

PCBs in Demolition Projects

M.L. Press

PCB POLLUTANT MINIMIZATION PLAN WORKSHOP

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The Term “PCB Free” May Cause Confusion in Older Sites

Sites may be “PCB Free” in terms of <50 ppm dielectric fluid PCBs

Sites may be “PCB Free” in terms of <50 ppm heat transfer fluids and high temperature hydraulic fluids

In 1998 EPA identified a number of NLPCBs (non-liquids PCBs) requiring evaluation & management (e.g., paints, coatings, Galbestos)

1998 TSCA PCB “Megarule”

NLPCB management moves out of realm of site electrical groups

- except for > 50 ppm PCBs in potting materials in fluorescent lamp ballasts

Lack of a “use authorization” for NLPCBs at any concentration adds a level of complexity to sale, reuse and spill clean-up NLPCBs

NLPCBs are typically Aroclor PCBs

Examples of NLPCBs

- Paints, coatings, sealants
- Galbestos (coatings)
- Ceiling tiles, adhesive tape, cloth
- Fiberglass insulation, foam rubber
- Coal tar enamel coatings
- Processed cork ventilation system gasket material
- Roofing and siding materials

Types of NLPCBs

- Sound dampening materials
- Anti-fouling compounds
- Wool felt gaskets, grout, caulking
- Floor wax/sealant, rubber parts
- Waterproofing compounds
- Paper insulating materials
- Plastics and plasticizers
- Fire retardant coatings

NLPCBs in Demolition Wastes

Definition: PCB Bulk Product Waste

- Means waste derived-from manufactured products containing PCBs in a non-liquid state, at any concentration where the concentration at the time of designation for disposal was 50 ppm or greater PCBs. PCB bulk product waste does not include PCBs or PCB Items regulated for disposal under 761.60(a) through (c), 761.61, 761.63, or 761.64 . PCB bulk product waste includes but is not limited to:

Definition (excerpts)

- Non-liquid bulk wastes or debris from the demolition of buildings and other man-made structures manufactured, coated, or serviced with PCBs. PCB bulk product waste does not include debris from the demolition of buildings or other man-made structures that is contaminated by spills from regulated PCBs which have not been disposed of, decontaminated, or otherwise cleaned up in accordance with Subpart D or this Part.
- DuPont Note: See PCB Remediation Waste definition for structures with historical contamination not cleaned per Subpart D

Definition (excerpts)

- Plastics (such as plastic insulation from wire or cable; radio, television and computer casings; vehicle parts; or furniture laminates); preformed or molded rubber parts and components; applied dried paints, varnishes, waxes and other similar coatings or sealants; caulking; adhesives; paper; Galbestos; sound deadening or other types of insulation; and felt or fabric products such as gaskets.
- Fluorescent light ballasts containing PCBs in the potting material.

PCB Remediation Waste

- **Definition:** means waste containing PCBs as a result of a spill, release, or other unauthorized disposal, at the following concentrations: Materials disposed of prior to April 18, 1978, that are currently at concentrations of 50 ppm or greater PCBs, regardless of the concentration of the original spill; materials which are currently at any volume or concentration where the original source was 500 ppm or greater PCB beginning on April 18, 1978, or 50 ppm or greater PCB beginning on July 2, 1979; *and materials which are currently at any concentration if the PCBs are spilled or released from a source not authorized for use under this part.*

How DuPont Was Impacted During Demolition

- Encountered PCB Bulk Product Wastes
 - Primarily PCBs in paints & Galbestos
 - >50 ppm on structural steel, ductwork, and raw material tanks (4 structures)
 - Concentrations ranged from 50-3000 ppm
 - Several structures tested <50 ppm NLPCB
- Site developed 4 separate PCB Bulk Product Waste profiles to address waste variations
 - 50 ppm or greater PCB, RCRA hazardous waste for TC metals; contains Galbestos

DuPont Demolition Demolition

- Site PCB Waste Profiles (continued)
 - 50 ppm or greater PCBs; non-hazardous; contains Galbestos
 - 50 ppm or greater PCBs; RCRA hazardous; no Galbestos
 - 50 ppm or greater PCBs; non-hazardous; no Galbestos
- Most site waste fit into >50 ppm, contains Galbestos category (10 shipments, 75 tons); another 1-2 shipments followed (15-25 tons)
- Macroencapsulation priced at \$225/cubic yd in 2001

DuPont Demolition Experience

- Facility chose an approach involving removal prior to demolition of PCB Bulk Product Wastes such as lamp ballasts & removal of oils from electrical and hydraulic equipment, removal of drained switches and small capacitors as part of hazard abatement bid packages
- Testing of coatings, Galbestos, other non-liquid PCBs was conducted prior to bidding (lack of NLPCB “use authorization” restricts sale)

DuPont Demolition Experience

- Removed 1 mile of natural gas pipeline; performed PCB characterization of site system (below regulatory level per tests)
- Removed Dowtherm Systems (non-PCB per testing and history)
- Removed several hydraulic systems (check elevator hydraulic fluids)
- Limited testing of ceiling tiles, caulks, wire insulation, fiberglass insulation, etc
- 300-400 PCB analyses supporting project

DuPont Demolition Experience

- No abatement of paint coatings or Galbestos; simply removed 50 ppm or greater PCB Bulk Product Waste where possible so remaining structure could be demolished (e.g., ductwork on roof).
- For structural steel with >50 ppm PCBs, walls removed to expose steel for removal. PCB paint scrapings collected
- Arranged 30 day temporary PCB storage in area for bulk PCB wastes

Key Learnings

- Be sure to address NLPCBs in demolition, renovation and other removal activities
- Do not sell equipment coated with NLPCBs at any concentration (EPA has proposed a use authorization for NLPCBs, but it is not finalized)
- Understand & use the new terms such as “PCB Bulk Product Waste”

Key Learnings

- Some NLPCB paint & Galbestos matrices difficult to analyze (site used Method 8082; GC Method)
- Examine allowance in regs for 180 day storage of PCB Bulk Product Wastes & Bulk PCB Remediation Waste at site of generation or clean-up site
- Don't overlook "button switch" oil

Key Learnings

- Oversight of 30 day temporary storage of PCB ballasts & capacitors by contractors
- Do not overlook high-pressure sodium & mercury lamp fixtures (these round fixtures contain a liquid filled capacitor)