



Sustainable Hospitals Program

A Project of the Lowell Center for Sustainable Production, University of Massachusetts Lowell

Amounts of Mercury in Hospital Equipment

Just how much mercury is there in hospital equipment? Many hospitals ask this question in order to prioritize mercury reduction efforts and to understand the potential for a mercury release if there is a spill. An estimate of mercury content in medical devices and facility equipment is shown in the following tables. Note that these are estimates and that variations may exist by manufacturer or even model.

Table 1. **Mercury in Medical Devices**

| <i>Medical Device</i> | <i>Approximate Hg content</i> |
|--|-------------------------------|
| Oral/rectal/baby thermometers ^{1,3} | 0.5 g – 3 g |
| Basal thermometer ² | 2.25 g |
| Hospital laboratory thermometers ^{2,3} | 3 g – 5 g |
| Sphygmomanometers ² | 50 – 140 g |
| Esophageal Dilators (Bougies) ² Older dilators consist of thick latex-coated tubing with approximately 2-3 pounds of mercury | 907 - 1360 g |
| Gastrointestinal tubes (including Abbott-Miller, Sengstaken-Blakemore, and Cantor tubes) ^{2,4} | 907 g |

¹ Bill Ravanese, Health Care Without Harm (HCWH)

² NEWMOA; <http://www.newmoa.org/prevention/mercury/>. (Accessed 8/10/09)

³ Environment Canada, Mercury and the Environment; Sources of Mercury: Mercury-containing Products. <http://www.ec.gc.ca/MERCURY/SM/EN/sm-mcp.cfm?SELECT=SM> (Accessed 8/10/09)

⁴ King County, Washington: Local Hazardous Waste Management Program. <http://www.govlink.org/hazwaste/mercury/MedicalEquipment.html#Esophageal> (Accessed 8/10/09)

Table 2. **Mercury in Building Equipment**

| <i>Building Product</i> | <i>Approximate Hg content</i> |
|---|--|
| Barometers and vacuum gauges ² Note: rare old collectable barometers have been found to contain as much as 6 kilograms. | 300-600 g |
| Boiler gauge controls ¹ | Some boilers contain 23 – 75 pounds of mercury |
| Fluorescent Lamps ² Compact fluorescent bulbs Fluorescent U-tubes Fluomeric lamps Linear fluorescent lamps Mercury vapor high intensity discharge (HID) lamps Metal Halide lamps Sodium vapor lamps | 1-25 mg 3-12 mg 2 mg per lamp 3-12 mg (Hg-reduced lamps) 10-50 mg (non-Hg reduced lamps) 25 mg (75 watt lamp) – 225 mg (1500 watt lamp) 25 mg (75 watt lamp) – 225 mg (1500 watt lamp) 20 mg (35 watt lamp) – 145 mg (1000-watt lamp) |
| Flowmeters ^{1, 2} | Often 5000 g (11 pounds) or more |
| Flame sensors ¹ | 3 g |
| Gas regulators and meters ¹ | Older gas meters contain approximately 2 g – 4 g of mercury |
| Manometers ² | 100-500 g |
| Switches Float switches Pressure switches Temperature switches Tilt switches Wetted reed relay | 1-15 g per switch 1-20 g per switch 1-10 g per switch 0.4-71 g 1 g |
| Thermostats ^{1,2} Note: there may be one to six ampoules depending on the model and application of the thermostat. | 3 g per switch/ampoule |
| Thermostat probes ² | 1 g |

¹ Collated by Todd Dresser and the Burlington, Massachusetts Board of Health

² Environment Canada, Mercury and the Environment; Sources of Mercury: Mercury-containing Products. <http://www.ec.gc.ca/MERCURY/SM/EN/sm-mcp.cfm?SELECT=SM> (Accessed 8/10/09)

More information is available on the SHP Website:
<http://www.sustainablehospitals.org>

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