



Spills Response

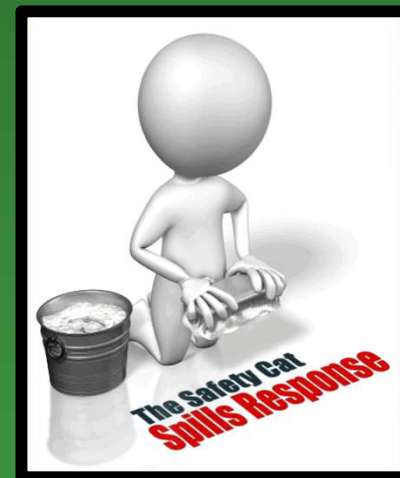
Federal & Provincial
Requirements



...ation without an End... ..

Modules

- Spill Response Legislation
- Spill Prevention Methods
- Spill Response Planning & Steps
- Spill Levels / Categories
- “Where’s the Spill?”
- Spill Clean-Up & Monitoring



*This course
is approx.
6-hours*

*There is a
written test*

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What could Spill?

A Non-Traditional Spill/Leak could include:

Noise

- O. Reg. 381/15, above 85dBa (*Fed 84 dBa*)

Radiation

- O. Reg. 861, X-Ray Safety
- CDN OH&S Reg., Section 10.26
- Nuclear Energy Act

Thermal: Hot / Cold

- Ministry of Environment Guidelines
- ACGIH Humidex/Heat Plan

Uncontained/Controlled Vibration

- CDN OH&S Reg., Section 14.10
- ACGIH Recommendations (*no specific Laws*)



*Traditional
& Not-So
Traditional
“Spills”*

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Incidental Spill?

- 🗑️ A release of a hazardous substance which **does not** pose a significant safety or health hazard to employees in the immediate vicinity or to the worker cleaning it up, nor does it have the potential to become an emergency
- 🗑️ Incidental spills do not require an ***Emergency Response***
- 🗑️ May be cleaned up by **employees** working in the area where the spill occurred or by maintenance personnel



*Definition
of an
Incidental
Spill*





Legislation

Module #1



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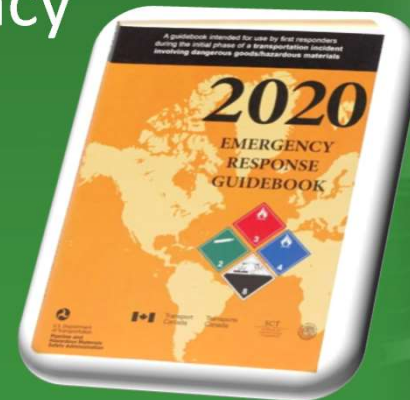
Legislation

Federal

- 🗄️ Canada Environmental Protection Act (*EPA*)
- 🗄️ Transportation of Dangerous Goods Act (*TDG*)
- 🗄️ CSA Z1600 Emergency & Continuity Management Program Standard
- 🗄️ CSA Z731 Emergency Preparedness & Response Standard
- 🗄️ 2020 North American Emergency Response Guidebook (*ERG*)



*What
Federal
legislation
applies to
Spills
Response?*



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The Precautionary Principle

- 🗄 Governments have a **duty** to protect the public interest through regulation even when there isn't full scientific certainty that harm will occur
- 🗄 When scientific information about environmental effects is **incomplete**, extra caution is needed
- 🗄 Prevention of harm will always be easier and cheaper than remediation after harm has been done

PRINCIPLE



*The Rio
Declaration
1992
Report of
The United
Nations*

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Transportation Of Dangerous Goods Act *Federal*

Emergency Response Assistance Plans:

- 🗄️ No person shall import, offer for transport, handle or transport dangerous goods in a quantity or concentration that is specified by regulation — or that is within a range of quantities or concentrations that is specified by regulation — unless the person has an emergency response assistance plan that is approved under this section



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*Excerpts
from
Section 7
ERAP*



Legislation

Provincial ~ Ontario



*What
Provincial
legislation
applies to
Spills
Response?*

- 🗄 Environmental Protection Act
- 🗄 Fire Protection & Prevention Act (*Fire Code*)
- 🗄 Regulation 224/07 Spill Prevention & Contingency Plans
- 🗄 Regulation 675/98 Classification & Exemption of Spills & Reporting of Discharges
- 🗄 Regulation 360 Spills (*Payment, Farmers & Insurers*)
- 🗄 Municipal Sewer-Use Bylaws

Indirectly:

- 🗄 Regulation 347 General: Waste Management

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*Excerpts
from
various
Sections*

General: Waste Management

Ontario Regulation 347 (TDG)

- 🗑️ Location, maintenance & access to waste disposal sites
- 🗑️ Documentation requirements
- 🗑️ Hazardous waste mixing
- 🗑️ Identification of hazardous waste
- 🗑️ Length of storage
- 🗑️ Training of Employees
- 🗑️ Procedures required for punctured, broken and/or leaking containers, *etc...*

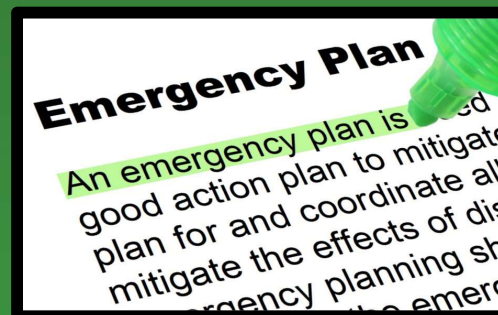


CSA Z1600 Emergency & Continuity Management Program Standard

Requirements to develop, implement, evaluate, maintain, and continually improve an emergency and continuity management program for prevention and mitigation, preparedness, response, and recovery

The elements included are:

- Program Management
- Planning
- Implementation
- Program Evaluation
- Management Review



Canadian
Standards
Association

Excerpts
from
Section 1



CSA Z731 Emergency Preparedness & Response Standard



*Excerpts
from
Section 0.1*

An Emergency Management Program (EMP):

- 🗄 Safety of workers, responders & public
- 🗄 Reduce destruction of goods & property
- 🗄 Reduce magnitude of environmental impacts
- 🗄 Help responders quickly determine & initiate proper remedial actions
- 🗄 Reduce recovery times & costs
- 🗄 Make responders, industry, & public more confident that emergencies will be properly managed





Spills Prevention

Module #2



Prevention without an End... Pollution without a Beginning

Spills Prevention

It may seem obvious, but the best way to deal with a chemical spill is to avoid having one in the first place

The key is to follow proper procedures for storing, transferring, handling, using, & disposing of chemicals

All workers should be trained to recognize the hazards and proper procedures associated with every chemical they may encounter, including the actions they need to take when a spill occurs



*Prevention
is the Best
Medicine*





Canada Environmental Protection Act

Federal



*Excerpts
from
Section 62*

Spill Plan & Guideline:

-  The Minister shall develop guidelines under which prevention planning is appropriate
-  The Minister shall offer to consult with representatives of Aboriginal Governments and may consult with a Government department or Agency, Aboriginal people, representatives of Industry and Labour and Municipal Authorities or with persons interested in the quality of the environment



Ontario Environmental Protection Act

Provincial

Every person who belongs to a class of persons prescribed by the regulations shall, in accordance with the regulations, develop and implement plans to:

- Prevent or reduce the risk of spills of pollutants; and
- Prevent, eliminate or ameliorate any adverse effects that result or may result from spills of pollutants, including,
- Plans to notify the Ministry, other public authorities and members of the public who may be affected by a spill, and
- Plans to ensure that appropriate equipment, material and personnel are available to respond to a spill



Section 91.1

*“Ameliorate”
means to
make
something
bad or
unsatisfactory
better*



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Prevention Techniques

There are numerous different efforts that can be made to reduce the risk:

- 🗑️ **Elimination** is the best control – remove the hazardous material
- 🗑️ Consider **Substitution** for Hazardous Materials – select a less hazardous alternative (*where available*)
- 🗑️ Look at **Engineering** controls such as Automation, Isolation & Separation – where the Worker does not come in direct contact with the hazardous material



What you can do to reduce the risk of a Spill/Leak



Hazardous Materials Inventory

What hazardous materials do you have?

- 🗄 Consider the class of each material – toxic, corrosive, explosive, oxidizer, physical hazard, health hazard, biological, etc..
- 🗄 Look at storage of materials in proximity to other hazardous materials
- 🗄 Consult the Safety Data Sheet (SDS) for incompatibility & reactivity information
 - How may 1 material cause another to react?



Federal & Provincial Legislation require a complete Haz/Mat Inventory



Hazard Controls

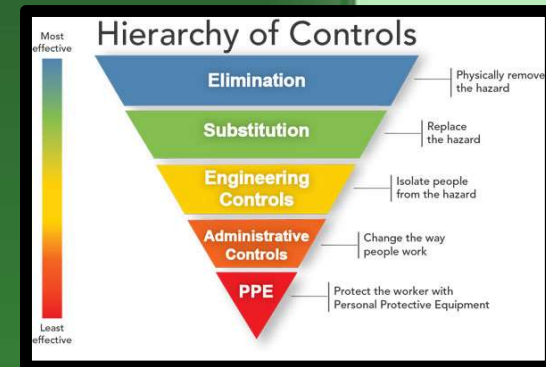


*Hierarchy
of Control*

*...from best
to worst*

The Hierarchy of Control has 5 “levels” of control to address Haz/Mat risks:

1. Elimination
2. Substitution
3. Engineering
4. Administrative
5. Personal Protective Equipment



Also referred to in a 3-Tier Hierarchy:

 Source – Path – Worker





Spill Levels / Categories

Module #4



...ation without an End... ..



Classification of Spills & Exemptions

Ministry of the Environment

Spill Classification: Level 1, Minor

- 🗑️ Magnitude and nature that it **does not** cause significant adverse effects on public concerns, where the spiller can, utilizing their own resources undertake measures to control, contain, and clean up





Definitions

Classification of Spills & Exemptions

Ministry of the Environment

Spill Classification: Level 2, Moderate

- 🗑️ Causes significant adverse effects in the **immediate vicinity**, where resources under a Municipal or Cooperative contingency plan may be required for containment and clean up



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*Excerpts
from
Section 1
through 11*

Classification of Spills & Exemptions

Ontario Regulation 675/98

Spill Classification:

- 🗄 Eleven (11) different classifications of spills, shown in Roman Numerals
- 🗄 Each class relates to specific materials, quantities & may have specific exemptions

I II III IV V
VI VII VIII IX X XI



“Where’s The Spill?”

...Spill Detection

There are a number of techniques that can be used to determine / detect if you have a leak or spill:

🗑️ Personally witnessed:

- Senses: Sight, Sound, Hearing & Touch – **NOT Taste!!!**

🗑️ Witness informed:

- Employee, Client ,Public, etc...

🗑️ Detector / Alarm:

- Various gases / smoke
- Pressure change

🗑️ Quantity discrepancy:

- On-site inventory
- During transportation
- After emergency “event”



How do you know if there's a leak/spill somewhere?





Clean-Up & Monitoring

Module #6



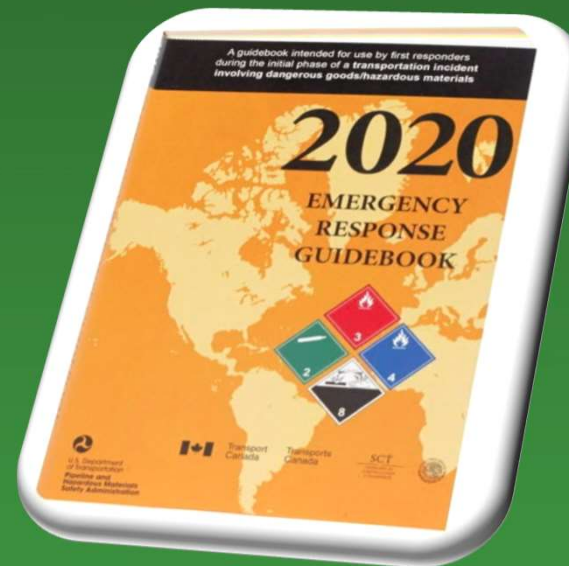
...ation without an End...

Spill Clean-Up...

...Reference / Guide

Consult the North American Emergency Response Guide: Orange Pages

- 📚 Fire or Explosion
- 📚 Health & Public Safety
- 📚 Protective Clothing
- 📚 Evacuation
- 📚 Spill or Leak
- 📚 First Aid, etc...



How do I contain, neutralize & clean-up a spill?

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Spill Clean-Up...

...Reference / Guide

Consult the Safety Data Sheet (SDS):

🗄️ Section 6

- Accidental release measures

🗄️ Section 7

- Handling & storage

🗄️ Section 8

- Exposure control/personal protection

🗄️ Section 10

- Stability & reactivity



*How do I
contain,
neutralize &
clean-up a
spill?*

