



PAPER

SPILLS HAPPEN!

10 THINGS

YOU NEED TO KNOW

ABOUT SPILL KITS



Here are 10 things you need to know about Spill Kits.

Let's face it... **spills happen**. It's part of our nature. From the time we are infants we begin spilling stuff. That's why they invented the sippy cup! We start by spilling milk at the breakfast table and progress to spilling beer on the bar. There is no beer to spill at work, so we spill other stuff. We knock over 5-gallon buckets of chemicals, run forklifts into the sides of IBC totes, break hoses when we are fixing machines, and overfill drums when we get distracted. It happens a lot and it happens to everyone eventually. The good news is there is no need to panic or worry... we just need to **be ready**. That's what the **spill kit** is for. It makes sure you are ready for the inevitable "Oh, \$#%!" moment.

Determining **how big spill kits should be, what to put in them and where to store them** are some of the big questions people have when they're trying to decide which kit or supplies to buy. Some people wonder if they really even need a spill kit.

Fortunately, spill response supplies are available for just about every spill scenario, and they range from simple, inexpensive, easy-to-use solutions like absorbents to elaborate vacuum systems and other types of specialized equipment that are specifically designed for responding to corrosive, explosive and other types of harmful chemicals.

Knowing what liquids are stored onsite and in what quantities are two of the first steps in choosing the right tools for the job. Think of these two criteria as the meat and potatoes of choosing a spill kit. After that, it's all about choosing the right side dishes to make the perfect meal.



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1. Who needs spill kits?

The Occupational Safety and Health Administration (OSHA) and the Environmental Protection Agency (EPA) have a variety of regulations that require facilities to be prepared for spills. However, even though it's a really good idea, neither actually requires facilities to have a spill kit. Because every facility is different, it is up to the facility to determine the best way to be prepared.

Spill kits are one of the best and most common ways to be prepared. However, in certain situations, facilities with special needs may opt to use vacuums or pumps to suck up the spilled liquids for reuse. Others channel spills to drains so that the spilled liquids can be processed by an onsite treatment plant. Many use a combination of these methods. There is no single right answer that applies to every plant.

2. What is a spill kit?

A spill kit is a collection of spill response tools, supplies and PPE that will help anyone who is trained to respond to a spill to do so safely and efficiently. A well-stocked and well-designed spill kit saves time because all of the items needed to manage the spill are in one place and ready for use. In addition, the kit can be transported right to the spill.

Spill kits come in a variety of shapes and sizes. For example, a spill kit for an incidental spill in a laboratory may only be the size of a large lunchbox. Some spill kits are sized and stocked specifically for use on trucks and other vehicles. Spill kits for emergency response to large tank spills may be in wheeled trailers pulled by a pickup truck or forklift. And everything in between.

3. How big of a spill kit is needed?

It depends on the size of the spill. A few things need to be considered when answering this question:

- Will one spill kit serve the whole facility, or will several spill response kits be placed in various spill-prone areas throughout the facility?
- What is the worst-case (biggest spill) scenario?
- What is the most likely spill scenario in various areas of the facility?
- Will spill containment devices, vacuums or other equipment be used in conjunction with the absorbents in the spill kit?





When one kit is being used to serve an entire facility, the kit's absorbency may be based on the size of the largest tank or container onsite that does not have the benefit of secondary containment. Secondary containment systems, such as dikes, retaining walls, containment pallets or curbing keep a spill from entering drains or going into other sensitive areas until it can be absorbed, vacuumed or otherwise handled.

Facilities often place kits in multiple spill-prone areas such as loading docks, production lines, fluid dispensing stations and waste collection areas. Because kits are stored throughout the facility, the size of each kit is often smaller and commonly ranges anywhere from 20 to 60 gallons of absorbency per kit.

For some facilities, it may not be practical to absorb an entire spill. An example of this is a tank farm that has a spill potential of more than 100,000 gallons. Typically, a facility like this would have absorbents to control and contain a "most likely" spill that may occur during a fuel transfer—usually around 150 to 200 gallons. But because the entire facility has secondary containment, in a catastrophic event where an entire tank breaches, they would use vacuum trucks as a primary means of cleaning up a spill because stocking and using enough absorbents to handle the entire volume is not practical.

In facilities that contract third-party spill cleanup services, spill kits may only contain dikes, drain covers and a small amount of absorbents—just enough to keep things under control until the outside responders arrive. Knowing the potential spill volumes throughout the facility and planning the procedures that will be used to clean up the spill help determine the right size for spill kits.



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4. Are all spill kits the same?

Although spill kits may contain similar types of items, most spill kits are quite different— even within a single facility. Spill kits can be used to clean up many different types of chemicals; the specific absorbents, tools and personal protective equipment (PPE) in any given kit should address the unique needs of the specific liquids that might be spilled.

Kits for garages and fleet repair will contain different items than spill kits for a chemical facility that handles corrosive liquids. The spill kit kept on a loading dock

is likely to be different than the one in a quality control laboratory or in a production area. Spill kits carried on vehicles are matched to the types of leaks or spills the driver might encounter while traveling.

5. What should a typical spill kit contain?

Spill kits should contain whatever items might be needed to contain, control and clean up a spill. When considering what types of products to put in a spill kit, consider the level of training of anyone who may use the kit to respond to a spill. Even the best, most expensive equipment may not be useful if no one knows how to operate it or if it is cumbersome to use.

Some of the more common items in spill kits include:

- Absorbents (mats, socks, and loose)
- Containment dikes and drain covers
- Patch and repair tools/products such as non-sparking wrenches, fast-setting epoxy repair putties, plugs and wraps
- Personal protective equipment (PPE) such as goggles, gloves, suits or aprons and booties
- Tools such as wrenches, hammers, dustpans, scoops and shovels that may be needed during response
- Bags or containers to collect and hold spent spill cleanup materials



Absorbents in a spill kit should be selected based on the types of chemicals that are used and stored at the facility. Corrosive or oxidizing chemicals require absorbents that are made of polypropylene or other inert materials. Absorbents for oils, coolants and solvents may be made of cellulose or less expensive materials. For oil and petroleum spills outdoors, absorbents that repel water while absorbing the oil are the best choice because they won't get saturated by rainfall.



6. What personal protective equipment (PPE) should be included in spill kits?

Just like the absorbents, the PPE included in a spill kit varies depending on what liquids the kit will be used to respond to. Because spill kits can be used to absorb many different types of liquids, most pre-packaged spill kits do not contain any PPE.

Even if a pre-packaged spill kit does contain PPE, each plant needs to carefully review and determine whether or not the included PPE will provide adequate protection for spill responders from the specific types of liquids they will encounter. If the included PPE does not provide the right level of protection, it is the onsite personnel's responsibility to replace it with something more appropriate to keep the responders safe.

Some of the more common PPE items contained in a spill kit are:

- Safety goggles
- Chemical-resistant gloves
- Aprons or chemical-resistant suits
- Boot covers
- Hard hats

In addition to choosing the right type of PPE to protect workers, consider the variety of sizes that may be needed. Like most things in life, PPE usually isn't one size fits all. Trying to squeeze into a suit that is too small or trying to clean up a spill wearing gloves that are three sizes too big complicates response efforts. It can also cause people to take off the PPE, leaving them unprotected during spill response.



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7. How should spill kits be packed?

No matter how big or small a spill kit is or what the container looks like, the contents should be packaged in the order that they will be used.

- PPE should be stored on top so that it is easily accessible and serves as a reminder of the need to wear it
- Absorbent socks, containment dikes and drain covers should be next because they are used to contain a spill, and it is easier to clean up a spill if it is contained
- Absorbent mats, pillows and loose absorbents should be next because they soak up a spill quickly after it has been contained
- Plastic bags and other materials that will be used to collect spent spill response materials should be placed at the bottom of the kit

When vacuums, pumps and other equipment will be used during a response, they should be easily accessible and kept either in or near spill kits so that they can be accessed quickly without a lot of searching or unpacking.



8. Where should spill kits be located?

Like fire extinguishers, first aid kits, and eyewash stations, spill kits should be placed in areas where they are likely to be needed. A spill kit that is locked away in the far corner of a stockroom isn't going to do much good if no one can access it quickly.

Kits can be located indoors or out. When kits will be stored outside, it's important to keep them in a container that is weather-tight. It's also a good idea to shield them against ultraviolet (UV) radiation that can quickly degrade both absorbents and PPE.

9. How often should spill kits be checked?

No regulation stipulates an inspection frequency for spill kits, but it's a good idea to set up a regular schedule for kit inspections. It is not uncommon for employees to raid spill kits for their supplies to deal with ordinary maintenance cleanup like leaks and drips. Employees should be trained NOT to do this. An empty kit is useless when there is a spill.

Inspections are also a good opportunity to check on the condition of any PPE that is stored in the kits. Over time, these items can become brittle, especially if the kit is stored in extreme weather conditions. Patch and repair tools may also have expiration dates and need to be rotated.

10. Do employees need training to use spill kits?

If employees will respond to emergency spills, they need to be trained in accordance with OSHA's Hazardous Waste Operations and Emergency Response (HAZWOPER) standard. OSHA defines an "emergency spill" as one that poses an emergency that:

- Includes high levels of exposure to toxic chemicals
- Is life or injury threatening
- Requires evacuation from the area for safe response
- Includes immediately dangerous to life and health (IDLH) conditions
- Is a fire or explosion hazard
- Requires immediate attention because of danger
- Presents an oxygen-deficient condition

By contrast, incidental spills do not pose significant health or safety hazards to anyone responding or others in the vicinity of the spill. OSHA does not assign a volume to emergency or incidental spills because the nature of the chemical, level of training, and many other conditions play roles in determining how to classify spills.

Employees should know how to use spill kits and supplies and be comfortable using them. Training employees to respond to incidental spills may be incorporated into trainings that establish standard operating procedures for their jobs, or into other safety trainings such as hazard communication training.

Choosing the correct spill kits and response supplies, having them available in spill-prone areas and ensuring that everyone knows how to use them properly are three keys to successful spill response efforts. Having the right tools and supplies on-hand will also help keep responders safe and minimize downtime by speeding up response efforts. In addition, having spill kits in your plant is a good cue to inspectors that there is a spill plan in place for your facility.



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