS
- WASTEWATER IMPOUNDMENTS COULD BE REGULATED

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BACKGROUND

RCRA - RESOURCE CONSERVATION AND
RECOVERY ACT (1976)

HSWA - HAZARDOUS AND SOLID WASTE ACT
(1984)

DEFINITION OF HAZARDOUS WASTE

- * Listed waste (K019, K020)
- * Characteristic waste (Ignitable, Reactive, Corrosive, EP Toxic)

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EP TOXICITY

- EP - EXTRACTION PROCEDURE
- EXTRACT WASTE FOR 24 HOURS WITH ACIDIC AQUEOUS SOLUTION
- ANALYZE LEACHATE
- WASTE IS HAZARDOUS IF LEACHATE CONTAINS ABOVE REGULATORY LEVELS

* 8 Metals

* 6 Pesticides

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EP TOXICITY REGULATORY LEVELS (mg/l)

ARSENIC	5.0
BARIUM	100.0
CADMIUM	1.0
CHROMIUM	5.0
2,4-D	10.0
ENDRIN	0.02
LEAD	5.0
LINDANE	0.4
MERCURY	0.2
METHOXYCHLOR	10.0
SELENIUM	1.0
SILVER	5.0
TOXAPHENE	0.5
2,4,5-TP	1.0

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TCLP/TC

- TCLP - TOXICITY CHARACTERISTIC
LEACHING PROCEDURE
- TC - TOXICITY CHARACTERISTIC

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TIMING

- PROPOSED - JUNE 13, 1986
- FINAL - MARCH 29, 1990
- EFFECTIVE DATE - SEPTEMBER 25, 1990
LARGE QUANTITY GENERATORS
- EFFECTIVE DATE - MARCH 29, 1991
SMALL QUANTITY GENERATORS

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TCLP - THE PROCEDURE

- 18 HOUR EXTRACTION OF WASTE
- AQUEOUS ACIDIC SOLUTION
- ZERO HEADSPACE EXTRACTOR
- WASTE IS HAZARDOUS IF EXTRACT CONTAINS ABOVE REGULATORY LEVELS
 - * 8 Metals
 - * 6 Pesticides
 - * 26 Organics
- LEACHING SOLUTION IS MORE AGGRESSIVE THAN THAT USED FOR EP

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IMPACT OF TC

● NEW REGULATORY LEVELS

- * EDC 0.5 mg/l (500 ppb)
- * VCM 0.2 mg/l (200 ppb)
- * BENZENE 0.5 mg/l (500 ppb)

● WHAT COULD NOW BE HAZARDOUS?

- * Contaminated soil
- * Equipment cleanout
- * Sludge
- * Wastewater
- * Liquid residues

● SUSPENSION PVC – OK

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TC WASTEWATER TREATMENT

- SURFACE IMPOUNDMENTS RECEIVING
HAZARDOUS WASTE
- PERMITS REQUIRED TO OPERATE
- IMPOUNDMENT MODIFICATIONS REQUIRED

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LDR - LAND DISPOSAL RESTRICTION

EPA HAS FINALIZED 5 MAJOR RULES LIMITING
LAND DISPOSAL OF HAZARDOUS WASTE

LAND DISPOSAL INCLUDES

- * Landfill
- * Landfarm
- * Storage piles
- * Surface impoundments

TC - LAND DISPOSAL RESTRICTION IN
1 TO 3 YEARS

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AFTER TC LDR

- TC WASTES WILL NEED TO BE DESTROYED OR PRETREATED BEFORE LAND DISPOSAL
- SURFACE IMPOUNDMENTS RECEIVING TC WASTES MUST STOP

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SUMMARY

MORE WASTES WILL BE HAZARDOUS

DISPOSAL COST WILL INCREASE

DISPOSAL OPTIONS MAY BE LIMITED

TREATMENT IN SURFACE IMPOUNDMENTS RESTRICTED

SUSPENSION PVC IS OK

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TC REGULATORY LEVELS (mg/l)

ARSENIC	5.0
BARIUM	100.0
BENZENE	0.5
CADMIUM	1.0
CARBON TETRACHLORIDE	0.5
CHLORDANE	0.03
CHLOROBENZENE	100.0
CHLOROFORM	6.0
CHROMIUM	5.0
o-CRESOL	200.0
m-CRESOL	200.0
p-CRESOL	200.0
CRESOL	200.0

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MORE TC REGULATORY LEVELS (mg/l)

METHOXYCHLOR	10.0
METHYL ETHYL KETONE	200.0
NITROBENZENE	2.0
PENTACHLOROPHENOL	100.0
PYRIDINE	5.0
SELENIUM	1.0
SILVER	5.0
TETRACHLOROETHYLENE	0.7
TOXAPHENE	0.5
TRICHLOROETHYLENE	0.5
2,4,5-TRICHLOROPHENOL	400.0
2,4,6-TRICHLOROPHENOL	2.0
2,4,5-TP	1.0
VINYL CHLORIDE	0.2

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MORE TC REGULATORY LEVELS (mg/l)

2,4-D	10.0
1,4-DICHLOROBENZENE	7.5
1,2-DICHLOROETHANE	0.5
1,1-DICHLOROETHYLENE	0.7
2,4-DINITROTOLUENE	0.13
ENDRIN	0.02
HEPTACHLOR	0.008
HEXACHLOROBENZENE	0.13
HEXACHLOROBUTADIENE	0.5
HEXACHLOROETHANE	3.0
LEAD	5.0
LINDANE	0.4
MERCURY	0.2

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