



# Fundamentals of Wisconsin's Contamination Cleanup Law

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# Presentation Overview

- State and Federal Authority
- Statutes and Codes
- Responsible Parties
- Site Investigation Process
- Remediation and Redevelopment



# Federal and State Authority

**RCRA**

**TSCA**

**SUPERFUND**

- One Clean Up Memorandum
- Joint authority -TSCA – PCBs
- Single Agency Lead – RCRA & Superfund

# State Statutes

Wisconsin statutes and administrative code govern the investigation and cleanup actions that are required after a discharge of a hazardous substance occurs or is discovered.





## Stat 292.11 - Spills Law

- 292.11, Wis. Stats., is known as the Spills Law
- This law provides broad authority to require hazardous substance discharges are addressed to protect human health, safety and the environment.



# What is a Hazardous Substance?

- A. Gasoline?
- B. Powdered Milk?
- C. Jet fuel?
- D. Pickle Juice?
- E. Manure?
- F. All of the above



# What is a Hazardous Substance?

Anything that can cause harm to human health, safety or welfare because of

- – where it's spilled
- – the amount spilled
- – its toxicity
- – its concentration



# Responsible Party

In general, a person responsible for a discharge is required to report, investigate and clean up the contamination.

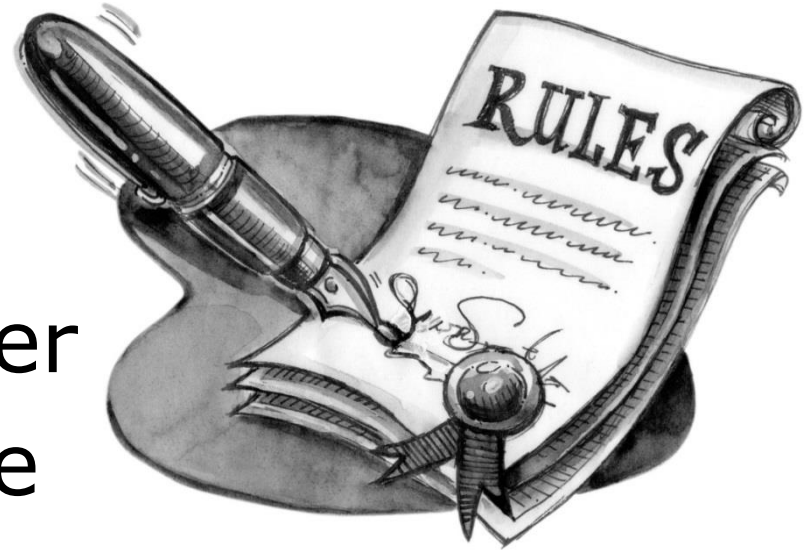
The person responsible is defined by law as one who "causes," "possesses" or "controls" the contamination.





# Wisconsin Administrative Code

- NR 140 - Groundwater
- NR 500 - Solid Waste
- NR 600 - Hazardous Waste
- NR 700 - Contaminant Remediation





# **NR140 WI Admin Code**

## Groundwater Quality

- Public Health
- Public Welfare

## Groundwater Standards

- Preventive Action Limits (PALs)
- Enforcement Standards (ESs)

**Table 1**  
**Public Health Groundwater Quality Standards**

Substance <sup>1</sup>	Enforcement Standard (micrograms per liter – except as noted)	Preventive Action Limit (micrograms per liter – except as noted)
Acetochlor	7	0.7
Acetochlor ethane sulfonic acid + oxanilic acid (Acetochlor – ESA + OXA)	230	46
Acetone	9 mg/l	1.8 mg/l
Alachlor	2	0.2
Alachlor ethane sulfonic acid (Alachlor – ESA)	20	4
Aldicarb	10	2
Aluminum	200	40
Ammonia (as N)	9.7 mg/l	0.97 mg/l
Antimony	6	1.2
Anthracene	3000	600
Arsenic	10	1
Asbestos	7 million fibers per liter (MFL)	0.7 MFL
Atrazine, total chlorinated residues	3 <sup>2</sup>	0.3 <sup>2</sup>
Bacteria, Total Coliform	0 <sup>3</sup>	0 <sup>3</sup>
Barium	2 milligrams/liter (mg/l)	0.4 mg/l
Bentazon	300	60
Benzene	5	0.5
Benzo(b)fluoranthene	0.2	0.02
Benzo(a)pyrene	0.2	0.02
Beryllium	4	0.4
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# Public Welfare Standards

Table 2  
Public Welfare Groundwater Quality Standards

Substance	Enforcement Standard (milligrams per liter – except as noted)	Preventive Action Limit (milligrams per liter – except as noted)
Chloride	250	125
Color	15 color units	7.5 color units
Foaming agents MBAS (Methylene-Blue Active Substances)	0.5	0.25
Iron	0.3	0.15
Manganese	0.05	0.025
Odor	3 (Threshold Odor No.)	1.5 (Threshold Odor No.)
Sulfate	250	125
Zinc	5	2.5



# Wisconsin Administrative Code

- NR 500 – Solid Waste
- NR 600 – Hazardous Waste





# Wisconsin Administrative Code



- NR 700 – Contaminant Remediation



# **NR 700 Rule Series, WI Adm. Code**

- NR 700 – General Requirements
- NR 706 – Hazardous Substance Discharge Notification Requirements
- NR 708 – Immediate & Interim Actions
- NR 716 – Site Investigations



# **NR 700 Rule Series, WI Adm. Code**

- NR 720 - Soil Cleanup Standards
- NR 722 – Selecting Remedial Actions
- NR 724 – Remedial Action Design, O&M
- NR 726 – Site Closure
- NR 728 – Enforcement





# **NR 720 Soil Standards**

- Residual Contaminant Levels (RCLs)
  - Direct Contact Non Industrial
  - Direct Contact Industrial
  - Groundwater Pathway
  - Background Threshold Values



# Site Investigation Process

- Phase I
- Phase II
- Site Investigation
- Remediation
- Site Closure



# Phase I Investigation

- Primarily a paper study
- Reviews available information about potential sources of contamination that may affect the site
- Includes a site walk but no sampling
- Includes interviews
- ASTM E1527



# Phase II Investigation

- Includes sample collection of probable contaminated material
- Confirms contamination is/is not present
- Does not determine full nature and extent of contamination
- Contaminant release notification is required if contamination is confirmed



# Site Investigation

- Determine nature & extent of contamination
- Assess all potentially affected media
  - soil, groundwater, surface water, sediment & vapors
- Develop a Conceptual Site Model





# Site Investigation

To show Nature and Extent Defined

- Isoconcentration Maps
- Cross Sections



# Site Remediation

- Remedial Actions
- Soil – excavation, insitu treatment, SVE, injection, capping
- Groundwater - Pump and treat, injection of reactant, reactive barrier
- Vapor – Vapor Mitigation System



# Site Closure

- Closure granted when all exposure pathways have been addressed
- Human health safety welfare and the environment must be protected
- Some contaminants may remain in place





# Continuing Obligations

- Land Use Controls/Zoning
- Engineered Barriers
- Vapor Mitigation
- Maintenance Inspections
- Notification to DNR if Conditions Change



# Redevelopment and Remediation

- Engineered Barriers, landscape features and other remediation requirements can be incorporated into redevelopment



# Questions?

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