

WHAT GOES DOWN MUST COME UP!!

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DAUPHIN COUNTY DEPARTMENT OF PUBLIC SAFETY

ASSISTANT CHIEF COUNTY HAZMAT TEAM



What Constitutes a Spill?

- ▶ In Pennsylvania, any oil or petroleum product, chemical or waste that is released in any unauthorized manner constitutes a spill.



Three major laws require DEP to be notified of a spill or release of material to the environment:

- ▶ The Pennsylvania Clean Streams Law
- ▶ The Solid Waste Act
- ▶ The Pennsylvania Storage Tank Act



Pennsylvania Land Recycling and Environmental Remediation Standards Act (Act 2)

- ▶ “Release” - Spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing of a regulated substance into the environment in a manner not authorized by the Department of Environmental Protection.



Solid Waste Act - Pollution

- ▶ “Pollution” Contamination of any air, water, land or other natural resources of the Commonwealth such as will create or is likely to create a public nuisance or to render such air, water, land or other natural resources harmful, detrimental or injurious to public health, safety or welfare, or to domestic, municipal, commercial, industrial, agricultural, recreational or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other life.



Clean Streams Law - Pollution

- ▶ “*Pollution*” shall be construed to mean contamination of any waters of the Commonwealth such as will create or is likely to create a nuisance or to render such waters harmful, detrimental or injurious to public health, safety or welfare, or to domestic, municipal, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life, including but not limited to such contamination by alteration of the physical, chemical or biological properties of such waters, or change in temperature, taste, color or odor thereof, or the discharge of any liquid, gaseous, radioactive, solid or other substances into such waters. The department shall determine when a discharge constitutes pollution, as herein defined, and shall establish standards whereby and wherefrom it can be ascertained and determined whether any such discharge does or does not constitute pollution as herein defined.



The Clean Streams Law

"*Waters of the Commonwealth*" - shall be construed to include any and all rivers, streams, creeks, rivulets, impoundments, ditches, water courses, storm sewers, lakes, dammed water, ponds, springs and all other bodies or channels of conveyance of surface and underground water, or parts thereof, whether natural or artificial, within or on the boundaries of this Commonwealth.



Chapter 78 § 78.66

Reporting releases

- ▶ (a) A release to the Waters of the Commonwealth, shall comply with § 91.33.
- ▶ (b) If a reportable release of brine the owner or operator shall notify the appropriate DEP regional office no later than 2 hours after detecting or discovering the release.
- ▶ (c) The notice required by subsection (b) shall be by telephone...



Chapter 299 § 299.217 - Transportation of Residual Waste Emergencies

In the event of a discharge or release of residual waste during transportation, the transporter shall immediately:

- ▶ (1) Telephone the Department.
- ▶ (2) Notify the State or local police and the county emergency management official.
- ▶ (3) Clean up the residual waste and take other actions required or approved by the Department so that the discharge presents no threat to public health, safety, welfare and the environment.



Chapter 299 § 299.218. Wastes from accidents and spills.

- ▶ (a) Notify the Department prior to the disposal or processing of the waste that was generated or released as a result of an accident, spill or emergency.
- ▶ (b) The Department may immediately approve emergency storage or transportation methods.
- ▶ (c) Any waste generated decontaminating equipment used handling the residual waste shall be deemed residual waste.



Who and where do you call at the DEP?

- ▶ DEP Regional Office.

South Central (866) 825-0208 24 Hours

909 Elmerton Avenue, Harrisburg, PA 17110

Counties: Adams, Bedford, Berks, Blair, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lancaster, Lebanon, Mifflin, Perry, York

DEP also maintains a statewide toll free number, 1-800-541-2050.



Who do you call in Dauphin County?

- ▶ In the event of an **EMERGENCY** call **911**
- ▶ For Non-Emergency assistance call **717-558-6900** 24 Hours a day. This is the Non-Emergency line to the Dauphin County Communications Center. They will take your information and reach out to the Hazmat Duty Officer or the local Fire Chief



Who is responsible for the spill?

- ▶ In general, under DEP regulations, all costs associated with the response to and the cleanup of a spill are the responsibility of the spiller. This includes the proper disposal of any wastes.
- ▶ The owner of a property on which hazardous materials are located is considered as a potential responsible party under state law.



MITIGATING A SPILL

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Spill Movement

- ▶ The product state at the time of the spill and the physical characteristics of the location yield many spill movements.

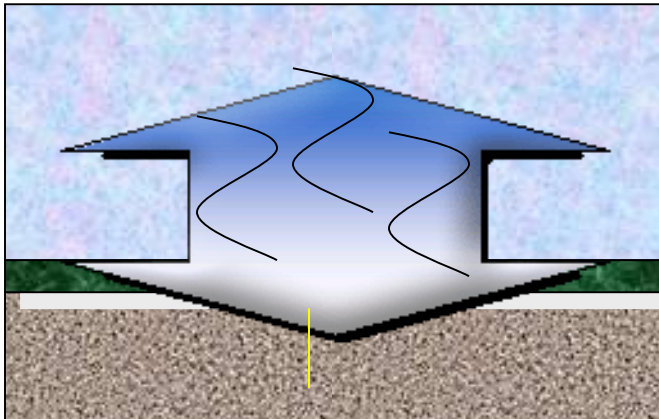


Spill Movement

Vertical Movement

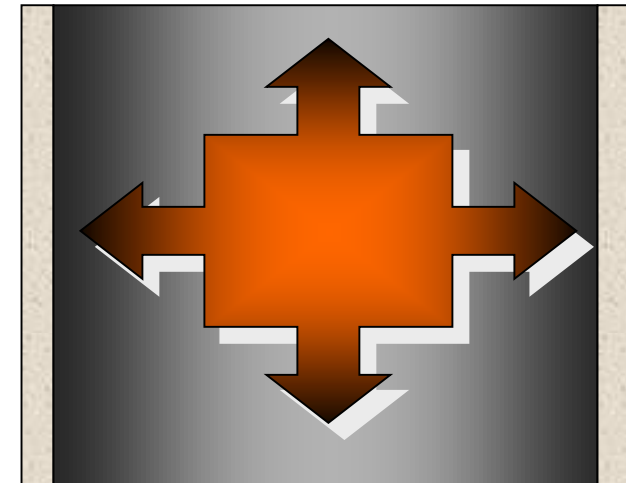
Upward
movement of vapors.

Downward
seepage through the
soil.



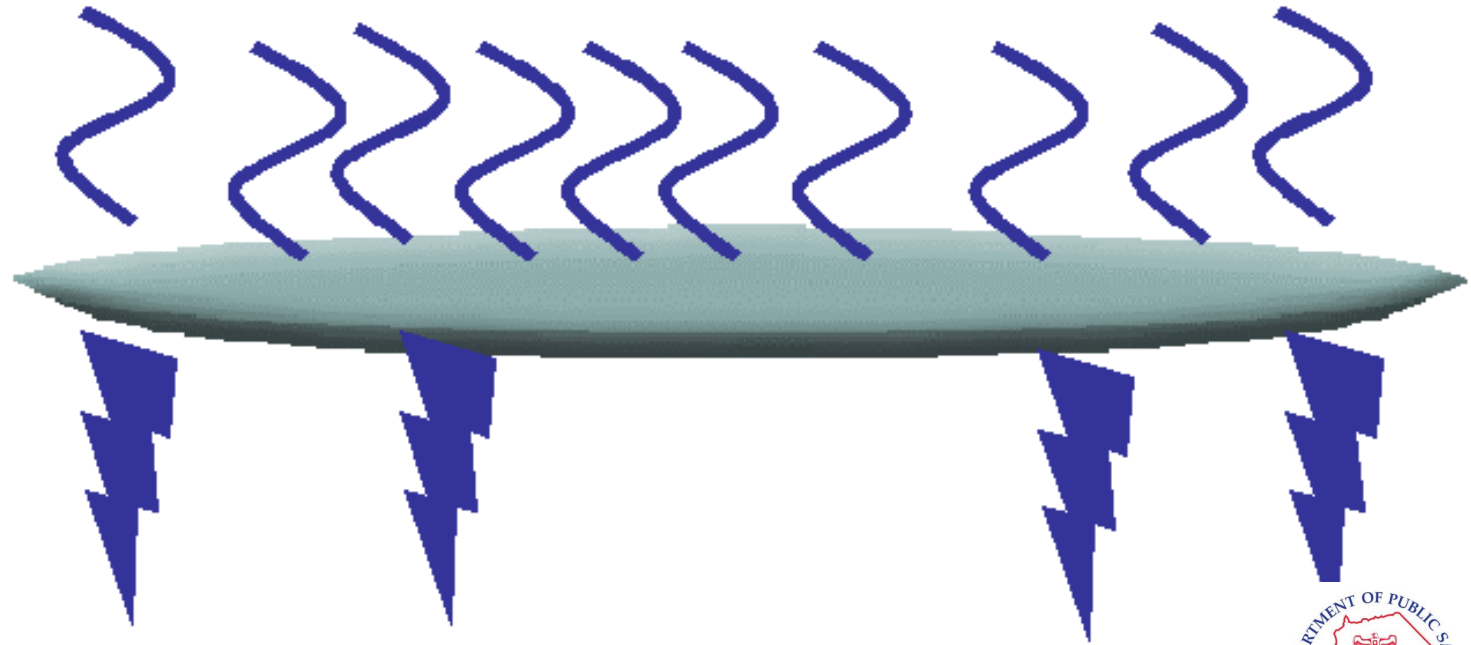
Lateral Movement

Horizontal
movement of product
along the surface area.



Spill Movement

You may also have a combination of both lateral and horizontal spill movement



Methods of Mitigation

- ▶ Damming, diking, booming, diversion
- ▶ Absorption
- ▶ Vapor suppression & dispersion
- ▶ Shut down
- ▶ No Action



Methods of Mitigation

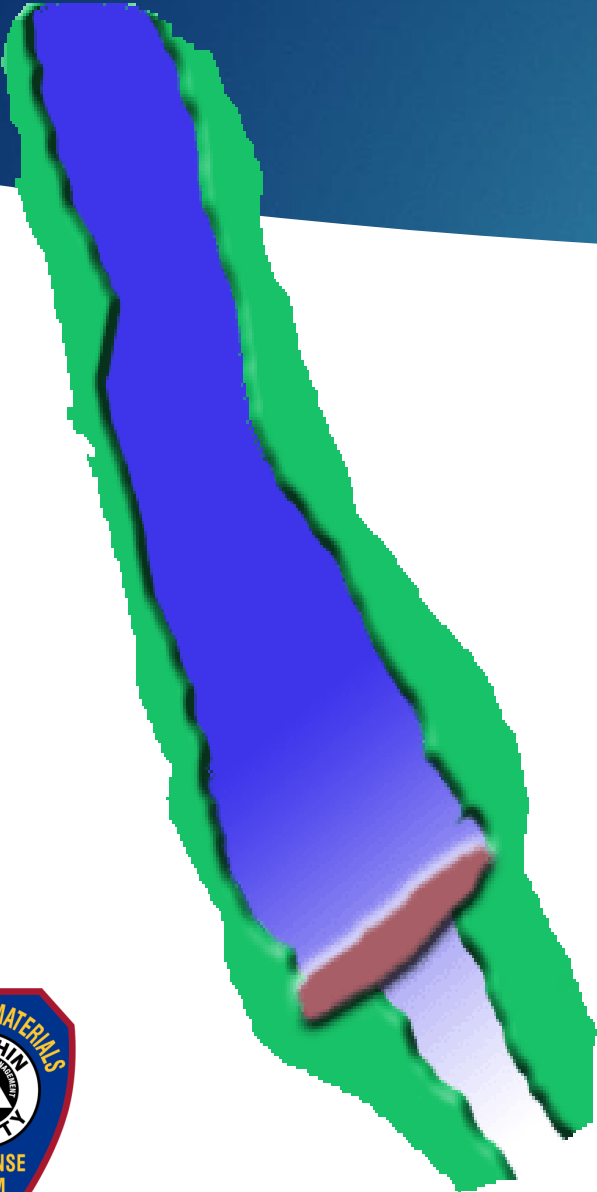
Dam, Dike, Boom, and Divert

- ▶ These methods are designed to control the flow of a liquid at a safe and manageable location either on the water or on an impervious surface.
- ▶ Used on running or moving spills.
- ▶ Done down stream or ahead of the spill.



Damming

- ▶ Used when a product has entered a waterway
- ▶ Used for stopping the flow of product
- ▶ Is either an
 - ▶ **under flow dam**
 - ▶ *Water flows under dam*
 - ▶ **or over flow dam**
 - ▶ *Water flows over dam*
 - ▶ **or a dam designed to completely stop the flow of water and product.**



Damming



Booming



Diverting

Diversions

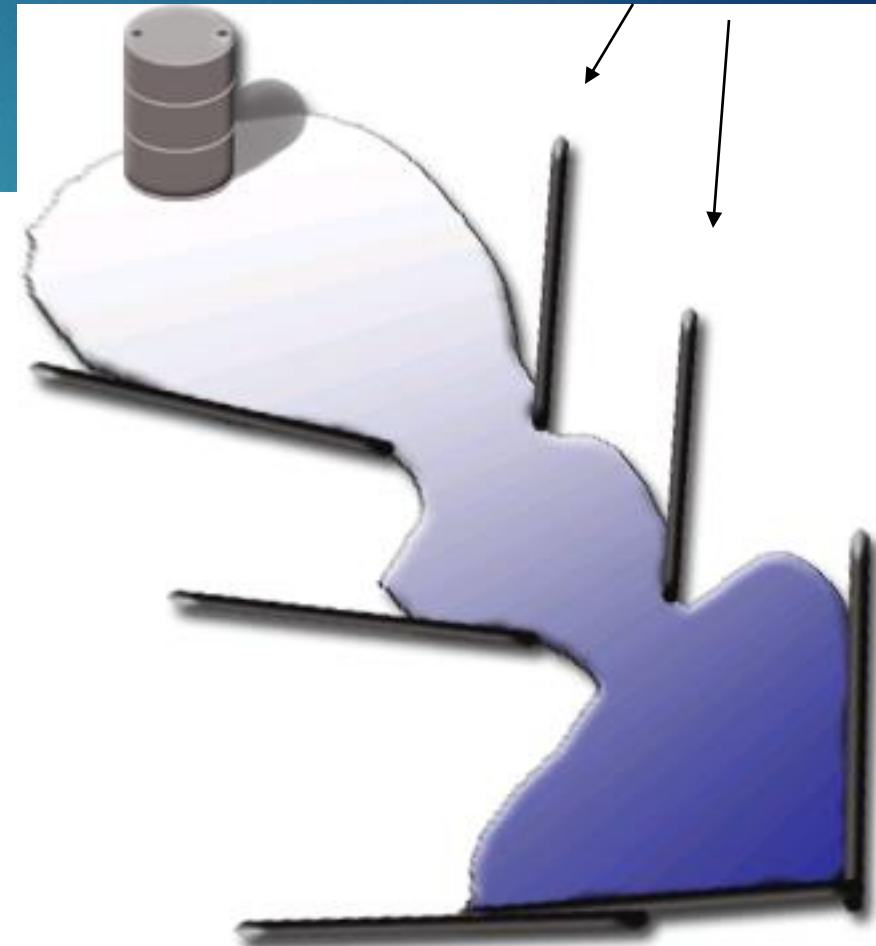
Diversions

- ▶ Used to slow and control the direction of a spill

Dikes

- ▶ Confine /contain the spill
- ▶ Must be large enough to contain the entire spill

This method of control is best suited for hard surfaces



V Dike Collects the spill

Diking



Diking

Use of booms
or socks



Clean-up is done by
making the
Sides smaller and
smaller

Spill Equipment - Terms

Absorbents

- Pick up and hold liquids
- Very effective on most spills
- Booms, socks, granular
- Clay, dirt, kitty litter

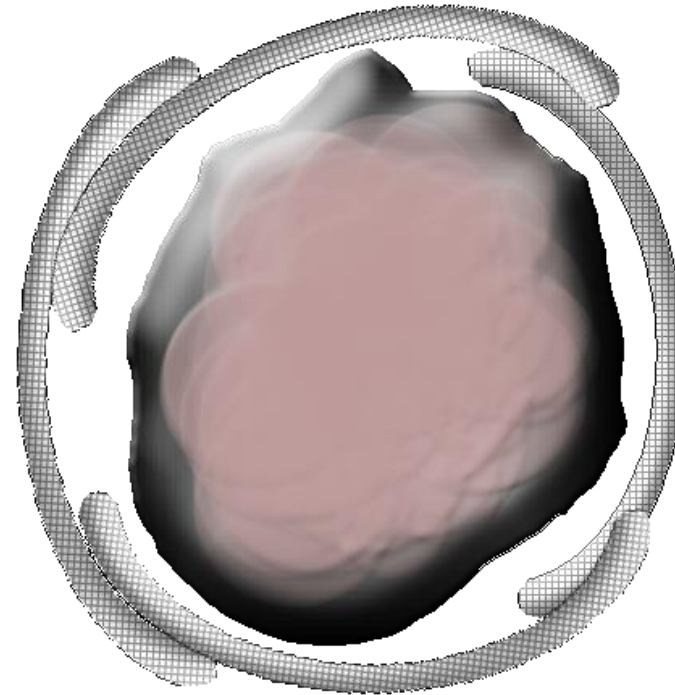
Use of absorbents does not change or alter the properties of the hazardous liquid, it only captures it



Spill Equipment - Booms

Three types

- ▶ Oil
- ▶ Acid and bases
- ▶ Water soluble (alcohol)



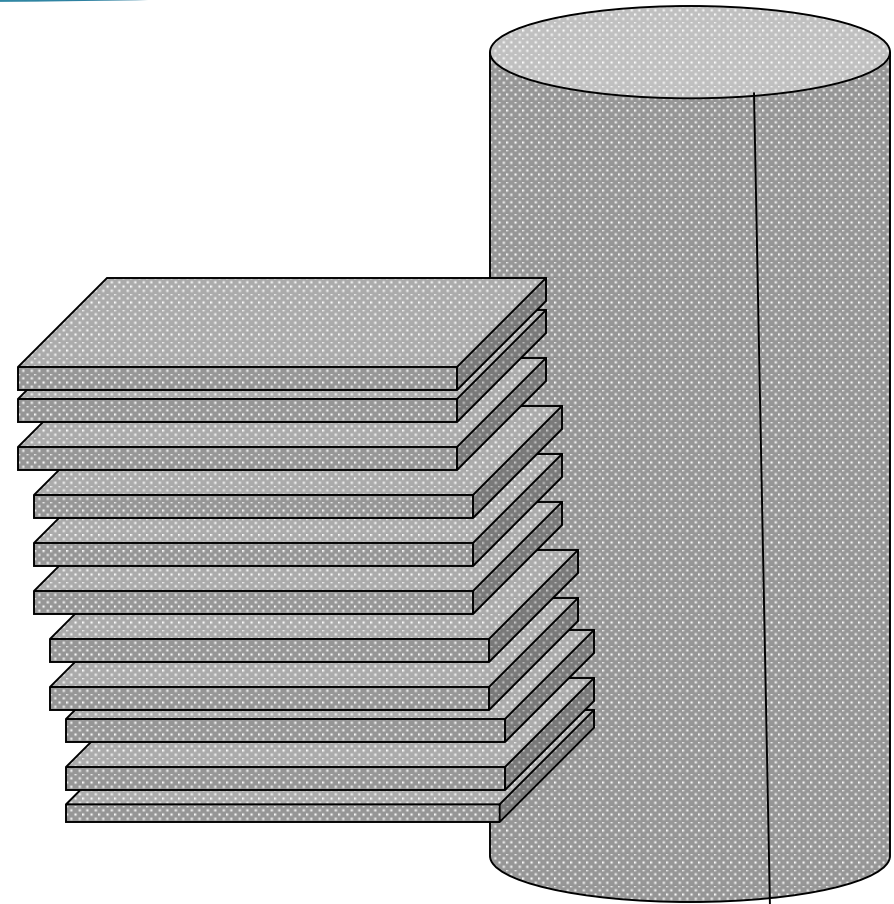
Spill Equipment - Socks

- ▶ Same properties as booms
- ▶ Used on smaller spills
- ▶ Often used with pillows and pads



Spill Equipment - Pads

- ▶ Same absorption properties as booms and socks
- ▶ In single sheet or rolls
- ▶ Used alone on very small spills
- ▶ Used with booms and socks on larger spills

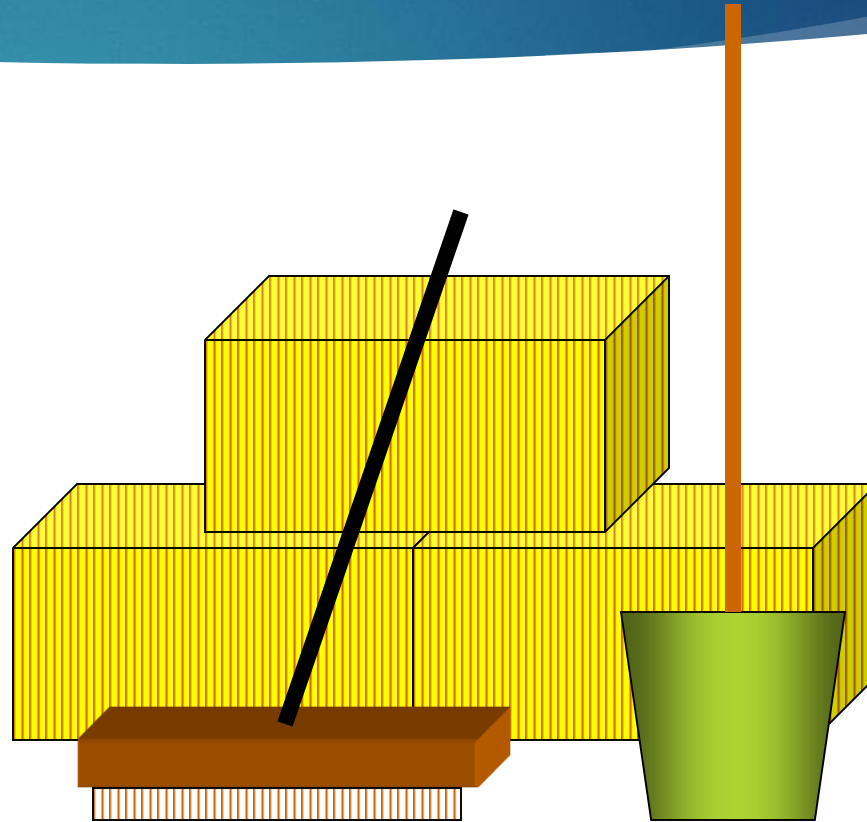


Absorbent Pads



Spill Equipment

- ▶ Other materials
 - ▶ Shovels
 - ▶ Brooms
 - ▶ Hay
 - ▶ Soil/Road silt
 - ▶ Ladders
 - ▶ Tarps
 - ▶ Fire hose



Methods of Mitigation

Dispersion

- ▶ Use of water fog or fans to dilute the concentration of a gas below dangerous levels
- ▶ Adding water to water reactives will cause new compounds to be created
- ▶ Example
 - ▶ water + chlorine gas = hydrochloric acid



Shut Down

- ▶ Some containers, tanks, and pipelines have remote shut down capabilities
- ▶ Gas lines – at building, at street
- ▶ Liquid lines – gas stations, factories
- ▶ De-energize - utilities, switches
- ▶ On-site personnel are your best resource of their systems



Dilution

With some hazardous materials adding water will decrease the hazardous properties of the chemical.

Things to Remember

- ▶ Adequate Water Supply
- ▶ Containment
- ▶ Testing



Methods of Mitigation

Take no action

- ▶ Sometimes there is no reason to commit personnel and resources because either the situation is over or you do not have the correct or proper equipment to handle it
- ▶ You still must secure the scene and provide protection for exposures



Reminder

If the action(s) that you are planning to take will not have a positive effect on the incident. Why are you taking action?



QUESTIONS????



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