

SSPC: The Society for Protective Coatings

Technology Guide No. 7

GUIDE TO THE DISPOSAL OF LEAD-CONTAMINATED SURFACE PREPARATION DEBRIS

1. Scope

1.1 This guide provides information regarding handling, testing, and disposal of solid debris generated during preparation of surfaces previously painted with lead-containing paint.

1.2 This guide is based on U.S. federal regulations only. States or other local jurisdictions may have requirements that are stricter, such as requiring additional analytical procedures or regulating other metals. Non-hazardous waste containing lead is also regulated in some states.

1.3 This guide does not cover other waste streams such as discarded tarpaulins and personal protective equipment that may be contaminated with lead and must be tested to determine proper disposal.

1.4 This guide does not cover removal of the coating from the structure or containment of the debris. These activities are described in SSPC-Guide 6.

TABLE 1
TOXICITY LEACHATE LEVELS FOR METALS
(40 CFR 261 – as of October 1, 2013)

Element	Concentration mg/L	EPA Hazardous Waste Designation
Arsenic	5.0	D004
Barium	100.0	D005
Cadmium	1.0	D006
Chromium (total)	5.0	D007
Lead	5.0	D008
Mercury	0.2	D009
Selenium	1.0	D010
Silver	5.0	D011

1.5 While this guide is written primarily with reference to removing lead-based paints, other elements as presented in Table 1 may also cause the debris to be classified as a hazardous waste.

2. Description and Definitions

2.1 GENERAL: Surface preparation debris usually includes old paint, spent abrasives, corrosion products, dirt, dust, grease, and salts. Constituents such as lead, arsenic,

cadmium, chromium, or other heavy metals may result in the waste stream being classified as hazardous waste, requiring special handling and disposal. Under certain circumstances, special handling and disposal may also be required for non-hazardous wastes. It is important to note that surface preparation debris is not classified as hazardous waste until tested, although it must be regarded and handled as a hazardous material until shown to be non-hazardous. Certain waste streams, such as waste materials from chemical stripping, may also be subject to hazardous waste regulations because they are ignitable (D001), corrosive (D002) or reactive (D003).

2.2 OUTLINE OF PROCEDURE: The major activities covered in this guide are as follows:

2.2.1 Site Procedures Prior to and Including Classifying Waste (Section 5): These include collecting, packaging, transporting to a temporary storage area, as well as temporary storage, sampling, testing, and classifying waste.

2.2.2 Procedures for Disposing of Hazardous Waste (Section 6): The generator must obtain an EPA ID number and determine the disposal options. For disposing of waste offsite, the generator must select a TSD (treatment, storage, and disposal) site, select a waste hauler, prepare a manifest (see Figure 1), ship the waste, and prepare a biennial report. For treatment of waste on-site, in accumulation containers, the generator must determine the time allowed for treatment, select a treatment method, prepare and submit a waste analysis plan, obtain EPA approval, treat the waste, and verify that it is non-hazardous and can be disposed of at a non-hazardous site.

2.2.3 Procedures for Disposing of Non-Hazardous Waste (Section 7): The generator must identify any state or local requirements or restrictions, select a non-hazardous disposal facility, and ship the waste to the facility.

2.2.4 Commentary (Section 8): In addition, the guide provides an extensive commentary section discussing regulations, testing and sampling procedures, and other important considerations.

2.3 DEFINITIONS

Beneficial Reuse: Use of a waste material as a raw ingredient for another process to reduce or eliminate a waste stream.

FIGURE 1 HAZARDOUS WASTE MANIFEST

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

GENERATOR ↑ ↓	UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number		2. Page 1 of		3. Emergency Response Phone		4. Manifest Tracking Number					
	5. Generator's Name and Mailing Address						Generator's Site Address (if different than mailing address)							
	Generator's Phone:													
	6. Transporter 1 Company Name						U.S. EPA ID Number							
	7. Transporter 2 Company Name						U.S. EPA ID Number							
	8. Designated Facility Name and Site Address						U.S. EPA ID Number							
	Facility's Phone:													
	9a. HM		9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))				10. Containers		11. Total Quantity		12. Unit Wt./Vol.		13. Waste Codes	
							No. Type							
	1.													
2.														
3.														
4.														
14. Special Handling Instructions and Additional Information														
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.														
Generator's/Offoror's Printed/Typed Name						Signature		Month		Day		Year		
TRANSPORTER ↑ ↓	16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: _____													
	Transporter signature (for exports only): _____ Date leaving U.S.: _____													
	17. Transporter Acknowledgment of Receipt of Materials													
	Transporter 1 Printed/Typed Name						Signature		Month		Day		Year	
Transporter 2 Printed/Typed Name						Signature		Month		Day		Year		
DESIGNATED FACILITY ↑ ↓	18. Discrepancy													
	18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection													
	Manifest Reference Number: _____													
	18b. Alternate Facility (or Generator)						U.S. EPA ID Number							
	Facility's Phone:													
	18c. Signature of Alternate Facility (or Generator)						Month		Day		Year			
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)														
1.			2.			3.			4.					
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a														
Printed/Typed Name						Signature		Month		Day		Year		

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Generator means any person, by site, whose act or process produces hazardous waste or whose act first causes a hazardous waste to become subject to regulation¹ (The EPA considers both the owner and the contractor to be co-generators.)

Landfill - Subtitle C: A landfill permitted in accordance with Subtitle C of the Resource Conservation and Recovery Act for the disposal of hazardous waste.

Landfill - Subtitle D: A landfill permitted in accordance with Subtitle D of the Resource Conservation and Recovery Act for the disposal of non-hazardous waste.

Manifest: The shipping document U.S. EPA Form 8700-22 and, if necessary, U.S. EPA Form 8700-22A, originated and signed by the generator, transporter, and disposal firm to provide a paper trail for handling and disposal of hazardous waste. It must accompany the shipment to its destinations and must be signed by the transporter and disposer and then returned to the generator to keep on file.

On-Site: The same or geographically contiguous property, which could be divided by a public or private right-of-way, provided the entrance and exit between the properties is at a crossroads intersection, and access is by crossing as opposed to going along the right-of-way. Noncontiguous properties owned by the same person but connected by a right-of-way, which the owner controls and to which the public does not have access, are also considered on-site property.

3. Referenced Documents

3.1 SSPC STANDARDS AND PUBLICATIONS:

PA Guide 5	Guide to Maintenance Painting Programs
Guide 6	Guide for Containing Debris Generated During Paint Removal Operations
SSPC PCG	Protective Coatings Glossary

3.2 CODE OF FEDERAL REGULATIONS:²

40 CFR 260	Hazardous Waste Management System: General
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generator of Hazardous Waste
40 CFR 263	Standards Applicable to Transporters of Hazardous Waste
40 CFR 264	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities

¹ The definition is taken directly from 40 CFR 260.10.

² CFRs may be obtained online at <http://www.ecfr.gov/cgi-bin/ECFR?page=browse>

40 CFR 265	Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 268	Land Disposal Restrictions
49 CFR 172	Marking, Labeling, and Placarding
49 CFR 173	Packaging
49 CFR 178	Containers

3.3 U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA):

SW 846	Test Methods for Evaluating Solid Wastes ³
Method 1320	Multiple Extraction Procedure ⁴
Method 1311	Standard Toxicity Leachate Procedure

4. Procedures Prior to Waste Collection

4.1 PLANNING: Surface preparation debris is a waste generated by the need to maintain structures by removing and replacing existing coatings. In planning maintenance painting, one must take into account the regulations, restrictions, quality of protection, and economics of the entire operation. Activities range from condition assessment, to selecting a maintenance option, to containment and disposal of waste. Considerations and procedures for planning maintenance painting programs are given in SSPC-PA Guide 5.

4.2 FACTORS AFFECTING WASTE: The quantity of the waste generated and the concentration of lead and other composition factors are affected by the method used to remove the existing coating. Abrasive blasting with non-recyclable abrasive produces the greatest volume of waste. Significantly less waste is generated using recyclable abrasives. Non-blast-cleaning methods such as hand or power tool cleaning generate the least amount of waste.

4.3 REMOVING AND CONTAINING LEAD AND OTHER PAINT: Methods for removing existing paint and preventing the paint from contaminating the environment are described in SSPC-Guide 6.

5. Site Procedures Prior to and Including Classifying Waste

The following procedures are required of the waste generator prior to determining if the waste is hazardous. Although the surface preparation debris is not classified as hazardous waste until tested, it should be handled as a hazardous material until it is proven non-hazardous.

5.1 COLLECT WASTE: Proper collection of the surface preparation debris is one of the most important steps in

³ US Environmental Protection Agency (EPA), 1200 Pennsylvania Avenue, NW, Washington, DC 20460; or online at <http://www.epa.gov/epawaste/hazard/testmethods/sw846/index.htm>

⁴ Available online from: <http://www.epa.gov/epawaste/hazard/testmethods/sw846/pdfs/1320.pdf>

handling the debris. Precautions to prevent release of the removed lead-containing paint into the air, water, or soil must be taken when transferring the debris from the work area to the storage containers. Collection of the potentially hazardous debris should be carried out frequently, typically at least once per day. Samples of material for analysis should be taken during collection, as described in Section 5.6. When containing disposable abrasives, collection may be done less frequently as long as the debris is not permitted to escape from containment. Whether collection is carried out using mechanical devices, vacuuming systems, or hand tools, it is important that the workers be fully protected against breathing, ingesting, or contacting any of the debris.

5.2 PACKAGE AND LABEL WASTE: The lead-containing spent blast media, or other debris, including containerized waste that is being collected for analysis must be stored in a manner that will not allow entry of any hazardous material into the environment. Leak-proof drums, or leak-proof portable bins are generally acceptable. Containers need to meet the DOT requirements (49 CFR 178) for transporting the waste off-site. The lids of the drums, or the covers of the bins, must be firmly secured. The containers must be kept out of flood plains or areas where run-off may occur. Weather resistant labels using indelible ink warning of the potential hazards associated with the material must be placed on the containers. The containers should be marked with the contents, tare weights of the containers, and the origin and date of collection of the material. Marking and labeling requirements are contained in 49 CFR 172. The containers should be keyed to the samples taken.

5.3 TRANSPORT WASTE TO TEMPORARY STORAGE

AREA: The filled containers can then be moved to a temporary holding area at the work site. During the moving operations, normal precautions must be taken to prevent damage that would result in spillage of contents or entry of water into the containers. Transportation of hazardous or potentially hazardous waste to a temporary storage area on the job site can be performed by the generator. On-site transport by the generator is allowed even if a road bisects the property provided the access to the two sections of the property only requires driving the vehicle across the road. Transportation directly to a temporary or permanent off-site storage area must be done in accordance with 40 CFR 263, unless the owner has other arrangements with state and/or local regulatory agencies.

Up to one full drum of hazardous waste is allowed to remain in the work area for no more than 3 days before it must be moved to the temporary waste storage area.

5.4 STORE WASTE AT TEMPORARY SITE: Site storage involves grouping of materials by particular work site, even though the physical location of the storage site may be separated from the work site itself. Regardless of the location of the storage site, certain requirements remain constant.

The site must be secure. Security begins with the choice of a suitable location. Storage sites must be on well- drained

ground that is not subject to flooding (40 CFR 264.18). A fence should enclose the area, and prominent warning signs should be displayed around the perimeter. If the same storage site is also used for equipment and supplies, the waste containers should be segregated within the site. All the waste debris should be placed in an assigned area within the secured site and surrounded with a temporary "fence" of ribbons or thin rope. Identification and warning signs should be posted where the material is being stored, and all drums must be placed on pallets or dunnage to prevent corrosive attack from moist soil. Drums should be stored in rows no more than two wide and two high, with a minimum 1-meter (or 36-inch) wide aisle between rows. The containers must be arranged so that the labels are visible at all times. The site must be adequately protected from vandalism or unauthorized access by the public (40 CFR 264.14). The waste storage area must be inspected weekly to ensure all wastes are secure, containers are not leaking; all labels are attached, legible and visible without having to move the container; the storage area is properly arranged; and no hazardous waste has exceeded its maximum accumulation time (see Section 5.5). It is good practice to cover the ground in the waste storage area with a tarpaulin such that if there was a spill, the waste does not touch the environment.

5.5 ACCUMULATION TIME AND REQUIREMENTS

5.5.1 Accumulation Time: Hazardous waste can be accumulated on-site for purposes of collecting enough waste to make transportation more cost effective. The length of time hazardous waste can remain in on-site storage is primarily dependent upon the amount of waste generated.

5.5.1.1 Large-quantity generators produce 1,000 kg (2,200 lbs) or more of waste per month. For large-quantity generators, the accumulation period is a maximum of 90 days. A one-time, 30-day extension can be granted at the discretion of the Regional U.S. EPA Administrator on a case-to-case basis.

5.5.1.2 A small-quantity generator who produces greater than 100 kg (220 lbs) but less than 1,000 kg (2,200 lbs) per month may accumulate waste on-site for a maximum of 180 days provided the quantity of waste on site does not exceed 6,000 kg (13,200 lbs). If the waste is to be transported over 200 miles for treatment or disposal, the time is extended to 270 days. The Regional U.S. EPA Administrator can grant 30-day extensions on a case-by-case basis.

5.5.1.3 Generators exceeding the allowed accumulation period are considered to be the operators of hazardous waste storage facilities, and must comply with the regulations in 40 CFR Parts 264 and 265.

5.5.2 Emergency Plan: A contingency plan and procedures for use in an emergency must be developed. Large-quantity generators must have a written contingency plan. Small-quantity generators are not required to have the plan in writing.