

Crandall Corporation

PAINT BOOTH FILTER WASTE DETERMINATION

RCRA requires businesses to perform a waste determination on all wastes generated to determine whether or not each is a hazardous waste. This can be done by laboratory analysis or by using “generator’s knowledge”. However, “generator’s knowledge” is accepted only when sufficient data is available to appropriately support such a conclusion. Also, whenever “generator’s knowledge” is used, a written statement that identifies the waste as hazardous or non-hazardous, and the data used, should be kept.

In a paint booth, the filter acts as an absorbent of paint overspray. Also, *paint booth filters are often used to absorb waste solvent from the cleaning out of spray gun equipment*. As such, the filters become contaminated with paint and/or spent solvents.

There are three ways paint booth filters can be hazardous when disposed: Characteristic, TCLP Metals, or Listed . They can be ignitable, contain regulated concentrations of toxic heavy metals, and/or they may become contaminated with an F-listed spent solvent.

Spent filters that are still “wet” are potentially hazardous for the characteristic of Ignitability (flash point < 140 F). Because many layers of paint may be on the filters, there is potential for any of the underlying layers to be wet.

Depending on the type of paints used, the potential also exists for the spent filter to be hazardous for one or more toxic RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver. Determine which, if any, of the eight RCRA metals are listed as ingredients in each coating. Lead, barium, chromium, and cadmium are the most common. Be aware that the actual metal may be listed alone or as a part of another compound.

FOR EXAMPLE: ‘lead chromate’ contains lead and chromium ‘barium sulfate’ contains barium

Next, the paint booth filters should be analyzed for each of the RCRA metals contained in your paints to determine if they are at levels above the RCRA regulatory limit. If so, the filters are hazardous for the characteristic of Toxicity. The test required is the Toxicity Characteristic Leaching Procedure (TCLP).

It is also possible for paint filters to be considered F-listed hazardous waste. When cleaning the spray gun, **if the spent solvent is sprayed out in such a way that it comes into contact with the filters, those filters may become F-listed hazardous waste**, depending on the solvent(s) used. If the solvent is listed under F001, F002, F004, or F005 on the F-list in RCRA, **anything** the spent solvent contaminates may be considered hazardous waste. A common example of a solvent that becomes F-listed waste is lacquer thinner, since it frequently contains toluene and methyl ethyl ketone.

Be aware that a hazardous waste determination must be repeated whenever there is a change in products, processes, or procedures that could potentially affect whether the filters will be hazardous or non-hazardous.

Documentation of proper disposal must be kept on site for a minimum of three years. This includes any of the following: data and laboratory analyses used in the hazardous waste determinations, “generator’s knowledge” statements, uniform hazardous waste manifests, and disposal receipts from the disposal facility.

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Title 40: Protection of Environment

[PART 261—IDENTIFICATION AND LISTING OF HAZARDOUS WASTE](#)

[Subpart C—Characteristics of Hazardous Waste](#)

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§ 261.24 Toxicity characteristic.

(a) A solid waste (except manufactured gas plant waste) exhibits the characteristic of toxicity if, using the Toxicity Characteristic Leaching Procedure, test Method 1311 in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846, as incorporated by reference in §260.11 of this chapter, the extract from a representative sample of the waste contains any of the contaminants listed in table 1 at the concentration equal to or greater than the respective value given in that table. Where the waste contains less than 0.5 percent filterable solids, the waste itself, after filtering using the methodology outlined in Method 1311, is considered to be the extract for the purpose of this section.

(b) A solid waste that exhibits the characteristic of toxicity has the EPA Hazardous Waste Number specified in Table 1 which corresponds to the toxic contaminant causing it to be hazardous.

Table 1 —Maximum Concentration of Contaminants for the Toxicity Characteristic

EPA HW No. ¹	Contaminant	CAS No. ²	Regulatory Level (mg/L)
D004	Arsenic	7440-38-2	5.0
D005	Barium	7440-39-3	100.0
D018	Benzene	71-43-2	0.5
D006	Cadmium	7440-43-9	1.0
D019	Carbon tetrachloride	56-23-5	0.5
D020	Chlordane	57-74-9	0.03
D021	Chlorobenzene	108-90-7	100.0
D022	Chloroform	67-66-3	6.0
D007	Chromium	7440-47-3	5.0
D023	o-Cresol	95-48-7	⁴ 200.0
D024	m-Cresol	108-39-4	⁴ 200.0
D025	p-Cresol	106-44-5	⁴ 200.0
D026	Cresol		⁴ 200.0
D016	2,4-D	94-75-7	10.0
D027	1,4-Dichlorobenzene	106-46-7	7.5
D028	1,2-Dichloroethane	107-06-2	0.5
D029	1,1-Dichloroethylene	75-35-4	0.7
D030	2,4-Dinitrotoluene	121-14-2	³ 0.13
D012	Endrin	72-20-8	0.02

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D031	Heptachlor (and its epoxide)	76-44-8	0.008
D032	Hexachlorobenzene	118-74-1	³ 0.13
D033	Hexachlorobutadiene	87-68-3	0.5
D034	Hexachloroethane	67-72-1	3.0
D008	Lead	7439-92-1	5.0
D013	Lindane	58-89-9	0.4
D009	Mercury	7439-97-6	0.2
D014	Methoxychlor	72-43-5	10.0
D035	Methyl ethyl ketone	78-93-3	200.0
D036	Nitrobenzene	98-95-3	2.0
D037	Pentachlorophenol	87-86-5	100.0
D038	Pyridine	110-86-1	³ 5.0
D010	Selenium	7782-49-2	1.0
D011	Silver	7440-22-4	5.0
D039	Tetrachloroethylene	127-18-4	0.7
D015	Toxaphene	8001-35-2	0.5
D040	Trichloroethylene	79-01-6	0.5
D041	2,4,5-Trichlorophenol	95-95-4	400.0
D042	2,4,6-Trichlorophenol	88-06-2	2.0
D017	2,4,5-TP (Silvex)	93-72-1	1.0
D043	Vinyl chloride	75-01-4	0.2

¹Hazardous waste number.

²Chemical abstracts service number.

³Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.

⁴If o-, m-, and p-Cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used. The regulatory level of total cresol is 200 mg/l.

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