MERCURY DETECTION EQUIPMENT

Jerome Gold Film Mercury Vapor Analyzer:

- Use initially for all larger mercury spills
- Range: 0.003-0.999 mg/m^3
- Use to determine whether respiratory protection required
    - >0.1mg/m3 : SCBA or FF w/mercury cartridges required
- Use to clear laboratory spaces after mercury spill (clear to <0.003 mg/m^3)
- Regenerate before and after each use.
- Plug in the Jerome to run the regeneration cycle.
- Do not interrupt the regeneration cycle
- Zero 30 minutes after regenerating (if possible).
- Automatically re-zeros itself after each sample
- Don't store with less than 60% battery life

Jerome J505 Mercury Vapor Analyzer:

- Use for most small mercury spills
- Range – set to either ng/m^3, ug/m^3, mg/m^3
- Quick reading mode - 100 ng/m^3 – 0.5 mg/m^3 (lower accuracy)
- Quick reading mode - averages exposures over 16 second period
- Standard mode – can read down to 50 ng/m^3 (higher accuracy)
- Standard mode – averages exposures over 28 second period
- Search mode – continuous readings, 100 ng/m^3 – 0.5 mg/m^3
- Use to clear most spaces after a mercury spill cleanup
- NiMH battery – 10 hours operation
- Battery charges in 3 hours
- Can replace need for Lumex in many cases

Lumex 915+ Portable Mercury Vapor Analyzer

- After Jerome shows levels <0.003 mg/m^3
- Use to clear work spaces to <2500 ng/m^3
- Use to clear dorms or other living spaces to <1000 ng/m^3
- Test cell prior to use
- Range: 2 ng/m3 – 500 ng/m^3 in regular "on stream" mode
- If measuring levels >500 ng/m^3 use in High Concentration Mode
- Allow 15 minute warmup period
- Test cell prior to use (see instructions in case)

1 ng/m^3 = 0.001 $\mu g/m^3$ = 0.000001 mg/m^3
1 mg/m3 = 1000 $\mu g/m^3$ = 1,000,000 ng/m^3

Exposure Limits:
TLV (8hr) = 0.025 mg/m^3 = 25 $\mu g/m^3$ = 25000 ng/m^3
OSHA PEL (8hr)= 0.1 mg/m^3 = 100 $\mu g/m^3$ = 100,000 ng/m^3

Clearance Levels:
Lab Area Clearance Level = 0.0025 mg/m^3 = 2.5$\mu g/m^3$ = 2500 ng/m^3
Office Area Clearance Level = 1.0$\mu g/m^3$ = 1000 ng/m^3
Residential Clearance Level = = 0.5$\mu g/m^3$ = 500 ng/m^3

Samples taken at Breathing Zone Height
Standing adults: 5-6 ft from floor
Seated adults: 4 ft from floor