
pig
PAPER
5 STEPS
TO EFFECTIVE SPILL RESPONSE

Spills happen.
Do you know what to do?

Somewhere in your facility, a spill emergency is waiting to happen.

- A forklift bumps into a pallet of drums containing acetone. One falls and the bung starts leaking.
- A hydraulic line on a CNC machine ruptures and spills fluid all over the floor.
- A tanker truck spills diesel fuel in your parking lot near a storm drain.
- A pipeline carrying process chemicals blows a valve. The spray goes everywhere.
- A delivery truck backs into an outdoor bulk tank, spilling hundreds of gallons of waste oil.

Do you know what to do?

You can do everything right, follow every rule and regulation and still be vulnerable. Because if you're working with liquids, a spill is a matter of "when," "where" and "how" — not "if." And depending on the type of material and the volume, a spill can:

- **Disrupt your operations**
- **Shut down your facility**
- **Injure your employees**
- **Cause environmental damage**
- **Cost you thousands of dollars in fines**
- **Jeopardize your facility's financial stability**
- **Ruin your public image**

That's why you need to identify your weak spots, reduce your risks and prepare ahead of time to respond to spills. With a solid plan, the right equipment and proper training, you can limit damage and injuries and resume normal operations with minimum downtime. You'll also be complying with local, state and federal regulations — and that can save you a fortune in fines.

So where do you start? Take the first step.

New Pig

One Pork Avenue • Tipton, PA 16684-0304
1-800-HOT-HOGS (468-4647) • Fax: 1-800-621-7447 • newpig.com • hothogs@newpig.com

STEP #1 Get ready. Be ready.

There's an old saying that the best defense is a good offense — and it's especially true when it comes to spill response. Even if your material handling and liquid transfer procedures are tight, comprehensive and run smoothly 99% of the time, there's always that 1% chance something will go wrong. At the worst possible moment. With your nastiest liquid. And in the worst possible place.

That's why you have to be ready to take on spills when and where they happen. Here's a quick rundown of what you need to do.

Investigate

Good preparation starts with your Safety Data Sheets (SDS). They will tell you what materials you're using and storing at your facility and what hazards they present. Use your SDSs to determine:

- **What materials you have onsite**
- **If a spill of any material needs to be handled very quickly to minimize hazards**
- **If you should evacuate because of noxious fumes**
- **Health hazards associated with spilled materials**
- **Fire or explosion risks associated with spilled materials**
- **Whether a spill will react with other materials**

Verify

Next, do a quick audit to confirm that each material is actually onsite and document:

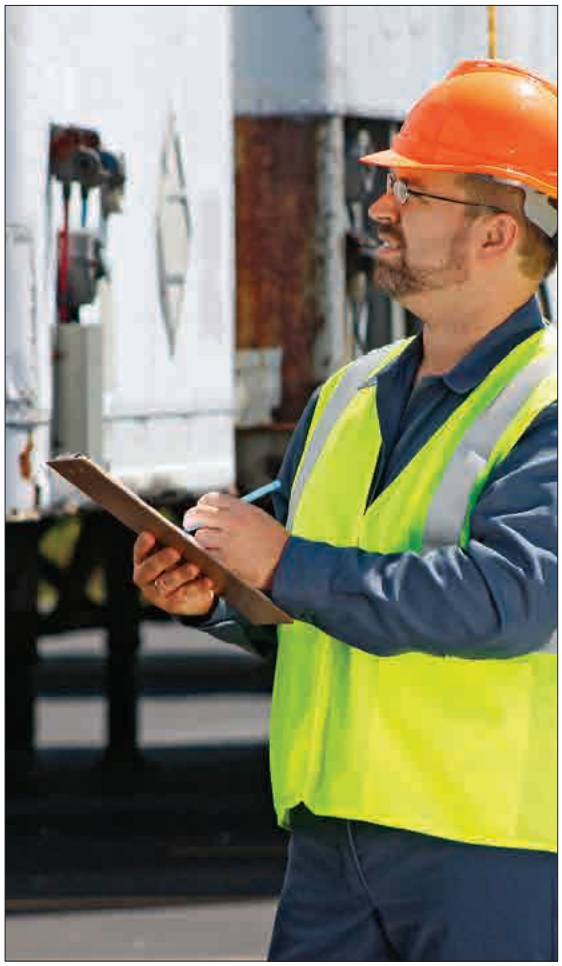
- **Where it is**
- **How it's stored**
- **How it's transferred**
- **How it's used**
- **The probability of a spill**
- **The worst-case scenario for that spill**

Plan

Under the Hazardous Waste Operations and Emergency Response (HAZWOPER) standard, the Occupational Safety and Health Administration (OSHA) requires you to have a written plan to "address the tasks and objectives of the site operations and the logistics and resources required to reach those tasks and objectives." [29 CFR 1910.120(b)]

That means you need to identify the spill-prone areas in your facility and create a plan of action for each one based on the volume or nature of the material stored there. When you write your plan you should:

- **Describe possible spill scenarios**
- **Outline the steps for effective response**
- **Identify what resources you need to respond**
- **Detail employee responsibilities**



Hint:

Instead of naming particular people in your plan, it may be better to categorize your employees — office staff, press operators, etc. — so that you can train by job description and not have to alter your plan every time someone changes positions or leaves your company.

Train

Now it's time to get your people involved. But before you start, here's something to consider: The HAZWOPER standard offers you the option of using outside resources for spill response and cleanup. When you hire professionals, you only need to train your employees in evacuation procedures — but your spill plan must identify the outside resources and include all of their contact information. It's also a good idea to include your contract or other documentation detailing their services and commitment.

Okay. Let's assume you're going to create your own response team. That means every employee — from your office staff to your spill responders — needs to understand their role during a spill emergency. Your plan may state that when you mobilize your response team someone in the front office must make an announcement to evacuate the building. Or maybe you'll have someone secure the perimeter of your facility by closing the gates while everyone evacuates the building and reports to a designated area. Regardless of their involvement with the actual response, your employees need training and regular drills to stay safe during an emergency.

OSHA Training Requirements

For your employees who will handle spill situations, OSHA requires the following levels of training, depending on their level of involvement with the response operation:

- **First responder awareness level** [29 CFR 1910.120(q)(6)(i)] is baseline training that's appropriate for anyone likely to encounter a hazardous materials spill. These responders need to know the dangers of the materials stored at your facility, as well as who to contact to initiate the proper response.
- **First responder operations level** [29 CFR 1910.120(q)(6)(ii)] are trained to start basic spill control or containment measures and implement decontamination in addition to recognizing a spill and notifying others, but they will not be actively involved with stopping the flow of a release or with the spill cleanup.
- **Hazardous materials technicians** [29 CFR 1910.120 (q)(6)(iii)] have the skills of both awareness and operations level employees and are trained to safely stop the flow and clean up the spilled materials. Hazardous materials technicians receive a more in-depth training on chemical safety, selecting appropriate PPE and performing their duties within the incident command system.
- **Hazardous materials specialists** [29 CFR 1910.120(q)(6)(iv)] have specialized knowledge on certain hazardous materials as well as local and state emergency response plans. These specialists support response technicians and act as liaisons with governing agencies.
- **On-scene incident commanders** [29 CFR 1910.120(q)(6)(v)] assume control of the incident scene. They must be able to implement the emergency response plan and understand the risks involved with the chemicals spilled. Training also covers state and regional response plans and teams.

Stock up

Having the proper PPE, absorbents and other response equipment can mean the difference between a minor incident and a major catastrophe. Your audit and written plan will give you a good idea about what to stock in each spill-prone area, including:

- **Spill kits**
- **Absorbent mats and socks**
- **Impermeable dikes**
- **Spill booms**
- **Patch and repair supplies**
- **Gloves**
- **Goggles and faceshields**
- **Masks and respirators**
- **Haz suits**
- **Shoe covers and boots**

Now you're ready to take on a spill. Go to Step 2.

STEP #2 Size up the situation.

It's after lunch. Jim is walking though a storage area on his way back to his workstation when he sees an overturned drum. Liquid is spilling from the broken bung and spreading across the floor. He also gets a whiff of a funny smell. Should he:

1. Ignore the smell and go over to investigate
2. Find a spill kit and put absorbent socks around the liquid
3. Notify a supervisor to call in the response team
4. Go back to the break room

If you chose number 3, give yourself a gold star.

Charging into a situation without thinking is always dangerous. That's why it's essential to train your employees to recognize hazards and risks and not rush to the rescue – even if a coworker is down. You can't train everyone at your facility to be a designated spill responder, but all employees should be trained to:

Stop

Never walk through a spill. Don't touch or taste it to figure out what it is. Never rush into a spill area to help a worker who is injured or unconscious. If there is an unfamiliar smell in the air, don't go looking for the source.

Look

How big is the spill? Can you see the source? Has a tank or container leaked? What equipment is in the spill area? Is the spill headed for drains or other sensitive areas?

Listen

Do you hear anything unusual like the hiss from a burst feed line or a pressure valve? If you can't figure out what has spilled, let responders in appropriate PPE determine what it is using instruments such as gas detectors, monitors or pH paper.

Plan for the next steps

When your employees find a spill and do a quick assessment, what do you want them to do next? Should they pull an alarm? Alert a supervisor? Put up barricade? Mobilize the response team? Outline the steps in your spill plan and then train everyone to take the appropriate action.

You have a spill and you've assessed the situation. Now it's time for Step 3.

STEP #3 Suit up.

Before your response team goes into a spill area, they need the right PPE to protect them from potential hazards. Assuming that you've done your audit and have your spill response plan in-hand, your team should have a pretty good idea about what they're facing. Using the SDS (safety data sheet) or other guides for the material will help your response team choose the right equipment to handle the spill.

Types of PPE

Many styles and types of PPE are available to protect your response team from spill hazards and include:

- **Suits** – four levels to protect against chemical splashes, harmful dusts, vapors and mists
- **Gloves** – protect hands from chemicals, punctures, heat and cold
- **Goggles or faceshields** – protect eyes and face from chemical splashes, debris and dust
- **Respirators** – various levels to protect against harmful vapors, fumes and dust
- **Boots** – protect workers' feet from exposure to chemicals and/or abrasive surfaces or debris
- **Turnout gear** – used by firefighters; these suits help protect against exposure to high heat

Levels of Protection

The potential for harm will vary with the type and location of the spilled material. Because of this, different levels of PPE have been established as guidelines:

Level A – highest degree of skin and respiratory protection

- Fully encapsulated; worn with self-contained breathing apparatus (SCBA)
- Include reinforced, sealed seams to prevent vapors from penetrating
- Used when the nature of the spill can't be determined, or when vapors or chemicals are hazardous to skin and lungs

Level B – high degree of skin and respiratory protection

- Include reinforced seams but are often not vapor-tight like Level A suits
- Respiratory protection must be SCBA

Level C – limited skin protection and respiratory protection

- Worn when the chemical and its concentration are known
- Used with air purifying respirators with cartridges

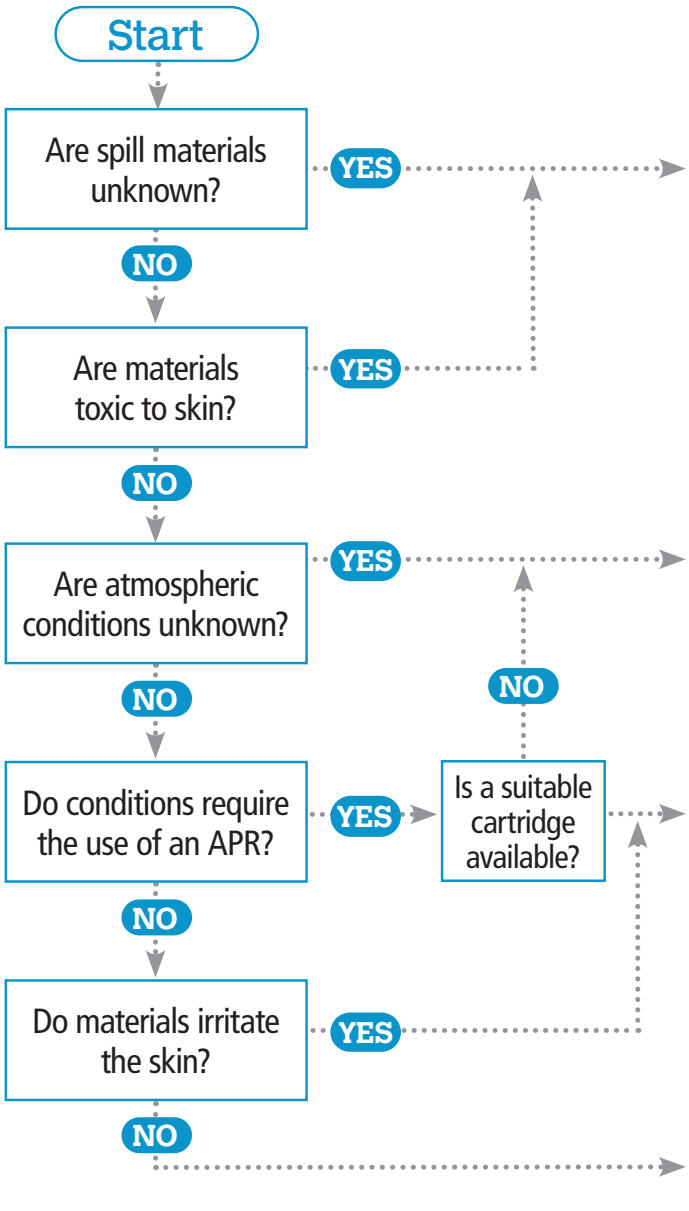
Level D – the lowest level of protection for low hazard situations

- Often an oversuit to keep everyday work clothes clean
- No respiratory protection is included

Make your drill a dress rehearsal

Because wearing a "moon suit" is physically challenging, OSHA requires you to implement safety and health programs [29 CFR 1910.120(b)] to make sure that anyone responding to spills will be able to do it. An actual spill emergency is not the time to discover that someone on your team is claustrophobic and won't be able to wear a Level A suit. The best way for your responders to learn how to deal with the lack of dexterity, restricted mobility and limited peripheral vision is by training in their PPE.

Choose the right PPE for every situation.



Level A

Use when you need the highest level of skin, eye, respiratory and mucous membrane protection. Includes either a Self-Contained Breathing Apparatus (SCBA) or a Supplied Air Respirator (SAR) with egress bottle.

Level B

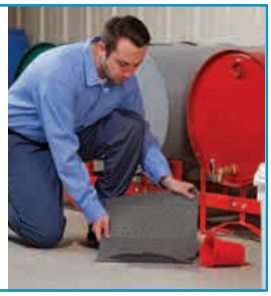
Use when you need the highest level of respiratory protection, but a lower level of skin, eye and membrane protection. Includes either an SCBA or SAR with egress bottle.

Level C

Select this suit when the type of airborne substance is known, its concentration is measured, the criteria for using Air-Purifying Respirators (APR) are met, and skin and eye exposure is unlikely.

Level D

Wear a work uniform where no eye, skin or respiratory hazards are present.



Now that you're suited up, it's time to clean up. Go to Step 4.

New Pig

One Pork Avenue • Tipton, PA 16684-0304
1-800-HOT-HOGS (468-4647) • Fax: 1-800-621-7447 • newpig.com • hothogs@newpig.com

STEP #4 Clean up and decontaminate.

Your response team is suited up and the area around the spill is secured. Now the actual spill response can begin. Team members must never respond to a large spill alone. That's why the buddy system [29 CFR 1910.120(a)(3)] requires them to have at least one other person in the work area. Teaming up responders makes it easier for them to put on and take off suits, carry bulky equipment, transport victims and deal with a situation if something goes wrong. Back up personnel must also be ready to respond and provide decontamination before responders enter a hot zone. [29 CFR 1910.120(q)(3)(vi)]

No matter what size spill you have, the process of cleaning up is the same:

1. Create a physical barrier around the spilled liquid

- For smaller spills use absorbent socks or spill dikes
- For larger spills use booms
- Be sure to block access to floor or storm drains and other environmentally sensitive areas

2. Find the source of the spill and stop it

- Roll punctured drums so that the hole is on the top
- Shut off valves to ruptured pipelines or leaking flexible hoses
- Plug or patch leaking tanks or other containers

3. Clean up the spill

Unless something inside the spill area needs to be removed or protected from damage, start from the outside of the spill and work toward the center.

- Use absorbent mats, pillows and socks to soak up spilled liquids; make sure they're compatible with the spill
- Vacuum the spill to recover material for reuse; make sure the vacuum is compatible with flammables or corrosives
- For small corrosive spills, neutralizing is an option

Keep going…

4. Collect all of the materials used to clean up the spill

- Absorbents take on the characteristics of the absorbed liquids and should be disposed of properly
- Disposable PPE, tools and other items should also be collected and disposed of properly or decontaminated

5. Decontaminate

- Decon procedures are required under OSHA's HAZWOPER standard [29 CFR 1910.120(k)]; make sure to test wet and dry methods before you have a spill to determine which is best for specific situations
- Set up decon lines before a response is initiated
- Decontaminate the spill area, tools and responders

The spill is cleaned up and your facility is back in operation. Go to Step 5.

STEP #5 File your reports.

You'll make it easier on your response team and whoever has to file the formal reports if you include your reporting requirements and contact information in your response plan. Some agencies require immediate notification and failure to report can lead to large fines.

Plan ahead by:

- Documenting all hazardous materials at your facility, their location and the quantity stored — another reason to do that audit!
- Finding out what federal, state and local statutes apply to the substances and practices at your facility
- Determining if you need to do a written follow-up report, what information you should include, how soon you should file it and where you should send it

Federal Statutes with Release Reporting Requirements

Here's a brief background on various federal statutes and their release reporting requirements to help you get started. State and local governments may have additional requirements.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

- Releases of certain hazardous substances into the environment require reporting
- A list of CERCLA hazardous substances and their reportable quantities (RQ) are coded in 40 CFR 302.4
- If the release meets or exceeds the RQ, it must be reported to the National Response Center (NRC) as soon as it is discovered
- The person in charge of the facility should make the report
- Depending on the incident, the local emergency planning committee (LEPC) and/or the state emergency response commission (SERC) may also need to be notified

Emergency Planning and Community Right-to-Know Act (EPCRA)

- A release of an EPCRA extremely hazardous substance or a CERCLA hazardous substance, equal to or greater than its RQ, must be reported if it results in exposure to people outside of the facility boundary
- 40 CFR 355 has a complete listing of EPCRA substances and their RQs
- The owner or operator of the facility must make the report to the LEPC and SERC where the spill occurred
- It may be necessary to report to the NRC under EPCRA, as well as CERCLA
- A written follow-up report may also be required under EPCRA

Resource Conservation and Recovery Act (RCRA)

- All RCRA hazardous wastes are hazardous substances under CERCLA
- A release of RCRA hazardous waste can be reportable under CERCLA and EPCRA and should follow their notification requirements
- RCRA release reporting requires that you notify of the EPA regional office and write a follow-up report
- Hazardous waste generators and treatment, storage, and disposal facilities (TSDFs) are required to have a spill contingency plan which includes information on release reporting and phone numbers of the agencies that should be contacted
- 40 CFR 265 Subparts C & D cover contingency planning and emergency procedures under RCRA
- Reporting requirements may vary depending on the waste management practices at the facility

Clean Water Act (CWA)

- Spills causing water pollution can be reportable if the spill is a hazardous substance listed in 40 CFR 117.3 that meets or exceeds its RQ
- An oil spill is reportable if it has violated applicable quality standards, caused a film, sheen or discoloration of the water or adjoining shoreline or caused a sludge or an emulsion to be deposited beneath the surface of the water or upon adjoining shorelines
- Section 311 of the CWA identifies immediate notification requirements for the discharges of oil or hazardous substances into certain listed waters
- The list of CWA hazardous substances has been incorporated into the CERCLA list, so a spill falling under the CWA is also reportable under CERCLA
- One call to the NRC can satisfy reporting for CWA and CERCLA requirements but the two statutes are not identical so it's important to know the scope of notification for each

Toxic Substances and Control Act (TSCA)

- Under TSCA, the NRC must be notified immediately if a spill contains polychlorinated biphenyls (PBCs) by concentration of 50ppm or more, equals 10 pounds or more of materials, and has contaminated surface and/or drinking water, sewers, grazing lands or vegetable gardens
- TSCA also has release reporting requirements for substances that "pose a substantial risk of injury to health or the environment"
- To provide immediate notification of an emergency incident, call your EPA regional office or the NRC if they can't be reached

Hazardous Materials Transportation Act (HMTA)

- The Department of Transportation (DOT) requires that a release of a hazardous material during transportation be reported to the NRC when:
  - A person is killed
  - A person is injured and requires hospitalization
  - Estimated carrier or other property damages exceeds $50,000
  - An evacuation of the general public occurs lasting one or more hours
  - One or more major transportation arteries or facilities are closed for one hour or more
  - The operational flight pattern or routine of an aircraft is altered [49 CFR 171.15(b)(1)(i-vi)]
- RCRA hazardous wastes are classified as hazardous materials under DOT; EPA has adopted HMTA regulations for hazardous waste transporters
- The transporter may also be required to provide the DOT's Materials Transportation Bureau with a written report under 49 CFR 171.16.

Occupational Safety and Health Administration (OSHA)

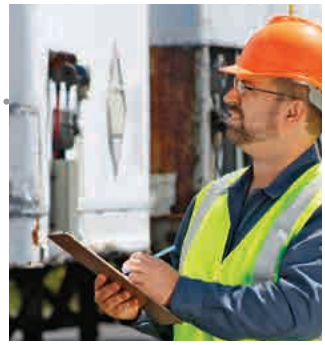
- OSHA requires an employer to contact the nearest OSHA area director within 24 hours of an incident that caused a release of hazardous substances into an area where employees may be exposed
- The employer should report all the information known about the incident at the time, including any medical treatment of affected employees
- OSHA also requires a written report to be filed with the same official within 15 calendar days
- Release reporting requirements under OSHA can be found in 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response (HAZWOPER)

FOR MORE INFORMATION ON:	CALL:	
RCRA, CERCLA & EPCRA	RCRA/Superfund/EPCRA Hotline	**1-800-424-9346** or **(703) 412-9810** (in Washington, DC)
CWA	Office of Groundwater and Drinking Water Office of Waste Management Office of Wetlands, Oceans, and Watersheds	**(202) 260-5543** **(202) 260-5850** **(202) 260-7166**
TSCA	TSCA Assistance Information Services (TSCA Hotline) at	**(202) 554-1404**
HMTA	Hazardous Materials Information Center (DOT Hotline)	**1-800-467-4922**
OSHA (regional offices)	OSHA Office of Public Affairs	**(202) 219-8148**
NRC (for reporting spills)		**1-800-424-8802**

Summary

5 Steps to Effective Spill Response

Use this guide to prepare for and respond to spills.



1 Get ready

- Investigate
- Verify
- Plan
- Train
- Stock up

2 Size up the situation

- Stop
- Look
- Listen
- Plan for next steps

3 Suit up

- Choose the right PPE for every situation
- Train your team in their PPE

4 Clean up and decontaminate

- Create a barrier around the spill
- Stop the source
- Clean it up
- Collect used materials
- Decontaminate

5 File your reports

- Know what federal, state and local statutes apply
- Know who needs a report
- Know what to information to include
- Know when to report

New Pig

One Pork Avenue • Tipton, PA 16684-0304
1-800-HOT-HOGS (468-4647) • Fax: 1-800-621-7447 • newpig.com • hothogs@newpig.com

The world's best stuff for spill response.

PIG Spill Kit in 95-Gal High-Viz Container
Easy to see even in low light or from a distance to help make spill response even faster.

PIG Oil-Only Absorbent Boom
Floats to confine and absorb oil on water; hugs ground for land-based spill containment.

North Silver Shield/4H Gloves
Resist permeation and breakthrough of even the most dangerous corrosive chemicals.

PIG Multi-Purpose Epoxy Putty
Top quality resins bond better and stay stronger so repairs last - we guarantee it!

PIG Original SpillBlocker Dike
Confines and diverts spills without absorbing them, making cleanup or reclamation simpler.

PIG Rapid Response DrainBlocker
Meet regs with a cover that's affordable enough to place near drains in all your spill-prone areas.

PIG Portable Spill Containment Pool
Stores in your vehicle to keep you prepared for spill emergencies on the road.

PIG Absorbent Mat Pad in Dispenser Box
High absorbency and for large-volume cleanups of oils, coolants, solvents and water.

New Pig

Visit newpig.com
or call
1-800-HOT-HOGS
(468-4647)