



CREATIVE SAFETY SUPPLY SPILL KIT GUIDE



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Introduction



Workplace spills are hazardous for a variety of reasons. Obviously, the danger of inhaling chemicals and other corrosives is high whenever there is a spill. But, you might not think about the danger of falls from spilled material. Many of the chemicals used in the workplace are oily which makes them hard to clean up fully. When spills are not fully cleaned the risk of someone slipping or falling increases, posing a big risk of injury to employees.

In addition to the dangers of injury to employees through falls or inhalation there are many other risks associated with spills. Some chemicals are highly flammable and containment procedures must include removing this danger from the equation. Other chemicals pose serious environmental hazards, so their containment must ensure that little or none of the materials winds up in drains. All of these protections can be accomplished [with a good spill kit safety plan](#).

The first line of defence against spills is a [workplace training program](#). The aim of these programs is to first educate all employees about the chemicals used and the potential dangers of those materials. Any of these materials should be accompanied by a Material Data Safety Sheet which outlines the correct procedures for dealing with a spill. As part of the training program employees should know exactly how to deal with each different material used in their workplace.

Some of the most important training for spill safety is prevention. By using the right storage techniques many spills can easily be avoided. Materials should be stored in containers appropriate for their chemical make up. The areas where these materials are stored should have signs posted so there is no question about what is located there and how to deal with a spill. Another way to limit the danger of spills is to store the minimum necessary amount of these materials on site. Those materials that must be stored on site should be kept out of the way of traffic, both pedestrian and mechanical as well as away from sewer drains and exterior doors.

Spill Kit Contents



A good spill kit is necessary for anyone who works with potentially dangerous or caustic chemicals. These kits should be stored in a place that is accessible to all employees as well as near areas where spills are likely to occur. Spill kits are very important in protecting people and property in the event of a major or minor spill. As such, it should be a regular task to inspect them and restock them with supplies as necessary.

Choosing The Right Spill Kit

The right spill kit is entirely dependent on knowing what materials you will need to contain. There are three basic types of industrial waste that include water based, oil based, and acid based hazardous waste. Each of these must be held in different containers that are made of the appropriate material for each kind of waste. Water or oil based waste can be held in an industrial storage container that is made of plastic, rubber, or aluminum. If the waste is corrosive in nature it will need to be stored in a steel drum. You will have to get a container that is large enough for the potential spill. If your company or shop only works with small amounts of hazardous material at a time you may be able to get a small spill containment kit. More chemicals means a spill kit that is capable of containing larger quantities of the material.

Personal Protective Equipment



The type of chemicals used in your industry will dictate what exactly is in each kit, but there are also standard materials that should be kept in every spill kit. These include proper personal protective equipment. The materials that are used in your facility should come with a Material Safety Data Sheet. This sheet will explain what personal protective equipment you will need to deal with specific spills. Personal protective equipment must meet OSHA standards.

Common Personal Protective Equipment

- Eye and face protection, usually goggles and a face shield. Some of the biggest dangers from chemicals comes from getting it in your eyes. In addition to protective eye and face equipment you should also know exactly what to do in case of contact with the chemicals.
- Gloves and booties that are corrosive resistant. You never want to touch any of these dangerous and corrosive materials with your bare hands. Remember too that some materials are strong enough to eat through your work gloves and boots. Put on the protective gloves and booties located in the spill kit to minimize your risk.

- Corrosive resistant apron. Again, you might wind up splashing chemicals on your body as you clean up the spill. In order to prevent chemical burns and stains wear the corrosive resistant apron located in the spill kit.
- Disposable lab coat. By wearing this coat you ensure that none of the chemicals remain on your clothes and get carried home or to your vehicle. It can be disposed with the cleaned up chemicals.
- Respiratory protection appropriate to your materials. Inhalation of caustic chemicals can cause long term and devastating problems. The respiratory device might not be the most comfortable thing to wear but it will protect you from these risks. The rule of thumb is when in doubt wear it, better to be safe then sorry when it comes to chemical inhalation.

Absorbents

Absorbents are any mops, cloths, or other materials that are capable of absorbing a spill. Just as with other items in a spill kit these absorbents are sometimes specifically designed to meet the needs of your industry and the chemicals that might spill. There are many all purpose absorbents that can be used on most chemicals including those that have acids and bases. A spill kit might also contain an acid or base neutralizer.

Certain materials can be absorbed with simple materials like clay and sand. There are some corrosives that are quite dangerous and will require special materials to absorb them. The Material Safety Data Sheet should be your guide as to what absorbents are needed for the materials you use. Keep in mind that the materials in your workplace may require more then one type of absorbent. You should also always keep more on hand then you think will be necessary. Also, it should be part of your spill containment procedure to restock the spill kit immediately following its use.

Clean Up Materials



A spill kit should also contain a few items to be used in the actual spill clean up. There should be a dust pan or scoop to use in picking up the absorbed spill. Plastic bags should be provided for your Personal Protective Equipment waste. Kits should also have a pail or bucket for dealing with spill residue and waste. You should always refer back to the Material Safety Data sheet to make certain the materials you choose are compatible with the other corrosive materials, if not your kit will need to be stocked with alternatives.

Along with the actual materials used to contain and clean up a spill your kit should also contain disposal materials and instructions. The materials that you have cleaned up can almost never be placed in a trash can along with the regular waste. Instead you will likely have to move it in hazardous waste bags to an appropriate waste facility or hire a waste collection agency to dispose of it for you.

Even in small spills it is never appropriate to simply throw the clean up materials in the trash. Think of how quickly all of those little spills can add up to a big environmental hazard if they are simply thrown in the trash. Even if there is cost involved in disposal it will be far less than the cost to the environment and public health or fines for improper disposal. Never let anyone convince you not to follow your training procedures when it comes to disposal of hazardous materials.

Additional Materials

There are some chemicals that must be neutralized with very specific materials. Examples of these chemicals include hydrofluoric acid which requires calcium gluconate antidote gel and Mercury which also requires special clean up products. You might also need Class D fire extinguishers if you are work with some alkali metals. These are just a few of the materials that are commonly used in the workplace. Familiarize yourself and your staff with all dangerous substances and the correct way to deal with a spill. Also, be sure to note how to deal with contact with any of these materials should that become an issue. Even if exposure is only a remote possibility it is better to know how to handle it then to have to figure it out on the spot.

Spills That Have Specific Procedures

- **Acid Chlorides** - Use an absorbent specifically designed for acid chlorides or dry sand. Avoid water and avoid sodium bicarbonate.
- **Alkali Metals (lithium, sodium, magnesium, potassium)** - Smother with dry sand or cover with contents from a Class “D” fire extinguisher. Use of a Class “D” fire extinguisher is the preferred extinguishing method. Avoid contact with water.
- **White or Yellow Phosphorus** - Blanket with wet sand or wet absorbent.
- **Bromine** - Neutralize spill with a 5% solution of sodium thiosulfate. Absorb with inert absorbent material.
- **Hydrofluoric Acid** - Neutralize with soda ash or lime (or absorb spill with special HF spill pillow). Absorb with inert absorbent material.
- **Mercury** - Use aspirator bulb or suction device to collect mercury beads (Do not use a vacuum cleaner). Mop up mercury with mercury decontaminating powder.

Spill Kit Training



Any business owner or manager should have training in place for all employees. Response to a spill should be swift while still following strict safety guidelines. Employees who are familiar with the necessary procedures are less likely to panic in an emergency, further preventing accidents. Training and the plan a company use is dependent on the size and scope of the operation and the potential danger of the chemicals.

Each employee that works near chemicals must have appropriate training as to whom to call in the event of a spill. They should also know how to locate the spill kit and how to wear any personal protective gear.

Employees must understand the potential dangers of the materials they work with as they relate to themselves and the potential environmental hazards of spills. It is equally important to train employees upon hire as it is to periodically refresh that training. Re-certification and refresher lessons are a good way to remind employees of the risks associated with their materials. This awareness lessens the risk of an employee becoming over comfortable and cutting corners when it comes to spill kit maintenance and safety procedures.

Training can come in many different forms. There are many videos available to teach employees how to use spill kits correctly. You might also do a lecture or group discussions in your training classes. Changing up the teaching procedures from time to time helps to keep people engaged in the material. It may seem like a small thing but making training programs entertaining can go a long way toward improving workplace safety.

Too often employees and supervisors get complacent when reviewing or teaching the same material over and over. This attitude contributes to accidents and the failure to handle them appropriately. Ask your spill kit provider for advice on how to train employees and research innovative training programs to ensure that your people are the best trained in the industry.

In many cases your training program must meet standards set for the by the Occupational Safety and Health Administration. You could face still penalties should you fail to meet these training standards. Research the chemicals used in your workplace and find out from OSHA exactly what needs to be included in your program. Remember that they are the authority so include anything that they deem important as well as procedures specific to your business.

Step By Step Spill Procedures

The dangers of a spill are greatly reduced by prompt and appropriate actions by the crew. The person who caused or sees the spill first should immediately notify others in the area as well as their supervisor. As long as proper procedures are followed the risk and damage caused by a chemical spill can be greatly reduced.

To get started you can review some common procedures in dealing with spills. Your spill safety guidelines should also include the names of actual people and departments along with their contact information.

The more you ingrain this information in to the minds of your employees the more likely it is that these steps will be followed in the event of a spill. Post the procedures in many places around the workplace, not just in the area where a spill is likely to occur. The time clock and the break rooms are excellent places to display emergency procedures. Again, the more your employees see these procedures, even in passive moments the more likely they are to follow them when the need arises.

Sample Spill Procedures

- Determine whether or not there is a need for immediate assistance from fire or medical personal. If it is necessary call 911.
- Alert your immediate supervisor and the employees in the area that there has been a chemical spill.
- If the chemicals that have been spilled are flammable, alert everyone to this fact and ventilate the area.
- Retrieve the spill kit.

- Put on the necessary personal protective equipment as indicated by the Material Safety Data Sheet. If you have any question about the level of protection that is required for your spill always choose more protections over less protection. It is always best to assume that the level of contamination is high and protect yourself accordingly.
- If respiratory protection is deemed necessary and put on the apparatus. Be sure that the equipment is on correctly. Again, when in question opt for the respiratory protection.
- Determine the type of spill that you have, whether it is small, medium, or large. At this point you should be able to tell how much material you will need to contain the spill. It is imperative that you move quickly to stop as much of the spill as possible so it contaminates that smallest possible area.
- Find the source of the spill and stop it from continuing to flow. Often this is as simple as up-righting a container or placing a cap over an opening.
- Check to see if there are floor drains and protect them from any of the chemicals draining down them.
- Clean up and contain the spill according to the size and type of material that was spilled. Spill absorbents are used to contain the spill. To use them correctly first remove any large pieces of debris or other solid material from the area. Then place the absorbent directly on the area in which the spill has occurred. Once the absorbent material is completely full, remove it and dispose of it in the proper container.
- Place all of the spilled material that has been absorbed in the appropriate container. Once in the container put a hazardous waste sticker on it. This sticker should clearly identify the chemicals that have been contained.
- Clean the spill area with mild soap and water, when appropriate.
- Fill out any necessary reports regarding the spill so that it, and your response can be properly documented.

Types Of Spill Kits



As you would expect it is not enough to have a spill kit. You must have spill kits that are appropriate for the type of spills that might happen. The right spill kit can ensure that you only have a minor mess to clean up instead of a full blown chemical disaster. Not only does the right spill kit protect your employees and your business it also protects from environmental damage caused by a chemical spill.

Spills that are not properly cleaned up, especially certain fuels, chemicals and coolants commonly used in business can wind up costing billions of dollars. In addition to lost revenue and lost productivity business owners can be fined for any potential environmental issues.

These spill kits are intended to store, transport, or clean up any workplace spill. All of them can be restocked as needed so you do not have to continually buy new containers, only the material inside them. It is always best to have a bit extra than not enough spill containment material so be smart when you choose the kits for your facility.

5-Gallon Spill Kit - A five gallon spill kit can absorb up to 2.2 gallons of chemicals. These are good for anything up to a moderate hazard and has a yellow HazMat particulate sandwiched between a heavy plastic liner and a spunbond absorbent layer. This protects vials, containers, and bottles when you transport them.

20-Gallon Spill Kit - This larger kit contains a pre-packed X rated-DOT approved 20 gallon overpack. It can be used for universal, oil-only, and HazMat spills. The kit can absorb up to 17.1 gallons of material. It has 25 pad that measure 15"x19", four absorbent socks that measure 3"x4", two pillows that measure 18"x18", a pair of nitrile gloves, two yellow disposal bags with ties, a pair of safety goggles, and a spill kit label.

50-Gallon Spill Kit - This kit is an X-rated DOT approved 50 gallon overpack with two wheels and a handle. It can be used for universal, oil-only, and HazMat. This kit contains 100 pads that measure 15"x19", six socks that measure 3"x4", four pillows measuring 18"x18", two pairs of nitrile gloves, three yellow disposal bags with ties, an emergency response guide book, a 7" epoxy putty stick, a 6" light stick, one pair of safety goggles, and a spill kit label.

95-Gallon Spill Kit - The 95 gallon kit is able to absorb up to 88 gallons of material. It contains a pre-packed X-rated DOT- approved 95 gallon overpack and is available for universal, oil-only, and HazMat use. It can come with or without wheels. This kit has 150 pads measuring 15"x19", 12 socks that measure 3"x4", six socks that measure 3"x8", seven pillows that measure 18"x18", two pairs of nitrile gloves, three tubs plug and dike, four yellow disposable bags and ties, an emergency response guidebook, a spill kit label, and a pair of goggles.

In addition to spill kits there are other materials used in containing spills, one of these are **camouflage mats**. A camouflage mat is made of high tech materials that draw and trap liquids in the inner layer. The top layer remains dry and clean so you do not have to replace it often nor worry about tracking materials through the work area.

Rip and go tablets are also helpful in containing small spills and drips. These tablets are made of a fine perforated fiber that allows it to soak up any spill quickly and easily. They can be hung in convenient locations or taken along to various work sites.

Also helpful are **extra sorbent socks**. These socks are made of a super absorbent material. Their tubular shape allows them to be placed around leaking drums and other machinery. They can also be placed around any spills to stop them from spreading. To use a sorbent sock first shake out the absorbent filler to make sure that it has spread easily through the sock. Next, place the sock around the spill, slightly overlapping the ends.

You will see that the spilled liquid gravitates toward the socks. When the socks are saturated the spilled liquid will pool up under and around the socks. At this time swap them out for new socks to continue cleaning up the spill. If the remaining spilled material is only a small amount you might be able to use a pad or other small absorbent to clean up the remaining spill. Be certain to dispose of all materials properly after use.

Conclusion

Spill kit safety is really all about proper training. If you have been trained and have an adequate, well stocked spill kit at your disposal there should be no reason to panic. Often in spill situations people do panic and their training goes out the window.

Panic causes you to miss taking important steps like stopping the initial spill or putting on appropriate safety gear. Always remember that the most important thing in any spill situation is your personal safety and that of your fellow employees. Protect yourself from the dangers of these chemicals first and then work on containment.

A chemical spill kit is only as good as the people who are using it, those people must remain calm and follow procedures in order to avoid injury and reduce the risk of damage to the environment and your facility. The vast majority of workplace spill are minor and can be contained and cleaned up in a short period of time with no real danger to people and the environment. Be calm, be safe, and use your training and you will have nothing to worry about.

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