

Be Smart About HazMat Protection

Let's face it, most of us have chosen jobs that are downright dirty, and at times, even dangerous. Leaks, spills and splashes of toxic, and volatile substances are part of the job. Fortunately, there are many ways to protect ourselves from these hazards, from providing HazMat suits to maintaining a proper spill control program. So, don't sweat the spills, because they are going to happen—just make sure you have the right equipment on hand to protect workers and clean up the mess efficiently and safely.

When Our Jobs Get Dirty

The best protection from spilled chemicals on construction sites is wearing personal protective equipment (PPE). HazMat PPE includes HazMat suits, masks, gloves, boots and boot covers, and offers protection from respiratory, eye and skin exposure to hazardous or toxic substances.

Workers could be exposed to a potential chemical soup of solvents, acids, adhesives, sealants, paints, protective coatings, industrial cleaners, tar, and so much more. And while every effort is made to safely handle substances, spills, drips and errant sprays do happen.



PPE is organized into four levels of protection. The right protective gear for the job depends upon the hazardous threat and the amount of exposure we face from it.

Level A PPE offers the highest protection and should be worn when the greatest amount of respiratory, skin, eye and mucous membrane defense is needed.

Protective items worn would include National Institute for Occupational Safety and Health (NIOSH)-approved self-contained breathing apparatus (SCBA) or air respirators, a fully protective chemical suit, boots with steel toe and shank, and chemical resistant gloves.



Level B PPE should be used when high respiratory protection is required, but less skin and eye protection is needed. Protective items worn would include self-contained breathing apparatus or air respirators, a chemical resistant suit, boots with steel toe and shank, and chemical resistant gloves.

Level C PPE can be worn when the airborne substance is known and measured, when skin and eye exposure is low. Protective items worn would include a full or half face mask, air purifying respirator, a chemical resistant clothing (could include coveralls, two-piece splash suit, hood and apron), boots with steel toe and shank, and chemical resistant gloves.

Level D PPE is the lowest level and used for nuisance contamination. It can only be worn when there are no respiratory or skin hazards. Protective items include coveralls and safety boots or shoes; gloves can be work if the situation calls for it.

Coverage is Key

For many construction-related tasks, we may not need a Breaking Bad-level of protection but depending upon what substances and vapors are flying around, Levels B and C coverage are the safe bet.

- Level B offers a high level of respiratory protection and provides ample skin protection from a poten-

tial slosh or errant spray. A SCBA would be necessary for adequate respiratory protection. Level B garments can be a full coverall suit or two pieces, both versions should include a hood. Coverage of the hands, wrists and ankles is also required. Construction workers may not have special chemical resistant boots, however, covering existing work boots with HazMat boots or covers is a good idea when exposed to chemicals.



- Level C protection is similar to Level B and would be called for when any airborne threats are known and skin or eye exposure is low. Chemical resistant clothing, like coveralls, a hooded two-piece, or even an apron and hood would be appropriate here, along with hand and boot coverage. Depending upon the threat, NIOSH approved full or half face masks should be worn.

Whether cleaning up a known spill or spraying chemicals as part of the job, erring on the side of more coverage and protection is not wrong. Obviously, HazMat suits have limited use and are disposable. They really should only be used once—one and done. They also need to be disposed of properly, which includes depositing in a plastic lined container.

HazMat suits also need to fit. The American National Standard for Limited-Use and Disposable Coveralls establishes minimum size requirements for HazMat suits. The ANSI/ISEA 101-2014 also requires specific garment and package labeling requirements. The standard includes a sizing chart to ensure the wearer is protected.

Be sure to check labels and size charts before ordering. An ill-fitting HazMat suit—be it too big or too small—is not doing anyone any favors.

Spill Kits

Now that we've got you covered from head to toe in protective gear, how are you going to clean up that

spill? OSHA and the Environmental Protection Agency (EPA) regulate facilities to be prepared for spills, but how exactly they prepare is up to them.



Having a properly stocked spill kit onsite saves time and money and protects workers who may be exposed. The faster a spill gets cleaned up on a job, the faster we all get back to work.

Spill kits are a collection of supplies, PPE and spill response items that are stocked together in a container that can be accessed quickly when a spill occurs. The kits come in all sizes, from handheld lunchbox sizes to wheeled trailers. Some shops buy the large spill kits, (like the 55 gal. kit), while others prefer smaller portable spill kits placed in multiple locations. They should be located in a central, known location with easy access; a good rule of thumb is putting them near your first aid kits.

The first step in choosing the right spill kit for the job is identifying what liquids or other potentially toxic substances are being used at that job. Then it's good to know where they are stored and in what quantities. This will change from job to job, but it's essential information in selecting the right kit for whatever might spill.



A typical spill kit contains:

- Absorbent mats, socks, loose absorbents and pillows
- Containment dikes and drain covers

- Patch and repair tools or products
- Gloves, aprons, goggles, boot covers, coveralls and other PPE
- Tools like wrenches, hammers, dustpans, scoops or shovels
- Containers or bag to hold the cleaned-up materials

OSHA requires training for workers who regularly respond to emergency spills. On a jobsite, those working with or near chemicals are the best candidates for training on how to properly use spill kits.

When Spills Strike

It's always best to be prepared. Take the time to get familiar with the contents of your spill kit, and how to use it, before liquid starts pouring out of a drum. That way when a forklift driver accidentally knocks over a container holding a known liquid, they can grab the nearest spill kit and get to work.

- Spill kits should be packed so that the PPE is at the top so that whoever is first on scene can put it on quickly. In some cases, workers may need help getting the gear on or taping up wrists or feet. Taping occurs if there are gaps between the PPE and any skin.
- After the PPE is on, containment dikes and drain covers should be laid down to contain the spill.
- Once the spill is contained, absorbent mats or loose absorbents are laid upon the spill to soak up the substance. Think of a really absorbent paper towel.
- After the spill is contained and absorbed, you can use the kit container to dispose of non-hazardous waste.
- Hazardous waste requires special waste stream

Most of the supplies in a spill kit are not re-usable. Once items in a spill kit have been used, they need to be restocked, so we can clean up after the next guy who backs his forklift into a drum.

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