

# Spill Handling

CITY OF ABILENE—STORMWATER UTILITY DIVISION

**S**pills, large and small, can have serious consequences if not handled properly. They can significantly impact property, public safety, and the environment, especially if they involve hazardous substances.

**Spills flushed into storm drains end up in our creeks and lakes.**

Also, if not quickly cleaned up, they can reach storm sewer drains leading to Abilene's waterways. The City of Abilene's Stormwater Utility Division is responsible for preventing pollutant discharges to the City's storm sewer system or waterways as mandated by the City's permit to discharge under the Texas Pollutant Discharge Elimination System (TPDES) under provisions of Section 402 of the Clean Water Act and Chapter 26 of the Texas Water Code.

**The Problem:**

**Not cleaning up spills.**

Spills left on the ground spread to storm sewer drains or are flushed by rain to waterways or soil. Also, untended spills inside a shop can spread to an inside drain connected to the storm sewer system. Materials discharged to storm sewers end

up in our creeks and lakes without pretreatment. Anything other than clean, cold water is an illegal discharge. Small, seemingly insignificant spills that are not cleaned up daily create a cumulative effect with significant impact on the environment.

**Not knowing what to do when spills occur.**

Unfortunately, many workers find themselves in the uncomfortable and unsafe position of not knowing how to conduct a spill cleanup. Uninformed employees often get injured or do something to make the situation worse.

**Not having spill clean up material readily available.**

A spill cannot be contained if the appropriate amount or type of absorbent is not available at the work site. Without contain-

ment, the spill contaminates a larger area, resulting in a more costly cleanup and an increased danger to the public and the environment.

**Flushing spills to storm drains, stormwater ponds, vegetation or soil.**

Some people choose to flush away spills with water. However, this spreads the contamination to vegetation, soil, waterways, and stormwater ponds. The result is a significant increase in costs for cleanup, site restoration, and fines—and a greater impact on public health and the environment.

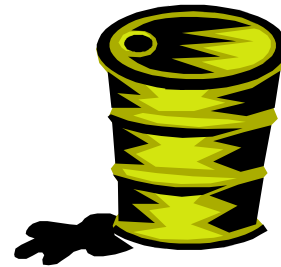
**Improper storage of contaminated material.**

Improper storage practices may result in polluting discharges. Sometimes contaminated materials from spill cleanups require temporary storage while disposal arrangements are made.

**Murphy's Law #13**

**"Accidents will happen, and usually at the worst possible time." Despite efforts to prevent such episodes, at some time you will probably need**

**to clean up a spill or something that could potentially become a serious water pollutant. Do you know exactly what to do and who to call to protect yourselves, the public, and the environment?**



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Open or uncovered containers, exposed to rainfall fill up with water and overflow the polluted water onto the ground. Containers in poor condition can leak. Unlabeled containers may be misused and neglected. Unsecured containers are subject to vandalism and traffic accidents, increasing the chance for a release. Contaminated soils from excavations due to spills can erode during rain storms while stockpiled outside.

## **Improper disposal of contaminated material.**

Spills can contaminate many surfaces such as soil, vegetation, sludge inside an oil/grit separator, and accumulated sediment in a drain. All these impacted materials need cleanup and disposal. Even the absorbent material (e.g. kitty litter) used to clean impacted surfaces needs disposal.

Contaminated materials from hazardous chemical spills cannot be dumped in the trash, since hazardous chemicals (1) can leach from landfills and contaminate groundwater, (2) can leak from dumpster seams and drain holes and spread, and (3) can injure sanitation workers during dumpster emptying. Dumping contaminated materials on the ground, in a waterway, stormwater pond, or storm drain

is illegal and only moves the contamination from one area to another. Stiff fines and criminal penalties are levied for incidents involving improper waste disposal, especially those adversely affecting human health and the environment.

## **Using microbes incorrectly.**

Microbes are commonly used for cleaning spills, since these specialized bacteria and fungi “eat” petroleum and break it down to non-toxic compounds. Microbes, like other living organisms, need water, food, and air to survive. So, microbes applied to hot pavement without water will die. Likewise, applying microbes to contaminated soil without water and without tilling the soil to ensure adequate aeration results in microbial death.

Many microbial cleaning agents contain detergents which promote efficient cleaning by dissolving oil and grime off dirty surfaces. This concentrates pollutants in the wash water. Microbial cleaning agents may also contain nutrients like nitrogen to stimulate microbial growth and reproduction. But, if microbial cleaning agents are flushed by spill cleaning—or if rain water flushes cleaning agents off a dirty surface—the microbes

may not find their intended food source. As a result, the dissolved spill pollutants such as oil and grease in the wash water will impact receiving waterways, and nutrients will over-stimulate algae growth. Also, applying microbes over large paved areas increases the likelihood that they will be flushed to storm sewers and waterways.

## **The Solution:**

**Prevent spills BEFORE they occur.** Prevent spills, as much as possible, through simple planning of daily operations. Store all chemicals safely:

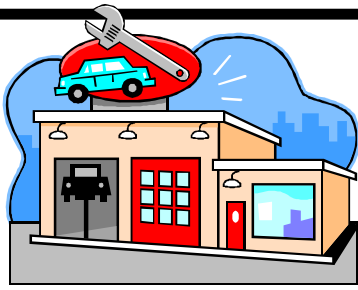
- Protect them from the weather - so contaminants are not in contact with rainfall or stormwater.
- Store them in secured areas so vandalism and traffic related damage does not occur.
- Store in containers that are in good condition to eliminate leaks.
- Check containers regularly for leaks.
- Use secondary containment (e.g. concrete curbing) around storage areas to prevent spills from spreading. The Abilene Fire Department (AFD) requires secondary containment for certain quantities of stored materials. For more information, contact AFD by calling the phone number provided at the end of this fact sheet.

## **Did you know...**

Flushing one quart of oil into Abilene’s creeks and lakes contaminates 250,000 gallons of water.



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## *Prevent spills to the environment by working inside your shop.*

In addition, capture leaks and spills—with drip pans or spill pallets during vehicle/equipment maintenance (e.g. fluid changes). Inspect vehicles/equipment for leaks and repair them promptly. Most importantly, prevent discharges to the environment by working inside your shop.

### **Develop and post a spill contingency plan.**

Post a site-specific spill contingency plan at your business providing step-by-step instructions in the event of a release. The spill plan should include the after-hours telephone numbers for all emergency response personnel. Also, include the name, business address, and phone number of at least one cleanup contractor capable of handling and disposing of spilled material and contaminated media. Post emergency contact numbers by your business phone.

Keep Material Safety Data Sheets (MSDS) readily available for each chemical used or stored at the facility. An MSDS contains information that enables persons responsible for handling, using or encountering chemicals to estimate the likely harm, potential hazards and risks that

might arise in emergency situations involving those chemicals. Obtain an MSDS free of charge by calling the manufacturer's phone number from the label on the chemical container. Contact the Texas Commission on Environmental Quality or a local environmental consulting firm for more information on how to develop a spill contingency plan.

### **Keep spill containment and clean up materials readily available.**

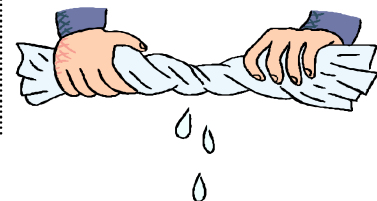
Keep appropriate material on hand for the type and quantities of chemicals used or stored at your facility. Consider positioning "spill kits" in selected areas of your business. These kits make spill cleanup and personal protection materials readily available.

A variety of synthetic and natural materials are available to pick up liquid spills. Contact an emergency response equipment supplier to obtain information on types and applications of absorbent materials. Some common types of cleanup materials are:

- *Absorbent pads* are usually made of thin sheets of cloth-like material with a large surface area designed to float on water and absorb petroleum products. Although these pads are

expensive and not biodegradable, they are often easy to apply, reuse, and less expensive overall for disposal.

- *Absorbent pillows* are a thicker version of the absorbent pad with even greater absorbing capacity.
- *Absorbent booms* are long tubes of absorbent material. Booms are made of the same synthetic materials as pads and pillows, but are typically utilized on larger petroleum spills because of their ability to contain or "corral" spills.
- *Clay absorbent*, also known as *kitty litter*, is a natural, biodegradable absorbent that has been dried and crumbled to increase its surface area and absorbing capacity. Clay absorbent is most effective at recovering petroleum or other liquid spills on pavement.
- *Sawdust and peat moss* are natural absorbents that are similar in function to clay, readily available, inexpensive and biodegradable. They are most effective when used on dry surfaces such as pavement. However, it may be difficult to apply in windy conditions or retrieve them once they have absorbed a spill.
- *Rags* are similar to clay in function. Shop rags made of cotton or natural fibers can be laundered and dried by a commercial service which can save on disposal costs over time. Rags, generally,



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are not appropriate for the clean up of hazardous materials.

- *Mop and bucket* removal is most effective when used on liquid spills on dry surfaces. Depending on the nature of the liquid being recovered, mops may be reused, saving on disposal costs. Remember if you use water to clean the surface, you may have a problem disposing of the contaminated water.

### **Isolate the spill area.**

Keep unauthorized individuals away from the spill. Keep vehicles and equipment from tracking through the spill and spreading the contamination. Isolate the area by using items like cones, safety tape, and temporary warning or detour signs.

### **Contain the spill.**

Spills should be contained immediately to prevent costly cleanups, especially before they reach a storm sewer drain and spread to a creek or lake. Do not put yourself or others in danger.

Before cleanup begins, evaluate what materials have spilled, make a thorough assessment of risk, and determine how to contain the spill safely. When safe containment is possible, immediately stop the spread of liquids using absorbent materials. Always wear appropriate safety equipment such as gloves, coveralls, goggles, and respirators. Follow instructions on the MSDS for safe containment of both liquid and dry materials. Immediately block off nearby drains (sanitary or storm sewer). It is much more costly to decontaminate the inside of a storm sewer pipe and/or restore a contaminated creek than it is to purchase materials to contain the spill.

### **Notify the appropriate agencies.**

Immediately call 911 if there is a threat to human health and safety. Report spills that either have entered or threaten to enter storm sewers or waterways to the Stormwater Utility Division at (325)676-6280 during working hours (8:00 A.M. - 5:00 P.M.) If after hours please

contact the 24-hour Hotline at (325) 660-6453. In addition, report all spills that have contaminated soil. Never leave spills unattended; designate someone to make any necessary phone calls. You may be required to report spills to a variety of other agencies, depending upon the materials involved at your facility. Whether or not a spill needs to be reported usually depends on the type and amount of the spilled material. Find out each agency's notification and spill reporting quantity requirements.

### **Clean spills properly.**

Sweep up dry, non-hazardous material spills and place in proper containers for disposal. Absorb liquid, non-hazardous material spills with absorbent material and sweep up for proper disposal. Surfaces contaminated by hazardous chemicals or unknown substances should be cleaned up by experienced, qualified individuals to protect the health and safety of you and the general public. Follow the safe handling instructions provided on the MSDS.

There are many emergency response materials available making clean up of even toxic and hazardous materials fairly simple. Always use the right material for the job. Clean floating pollutants such as petroleum from puddles or from inside storm drains and oil/grit separators using absorbent materials such as pads and pillows. If you need to use a detergent or chemical cleaning agent, apply a small amount of the cleaner to the soiled surface and use absorbent to pick up the wash water. Excavate any contaminated soils immediately.

## **Did you know...**

In Alaska, the Exxon Valdez oil tanker spilled 11.4 million gallons of oil. Every year, Americans pour or spill over 400



million gallons of used motor oil into storm drains or landfills where it leaks into our groundwater supply. That's the equivalent of 35 Exxon Valdez oil spills.

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## Use microbes responsibly.

Petroleum consuming microbes are very useful in controlled cleanup situations such as oily soil remediations, contained parts cleaning, and waste water treatment. If you choose to use microbes for cleaning spills, apply them according to the manufacturer's directions. Provide ample food, water, and oxygen.

When cleaning spills on pavement, apply the microbes with a minimal amount of water so that runoff does not occur. Use microbes to clean small oily spills only; do not use them over large areas such as parking lots. Never flush microbes to a storm sewer or waterway. After ample application time, pick up the microbes for reuse or disposal by using absorbent material. Never leave microbes on paved areas because rain may wash them to a storm sewer or waterway.

When using microbes for cleaning spills on soil, protect the treated area from rain so microbes will not wash away. Cover the spill area with tarpaulins or plastic sheeting and construct a berm around the perimeter of the spill. Do not use microbes for lead contaminated soil; microbes cannot break down lead.



Before using microbes for cleaning spills, obtain approval from the Texas Commission on Environmental Quality. Approval for microbe use is granted on a case-by-case basis. A phone number is provided at the end of this fact sheet.

## Store contaminated materials properly.

Keep storage containers under protective cover and securely closed, away from traffic and possible acts of vandalism. Use containers in good condition and label them properly. These storage units must not leak, overflow, or show any signs of failure or contents incompatibility. Designate storage areas away from storm drains or stormwater ponds.

Store outside stockpiles of soil on and covered by impermeable plastic sheeting or tarpaulins. The Texas Commission on Environmental Quality (TCEQ) has container labeling rules and accumulation time limits for certain waste materials. For more details, contact the TCEQ at the phone number provided at the end of this fact sheet.

## Dispose of contaminated materials properly.

Adequately identify the waste to determine appropriate disposal. The TCEQ regulates waste disposal within the state of Texas. Contact the TCEQ for assistance with determining if the waste is hazardous. Typically, materials used to clean up small automotive fluid spills such as motor oil, fuel or diesel can be dried, sealed in garbage bags and disposed of in the trash. Up to 220lbs. of dried

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spills



unattended; designate  
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petroleum contaminated absorbent can be placed in the trash each month by a business. Dry the absorbent in a safe, secure area protected from weather. Otherwise, collect spill waste and dispose of it through an approved service. The TCEQ provides lists of disposal services for various waste types.

Seek services that recycle or reuse your waste to avoid liabilities involved in land disposal via a landfill. If recycling or reuse is not possible, seek services that reduce the amount of waste through technologies such as incineration.

## Know your drainage.

Many businesses in Abilene have oil/grit separators, stormwater ponds, and even inside drains that connect to the storm sewer system. Some business operators don't know the purpose of these structures, especially if the structures already existed before they purchased or leased the property. Some people incorrectly assume that they are receptacles for waste disposal. If you have any of these drainage structures at your facility, teach all workers how they should be used and maintained. The Stormwater

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Utility Division provides a fact sheet explaining proper use and maintenance of stormwater ponds. Preventing spilled materials from entering these structures prevents costly environmental cleanups, fines, and maintenance. If you are unsure to which sewer system your drains connect (storm or sanitary), contact the Stormwater Utility Division or a licensed plumber for a dye trace and/or other verification method.

## Train Employees.

Prevention is the key to eliminating pollution. The best prevention method is training individuals who work in areas where spills can occur. Train employees regarding the location and use of MSDS's and the use of personal protection equipment to prevent injury. Designate individuals to carry out each step in a spill incident, from the person making phone notifications to those securing and cleaning up the spill area. Make sure these individuals are properly trained in recognizing and assessing a Spill to prevent impact to humans and the environment. There are specialized companies



available to provide this kind of training. Training saves time and money in clean ups, fines, site restorations, and injuries.

## The Bottom Line:

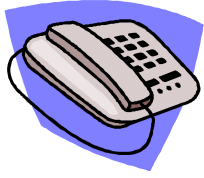
Businesses have found that it costs time and money to implement water pollution prevention measures. However, the expense to clean up spills and restore property is much greater. Small, seemingly insignificant leaks and spills can become large contamination problems over time if steps are not taken for containment, clean up, and prevention. Clean up and disposal after spills is often extremely expensive. Unless handled properly, spills cause soil or groundwater contamination which could impact future sale or transfer of property.

Cleanup costs and real estate depreciation are not the only possible pollution costs. Treatment of injuries and time lost from work are also substantial costs. Fines from City, State, or Federal agencies add thousands of dollars to the overall cost of a polluting discharge. In addition to fines, regulatory agencies can require businesses to undergo detailed compliance audits, implement long-term water monitoring programs, or require the installation of expensive pollution prevent equipment and programs.



Keep workers trained in recognizing and assessing a spill to protect the environment and public safety.





For More Information:

**City of Abilene Stormwater Utility Division**

555 Walnut Street  
(325) 676-6281

**City of Abilene Environmental Recycling Center**

2209 Oak Street  
(325) 672-2209

**Hazardous Materials Handling and Storage**

City of Abilene Fire Department  
(325) 676-6434

**National Pollutant Discharge Elimination System (NPDES) Permits**

U.S. Environmental Protection Agency (EPA)  
Region 6: (214) 665-7523  
Federal: (202) 564-9545

**Texas Pollutant Discharge Elimination System (TPDES) Permits**

Texas Commission on Environmental Quality (TCEQ)  
Local: (325) 698-9674  
State: (512) 239-4671

**Utility types and locations**

One Call Location Center  
(800) 545-6005 (call 2 working days before you dig)

**Waste Disposal Information**

City of Abilene Solid Waste and Recycling Division  
(325) 676-6053

**Emergency Numbers**

Abilene Fire Department (emergency)	911
City of Abilene 24-hour Hotline	(325) 676-6000
TCEQ Emergency Response Center (24-hour)	(512) 463-7727 or (800) 832-8224