

## 40 Hour HAZWOPER – Equipment List

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Purpose: This document outlines the equipments and supplies needed for a 40-Hour HAZWOPER course. Numbers and types of equipment may vary relative to the number of students. Equipment substitutions may be made as necessary to accommodate special-student requirements.

### ***Administrative:***

- Computer with course modules loaded and/or DVDs
- LCD/LED Projector
- Sound system, at least 10 Watts
- Surge-arrestor-multi-outlet power strip and extension cords
- Student Manuals
- Course paperwork; student registration card, 40-hour daily sign in sheet, agenda, Course Evaluation, chemical characteristic homework, air monitoring lab worksheet and ERG Exercise
- Instructor packet
- Information resource materials (SDSs, NIOSH Pocket Guides, ERGs, WISER, etc.)
- Flip Chart or White erase board -- Dry erase markers and erasers
- Permanent markers- Broad and narrow tip

### ***Air Monitoring Lab Practical:***

- Sample chemicals (acid, base, solvents, pesticides, etc.)
- Sample jars
- Pipettes (disposable)
- Absorbent pads
- Paper towels
- Colorimetric pumps and tubes
- Multi-gas meters (CGI, PID, oxygen, carbon monoxide, etc)
- Additional gas meters (FID, portable GCMS, nerve agent detectors, etc)
- Radiation meters
- Litmus (pH) paper
- Water-finding paper
- Chemical reagents
- Tedlar bags for gas samples
- Bump Gas/Calibration Gas (below is recommended, but should acquire calibration gas specified for particular instruments used)
  - Methane 2.5% by volume in air to give a 50% reading on the LEL sensor
  - Hydrogen Sulfide 25 ppm for H<sub>2</sub>S sensor
  - Carbon Monoxide 100 ppm for CO sensor
  - Oxygen 18% for O<sub>2</sub> sensor
  - Nitrogen should be the balance or remainder of the composite cal gas cylinder.
  - Isobutylene 100 ppm for any PID ultra violet sensor with 20.9 % Oxygen in Nitrogen balance.
- Eye protection
- Disposable Gloves

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## ***Personal Protective Equipment:***

- Level A suits (one per student, cleaned and disinfected after each class suit selection should range in size from Small through 2X)
- Level B/C suits (one hooded chemical resistant disposable suit per student, sizes from Small through 5X)
- Self Contained Breathing Apparatus (SCBA) backpacks, also known as SCBA racks
- Masks compatible with SCBA backpacks (note if possible use masks that can convert from Supplied Atmosphere -tank or airline- to an Air Purifying Respirator using an adapter such as a “T-bar”).
- SCBA tanks that have the proper/legal hydrostatic test label with approved Grade “D” breathing air.
- Disposable gloves
- Duct tape (one roll per two students minimum)
- Chemical Resistant Tape (show and tell only)
- Chemical Resistant boots
- Chemical Resistant outer gloves
- Dress out chairs, stools, step stool or other furniture for students to sit down while dressing out.
- Mask disinfectant wipes (use manufactures recommended disinfectant as some disinfectants may not be compatible and will cause material degradation that will shorten equipment’s useful life)

## ***Entry Equipment***

- Analysis equipment (gas-detection instruments, detection papers, etc.)
- Mitigation equipment (absorbent booms, pads, etc)
- Tape
- Tools for entry (non-spark producing bung wrench, screw drivers, hammer; plugs, shims, pipe clamps, spill equipment, etc.)
- Clip boards, pens, dry markers

## ***Decontamination Equipment***

- Rinse-solution collection pools (kids wading/swimming pools work well for training)
- Tarps
- Brushes and sponges with 5 gallon plastic buckets to hold when not in use.
- Step ladders (two step to be used as a stool for dressing out)
- Walkers (to prevent slips, trips and falls when going into or out of a pool)
- Absorbent mats
- Garden-type hoses, depending on distance to water supply.
- Pump sprayers
- Signs

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- Cones and caution tape
- Victim rescue equipment (stretcher, sled, etc.)
- Drums
- Chairs
- Plastic bags for sample decontamination

### ***Scenario Equipment***

- Nuts/bolts/wing nuts (dexterity training)
- Dexterity games and equipment (tennis balls, footballs, Frisbees, etc)
- Drums
- Pipes
- Chemical labels
- Binoculars
- Radios
- Clipboards
- Incident Command System position vests
- Sample chemicals for scenario and labs (acids, bases, solvents, flammables, etc)
- Chemical labels and waste marks
- Placards and NFPA Diamonds
- Storm-Drain simulator, stuffed/rubber-animals and other visual aids
- Shaving cream and baby powder (contaminants)
- Bullhorn

### ***Support Equipment***

- Tools for repairs
- Extra batteries for equipment( i.e. AA, AAA, C, D etc)
- Plastic bags (1 quart and 1 gallon Ziploc work well)
- Scissors
- Knives
- Zip-type cable ties
- Permanent markers