



# **Minnesota Pollution Control Agency**

## **Pre-Demolition Environmental Checklist and Guide**

### **Mercury**

This section of the checklist is designed to assist you in determining the likely sources of mercury in a building demolition project.

In general, do not remove the mercury from a device such as a switch. Keep the product intact and remove and store in a covered container in a manner that will prevent breakage, spillage, or release. Label and store the mercury containing devices to ensure proper handling and disposal.

This guidance will list product categories and examples from each.

#### **Specialty Buildings and Concerns:**

Hospitals, Clinics, Laboratories, Dental Offices, and Schools. Mercury can be found in sink traps and many other pieces of equipment and devices. Special care should be given to mercury items in these buildings.

#### **Batteries:**

Smoke Detectors:

Emergency Lighting Systems:

Elevator Control Panels:

Exit Signs:

Security systems and Alarms:

#### **Lighting:**

Fluorescent Lights:

High Intensity Discharge:

    Metal Halide:

    High Pressure Sodium:

    Mercury Vapor:

Neon:

Switches for lighting using mercury relays: look for any control associated with exterior or automated lighting systems:

“Silent” Wall Switches:

### **Heating, Ventilating, and Air Conditioning Systems:**

Devices in this category control a variety of functions such as water pressure, air pressure, on/off, and flow control. Check any control associated with air handling units.

Thermostats:

Aquastats:

Pressurestats:

Firestats:

Manometers:

Thermometers:

### **Boilers, Furnaces, Heaters & Tanks:**

Mercury Flame Sensors by pilot lights:

Manometers, Thermometers, Gauges:

Pressure-trol:

Float or Level Controls:

Space Heater Controls:

### **Electrical Systems:**

Load Meters and Supply Relays:

Phase Splitters:

Microwave Relays:

Mercury Displacement Relays:

### **Other Industrial Equipment and Areas of Mercury Concern:**

Any control used for measurement of vacuum, pressure, fluid level, temperature, or flowrate could contain mercury. Included are thermostats, thermometers, manometers, pressurestats, etc. Other switches may have been used in old clocks, water cleaning systems, pneumatic control switches, and other areas.

It is the expectation of the MPCA that all equipment control boxes and panels be examined for mercury containing devices prior to demolition.

## **Poly-Chlorinated BiPhenyls (PCBs)**

PCBs are a family of chlorinated compounds that were dielectric or especially non-conductive. PCBs are oily liquids that are usually pale yellow to clear. The following is a list of areas in buildings where PCBs may be found.

Transformers:

Transistors:

Capacitors (old appliances, electronic equipment):

Heat Transfer Equipment:

Light Ballasts:

## **Lead**

Lead and lead based paint (LPB) are common items in many older buildings. The use of LPB was discontinued in 1978, however, many buildings have multiple layers of paint and should be examined carefully. Lead can be found in the following areas:

Lead Based Paint: (woodwork, metal equipment, interior/exterior uses)

Lead-Acid Batteries: (lighting, exit signs security systems)

Lead flashing molds and roof vents:

Lead Pipes and solder:

## **ChloroFluoroCarbons**

CFCs (chlorofluorocarbons) and HCFCs (hydrochlorofluorocarbons) are man-made refrigerants that destroy the ozone layer.

Fire Extinguishers (both portable and installed halon suppression systems)

Air Conditioners (rooftop, room, and central)

Walk in Coolers (refrigeration or cold storage areas)

Water Fountains and Dehumidifiers:

Refrigerators/Freezers/Chillers:

Heat Pumps:

Vending Machines/Food Display Cases:

## **Asbestos**

Asbestos is a naturally occurring mineral that separates into strong, very fine fibers. These fibers float in the air and are easily breathed into the lungs, causing serious health problems.

Asbestos is not combustible, has high tensile strength, has good thermal and electrical insulating properties, is moderately resistant to chemicals, and has good frictional properties. It is durable, flexible, strong and resistant to wear. Thus, asbestos has been used for thousands of commercial and public applications including:

Asbestos can be found in many types of building materials, products and insulation. You can't tell whether a material contains asbestos simply by looking at it, unless it is labeled. Asbestos presence or absence must be confirmed by professional sampling and laboratory analysis.

Asbestos type materials can be found on, or in:

**Boiler rooms:**

Boilers, Furnaces, Fireplaces, and their components:

Cement sheets near heating equipment:

Boiler insulation:

HVAC Duct insulation:

Ductwork flexible fabric connections:

Fireproofing materials:

Firedoors:

**Flooring:**

Vinyl floor tile:

Vinyl sheet flooring:

Asphalt tile:

Linoleum paper backing:

Mastic (floor tile, carpet, etc.)

**Electrical:**

Electrical panels:

Electrical wiring insulation:

Heating and electrical ducts/conduit:

**Pipe and other insulation:**

Aircell (corrugated cardboard):

Millboard:

Preform:

Joint compound:

Spray applied insulation:

Blown-in insulation:

**Surfacing materials:**

Acoustical plaster:

Decorative plaster:

Textured paints coatings:

Spray applied materials (acoustical, decorative, or insulative):

**Roofing:**

Roofing shingles:

Roofing felt:

Base Flashing:

**Cement materials (Transite):**

Cement pipes (flues & vent pipes)

Cement Wallboard:

Cement siding:

Pegboard:

**Ceiling materials:**

Ceiling tiles:

Ceiling tile adhesives (pucks):

Lay in ceiling panels:

Acoustical tiles:

**Miscellaneous:**

Taping, joint, and spackling compound:

Caulking/putties:

Fire curtains and blankets:

Laboratory hoods, table tops, gloves, etc.:

Gaskets:

## OTHER

The following is a list of other environmental and regulatory issues that should be addressed prior to demolition:

Solid Waste (all non-building components such as files, books, trash, desks, chairs, etc.) must be removed prior to demolition.

Hazardous Waste: (all HW including household HW) must be properly handled and disposed of prior to demolition.

Oil: (used oil, hydraulic oils in door closers, elevator shafts, etc) must be collected and properly disposed of prior to demolition.

Tanks: no evidence of former heating tanks or storage tanks exists

This guidance document is not intended as a substitute for reading the rules and statutes and making your own independent determination of their applicability to your demolition project. **Examples in this guidance document do not represent an exhaustive listing of types of materials that may be required to be removed from a building prior to demolition.**

If you have any question or comments about this checklist, identify any additional items not found in this list, or would like to discuss an individual project, please do not hesitate to contact the MPCA demolition team at (800) 657-3864 or (651) 296-6300.