

Hazardous Materials/Wastes at Construction Sites

List of Common materials having the potential to be hazardous materials/wastes with a management synopsis of how Clemson University manages these materials.

(Note: This list is not all inclusive. There may be other materials that could exhibit hazardous materials/waste characteristics that will have to be evaluated on a case by case basis.)

	Material/Waste	Hazardous Waste	Industrial Waste	Recycled Material	Managed by Research Safety Waste Services	Managed By University Recycling	Managed by Other	Management Synopsis	Recommendations	Documentation required by Research Safety
1	Metals Contaminated with Lead Based Paint			X			X	<p>Metal construction debris contaminated with lead based paint may be sent for recycling as long as the paint is not disturbed/removed from the metal and the recycler is a Clemson University approved company. Prior to the start of the renovation, please submit the name and contact information of the recycling company to be used.</p>	<p>It is recommended that plastic sheeting be placed on the ground surrounding the area to catch any chips that may loosen and fall during the removal of the construction debris. If any chips do fall free onto the plastic, please refer to lead based paint chips for guidance. Anyone signing shipping documents must be certified by Research Safety in DOT/IATA Hazardous Materials Shipping. For Further guidance on abatement please Contact Robin Newberry with University Facilities Environmental Safety. For Waste disposal contact June Brock-Carroll with Research Safety.</p>	<p>1)Copies of Shipping Papers (Bill of Lading or Non-Hazardous Waste Manifest) at time of shipping from university location and closed copy signed by the receiving facility. 2)Copy of Certificate of Reclamation or Certificate of Recycle from the recycler.</p>
2	Wood Contaminated with Lead Based Paint		X		X		X	<p>Any wood contaminated with lead paint may be managed as industrial waste as long as the paint is not disturbed/removed from the wood. This waste should be sent to a Clemson University approved Industrial Waste Landfill as Clemson University waste under an approved Clemson University waste profile. Prior to the start of the renovation, please submit the name and contact information of the industrial waste landfill to be used.</p>	<p>It is recommended that plastic sheeting be placed on the ground surrounding the area to catch any chips that may loosen and fall during the removal of the construction debris. If any chips do fall free onto the plastic, please refer to lead based paint chips for guidance. Anyone signing shipping documents must be certified by Research Safety in DOT/IATA Hazardous Materials Shipping. For Further guidance on abatement please Contact Robin Newberry with University Facilities Environmental Safety. For Waste disposal contact June Brock-Carroll with Research Safety.</p>	<p>1)Copies of Shipping Papers (Bill of Lading or Non-Hazardous Waste Manifest) at time of shipping from university location and closed copy signed by the receiving facility. 2)Copy of Industrial Waste Profile for Construction Debris contaminated with lead paint.</p>
3	Lead based Paint Chips	X			X			<p>All lead based paint chips, whether removed by scraping, sanding, power washing or any other manipulation are a RCRA Regulated Hazardous Waste. Research Safety must be notified prior to removal and collection of any lead based paint. Research Safety will provide drums/containers for the collection of this waste. This waste stream must be managed by Clemson University Hazardous Waste Disposal Contractor thru Research Safety. It must be shipped as Clemson University Waste using the site specific CU EPA ID Number on a Uniform Hazardous Waste Manifest accompanied by a Land Disposal Restriction Form (LDR) signed by Research Safety Personnel or person approved and certified by Research Safety in DOT/IATA Hazardous Materials shipping.</p>	<p>Plastic sheeting must be placed on the ground/floor to catch all lead based paint chip debris. If any chips contaminate the soil, further action will be necessary to clean the soil. This will include but is not limited to soil removal/containerization, soil replacement and laboratory testing with a DHEC certified lab to verify the area clean. Contact June Brock-Carroll with Research Safety for further assistance.</p>	<p>1)Copy of open Hazardous Waste Manifest and LDR 2) Copy of Closed Hazardous Waste Manifest signed by the destination facility (TSDF). 3)Copy of TSDF Lead Paint Profile.</p>
4	Light Ballasts							<p>All ballasts must be determined to be PCB containing or Non-PCB containing (electronic) ballasts. Any that can not be 100% determined to be Non-PCB must be managed as PCB ballasts.</p>	<p>Contact June Brock-Carroll with Research Safety and Dave VanDeventer with University Facilities Recycling for further instructions.</p>	

	PCB ballasts	X			X			All PCB ballasts must be managed as Hazardous Waste by the Clemson University Hazardous Waste Disposal Contractor thru Research Safety. They must be shipped as Clemson University Waste using the site specific CU EPA ID Number on a Uniform Hazardous Waste Manifest signed by Research Safety Personnel or a person approved and certified by Research Safety in DOT/IATA Hazardous Materials shipping. Research Safety will provide the drums/containers for collecting PCB Ballasts.	Contact June Brock-Carroll with Research Safety for further assistance.	1) Copy of the open Hazardous Waste Manifest 2) Copy of Closed Hazardous Waste Manifest from TSDF.
	Non-PCB Ballasts			X		X		All Non-PCB Ballasts must be recycled per University Facilities Recycling Program.	Contact Dave VanDeventer with University Facilities Recycling for assistance if needed.	
5	Fluorescent Lamps (Intact)			X		X		All intact fluorescent lamps must be managed as Universal Waste and recycled per Clemson University Recycling Program. These must be recycled by the approved contract vendor.	Contact Dave VanDeventer with University Facilities Recycling for further instructions.	
6	Fluorescent Lamps (Broken)	X				X		All broken fluorescent lamps must be managed as Hazardous Waste by the Clemson University Hazardous Waste Disposal Contractor thru Research Safety. They must be shipped as Clemson University Waste using the site specific CU EPA ID Number on a Uniform Hazardous Waste Manifest accompanied by a Land Disposal Restriction Form (LDR) signed by Research Safety Personnel or a person approved and certified by Research Safety in DOT/IATA Hazardous Materials shipping. Research Safety will provide the drums/containers for collecting broken fluorescent lamps.	Contact June Brock-Carroll with Research Safety for further assistance.	1)Copy of open Hazardous Waste Manifest and LDR 2) Copy of Closed Hazardous Waste Manifest signed by the destination facility (TSDF). 3)Copy of TSDF Waste Profile.
7	Transformers					X		All PCB transformers must be managed as Hazardous Waste by the Clemson University Hazardous Waste Disposal Contractor thru Research Safety. They must be shipped as Clemson University Waste using the site specific CU EPA ID Number on a Uniform Hazardous Waste Manifest signed by Research Safety Personnel or a person approved and certified by Research Safety in DOT/IATA Hazardous Materials shipping.	Contact June Brock-Carroll with Research Safety for further assistance.	1) Copy of the open Hazardous Waste Manifest 2) Copy of Closed Hazardous Waste Manifest from TSDF. 3)Copy of TSDF Waste Profile if applicable.
	PCB	X				X				
	Non-PCB			X		X		Oils and metal should be recycled. Research Safety and/or University Facilities Recycling Program can assist with this.	Contact June Brock-Carroll with Research Safety or Dave VanDeventer with University Recycling for assistance.	1)Copies of Shipping Papers (Bill of Lading or Non-Hazardous Waste Manifest) at time of shipping from university location and closed copy signed by the receiving facility. 2)Copy of Certificate of Reclamation or Certificate of Recycle from the recycler.
8	Computer Monitors/Electronic Waste			X		X		All monitors and electronic devices must be recycled under the SC E-waste regulations	Contact Dave VanDeventer with University Facilities Recycling for further instructions.	
9	Air Conditioners			X		X		These must be verified empty of any refrigerants. Refrigerants are to be recycled and the units are to be recycled as E-waste.	Contact Dave VanDeventer with University Facilities Recycling for further instructions.	
10	Structural Lumber contaminated with heavy metals for Reuse							The reuse of heavy metal contaminated wood is allowed as long as this wood is being used for its intended purpose. If the initial test results indicate levels of Chromium, Lead, Silver, Selenium, Cadmium, Barium, Arsenic and Mercury and the wood is not being reused at the site and is slated for disposal we will have to have TCLPs (EPA Method 1311) performed prior to disposal by a DHEC Certified lab.	Contact June Brock-Carroll with Research Safety for further assistance.	
11	Elemental Mercury containing devices such as switches from thermostats	X				X		Mercury devices are managed as hazardous waste through Research Safety. These must be shipped on an Uniformed Hazardous Waste Manifest using the site specific EPA ID Number thru Research Safety and the University's Hazardous Waste Disposal Contractor.	Contact June Brock-Carroll with Research Safety for further assistance.	1)Copy of open Hazardous Waste Manifest and LDR 2) Copy of Closed Hazardous Waste Manifest signed by the destination facility (TSDF). 3)Copy Of TSDF Waste Profile.
12	Paints, Paint Thinners	X				X		Each of these will be looked at on an individual basis and determined how to properly manage by Research Safety.	Contact June Brock-Carroll with Research Safety for further assistance.	

13	Adhesives, Caulks						Each of these will be looked at on an individual basis and determined how to properly manage by Research Safety.	Contact June Brock-Carroll with Research Safety for further assistance.	
14	Aerosol Cans	X			X		Aerosol cans even when empty are still considered a regulated hazardous waste due to the propellants left behind and be managed by Research Safety. These must be shipped on an Uniformed Hazardous Waste Manifest using the site specific EPA ID Number thru Research Safety and the University's Hazardous Waste Disposal Contractor.	Contact June Brock-Carroll with Research Safety for further assistance.	1) Copy of open Hazardous Waste Manifest and LDR 2) Copy of Closed Hazardous Waste Manifest signed by the destination facility (TSDF). 3) Copy of TSDF Waste Profile.
15	Asbestos					X	All asbestos is referred to Robin Newberry, Director of Environmental Safety and Manager of the Clemson University Asbestos program.	Contact Robin Newberry with University Facilities Environmental Safety.	
16	Batteries - intact			X		X	Nickel/Cadmium, Nickel Metal Hydride, and Lithium batteries are managed as Universal Waste and recycled per Clemson University Recycling Program. These must be recycled by the approved contract vendor. Lead-Acid and Alkaline batteries are also managed at Kite Hill Recycling Center. Note: All batteries must be presented to personnel working at the recycling center with the exception of Alkaline batteries which should be placed in the Metal Recycling Bin located outside the recycling facility.	Contact Dave VanDeventer with University Facilities for further instructions.	
17	Batteries - leaking	X			X		Leaking batteries have the potential to be hazardous waste. They can also present a safety and clean up hazard. These will be managed on a case by case basis.	Contact June Brock-Carroll with Research Safety for further assistance.	
18	Cylinders	X					All cylinders, whether they are empty or not, have the potential to be a regulated hazardous waste. No contractor bringing cylinders on campus should ever leave them behind for disposal.	Contact June Brock-Carroll with Research Safety for further assistance.	
<p>Please remember that this is not an all inclusive list. If you have any questions, comments or concerns about your project and the possibility of hazardous materials and/or wastes, please contact the Office of Research Safety, Hazardous Materials Manager (June Brock-Carroll) at 864-633-6357 or juneb@clemson.edu.</p>									