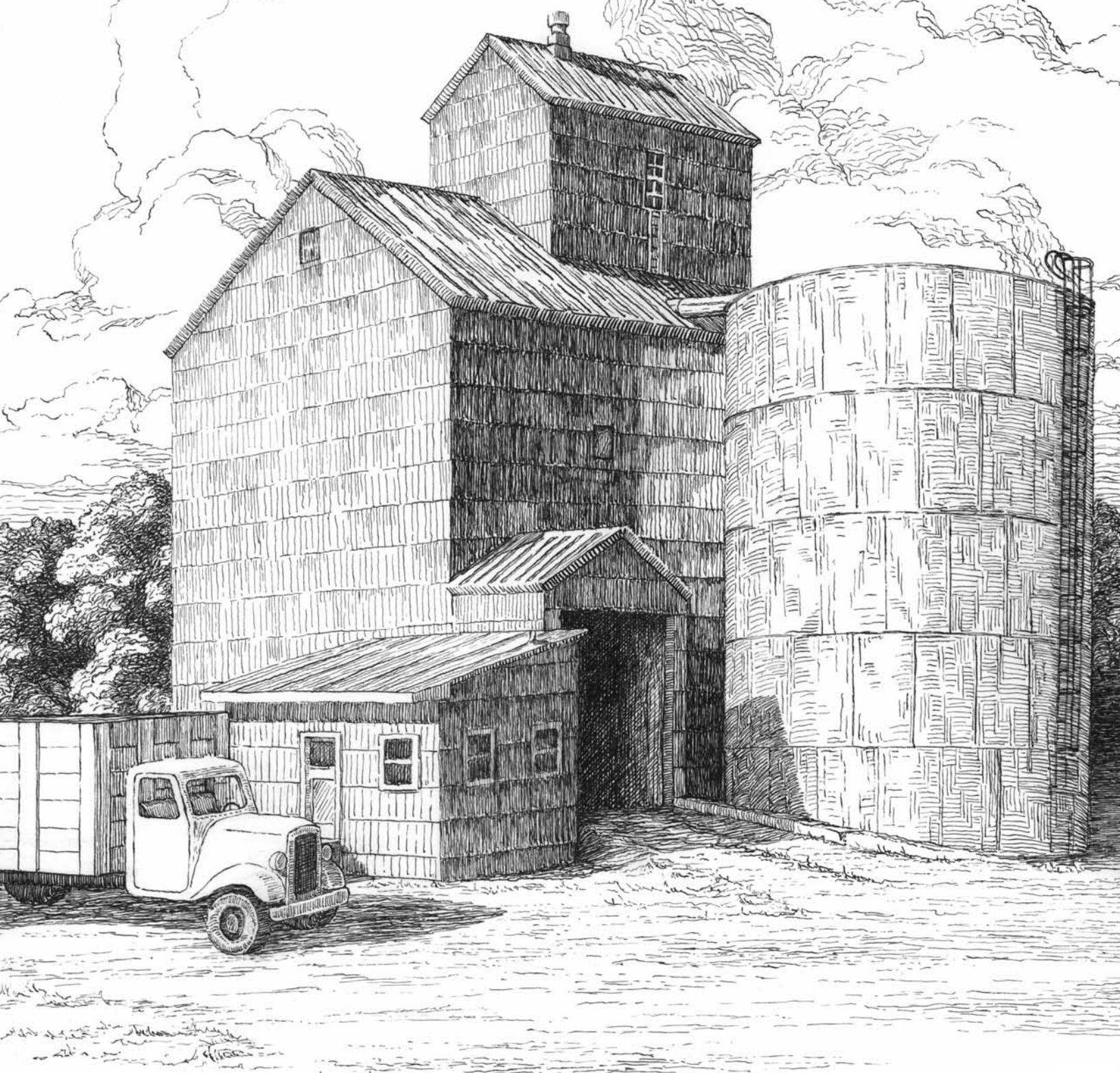
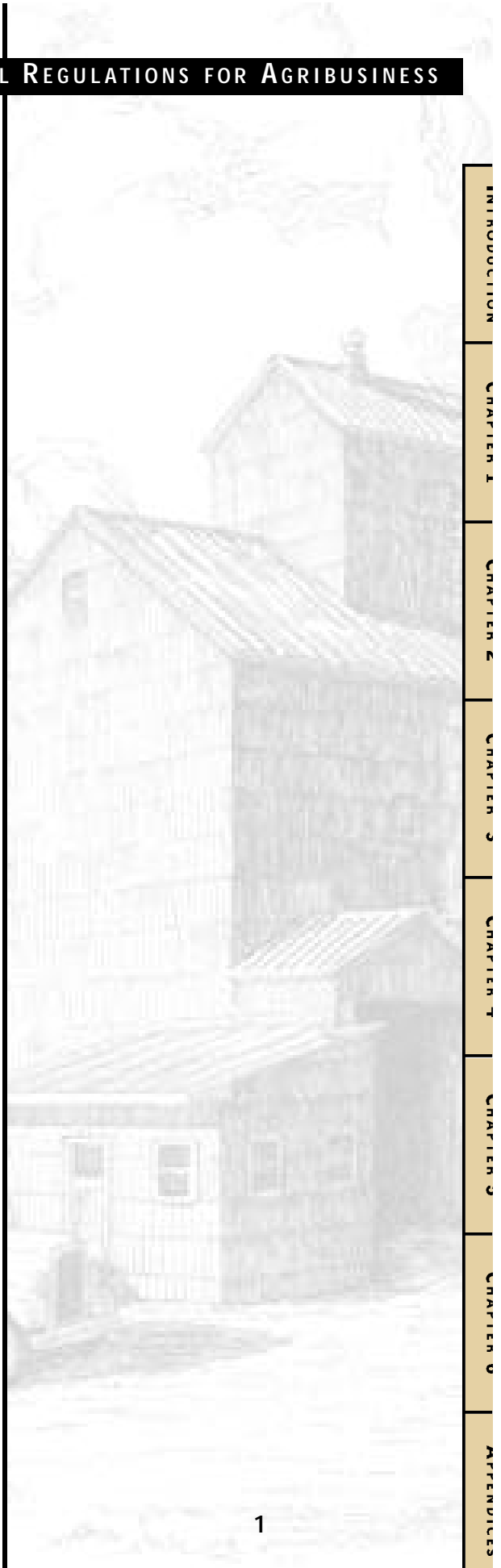


Handbook of Environmental Regulations for Agribusiness



This *Handbook* is intended to provide the information needed for agribusiness facilities to comply with state and federal environmental regulations. Staff at the Iowa Waste Reduction Center wrote the *Handbook*. Technical input and review was provided by Dan Eddinger, Nebraska Department of Environmental Quality; Mark Lohafer and John Whipple, Iowa Department of Land and Agricultural Stewardship; staff at the United States Environmental Protection Agency (U.S.EPA) Region 7; staff at the Iowa Department of Natural Resources (IDNR); and Chris Murray, Agribusiness Association of Iowa.

Funding for the *Handbook* was provided by the Iowa Waste Reduction Center at the University of Northern Iowa (IWRC) and by U.S. EPA under Section 215 of the Small Business Regulatory Enforcement Act (SBREFA).



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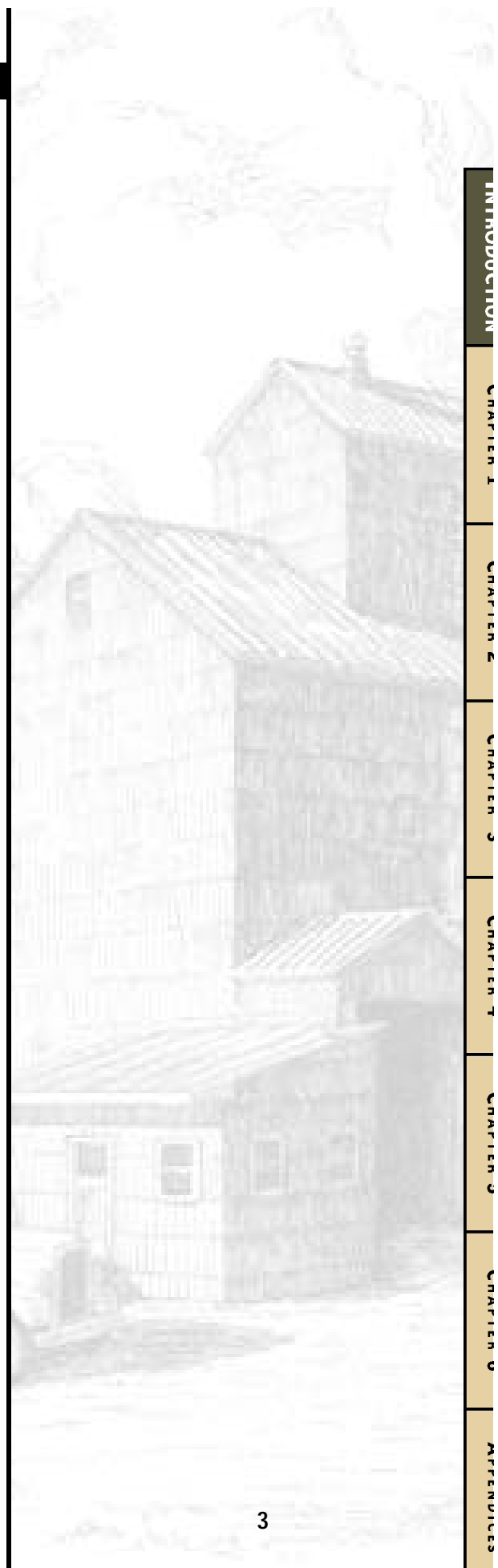
Water is a precious resource to everyone – farmers, urban dwellers, commercial businesses and industry. In recent years, Iowa’s citizens have become increasingly aware of water quality issues and are concerned about the health and safety of water for current and future generations. The protection of surface and groundwater is a primary reason for agribusinesses to prevent losses of fertilizer, nutrients, and pesticides from their dealer sites.

Environmental protection is considered a part of doing business today. It is required by local, state and federal law and is demanded by the public. Good stewardship protects and improves current resources and protects the health of workers, neighbors and the general public against environmental contamination through careless or improper management of hazardous and/or toxic substances.

A substantial benefit of good environmental stewardship is protecting a business from environmental liabilities. The ultimate responsibility for the environmental impact of an agribusiness rests with the owner and manager of the business. Thus, a sound environmental plan must involve all members of the facility’s staff - from management down - so that they can work together to minimize the release of pollutants into the air, soil and water.

How can you be sure you are meeting environmental requirements, especially when requirements are issued by different agencies and levels of government? It is a daunting task for both privately-owned and corporately-owned agribusiness. Through a grant from the United States Environmental Protection Agency, the Iowa Waste Reduction Center has written a *Handbook of Environmental Regulations for Agribusiness* to help agribusinesses comply with environmental requirements.

This *Handbook of Environmental Regulations for Agribusinesses* is designed to be a plain-English, one-stop reference source for environmental regulations affecting agribusinesses. It integrates both state and federal requirements into its regulatory summaries and discussions of compliance, recordkeeping and documentation issues.



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Handbook Organization

Chapters 1 – 4 contain regulatory, waste management and pollution prevention information specific to agribusiness "activity categories." These are activities that typically take place at the various agribusinesses targeted by the handbook. Not all agribusiness facilities undertake all the described activities; therefore, some sections may or may not be of interest to the reader. Activity categories are:

Chapter 1: Vehicle Maintenance (company-owned and customer-owned)

Chapter 2: Grain Handling (storage, shipping and processing)

Chapter 3: Agrichemicals (fertilizer and pesticide)

Chapter 4: Bulk Fuel (storing, shipping, handling, retail and wholesale)

The chapters discuss specific operations at agribusiness facilities that fall under environmental regulations. The information is presented in a question-and-answer format:

- A. What environmental regulations apply to these operations?**
- B. How do I comply?**
- C. Where can I get more help and information?**

Each chapter also contains practical pollution prevention tips as well as tables and flow charts to help determine regulation applicability.

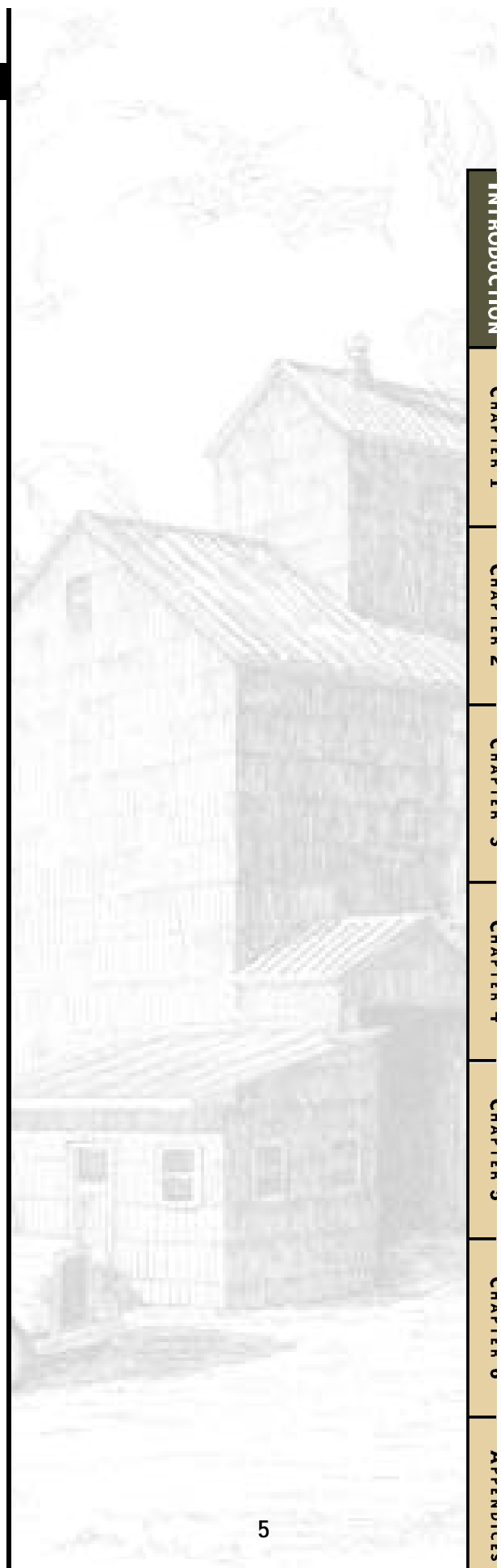
The most efficient use of the *Handbook* may be to locate the agribusiness "activity chapter" that best describes a facility's work practices, read the section and follow the reference trail to Chapter 5: Overview of Environmental Regulations. Specific regulatory information in Chapters 1 - 4 builds on the general regulatory information covered in Chapter 5.

The last chapter of the *Handbook* contains Chapter 6: Resources and includes contact names and phone numbers, addresses of regulatory and compliance assistance centers, relevant web sites and other sources of information related to the topics discussed.

The Appendices contain chemical lists, toxicity tables and threshold limits for use as reference materials, permit applications and other relevant forms.

The arrangement of information presented in the *Handbook* is designed to help agribusinesses understand and comply with complex and overlapping state and federal environmental regulations.

We would like to thank the Environmental Protection Agency for their financial support and assistance with the *Handbook of Environmental Regulations for Agribusiness*.



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ACTION STEPS

WASTEWATER DISCHARGE

1. Identify the types of wastewater generated (sanitary wastewater, car wash, process wastewater, etc.) as well as all sources of wastewater (floor drains, parts cleaning, vehicle and equipment cleaning, etc.).
2. Identify how each type is being discharged (sanitary sewer, the ground, septic system, etc.).
3. If wastewater is being discharged directly to a publicly owned treatment works (POTW) or sanitary sewer, the discharger must:
 - Contact the POTW superintendent or city engineer and report the type, source and quantity of the discharge.
 - Request written permission that the discharge is acceptable. The written permission may be a formal permit, discharge agreement or simply a memo, depending on the city's ordinances or policy.
4. If the wastewater is discharged to the ground, a storm sewer or a surface water, the discharger must:
 - Obtain a National Pollutant Discharge Elimination System (NPDES) permit from the IDNR (see page 52, 57-58 and Appendix 7).
 - Meet the contaminant limits specified in the permit.
 - Conduct periodic wastewater testing and analysis.
 - If permit limits are not achieved, discontinue the discharge or provide treatment to reduce contaminant levels within the limits.
5. If the wastewater is discharged to an on-site septic system, the following requirements apply:
 - A construction permit from the county is required for septic systems with a capacity less than 1,500 gallons per day.
 - Contact your county sanitarian for application forms.
 - A construction permit from the IDNR is required for septic systems with a capacity greater than 1,500 gallons per day. The discharger must also submit a wastewater construction permit application with adequate engineering plans and specifications to allow thorough IDNR review. IDNR field staff will conduct a site survey.

Vehicle and Equipment Maintenance

Agribusinesses generally own and maintain a fleet of service vehicles and agrichemical equipment (cars, trucks, tractor-trailers, tractors, sprayers, etc.). In addition, some agribusinesses provide maintenance and repair services for their customers' vehicles and/or equipment. Maintenance operations may include one or any of the following: oil changes, engine maintenance and repair, radiator flushing (coolant change out), spray painting operations, surface cleaning (sand blasting), use of bake ovens and other potential sources of contaminants.

A. Which Environmental Laws Apply to Vehicle and Equipment Maintenance?

1. **Wastewater Regulations**
 Clean Water Act: Wastewater Discharge
 Iowa Department of Natural Resources Ground Water Protection Act
 Underground Injection Control
 Program – Class V Well (on-site septic system)
2. **Air Emissions Regulations**
 New Source Review or Construction Permit
 Title V Permit or Operating Permit
 Prevention of Significant Deterioration
 Mobile Equipment Air Conditioning
3. **Hazardous and Solid Waste Regulations**
4. **Emergency Planning and Community Right to Know (EPCRA)**

B. How Do I Comply?

Wastewater Regulations

Wastewater Discharge: Sanitary Sewer, Surface Discharge and Septic Discharge A facility generating wastewater such as car/equipment bay wash water (inside or outside); wastewater from citrus-based, aqueous or biological parts cleaning sinks; or wastewater from floor drains in buildings where vehicle maintenance activities occur is subject to wastewater regulations. Please refer to Environmental Regulation Overview, pages 52-54, before proceeding with any of the Action Steps.

Generally, contaminants cannot be discharged if there is reason to believe that they will be detrimental to the bacterial action of the septic system or that they will cause risks to human health or the environment.

Underground injection of wastewater (i.e., to a septic system) other than sanitary wastewater is governed by the federal Underground Injection Control (UIC) program (see page 53-54). Dischargers are required to register their systems with the EPA Regional UIC program using the form provided in Appendix 1. Regulations for industrial discharge to this type of system are being promulgated. Septic systems serving more than 20 people must also register.

NOTE: *Septic tanks are designed to treat domestic sanitary sewage, not industrial waste, and should not be used except for the treatment of sanitary sewage.*

P ² TIP	WASTEWATER
<p><i>The following steps may reduce the amount and toxicity of wastewater created at your facility.</i></p>	
<ul style="list-style-type: none"> ● Sweep or vacuum floors prior to wet washing. Use only non-toxic soaps to clean floors and vehicles. ● Prevent drips or spills from reaching floors by using drip pans, etc. ● Clean up spills immediately. ● Never hose down the floor with water. ● Perform vehicle maintenance in areas with no floor drains. ● Seal off drains during work to prevent spills from contaminating the sump and the wastewater. ● Store hazardous wastes and hazardous materials, such as parts wash solvents, away from drains. ● Contact the Iowa Waste Reduction Center at (800)422-3109 or (319)273-8905 for information on alternatives and better waste water management practices. 	

Air Emissions Regulations

Vehicle and equipment maintenance may include spray painting operations, surface cleaning (e.g., sand blasting), bake ovens, servicing of mobile equipment air conditioning units and other potential air emission sources. The following Clean Air Act Amendment (CAAA) regulations may apply.

New Source Review or Construction Permits Air quality construction permits apply to any operation or

ACTION STEPS

AIR EMISSIONS: CONSTRUCTION PERMITS

1. Identify all the air emission sources in the facility. This could include spray painting, welding, etc.
2. Investigate operations to determine if the following exemptions apply:
 - Fuel burning equipment used for indirect heating and reheating furnaces or cooling units using natural gas or liquefied petroleum gas with a capacity of less than 10 million BTUs per hour input per combustion unit.
 - Fuel burning equipment for indirect heating and reheating furnaces or cooling units using coal, untreated wood or fuel oil with a capacity of less than one million BTUs per hour input per combustion unit.
 - A non-production surface coating process that used only hand-held aerosol spray cans.
 - Brazing, soldering or welding equipment or portable cutting torches used only for non-production activities.
 - Cooling and ventilating equipment: comfort air conditioning not designed or used to remove air contaminants generated by, or released from, specific units of equipment.
 - Gasoline storage tanks with a capacity of 5,000 gallons or less and an annual throughput of less than 40,000 gallons.
 - Coolant, diesel, detergent, fuel oil, LPG, lubricating oils and other nonhazardous storage tanks with capacities of less than 10,570 gallons and an annual throughput of less than 40,000 gallons.
3. If it is a spray operation, the facility may be eligible to apply for permit-by-rule options:
 - ONE GALLON PERMIT-BY-RULE: To be eligible, the facility must maintain an 18-month rolling record of material sprayed proving that the facility did not spray more than one gallon in any one day and provide a notification to the IDNR indicating that a permit-by-rule option is being used.
 - THREE GALLON PERMIT-BY-RULE: To be eligible, the facility must maintain an 18-month rolling record of material sprayed proving that the facility did not spray more than three gallons in any one day; install and maintain a vertical stack that rises at least 22 feet

ACTION STEP CONTINUED ON NEXT PAGE

ACTION STEPS

above ground level; and provide notification to the IDNR indicating that a permit-by-rule option is being used.

NOTE: Facilities in Linn and Polk counties should contact their local health departments. Some of these exemptions may not apply to them.

4. Complete air quality construction permit application forms for the remaining air emission sources.

ACTION STEPS

AIR EMISSIONS: OPERATING PERMITS

1. Identify all air emission sources at the facility (likely sources may include spray painting, sand blasting, welding, etc.).
2. Estimate actual and potential emissions from each individual source and add them to the facility emission inventory.

ACTION STEPS

AIR EMISSIONS: AIR CONDITIONING

1. Obtain and use only EPA-approved refrigerant recovery equipment for all A/C work.
2. Allow only certified technicians to perform A/C work.
3. Notify EPA that compliance with the above has been obtained using the MAC form enclosed in Appendix 2.

equipment, such as spray painting and surface coating, which has the potential to emit any air pollutants.

Title V or Operating Permits Actual and potential emissions from any air emission source from vehicle and equipment maintenance activities must to be included in the facility emissions inventory (see page 65). Those activities may include spray painting, abrasive blasting (surface cleaning), welding and solvent cleaning operations. A facility emissions inventory identifies emission sources at the facility, shows actual and potential emissions from each source, documents the status (major or minor) of the facility under Title V of CAAA and determines whether or not a Title V permit is required. Title V permitting is explained in detail in the Environmental Regulation Overview section on pages 66-68.

A completed emissions inventory can document compliance in the case of minor sources. For major sources it identifies emissions sources or operations which are responsible for making the facility a major source. In some cases, with appropriate limits, the facility may avoid Title V permitting and opt for less burdensome permitting options such as a voluntary operating permit. For example, a facility's unlimited potential emissions may make it a 'major' source, but with limits on paint material consumption, the facility may be classified as 'synthetic minor.' A facility may request such a limitation in their construction permit. For more information on limitations, contact the Iowa Waste Reduction Center at (800) 422-3109 or (319) 273-8905.

Prevention of Significant Deterioration (PSD) The emission sources must be included in the facility emissions inventory for making the PSD applicability determination. Review pages 68-69 of the Environmental Regulation Overview for further details.

Mobile Equipment Air Conditioning Regulations regarding mobile equipment air conditioning servicing are included in the CAAA. These rules prohibit service-related releases of chlorofluorocarbon (CFC), fluorocarbon (FC), hydrochlorofluorocarbon (HCFC) and hydrofluorocarbon (HFC) refrigerants and were effective January 1, 1993. A

business providing air conditioning service work for compensation is subject to these refrigerant regulations.

Hazardous and Solid Waste Regulations

Resource Conservation and Recovery Act (RCRA) regulations apply to many vehicle maintenance activities and their resulting wastes. RCRA regulations are described in detail on pages 71-80. Please review this information before proceeding with any Action Steps.

NOTE: *The generator is responsible for complying with the applicable regulations and maintaining proper paperwork to document compliance.*

Many of the wastes typically generated from vehicle maintenance activities have specific management requirements and are discussed separately in the following sections of this manual. The most common wastes include:

- Used Oil
- Oil Filters
- Oily Waste
- Antifreeze
- Liquid Painting Wastes
- Paint-Contaminated Wastes
- Parts Washer Solvent
- Floor Drain Sump Sludge
- Spent Fluorescent Bulbs
- Vehicle Air Conditioning
- Tires
- Batteries
- Empty Containers
- Brake Pads

Used Oil While regulated under RCRA regulations, used oil is regulated less stringently than hazardous wastes to encourage used oil recycling. Facilities that merely collect and recycle their own used oil through commercial or public collection centers are required only to properly store and label the used oil prior to off-site shipment. Facilities that manage and/or transport used oil from other generators and that burn or re-refine used oil are subject to more

ACTION STEPS

HAZARDOUS & SOLID WASTE

1. Identify every waste generated at the facility and determine if it is hazardous or nonhazardous. Specific protocols have been established by EPA to make these determinations and are found on page 74.
2. Inventory the amount of hazardous waste generated each month and stored on site at any given time. This inventory will define a hazardous waste generator category that applies to the facility and a set of regulations that must be followed. Regulatory requirements for generators are based on quantity of waste generated and are discussed in detail beginning on page 76.

ACTION STEPS

USED OIL

1. Determine how you are presently managing used oil at your facility. Use the list of categories and descriptions on page 10 as a guide.
2. Clearly label all containers storing used oil as "Used Oil" and maintain records documenting the selected management practices to verify compliance.

stringent regulations to minimize environmental damage associated with increased handling and processing.

The used oil regulations are found in 40 CFR Part 279. These regulations establish specific requirements for the following used oil categories:

Generator: Person, by site, that generates used oil. While the same person may generate used oil at different sites, each site is considered a unique generation site.

Collection centers: Facilities that accept used oil from the general public (do-it-yourselfers).

Aggregation points: Central locations where used oil, in quantities less than 55 gallons per shipment from other generation sites, all owned by the same entity, is accumulated.

Transporters: Persons who transport used oil in quantities greater than 55 gallons per shipment.

Transfer facilities: Transportation-related facilities that store used oil for more than one day but less than 35 days.

Processors and re-refiners: Facilities that process used oil or store used oil from other generation sites for more than 35 days.

Burners: Facilities that burn off-specification used oil generated by other businesses.

Marketers: Persons that direct a shipment of used oil generated on site or received from other facilities directly to a burner.

In general, used oil generators may provide used oil to a marketer (commercial used oil recycler); self-transport used oil, in quantities less than 55 gallons, to a state-recognized public collection center; or burn used oil generated on site or received from do-it-yourselfers in a space heater.

If you have the capacity to store more than 1,320 gallons of used oil and other petroleum products, or if you have individual petroleum product storage tanks with a capacity greater than 660 gallons, you must comply with the Spill Prevention Control and Countermeasures (SPCC) regulations discussed on pages 59-63.

If you accept used oil from other commercial facilities or transport more than 55 gallons of used oil, you are subject to the transporter transfer facility and/or processor/re-refiner regulations. These regulations require an EPA identification number, compliance with Department of Transportation (DOT) requirements, storage rules and recordkeeping requirements. For more information, call the Iowa Waste Reduction Center at (319) 273-8905 or (800) 422-3109.

If you provide used oil directly to a burner you are considered a marketer and must test the used oil periodically to determine if it meets established specifications. You must also obtain an EPA identification number and maintain records documenting where and how the oil is burned. Facilities are encouraged to accept used oil from do-it-yourselfers and thus become collection centers. While collection centers are not specifically regulated by EPA, they do fall under IDNR regulations. IDNR requires collection centers to notify the IDNR and follow established used oil storage and handling guidelines. To notify the IDNR, call (515) 281-4367. Facilities that retail oil, but choose not to accept used oil from their customers, must post the location of the nearest public collection center.

NOTE: The application of used oil or oily wastes for dust suppression or weed killing on gravel roads and parking lots is illegal.

Used Oil Filters Used oil filters are not considered hazardous waste if they have been gravity hot-drained using one of the following methods described in the Action Steps at right.

Oily Wastes Oil-contaminated wastes such as disposable shop rags and oil absorbents (floor dry, kitty litter, oil pads, blankets, etc.) are generated during the routine maintenance of vehicles and equipment. Disposable shop rags used to wipe

ACTION STEPS

USED OIL FILTERS

1. Puncturing the filter anti-drain back valve or the filter dome and hot-draining.
2. Hot-draining and crushing.
3. Dismantling and hot-draining.
4. Any other equivalent hot-draining method that will remove use oil.

ACTION STEPS

OILY WASTES

1. Determine if oily wastes are hazardous using the TCLP methodology and dispose of them accordingly.
2. If the waste is hazardous, disposal by an EPA-permitted hazardous waste management company is required. See Appendix 4 for a list of waste management companies.
3. If the waste is nonhazardous, disposal in an Iowa sanitary landfill with an accompanying SWA is allowable.

greasy parts and oil absorbents used to clean up spills and drips are potentially hazardous because of oil or solvent contamination and must be determined hazardous or nonhazardous through Toxicity Characteristic Leaching Procedure testing for the following parameters prior to disposal.

T A B L E 1.1		RECOMMENDED TOXICITY CHARACTERISTIC LEACHING PARAMETERS FOR OILY WASTES*
TCLP Parameter	Regulatory Limit(mg/L)	
● Heavy Metals		
Arsenic	5.0	
Barium	100.0	
Cadmium	1.0	
Chromium	5.0	
Lead	5.0	
Mercury	0.2	
Selenium	1.0	
Silver	5.0	
● Volatile Organic Compounds		
Benzene	0.5	
Methyl ethyl ketone	200.0	
Tetrachloroethylene	0.7	
Trochloroethylene	0.5	

**This is only a portion of the complete TCLP. Pesticides and manufacturing byproducts are not listed here. To see the complete TCLP list, refer to page 74.*

P² T I P

OILY WASTES

Many alternatives and waste reduction practices exist for oily wastes that may save your facility disposal costs, improve the cleanliness of your shop and possibly reduce accidents by eliminating slipping on oil allowed to drain onto the floor.

- Use rags completely prior to discarding them.
- Cut oversized rags in half or quarters to reduce waste.
- Provide training on good work techniques and housekeeping procedures to reduce the amount of liquid that is spilled.
- Use drip pans under leaking machinery.
- Pour collected oil from drip pans into used oil containers.
- Store drip pans carefully to avoid spills.
- When working overhead, use absorbent pads or elevated drip pans (absorbent pads last longer, but require TCLP testing prior to disposal).
- Place oil-laden parts on a drip pan rather than on the floor.
- Use a mop and bucket to clean up spills. Wring out absorbed liquid and store it in a recycling container.
- For information on alternative and better management practices, contact the Iowa Waste Reduction Center at (800) 422-3109 or (319) 273-8905.

When laboratory results indicate one or more of the TCLP parameters are equal to or greater than the regulatory limit, the waste is hazardous and must be disposed of by a permitted hazardous waste management company and managed on site accordingly.

When laboratory results for the sample indicate each TCLP parameter is below its regulatory concentration limit, the waste is considered nonhazardous and may be landfilled after obtaining a Solid Waste Authorization (SWA). Refer to pages 81-82 for instructions on obtaining an SWA. A list of analytical laboratories is included as Appendix 3.

Antifreeze Used antifreeze is generated during vehicle maintenance service, either when replacing antifreeze or when removing antifreeze in order to service parts such as radiators, thermostats or water pumps. Ethylene glycol, rust/corrosion inhibitors and foam controllers are mixed in a 50 percent solution with water for use in vehicles.

P ² TIP	ANTIFREEZE
<ul style="list-style-type: none"> ● Minimize used antifreeze. ● Replace antifreeze only when necessary. Visually check antifreeze for contaminants and test for freeze point and pH. Fresh ethylene glycol and additives may be added to adjust these parameters. ● When good used antifreeze is removed for repair only, store it in a clean container and replace in the system. ● Recycle antifreeze. On-site antifreeze recycling equipment is available in models that operate either while hooked up to the car or after the antifreeze has been removed. Antifreeze recycling units also operate differently, some through filtration (used filters from these units are subject to hazardous waste regulations and should be TCLP tested or assumed hazardous) and others through distillation. Contact the Iowa Waste Reduction Center at (800)422-3109 for further information on antifreeze recycling. ● For off-site recycling, nonhazardous used antifreeze may also be stored on site, picked up by an antifreeze recycler and transported off site for recycling. Some antifreeze recycling companies provide on-site recovery services and leave the recycled antifreeze on site for reuse. ● Use extended-life antifreeze. Many extended-life products are now on the market. These products often guarantee up to 100,000 miles or 2,000 hours before replacement and can decrease the amounts of used antifreeze generated. As with all options, please consult vehicle warranties before using recycled or extended-life products. 	

ACTION STEPS
<p style="text-align: center;"><u>ANTIFREEZE</u></p> <ol style="list-style-type: none"> 1. Used antifreeze is subject to a hazardous/nonhazardous waste determination through TCLP analysis or it can be assumed hazardous (eliminating TCLP test costs). 2. If hazardous (or assumed hazardous), used antifreeze must be included in the monthly inventory of hazardous wastes and removed by an EPA-permitted hazardous waste management company. 3. If nonhazardous, antifreeze can be recycled on site or transported off site for recycling by a waste management company without restriction. To discuss recycling techniques and regulations please contact the Iowa Waste Reduction Center at (800) 422-3109 or (319) 273-8905.

ACTION STEPS

LIQUID PAINT WASTE

1. Store and dispose of liquid paint waste as hazardous waste.
2. Containers that store hazardous waste must be leak-proof, closed at all times, labeled "Hazardous Waste" and dated according to generator hazardous regulatory category (CESQG, SQG, or LQG). See page 76 for further details on generator categories.
3. Include the quantity of waste in the facility hazardous waste inventory.
4. Ship wastes off site for disposal or recycling via an EPA-permitted hazardous waste management company.
5. Do not allow waste to accumulate on site in excess of quantities or time limits as defined by your generator hazardous waste category as defined on pages 76 and 80.

ACTION STEPS

PAINT-CONTAMINATED WASTES

1. Paint-contaminated waste should be tested using the TCLP to make a hazardous/nonhazardous determination for proper disposal.
2. To save analytical expenses, a composite sample of all paint-contaminated waste may be collected and submitted to a laboratory for TCLP analyses of the eight heavy metals and VOCs.

Ethylene glycol is toxic by ingestion and used antifreeze is potentially hazardous because of contamination from heavy metals (lead from soldering), fuels and/or solvents.

Propylene glycol ("non-toxic antifreeze") is less toxic to humans and animals. However, spent propylene glycol is also potentially hazardous due to contamination from heavy metals, fuels and solvents.

If your facility generates any used antifreeze it must use one of the recommendations listed in the Action Steps on page 13 for disposal or recycling. You should also practice pollution prevention whenever possible.

Liquid Paint Waste Solvent-based paints, thinners and liquid cleaning solvents are generally hazardous due to their ignitability, toxicity and/or specific listing and do not require testing. These wastes must always be managed in compliance with the RCRA hazardous waste regulations on pages 71-80.

Water-based paint is less likely to be hazardous but still has the potential to be so. As a result, water-based paint and related thinners and cleanup products should be characterized as hazardous or nonhazardous using the TCLP methodology for metals and VOCs.

Paint-Contaminated Waste Solid painting waste such as masking materials, preparation area sanding waste, overspray, paint booth filters and paper towels are potentially hazardous due to toxic contaminants present within the paint (such as heavy metals and solvents).

If laboratory results for the sample indicate each TCLP parameter is below its regulatory concentration limit, then the solid painting waste is considered nonhazardous and may be landfilled after obtaining an SWA.

If analytical results indicate one or more of the TCLP parameters are equal to or greater than their regulatory limits, then the solid painting waste is hazardous and must be disposed by a permitted hazardous waste management

TABLE 1.2	RECOMMENDED TOXICITY CHARACTERISTIC LEACHING PARAMETERS FOR PAINT-CONTAMINATED WASTES*
TCLP Parameter	Regulatory Limit(mg/L)
● Heavy Metals	
Arsenic	5.0
Barium	100.0
Cadmium	1.0
Chromium	5.0
Lead	5.0
Mercury	0.2
Selenium	1.0
Silver	5.0
● Volatile Organic Compounds	
Benzene	0.5
Methyl ethyl ketone	200.0
Tetrachloroethylene	0.7
Trochloroethylene	0.5

**This is only a portion of the complete TCLP. Pesticides and manufacturing byproducts are not listed here. To see the complete TCLP list, refer to page 74.*

company and managed on site accordingly (see Liquid Paint hazardous waste management on page 14).

Sandblast Media Many facilities generate spent sandblasting media as a result of tank and equipment maintenance. If your facility generates spent sandblasting media, or if an outside contractor generates spent sandblasting media on your property, you must follow applicable regulations. Sand blast media may contain toxic heavy metals that, when left on the ground, could contaminate ground and surface water.

TABLE 1.3	RECOMMENDED TOXICITY CHARACTERISTIC LEACHING PARAMETERS FOR SANDBLAST MEDIA*
TCLP Parameter	Regulatory Limit(mg/L)
● Heavy Metals	
Arsenic	5.0
Barium	100.0
Cadmium	1.0
Chromium	5.0
Lead	5.0
Mercury	0.2
Selenium	1.0
Silver	5.0

**This is only a portion of the complete TCLP. Pesticides and manufacturing byproducts are not listed here. To see the complete TCLP list, refer to page 74.*

If hazardous, the waste must be managed in accordance with hazardous waste management standards appropriate for your generator status and as discussed previously. If nonhazardous, the waste may be landfilled after an SWA

ACTION STEPS

SANDBLAST MEDIA

1. If your facility sandblasts or has sandblasting done on site, ensure work is conducted on an impermeable surface (concrete or a tarp) and that all spent media is collected and properly disposed.
2. A representative sample should be tested to make a hazardous/nonhazardous waste determination using TCLP methodology for the eight heavy metals.

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has been obtained from the IDNR. In addition to a hazardous waste determination, local regulations may require other testing or monitoring. Check with your local landfill. Direct application of spent sandblast media on the ground (landspreading) should be avoided as it may cause environmental damage for which you will be held liable.

P² TIP

RECYCLING TIP: SANDBLAST MEDIA

- Cover the ground or other surface with a heavy weight tarp to collect sandblast media for recycling.
- Recycling and reuse options may be available for sand blast media and may lower your disposal costs.
- Check with your local landfill and the state recycling coordinator. Your local landfill may be able to use the material as a cover material or road base.

ACTION STEPS

PARTS WASHER SOLVENT

1. Containers that store hazardous waste must be leak-proof, closed at all times, labeled "Hazardous Waste" and dated according to generator hazardous regulatory category (CESQG, SQG, or LQG). See page 76 for further details on generator categories.
2. Include the quantity of waste in the facility hazardous waste inventory.
3. Ship wastes off site for disposal or recycling via an EPA-permitted hazardous waste management company.
4. Do not allow waste to accumulate on site in excess of quantities or time limits as defined by your generator hazardous waste category.

Parts Washer Solvent Regulations applicable to waste parts washer solvent management are dependent on the type of solvent or cleaning agent used and the method of disposal. Petroleum-based cleaners are discussed here; citrus-based, aqueous and biological cleaners are discussed in the Wastewater section on pages 6-7.

Petroleum-based solvents such as mineral spirits or naphtha are generally hazardous due to ignitability and/or toxicity and must be managed accordingly. Sludge that collects in the reservoir of the parts washer is also generally considered hazardous.

NOTE: Petroleum-based solvents must never be disposed to any body of water, either directly to ground or water surface or indirectly through a POTW.

Floor Drain Sump Sludge Many facilities discharge wastewater to a municipal sewer system. In most cases, this water is drained into a sump where dirt and grit settle out and accumulate at the bottom, forming sludge. Both the wastewater and the sludge can cause environmental damage if they are not properly managed. Sump sludge should contain primarily dirt and grit, but may also contain oils, solvents, chemicals and other materials, making it subject to the hazardous/nonhazardous waste determination requirement.

T ABLE 1.4	RECOMMENDED TOXICITY CHARACTERISTIC LEACHING PARAMETERS FOR FLOOR DRAIN SUMP SLUDGE*
TCLP Parameter	Regulatory Limit(mg/L)
● Heavy Metals	
Arsenic	5.0
Barium	100.0
Cadmium	1.0
Chromium	5.0
Lead	5.0
Mercury	0.2
Selenium	1.0
Silver	5.0
● Volatile Organic Compounds	
Benzene	0.5
Methyl ethyl ketone	200.0
Tetrachloroethylene	0.7
Trochloroethylene	0.5

**This is only a portion of the complete TCLP. Pesticides and manufacturing byproducts are not listed here. To see the complete TCLP list, refer to page 74.*

If laboratory results for the sample indicate each TCLP parameter is below its regulatory concentration limit, then the waste is considered nonhazardous and may be landfilled after obtaining an SWA, spread on facility property to dry or incorporated into soil owned by the facility as a soil amendment.

P ² TIP	SUMP OR FLOOR DRAIN SLUDGE
<i>The following steps may reduce the amount and toxicity of sump sludge created your facility.</i>	
<ul style="list-style-type: none"> ● Sweep or vacuum floors prior to wet washing. ● Use only non-toxic soaps to clean floors and vehicles. ● Prevent drips or spills from reaching floors by using drip pans, etc. (See Oily Waste section on pages 10-11 for further information.) ● Clean up spills immediately. ● Never hose down the floor or sludge with water. ● Perform vehicle maintenance in areas with no floor drains. ● Seal off drains during work to prevent spills from contaminating the sump and the wastewater. ● Store hazardous wastes and hazardous materials, such as parts wash solvents, away from drains. ● For information on alternatives and better management practices, contact the Iowa Waste Reduction Center at (800) 422-3109 or (319) 273-8905. 	

If analytical results indicate one or more of the TCLP parameters are equal to or greater than their regulatory limits, then the waste is hazardous and must be disposed by a

ACTION STEPS

FLOOR DRAIN SUMP SLUDGE

1. Sump sludge should be tested to make a hazardous/nonhazardous determination for proper disposal using the TCLP methodology for the eight heavy metals and VOC concentrations.

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ACTION STEPS**FLUORESCENT BULBS**

1. Begin storing spent fluorescent bulbs in a sturdy container to prevent the breakage of used lamps during accumulation, storage and transportation.
2. Label the storage container "Used Lamps" and mark it with the date the first bulb was placed in the container to document the one-year time limitation.
3. Recycle used lamps through a bulb recycling company (see Appendix 5).
4. Maintain the shipment record until disposal is completed.
5. Provide proper training to employees responsible for the storage of used lamps.
6. Capture and contain all accidental releases from broken lamps in the same manner as other hazardous waste.

permitted hazardous waste management company and managed on site accordingly (follow Liquid Paint Action Steps listed on page 14).

Fluorescent Bulbs Most agribusinesses use fluorescent lighting throughout their facilities and also periodically dispose used lamps. Previously, used lamps were regulated as hazardous wastes and required off-site recycling and/or disposal by an EPA-permitted hazardous waste management company.

Effective January 6, 2000, mercury-containing lamps requiring disposal are considered Universal Waste rather than hazardous waste (40 CFR 273). They are exempt from the more stringent management standards for potentially hazardous waste under the Resource Conservation and Recovery Act (RCRA). Mercury-containing lamps include fluorescent, high-pressure sodium, mercury vapor and metal halide lamps.

Universal waste generators are exempt from certain requirements routinely applied to hazardous waste generators and instead are subject to streamlined standards for storing, labeling of waste containers, preparing and sending shipments of universal waste off site, employee training and response to releases.

Bulb Storage: The generator must ensure packing materials are sufficient to prevent the breakage of used lamps during accumulation, storage and transportation. Generators may accumulate used lamps for one year. If used lamps are stored more than one year, the generator must be able to demonstrate that such accumulation is solely for the purpose of accumulating sufficient quantities of waste to facilitate proper recovery, treatment or disposal. Generators are not required to notify EPA of storage for longer than one year.

Bulb Labeling: Universal used lamp containers must be labeled with the words "Universal Waste - Lamp(s)" or "Waste Lamps(s)" or "Used Lamp(s)."

Bulb Shipping: Small quantity generators of universal waste are NOT required to manifest universal wastes, notify the regional EPA or keep records of universal waste shipments.

Training: Employee training requirements include informing employees who handle used lamps of proper handling and emergency cleanup procedures.

Releases: Handlers of used lamps must immediately contain any releases from the lamps due to breakage in accordance with all regulatory requirements.

Hazardous waste lamps that are managed under the Universal Waste Rule do not have to be included in the facility's determination of hazardous waste generator status or included in the facility's hazardous waste inventory.

Disposal facilities must have RCRA permits. Transporters must comply with applicable DOT regulation.

Vehicle Air Conditioning Vehicle air conditioning is discussed in the Clean Air Act section on page 8.

Tires Rules contained in 567 IAC Chapter 117 address tire collectors and processes. Tire collectors are defined as facilities that store more than 500 waste tires. Facilities storing less than 500 tires are not specifically regulated, provided a registered tire hauler and permitted processor recycle the tires. The Secretary of State handles tire hauler registration. The IDNR issues permits to tire processors.

Waste tire generators are subject to general rules that prohibit landfill disposal of waste tires.

Batteries Regulations for used automotive or lead-acid battery reclaimers are contained in 40 CFR 266.80. Generators and transporters of waste lead-acid batteries are not regulated provided the batteries are destined to be recycled.

State law requires facilities that sell automobile batteries to accept the return of used batteries from their customers.

ACTION STEPS

EMPTY CONTAINERS

1. Utilize all material in the container including the propellant. Cans should be emptied until less than three percent by weight of the original product remains in the can and the pressure inside the can is equal to that outside. Containers meeting these criteria are considered "empty" and are exempt from hazardous waste regulations.
 - Empty containers should be recycled through a scrap metal dealer.
 - Empty containers may be landfilled; however, recycling is a better option.
2. Defective containers that contain hazardous product or propellant should be returned to the manufacturer or disposed of as hazardous waste.
 - Disposal of the containers as hazardous waste must be managed in accordance with hazardous waste management standards appropriate for your generator status (see pages 76-80).
 - The weight of the containers and material contained must be included in the hazardous waste inventory.

ACTION STEPS

BRAKE PADS

1. Brake pads containing asbestos should be removed from the vehicle in a manner that minimizes the generation of airborne asbestos fibers. Wetting the area with water may be one approach to reduce asbestos dust generation.
2. Waste asbestos pads should be wetted and placed in double plastic bags.
3. Landfill disposal of pads treated in this manner is allowable; however, you must notify the landfill of the pending disposal so that any additional precautions can be discussed.

Empty Containers The EPA exempts containers from hazardous waste regulation provided they meet the definition of "empty." Containers are considered empty when they contain less than 3 percent by weight of the original product. Aerosol cans must be empty and at atmospheric pressure before disposal. Containers that are not empty prior to disposal must often be managed and disposed of as hazardous waste because of their contents.

Aerosol cans and empty containers are often generated from degreasing, lubrication and painting operations. If your facility generates empty containers as part of its vehicle maintenance activities, follow one of the disposal recommendations in the Action Steps at left.

P ² TIP	CONTAINERS
<ul style="list-style-type: none"> ● Options and alternatives include refillable containers and returnable containers. ● Information on vendors who offer these refillable containers and bulk products can be found in Appendix 6. 	

Brake Pads While no specific laws are established for brake pads, appropriate management practices for those containing asbestos are necessary to protect the health of employees and the general public.

Emergency Planning and Community Right to Know Act (EPCRA)

Vehicle maintenance chemicals such as antifreeze, paint and paint thinners may fall under EPCRA requirements. Please review pages 88-102 of the Environmental Regulation Overview before proceeding with any Action Steps.

Antifreeze The primary ingredient of antifreeze is ethylene glycol (CAS number 107-21-1). Ethylene glycol is regulated by the Comprehensive Environmental Responsibility, Compensation and Liability Act (CERCLA). It has a reportable quantity (RQ) of 5,000 pounds per 24-hour period. Ethylene glycol is not an extremely hazardous substance (EHS). It has a density of 9.42 pounds per gallon; therefore, a facility would have to store 1,000

gallons of unused antifreeze to exceed its TPQ and be required to report it under Sections 302, 311 and 312. Used ethylene glycol is not included in calculations for storage threshold planning quantity (TPQ).

New and used ethylene glycol is not regulated under Section 313.

Paint and Thinner Fleet maintenance includes minor bodywork and painting. Xylene is a common ingredient in paint and thinner. Xylene is CERCLA-regulated as an isomer or as mixed isomers.

<u>Xylene Isomer</u>	<u>CAS Number</u>	<u>Reportable Quantity</u>
m-xylene	108-38-3	1,000 pounds/24 hrs.
o-xylene	95-47-6	1,000 pounds/24 hrs.
p-xylene	106-42-3	100 pounds/24 hrs.
Xylenes mixed isomers	1330-20-7	100 pounds/24 hrs.

<u>Other Constituents</u>	<u>CAS Number</u>	<u>Reportable Quantity</u>
Toluene	108-88-3	1000 pounds/24 hrs.
Methyl Ethyl Ketone (MEK)	78-93-3	5000 pounds/24 hrs.
Ethylbenzene	100-41-4	1000 pounds/24 hrs.

Xylene, toluene, MEK and ethyl benzene are not EHSs. If you store more than 10,000 pounds of these hazardous chemicals on site, Section 311 and 312 reporting is required. If you store more than 2,500 gallons of paint containing xylene and thinner, a more detailed determination should be made.

Xylene is also regulated under EPCRA Section 313. In paint applications, xylene does not stay with the product and is subject to the "otherwise used" 10,000 pound threshold. If you spray more than 2,500 gallons of xylene-containing paint in a year, a more detailed determination needs to be made.

Other regulated toxics may be present in paints such as ethylbenzene, toluene and methyl ethyl ketone.

ACTION STEPS

EPCRA-ANTIFREEZE

1. If a spill of antifreeze occurs that releases more than the RQ of 5,000 pounds (approximately 500 gallons) or the spilled material leaves the property, the National Response Center (NRC), state emergency response committee (SERC) and your local emergency planning committee (LEPC) must be notified immediately. If a spill occurs, notify:

The National Response Center (NRC) at (800) 424-8802

The State Emergency Response Commission (SERC)

Iowa Department of Natural Resources (IDNR) at (515) 281-8694

The Local Emergency Planning Committee (LEPC) – to determine your LEPC, contact the Iowa Division of Labor at (515) 281-3231.

2. If you store more than 1,000 gallons of used antifreeze at your facility at any one time, Section 311 and 312 reporting may be required.

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EPCRA-PAINT AND THINNER

1. Xylene may be present in paint in quantities from 5 percent to 45 percent by weight. Depending on the amount of xylene contained in a paint, a spill of 20 gallons could exceed the 100 pound RQ for xylenes (mixed isomers). Also, paint thinners may contain xylene and, based on the concentration, could require reporting if less than 20 gallons were spilled. If a spill exceeds the RQ for a CERCLA-regulated material or it leaves the facility's property, reporting is required pursuant to EPCRA Section 304. Report spills to:

The National Response Center (NRC) at
(800) 424-8802.

The State Emergency Response
Commission (SERC)

Iowa Department of Natural Resources
(IDNR) at (515) 281-8694.

The Local Emergency Planning Committee
(LEPC). To determine your LEPC, contact the
Iowa Division of Labor at (515) 281-3231.

2. Continuous release reporting stipulated in Section 304 may be required if more than 100 pounds of xylene could be released in a 24-hour period. This is unlikely for the typical agribusiness vehicle maintenance shop. Continuous Release applications are available from:

EPA RCRA/SUPERFUND/EPCRA Hotline
800/424-9346
Ask for document # EPA 540-R-97-047

C. Where Can I Get Help or More Information?

Chapter 6 contains an extensive list of resources for each environmental regulation covered in the *Handbook of Environmental Regulations for Agribusiness*.

Grain Handling

Agribusiness facilities receive shipments of various types of agricultural commodities such as grains and beans from their farm customers. Farm commodities may be stored at the receiving facility for various lengths of time before they are transported (via tractor/trailer, rail or barge) to other industries for further processing. Depending on the type of facility, the commodities may be cleaned, sorted, dried and treated with various chemicals to protect against spoilage and to prepare them for further processing before they are transported. In some instances, farm produce is milled into feed for livestock and sold to farm customers.

A. Which Environmental Laws Apply to Grain Handling?

1. **Wastewater Regulations**
Industrial Wastewater Discharge
Storm water Discharge
2. **Air Emissions Regulations**
New Source Review or Construction Permit
Title V-Operating Permits
New Source Performance Standards (NSPS)
Prevention of Significant Deterioration (PSD)
3. **Emergency Planning and Community Right-To-Know Reporting**

B. How Do I Comply?

Wastewater Regulations

Industrial Wastewater Some agribusiness facilities undertake a process in which shelled corn is washed and subsequently milled by dry processes into products such as corn meal, grits, flour, oil and animal feed. Other agribusiness facilities manufacture animal feeds (formula feed concentrates) using primarily grain and grain by-products that may be supplemented by proteins, pharmaceuticals, vitamins or mineral additives. Process wastewater discharge to a publicly owned treatment works (POTW) from these activities is subject to federal effluent limitation guidelines and pretreatment standards found in 40 CFR Subchapter N, Part 406 Grain Mill Point Source Category.

ACTION STEPS

INDUSTRIAL WASTEWATER

1. Identify all sources of wastewater discharge and estimate the quantity of discharges per day.
2. Determine if wastewater is discharged to the sanitary sewer.
3. Contact the city public works director or wastewater superintendent to discuss city requirements.
4. If applicable, obtain a discharge or treatment agreement.

The term 'effluent limitation' means any restriction established on quantities, rates and concentrations of chemical, physical, biological and other constituents that are discharged from point sources into navigable water.

The term 'pretreatment standard' means any regulation containing pollutant discharge limits.

Dry corn milling: Subpart B is subject to effluent limitation guidelines described below:

Effluent Characteristic	Limitation (lbs/1000 bushels of corn)
BOD5 (biological oxygen demand/5 day)	12 pounds/day
TSS (total suspended solids)	10.5 pounds/day
pH	6.0 – 9.0

These limits are in effect after the application of the best practicable control technology (BPCT) currently available.

Animal Feed Manufacturing: Subpart G is subject to the effluent limitation guideline described below:

Effluent Characteristic	Limitation (lbs/1000 bushels of corn)
All	No discharge of process wastewater pollutants

A facility can discharge wastewater to a city sanitary sewer, with permission from the city, provided it does not violate any of the prohibited discharge standards outlined in the Environmental Regulation Overview on pages 52-54 and the pretreatment standards listed above. This includes any discharge that would cause interference at the treatment plant or cause the city to violate its National Pollutant Discharge Elimination System (NPDES) permit limits. If the discharge flow is greater than 50,000 gallons per day, a facility must work with the city to finalize a treatment agreement.

Storm Water Regulations

The intent of storm water regulation is to improve water quality by reducing or eliminating contaminants in storm water. Storm water is precipitation runoff, surface runoff

ACTION STEPS

STORM WATER

1. Review your facility's SIC code filed on IRS form 1120. If your facility code is SIC 20 or SIC 4221, you may be eligible for exemption of the rule by qualifying for and filing a "No- Exposure Certification." Appendix 7 contains certification criteria and forms.
2. For an existing storm water discharge you must submit a completed Notice of Intent (NOI), found in Appendix 8.

ACTION STEP CONTINUED ON NEXT PAGE

and drainage, street runoff and snow melt runoff. Contaminants commonly found in storm water discharges include oil, grease, fertilizer, sediment from construction sites, lead, zinc and solvents. Agribusiness categories that require storm water permitting include, but are not limited to:

1. Facilities subject to storm water effluent limitation guidelines, new source performance standards or toxic pollutant effluent standards under 40 CFR Subchapter N.
2. Facilities classified as:

SIC 20	Food and Kindred Products
SIC 28	Chemicals and Allied Products (except 283 and 285)
SIC 4221	Farm Product Warehousing and Storage
SIC 5171	Petroleum Bulk Station and Terminal
3. Construction activity including cleaning, grading and excavation activities, except operations that result in the disturbance of less than five acres of total land area which are not part of a larger common plan or development or sale.

All facilities or activities that fall under the storm water regulations are defined on page 54-56 in the Environmental Regulation Overview chapter. Please review the Storm Water requirements on pages 54-59 before proceeding with any Action Steps.

A Storm Water Pollution Prevention Plan must include and/or address the following issues:

- A description of potential pollutant sources.
- Storm water management controls.
- Visual inspections.
- Special requirements for storm water discharge in cities serving a population of 100,000 or more, if applicable.
- Consistency with other plans and the Spill Prevention Control and Countermeasures Plan.
- Additional requirements for facilities subject to SARA Title III Section 313 requirements (see page 95-96), if applicable.
- Salt storage.
- Non-storm water discharges.

ACTION STEPS

3. For a new storm water discharge associated with industrial activity (after October 12, 1997) you must submit a complete NOI at least 24 hours prior to the start of the operation.
4. If you are renewing a permit, you do not need to post a public notice again; however, you will need to file a new NOI.
5. Submit all applicable forms and information to:

Storm Water Coordinator
Iowa Department of Natural Resources
Environmental Protection Division
502 East 9th Street
Des Moines, IA 50319-0034
6. Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) before submitting the NOI. The SWPPP does not need to be submitted with the NOI; however, the facility must make the SWPPP available upon request to the IDNR or to the municipal separate storm sewer system operator. Step-by-step summary guidance documents, complete with worksheets, are available from the Iowa Waste Reduction Center and the IDNR to help develop a site-specific SWPPP.
7. Monitoring requirements are delineated for specific facilities that fall under Section 313 of SARA Title III, (primary metal industries, land disposal units/incinerators, wood treatment, coal pile runoff, airports, animal handling/meat packing, battery reclaimers, coal fired steam electric facilities and additional facilities). Specific instructions are found in the Permit.
8. Permit holders that are subject to monitoring requirements are NOT required to submit monitoring results to the IDNR; however, monitoring results must be retained and be made available to the IDNR upon request.

ACTION STEPS

AIR EMISSIONS

1. Equipment installed prior to September 23, 1970 is exempt, provided no major modifications have been made.
2. Natural gas fired combustion units used for indirect heating with a maximum capacity of less than 10 million BTU/hour are exempt.
3. Apply for a construction permit prior to installing or construction an air emission source.
4. If you are operating without a construction permit, use the same application to apply for an 'as built' construction permit.
5. Depending on the emissions, geographic location and stack dimensions, some sources may be required to meet additional requirements such as air dispersion modeling or stack testing.
6. Contact the Iowa Air Emissions Assistance Program at (800) 422-3109 or (319) 273-8905 or the IDNR Field Office in your area for assistance.

ACTION STEPS

TITLE V OR OPERATING PERMITS

1. Identify each air emission source, such as grain silo vents or grain dryers. Estimate/calculate actual and potential emissions from each source.
2. Complete a facility emissions inventory. A completed emissions inventory will:
 - Document the status (major or minor) of the facility under Title V of the Clean Air Act and determine whether or not an operating permit (Title V permit) is required.
 - Determine Prevention of Significant Deterioration applicability (see pages 68-69).
3. Contact the Iowa Air Emissions Assistance Program at (800) 422-3109 or (319) 273-8905 for additional assistance.

Air Emissions Regulations

Grain handling, storage and drying operations may include sources of air emissions such as storage silos, grain elevators, grain dryers and grain loading/unloading activity. Seed production and bagging operations include seed storage, seed handling equipment, seed dryers and other potential air emission sources. The following air regulations may apply:

- **New Source Review (NSR) or construction permits.**
- **Air quality construction permits. These apply to each air emissions source that emits to the outside atmosphere, regardless of equipment size, facility size and frequency of operation. Sources requiring permits include grain dryers, baghouses, cyclone collectors and bin vents. An approved construction permit is good forever unless the source is modified or there are some process changes affecting air emissions from the source. There is no fee associated with the construction permit application in Iowa. Please review NSR information contained in the Environmental Regulation Overview on page 66 prior to following any Action Steps.**

Title V or Operating Permits Actual and potential emissions from grain handling, storage and drying activities must be included in the facility emissions inventory. A facility emissions inventory identifies each emission source at the facility and shows actual and potential emissions from each source. Fugitive emissions are those that could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening. Fugitive emissions eventually leave the building through doors, windows or roof vents. Leaks from equipment or vents and grain loading/unloading are examples of operations that produce fugitive emissions. If New Source Performance Standards permitting (discussed on page 69) is applicable, then fugitive emissions must also be included in the emissions inventory. A completed emissions inventory can be used to document compliance in case of 'minor' sources. For 'major' sources it will identify sources or operations that are responsible for making the facility 'major.' In some cases,

with appropriate limits, the facility may avoid Title V permitting and opt for less burdensome permitting options.

New Source Performance Standards (NSPS) Grain elevators are one of the established New Source Performance Standard (NSPS) categories. A 'grain terminal elevator' and a 'grain storage elevator' constructed or modified after August 3, 1978 are subject to NSPS. A 'grain terminal elevator' means any grain elevator that has a permanent storage capacity of more than 2.5 million bushels, except those located at animal food manufacturers, pet food manufacturers, cereal manufacturers, breweries and feedlots. A 'grain storage elevator' means any grain elevator located at any wheat flour mill, wet corn mill, dry corn mill (human consumption), rice mill or soybean oil extraction plant that has a permanent grain storage capacity of one million bushels. 'Permanent storage capacity' means grain storage capacity inside a building, bin or silo.

Prevention of Significant Deterioration (PSD) All emission sources need to be included in the facility emissions inventory for making the PSD applicability determination.

Emergency Planning and Community Right-To-Know Act

Agribusiness facilities use fuels to dry seed and grain. These fuels meet the definition of a hazardous substance and therefore are subject to regulation under the Emergency Planning and Community Right-to-Know Act (EPCRA). Agribusiness may also use chemicals to treat farm commodities. These chemicals must be reviewed individually to determine their EPCRA reporting applicability. Please review the EPCRA sections on pages 88-102 before proceeding with any Action Steps.

You will need to report if your facility stores more than 10,000 pounds of a hazardous substance and/or stores more than 500 pounds of an extremely hazardous substance (EHS).

The flow chart on page 98 will walk you through the requirements of EPCRA Section 302, 311 and 312 reporting.

ACTION STEPS

NEW SOURCE PERFORMANCE STANDARDS (NSPS)

1. If your facility was constructed or modified after August 3, 1978 and meets the conditions described above, it is subject to the NSPS.
2. If you facility is subject to NSPS, certain reporting and testing requirements apply. Please refer to 40 CFR Part 60 Subpart 'DD' or contact the Iowa Air Emissions Assistance Program at (319) 273-8905 or (800) 422-3109.
3. If your facility is subject to NSPS, fugitive emissions (transportation in an open conveyor, storage pile, etc.) must be incorporated into the facility emissions inventory and be included when making the facility's Title V determination.

ACTION STEPS**EPCRA 302, 311 AND 312**

1. Obtain a copy of the Title III List of Lists to use as a reference to identify hazardous chemicals that are subject to EPCRA. You can obtain the list by calling (800) 490-9198 or downloading it from <http://www.epa.gov/ncepi/hom/index.html>.
2. Obtain the Material Safety Data Sheets (MSDSs) for the fuels used on site. Check the fuels MSDS ingredient information against the Title III List of Lists to determine if constituents of the fuel are extremely hazardous substances (EHSs) or hazardous substances.
3. Obtain the MSDSs that accompany grain or seed treatment chemicals. Check the chemical's MSDS ingredient information against the Title III List of Lists to determine if any ingredients are a hazardous substance or an EHS.

ACTION STEPS**EPCRA SECTION 304****(EMERGENCY RELEASE NOTIFICATION)**

1. If a spill of fuel or chemical treatment occurs, notify:
 - The Local Emergency Planning Committee (LEPC) at its local number or (515) 281-8694.
 - The State Emergency Response Committee (SERC) at (515) 281-3231.
 - For CERCLA-regulated chemicals only, the National Response Center (NRC) at (800) 424-8802. Reporting is required if the spill contained chemicals above the reportable quantity (RQ) listed in the Consolidated Chemical List or if the spilled material leaves the property.
2. Before a spill occurs, review the hazardous ingredients of the fuel or chemical treatment. Consult the Consolidated Chemical List to determine the RQ and if the material is CERCLA-regulated.

ACTION STEP CONTINUED ON NEXT PAGE

C. Where Can I Get Help or More Information?

Chapter 6 contains an extensive list of resources for each environmental regulation covered in the Handbook of Environmental Regulations for Agribusiness.

ACTION STEPS

3. Post emergency notification numbers near the telephone and calculate the quantity of material that must be released to exceed an ingredient's RQ.
4. If you are unsure if a spill has exceeded the RQ, contact the IDNR's Division of Emergency Management at (515) 281-8694 for assistance.

ACTION STEPS

EPCRA SECTION 313
(TOXIC CHEMICAL RELEASE INVENTORY
REPORTING)

1. You may be required to file a Toxic Release Inventory (TRI) Form R if you meet all three of the following criteria:
 - Your facility has a primary SIC code between 20 and 39.
 - You use 10,000 pounds per year of a regulated toxic chemical as fuel or treatment to prevent spoilage, or 25,000 pounds of a toxic chemical in a material that is added to the commodity for further processing.
 - You employ the equivalent of 10 full-time employees.
2. Use the table on pages 99-102 to walk through the process of determining if you must report under EPCRA Section 313.
3. If, after working through the flow chart, you are unsure and/or if you need to make notification and need assistance, contact the Iowa Waste Reduction Center at (800) 422-3109 or (319) 273-8905.

Agrichemicals - Pesticide & Fertilizer

Agrichemical dealers provide crop protection (pesticides) and enhancement (fertilizers) products to farmers. Some facilities manufacture, formulate, package and repackage agrichemicals prior to distribution. Others refill agrichemical totes or mini bulk containers for their customers. These facilities typically have divisions between formulating and packaging operations and between dry and liquid operations.

Some dealerships are corporately owned and/or managed and receive agrichemical use, storage and handling information from their parent company or corporate headquarters; some may belong to trade associations that provide information and training on proper environmental procedures; and others may not have information readily available to them. The following is an overview and summary of the environmental requirements applying to agrichemical dealers.

Generally, agrichemicals fall under the regulation of the Iowa Department of Agricultural and Land Stewardship (IDALS).

A. Which Environmental Laws Apply to Agrichemicals – Pesticide and Fertilizer?

1. Wastewater Regulations

Iowa Ground Water Protection Act

Iowa On-Site Containment of Pesticide, Fertilizer and Soil Conditioner Rules.

Pesticide Act of Iowa.

Iowa Fertilizer Law.

Industrial Wastewater Discharge

Storm Water Discharge

Underground Injection Control

2. Air Emissions Regulations

Title V or Operating Permits

New Source Performance Standards (NSPS)

112(r) CAA Risk Management Programs

3. Hazardous Waste Regulations

Resource Conservation and Recovery Act

4. Emergency Planning and Community Right to Know (EPCRA)

5. Federal Insecticide, Fungicide and Rodenticide Act

B. How Do I Comply?

Wastewater Regulations

Industrial Wastewater Discharge The Clean Water Act (CWA) prohibits the discharge of pollutants to waters of the United States without a permit. The CWA is enforced by EPA and by delegation to IDNR. Pesticides are strictly regulated under the CWA, the Iowa Ground Water Protection Act and the Iowa On-Site Containment of Pesticide, Fertilizer and Soil Conditioner Rules. The Iowa Department of Agriculture and Land Stewardship (IDALS) develops rules and mechanisms to implement and enforce the rules of the Pesticide Act of Iowa and the Iowa Fertilizer Law. Iowa State University Extension provides commercial pesticide applicator and handler training and certification. The January 1999 revised version of the *Iowa Core Manual – A Study Guide for Commercial Pesticide Applicators and Handlers*, contains valuable information for agribusiness. It can be obtained by contacting your local Iowa State University Extension office.

Industrial pretreatment standards require no discharge of process wastewater pollutants from pesticide formulating, packaging and repackaging facilities. Generally speaking, an agrichemical dealer that retails or distributes bulk pesticides is not allowed to discharge wastewater (it has a "zero" discharge limit). To achieve "zero" discharge the business must adopt strict management practices. Please review the regulations on page 52-54 before proceeding with any Action Steps.

Definitions The following definitions will apply to the *Handbook's* discussion of agrichemicals.

Bulk pesticide: any registered pesticide which is transported or held in an individual container in undivided quantities of greater than 55 U.S. gallons liquid measure or 100 pounds net dry weight.

Bulk repackaging: the transfer of a registered pesticide from one bulk container (as described above) to another bulk

ACTION STEPS

INDUSTRIAL WASTEWATER DISCHARGE

1. Do not discharge pesticide-contaminated wastewater to a publicly owned treatment works or to an on-site septic system (considered a Class V well under the Underground Injection Control Program).
2. Do not dispose fertilizer rinsate or wash water from cleaning equipment through a sanitary or storm sewer system.
3. All washing of agrichemical handling/application equipment must be conducted within an area that drains to a watertight containment structure.
4. Containment structure wastewater can be field applied following the manufacturer's recommended rates.
5. Indoor storage should be away from floor drains, underground sumps and doorways leading outside.
6. Mix, repack and transfer agrichemicals from one container to another at a designated permanent mixing/transfer location that allows collection of spilled product.

ACTION STEPS

SECONDARY CONTAINMENT STRUCTURES

1. Secondary containment structures for liquid fertilizer and soil conditioners (except anhydrous ammonia) must have a volume 20 percent greater than the volume of the largest storage tank. The containment structure must also allow for space occupied by the other tanks in the area.
2. Secondary containment structures can be made of earth or concrete or a combination of the two.
3. If the secondary containment structure is entirely or partially constructed of earth, the soil surface - including the dike - must be constructed to prevent downward movement of water at specified rates. A registered engineer must determine the method of achieving a satisfactory seal.
4. The dike must be protected against erosion, with a top width no less than two feet and a slope no greater than 45 degrees.
5. Diked areas must not have a relief outlet or valve. Storm water must be pumped over the berm only if the water is not contaminated with fertilizer or soil conditioner. Contaminated water should be field applied at specified application rates or transferred to auxiliary storage tanks.
6. Storage containers should be anchored.
7. Secondary containment structures constructed of concrete must be watertight with no relief outlet or valves and sloped to a collection area for recovery of material.
8. Inspect storage areas routinely.
9. Nonliquid fertilizer and soil conditioners that are stored in a totally enclosed building are exempt from these regulations.
10. Unless stored in a totally enclosed structure, nonliquid fertilizer and soil

ACTION STEP CONTINUED ON NEXT PAGE

container, in an unaltered state in preparation for sale or distribution to another person.

Mobile containers: containers designed and used for transporting fertilizer or soil conditioner materials.

Nonmobile containers: all containers not defined as mobile.

Permanent storage site: any location where nonmobile containers are used for fertilizer and soil conditioner storage in quantities of 5,000 gallons or more. One container or a combination of containers with a volume of 5,000 gallons or less is exempt.

Secondary containment: any structure used to prevent runoff or leaching of fertilizer or soil conditioner materials.

Agrichemical On-site Containment Requirements All fertilizer and soil conditioner facilities constructed after February 18, 1987 must provide secondary containment as specified in IAC, Chapter 44. Most pesticide containment regulations were promulgated to protect ground, surface and drinking waters.

Design Plans and Specifications and Certification of Construction Agribusinesses that sell or distribute fertilizer or soil conditioner must submit design plans and specifications for agrichemical storage and containment areas to IDALS prior to the start of construction. A registered engineer must also certify that the design plans and specifications of the new facility comply with IAC rules.

After construction of a new agrichemical facility is complete, the owner or owner's agent must file certification with IDALS that the facility was constructed according to on-site agrichemical containment rules as defined in IAC 21-44.52(200) to 21-44.58(200). If the Department finds that the facility was not constructed in accordance with the certified submitted design plans and specifications, the facility's owner must correct any deviations and deficiencies in a timely manner designated by the Department.

A facility may deviate from these rules if deviations are clearly noted on the design plans and specifications and a registered engineer has certified that the deviations will not reduce the effectiveness of the facility in protecting ground or surface waters.

Permanent Storage Site Location New facilities that will be permanent storage sites must select their location in accordance with IDNR requirements. If the facility is located on a floodplain, it must be protected from floodwaters. Sites must also be located no closer than 400 feet from public water supply wells or below ground level finished water storage facilities and a minimum of 150 feet from private water supply wells.

P ² TIP	STORAGE OF AGRICHEMICALS
<ul style="list-style-type: none"> ● Keep storage areas away from water sources. ● Protect areas from direct sun. ● Store agrichemicals in a separate building. ● Prevent cross-contamination of pesticides and other chemicals. ● Use original containers. ● Ventilate agrichemical storage areas. ● Use proper secondary containment in all storage areas, mixing areas, loading areas, railcar transfer areas and at rinse pads. ● Make sure your storage tanks meet all state and federal regulations. ● Make routine inspections of equipment, mini-bulk tanks, hoses, pipes and dikes planned rituals at your facility. 	

Secondary Containment All liquid agrichemical storage facilities, except anhydrous ammonia storage facilities, must be located within a secondary containment structure. Such a structure must have a volume at least 20 percent greater than the volume of the largest storage tank within the area, plus the space occupied by the other tanks in the area. It may be constructed of earth, concrete or a combination of the two.

Agrichemical Container Disposal Empty pesticides containers (except paper bags) must be triple rinsed or pressure rinsed prior to disposal. Containers should be rinsed immediately after they are emptied. Rinsing containers immediately after they are emptied is important

ACTION STEPS

conditioners must be stored within an area that drains to a secondary containment structure that has a volume sufficient to retain the equivalent of 12 inches of runoff from the area drained into the structure.

- 11.If the containment structure is constructed entirely or partially of earth, the soil surface must meet specific requirements to retard downward movement of water.
- 12.Fertilizer loading and mixing, unless performed in the field, must be done within a paved containment area. The containment area must have curbs or other devices to prevent run-on and runoff of storm water and a recessed catch basin for contaminated water.
- 13.A spill containment structure is not required if loading, unloading and mixing of nonliquid fertilizer or soil conditioners is done entirely within an enclosed building and if no washing operations are conducted within the enclosed area.
- 14.Unloading of all types of equipment and loading of railroad cars with nonliquid fertilizer or soil conditioners is exempt from the containment area provision of the rules.
- 15.Washing of fertilizer equipment and soil conditioner handling and application equipment at permanent storage sites must be conducted within an area that drains into a containment structure.
- 16.Field washing of fertilizer equipment is permissible.

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ACTION STEPS

AGRICHEMICAL CONTAINER DISPOSAL

1. *Triple Rinsing*
 - Empty container in a spray tank and let it drain for 30 seconds.
 - Fill the container with water to at least 1/5 full.
 - Close the container and rotate it so the rinse water reaches all interior surfaces.
 - Drain the rinse water from the container into the spray tank and let it drain 30 seconds after emptying.
 - Repeat the procedure at least two more times.
2. *Pressure Rinsing*
 - Using a special high-pressure nozzle that directs high-pressure spray into the interior of the container, puncture the side of the container with the rinsing nozzle.
 - Rinse the container for 30 seconds, allowing the rinse water to drain into the spray tank.

ACTION STEPS

STORM WATER DISCHARGE

1. Review your facility's SIC code filed on IRS form 1120. If your facility code is SIC 20 or SIC 4221, you may be eligible for exemption from the rule by qualifying for and filing a "No-Exposure Certification" (found in Appendix 7).
2. For an existing storm water discharge you must submit a completed Notice of Intent (NOI).
3. For a new storm water discharge associated with industrial activity (after October 12, 1997) you must submit a complete NOI at least 24 hours prior to the start of the operation.
4. If you are renewing a permit, you do not need to post a public notice again; however, you will need to file a new NOI. Submit all applicable forms and information to:

Storm Water Coordinator
Iowa Department of Natural Resources
Environmental Protection Division
502 East 9th Street
Des Moines, IA 50319-0034

ACTION STEP CONTINUED ON NEXT PAGE

because it prevents the product from drying inside the container. These Action Steps (at left, and taken directly from the *Iowa Core Manual*) should be followed for small containers.

Pressure rinsing is a faster method of rinsing and is significantly more effective at removing agrichemical residue. The Agribusiness Association of Iowa has established a pesticide container recycling program in cooperation with the IDALS and the EPA.

Contact IDALS or IDNR for current information on disposal of larger, minibulk containers.

Storm Water Discharge The intent of storm water regulation is to protect and improve water quality by reducing or eliminating contaminants in storm water. Storm water is precipitation runoff, surface runoff and drainage, street runoff and snow melt runoff. Contaminants commonly found in storm water discharges include oil, grease, fertilizer, sediment from construction sites, lead, zinc, solvents, etc. Agribusiness categories that require storm water permitting include, but are not limited to:

- Facilities subject to storm water effluent limitation guidelines, new source performance standards or toxic pollutant effluent standards under 40 CFR Subchapter N.
- Facilities classified as:

SIC 20	Food and Kindred Products
SIC 28	Chemicals and Allied Products (except 283 and 285)
SIC 4221	Farm Product Warehousing and Storage
SIC 5171	Petroleum Bulk Station and Terminal
- Construction activity including cleaning, grading and excavation activities except operations that result in the disturbance of less than five acres of total land area which are not part of a larger common plan or development or sale.

Facilities or activities that fall under Storm Water regulations are defined on page 54-57. Please review the Storm Water requirements on page 54-59 before proceeding with any Action Steps.

Monitoring requirements are delineated for specific facilities that fall under Section 313 of SARA Title III (primary metal industries, land disposal units/incinerators, wood treatment, coal pile runoff, airports, animal handling/meat packing, battery reclaimers, coal fired steam electric facilities and additional facilities). Specific instructions are found in the Permit.

Permit holders who are subject to monitoring requirements are NOT required to submit monitoring results to the IDNR; however, monitoring results must be retained and be made available to the IDNR upon request.

A SWPPP must include and/or address the following issues:

- Descriptions of potential pollutant sources.
- Storm water management controls.
- Visual inspections.
- Special requirements for storm water discharge in cities serving a population of 100,000 or more, if applicable.
- Consistency with other plans (Spill Prevention Control and Countermeasures Plan, etc.).
- Additional requirements for facilities subject to SARA Title III Section 313 requirements (see pages 95-96), if applicable.
- Salt storage.
- Non-storm water discharges.

Air Emissions Regulations

Title V or Operating Permits Actual and potential emissions from any air emission source in this section must be included in the facility emissions inventory. A facility emissions inventory identifies each emission source at the facility and shows actual and potential emissions from each source. A completed facility emissions inventory documents

ACTION STEPS

5. Develop and implement a Storm Water Pollution Prevention Plan (SWPPP). Complete development and implementation of the SWPPP *before submitting the NOI*. The SWPPP does not need to be submitted with the NOI; however, the facility must make the SWPPP available upon request to the IDNR or to the municipal separate storm sewer system operator. Step-by-step summary guidance documents, complete with worksheets, are available from the Iowa Waste Reduction Center and the IDNR to help develop a site-specific SWPPP.

ACTION STEPS

- AIR EMISSIONS-OPERATING PERMIT**
1. Identify all air emission sources at the facility (likely sources may include spray painting, sand blasting, welding, etc.).
 2. Estimate actual and potential emissions from each individual source and add them to the facility emissions inventory.

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the status (major or minor) of the facility under Title V of the Clean Air Act (CAA) and determines whether or not an operating permit (Title V permit) is required.

A completed emissions inventory can be used to document compliance in case of 'minor' sources. For 'major' sources it identifies sources or operations that are responsible for making the facility 'major.' In some cases, with appropriate limits, the facility may avoid Title V permitting and opt for a less burdensome permitting option. Please refer to the Environmental Regulation Overview, pages 66-68, before proceeding with any Action Steps.

New Source Performance Standards (NSPS) Some liquid fertilizer storage tanks may fall into one of the established New Source Performance Standard (NSPS) categories. Pressure vessels that are designed to operate in excess of 15 pounds per square inch gauge without emissions to the atmosphere, except under emergency conditions, are not considered an air emission source. The following category of liquid fertilizer storage tanks may be regulated under this NSPS:

Volatile Organic Liquid (VOL) storage. VOLs include petroleum liquids and any other organic liquids that can emit volatile organic compounds into the atmosphere. Storage tanks with a capacity greater than or equal to 40 cubic meters and constructed or modified after July 23, 1984 are regulated. The following tanks are exempt from the requirements of this category:

- Storage vessels with a capacity less than 75 cubic meters, provided records are kept documenting dimensions of the vessel and an analysis showing capacity of the vessel.
- Storage vessels with a capacity greater or equal to 75 cubic meters and that store a liquid with vapor pressure less than 15 Kpa, provided records are kept documenting dimensions of the vessel and an analysis showing capacity of the vessel.
- Storage vessels with a capacity greater or equal to 151 cubic meters and that store a liquid with vapor

ACTION STEPS

AIR EMISSIONS-NSPS

1. Determine if you store VOLs in a storage tank with a capacity greater than or equal to 40 cubic meters that was constructed or modified after July 23, 1984. If you do, then determine whether you qualify for any of the exemptions listed on pages 36 and 37.
2. Determine if you store granular triple superphosphate and the facility construction or modification began after October 22, 1974. If you do, then your facility is subject to NSPS (refer to page 69 for more details).

pressure less than 3.5 Kpa, provided records are kept documenting dimensions of the vessel and an analysis showing capacity of the vessel.

- Tanks used for petroleum or condensate storage, processing or treatment prior to custody transfer with a capacity less than 1589.874 cubic meters.
- Storage vessels at bulk gasoline plants.

Certain facilities storing granular triple superphosphate may be subject to Granular Triple Superphosphate Storage (40 CFR Part 60 (subpart X)). Facilities that use any combination of storage or curing piles, elevators, screens and mills may be affected by this NSPS. Facilities for which construction and modification began on or before October 22, 1974 are also covered under this NSPS.

Affected facilities must meet reporting and monitoring requirements as well as applicable emission standards. For more detailed information or assistance with the applicability determination, refer to Chapter 6.

Risk Management Program or 112 (r) Agribusiness facilities may store large amounts of anhydrous ammonia to sell as fertilizer. Facilities that store or use in processes more than 10,000 pounds of anhydrous ammonia on site at any given time are required to comply with Section 112(r) of the Clean Air Act. Regulated businesses must develop a Risk Management Program and submit a Risk Management Plan to EPA. The benefits of complying with Section 112(r) are:

- Reducing the chance of a release of anhydrous ammonia.
- The creation of a response plan.
- Reducing the impact if a release does occur.
- Coordinating with local emergency planning teams.

Facilities can obtain assistance in complying with 112(r) from the EPA at (913) 551-7876. Small businesses can obtain additional assistance from their state small business assistance center. Facilities not wanting to complete an RMP must limit the amount of anhydrous ammonia they store on site to less than 10,000 pounds at any one time.

ACTION STEPS

AIR EMISSIONS-RISK MANAGEMENT/112(r)

1. Check the total amount of anhydrous ammonia 'in process' at any time. If it is more than 10,000 pounds, develop an RMP. Contact your local small business assistance center for additional assistance.
2. If the 'in process' amount of anhydrous ammonia is less than 10,000 pounds, 112(r)'s general duty clause still applies. Review the discussion on page 71 of the Environmental Regulation Overview for more information.

The facility must, however, still comply with 112(r)'s general duty clause (see page 71).

Hazardous Waste Regulations

The Resource Conservation and Recovery Act (RCRA) regulates the disposal of hazardous wastes and is administered by EPA and IDNR. Most pesticides that meet EPA's criteria of hazardous are either "acutely hazardous" or "toxic."

Examples of "acutely hazardous" wastes are disulfoton, methomyl, parathion, aldicarb and phorate. Acutely hazardous wastes are regulated in small quantities (1 kilogram or 2.2 pounds per calendar month). Facilities accumulating more than 1 kilogram of this type of waste become a "large quantity generator" and must follow the most restrictive environmental regulations (see pages 76-80 in the Environmental Regulation Overview).

"Toxic" hazardous wastes are less harmful. RCRA regulates their handling, storage and disposal. Examples of toxic hazardous wastes are creosote, pentachlorophenol (wood preservative) and lindane, 2,4,-D. Appendix 9 contains a list of acutely hazardous and toxic pesticides.

Empty pesticide containers are exempt from hazardous waste regulations if they are triple rinsed or pressure rinsed and the rinsate is collected and applied according to the product label. Pesticides, rinsates or wash waters may not be disposed through storm sewers.

All pesticide spills must be reported to the necessary authorities.

Emergency Planning and Community Right to Know (EPCRA)

EPCRA Sections 311 and 312 provide information to federal, state and local emergency response and planning commissions and address the hazardous materials and extremely hazardous substances (EHSs) located at local businesses. Section 311 specifically exempts agricultural

chemicals used in routine agricultural operations or fertilizers held for sale by a retailer to the ultimate consumer. Agribusinesses must be careful to check ingredients to ensure that none are extremely hazardous substances (such as ammonia). These materials are exempt from notification of the State Emergency Response Commission (SERC) and Local Emergency Planning Committee (LEPC) under Section 311, but notification within 60 days of exceeding the threshold planning quantity (TPQ) is required under Section 302.

In Iowa, all reporting to the SERC is done using Tier II forms. If thresholds are exceeded on or around January of each year, Tier II reporting on March 1 will cover 302, 311 and 312 notification requirements.

The following items should be considered if Toxic Release Inventory (TRI) filing is necessary.

- Fertilizer containing a regulated toxic (ammonia or nitrate compounds) applied to the land is considered a release to land regardless of whether the nitrate compounds were from waste materials or a purchased product. These releases should be included in Part II Section 5.5 of the TRI form.
- Nitrate compounds applied to land as fertilizer are considered releases to land. Plant uptake is not considered recycling or treatment.
- The amount of toxic chemicals used for farming at a covered facility should be applied toward the 10,000 pounds per year "otherwise used" reporting threshold and the amount applied to land.

Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)

All pesticides that are bought, sold or used in the United States must be registered by EPA. EPA approves each product, its labels and its specific use(s). In addition to federal registration, the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) provides two methods for special registrations of pesticides: Special Local Need Registration and Emergency Exemption from Registration.

ACTION STEPS

PESTICIDE SPILLS

1. Determine if pesticides contain "acutely hazardous" or "toxic" chemicals by comparing labels to the list of hazardous pesticides in Appendix 9.
2. Wastes that contain hazardous pesticides must be handled, stored and disposed following all hazardous waste requirements. Refer to pages 77-80 for information on Action Steps for hazardous waste management.
3. Triple rinse empty pesticide containers and use the rinsate according to product label.
4. Store and use pesticides safely to avoid accidental spills.
5. In the event of a spill follow these steps:
 - Control the spill: identify source(s) and stop the spill.
 - Contain the spill: keep the spill from spreading.
 - Clean up the spill.
 - Contact the Local Emergency Planning Committee (LEPC).
 - Call the IDNR at (515) 281-8694 within six hours of the spill occurrence or discovery.
 - Follow up with a written report to the IDNR within 30 days.
 - Report major spills to EPA at (913) 236-3778 and the National Response Center at (800) 424-8804.

ACTION STEPS

EMERGENCY PLANNING & COMMUNITY RIGHT TO KNOW (EPCRA)

1. Identify extremely hazardous substances and their respective TPQs using a list obtained by calling the Iowa Waste Reduction Center at (319) 273-8905 or (800) 422-3109.
2. Review routine and maximum quantities stored at the facility.
3. If the maximum amount exceeds or is expected to exceed the threshold planning quantity, contact the Iowa Waste Reduction Center at (800)422-3109

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for a more detailed threshold determination.

4. If the TPQ is exceeded for an EHS, a facility must notify the SERC and LEPC within 60 days and file a Tier II form by March 1 of the next year.
5. If anhydrous ammonia is distributed at the facility or nurse tanks are taken to the client, carefully estimate the amount of ammonia released when purging lines. Ammonia has a 100-pound per 24-hour release reporting requirement under the Comprehensive Environmental Responsibility, Compensation and Liability Act (CERCLA). EPCRA Section 304 requires notification to the National Response Center (NRC), SERC and LEPC if this threshold is exceeded.
6. If this is a routine release that exceeds 100 pounds in a 24-hour period, reduced reporting requirements exist. Contact an assistance provider if you feel you may come near this threshold and review EPCRA Section 304 on pages 89-93.
7. If the facility has an SIC code between 20-39 and employs 10 full time employees and the quantity of a regulated toxic exceeds 10,000 pounds per year, a Toxic Release Inventory Form R pursuant to EPCRA Section 313 may need to be filed by July 1 of the following year. For Section 313, if the toxics included in fertilizer are applied at the facility, it meets the "otherwise used" definition. Other SIC categories must comply, but the SIC codes are not applicable to agribusiness activities.

ACTION STEPS

FEDERAL INSECTICIDE FUNGICIDE AND RODENTICIDE ACT (FIFRA) TRAINING

1. Contact ISU Extension for information concerning pesticides applicator training and certification.
2. Contact John Whipple at (515) 281-8599 at IDALS for fertilizer rule interpretation and compliance issues.
3. Contact Mark Lohafer at (515) 281-8590 at IDALS for questions on pesticide rule interpretation and compliance issues.
4. To report a spill or hazardous condition contact IDNR at (515) 281-8694.

When a pesticide is registered, its use must be classified as either general or restricted use. Under FIFRA, pesticide applicators must complete a training program to become certified applicators. In Iowa, there are 19 different categories in which applicators may be certified. The Iowa State University Extension has developed Iowa's pesticide applicator training and certification program. Contact your local extension office for dates and locations of training, certification and recertification programs in your area.

C. Where Can I Get Help or More Information?

Chapter 6 contains an extensive list of resources for each environmental regulation covered in the *Handbook of Environmental Regulations for Agribusiness*.

Bulk Fuel (Retail and Wholesale)

Gasoline and diesel fuel are received, stored, delivered and dispensed for retail sale and wholesale sale at agribusiness facilities. Fuel is also used to supply facility motor vehicles used on and off site. Some agribusinesses store and dispense liquefied petroleum gas and fuel oil to their customers. Both above ground and underground storage tanks of various sizes may be used to store fuel on site.

A. Which Environmental Laws Apply to Bulk Fuel?

1. **Wastewater Regulations**
 Industrial Wastewater Discharge – Sanitary Sewer, Surface, Septic
 Storm Water Discharge
 Spill Prevention, Control and Countermeasure (SPCC) Plans
 Above ground Tank Regulations
 Underground Tank Regulations
2. **Air Emissions Regulations**
 Construction Permit or New Source Review
 Operating Permit or Title V Permit
 Prevention of Significant Deterioration
 New Source Performance Standards
 National Emission System Hazardous Air Pollutants
 Risk Management Program – Section 112 (r)
3. **Hazardous Waste Regulations**
4. **Emergency Planning and Community Right to Know (EPCRA)**

B. How Do I Comply?

Wastewater Regulations

Industrial Wastewater Discharge: Sanitary Sewer, Surface and Septic A facility generating wastewater such as tanker/truck/equipment bay wash water (inside or outside), wastewater from citrus-based, aqueous or biological parts cleaning sinks, or wastewater from floor drains in buildings where industrial processes occur is subject to wastewater regulations. Please refer to Environmental Regulation Overview, pages 52-54, before proceeding with any of the following Action Steps.

ACTION STEPS

INDUSTRIAL WASTEWATER DISCHARGE

1. Identify the types of wastewater generated (sanitary wastewater from restrooms, lunch rooms, equipment wash water, process wastewater, etc.) as well as all sources of wastewater (floor drains, parts cleaning, vehicle and equipment cleaning, etc.).
2. Identify how each type is being discharged (sanitary sewer, the ground, septic system, etc.).
3. If wastewater is being discharged directly to a publicly owned treatment works (POTW) or sanitary sewer, the discharger must:
 - Contact the POTW superintendent or city engineer and report the type, source and quantity of discharge.
 - Request written permission that the discharge is acceptable. The written permission may be a formal permit or discharge agreement or simply a memo depending on the city's ordinances or policy.
4. If the wastewater is discharged to the ground, a storm sewer or a surface water, the discharger must:
 - Obtain a National Pollutant Discharge Elimination System (NPDES) permit from the IDNR.
 - Meet the contaminant limits specified in the permit.
 - Conduct periodic wastewater testing and analysis.
 - If permit limits are not achieved, discontinue the discharge or provide treatment to reduce contaminant levels within the limits.
5. If the wastewater is discharged to an on-site septic system, the following requirements apply:
 - A construction permit from the county is required for septic systems with a capacity less than 1,500 gallons per day. Contact your county sanitarian for application forms.
 - A construction permit from the IDNR is required for septic systems with a capacity greater than 1,500 gallons per day. The discharger must also submit a wastewater construction permit application with adequate engineering plans and specifications to allow thorough IDNR review. IDNR field staff will conduct a site survey.

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ACTION STEPS

STORM WATER DISCHARGE

1. Review your facility's SIC code filed on IRS form 1120.
2. If your facility code is SIC 20 or SIC 4221, you may be eligible for exemption from the rule by qualifying for and filing a "No- Exposure Certification."
3. For an existing storm water discharge you must submit a completed Notice of Intent (NOI), attached as Appendix 8.
4. For a new storm water discharge associated with industrial activity (after October 12, 1997) you must submit a complete NOI at least 24 hours prior to the start of the operation.
5. If you are renewing a permit, you do not need to post a public notice again; however, you will need to file a new NOI. Submit all applicable forms and information to:
 Storm Water Coordinator
 Iowa Department of Natural Resources
 Environmental Protection Division
 502 East 9th Street
 Des Moines, IA 50319-0034
6. Develop and implement a Storm Water Pollution Prevention Plan (SWPPP).
7. Complete development and implementation of the SWPPP before submitting the NOI. The SWPPP does not need to be submitted with the NOI; however, the facility must make the SWPPP available upon request to the IDNR or to the municipal separate storm sewer system operator. Step-by-step summary guidance documents, complete with worksheets, are available from the Iowa Waste Reduction Center and the IDNR to help develop a site-specific SWPPP.
8. Monitoring requirements are delineated for specific facilities that fall under Section 313 of SARA Title III, (primary metal industries, land disposal units/incinerators, wood treatment, coal pile runoff, airports, animal handling/meat packing, battery reclaimers, coal fired steam electric facilities and additional facilities). Specific instructions are found in the Permit.

Generally, contaminants cannot be discharged if there is reason to believe that they will be detrimental to the bacterial action of the septic system or that they will cause risks to human health or the environment.

Underground injection of wastewater (i.e., to a septic system) other than sanitary wastewater is governed by the federal Underground Injection Control (UIC) program. Dischargers are required to register their systems with the EPA Regional UIC program using the form provided in Appendix 1. Regulations for industrial discharge to this type of system are being promulgated. Septic systems serving more than 20 people must also register.

NOTE: Septic tanks are designed to treat sanitary wastes from restrooms and lunch rooms, not industrial waste. Septic tanks should never be used to dispose of industrial wastewater or stormwater runoff.

Storm Water Discharge The intent of storm water regulation is to improve water quality by reducing or eliminating contaminants in storm water. Storm water is precipitation runoff, surface runoff and drainage, street runoff and snow melt runoff. Contaminants commonly found in storm water discharges include oil, grease, fertilizer, sediment from construction sites, lead, zinc, solvents, etc. Agribusiness categories that require storm water permitting include, but are not limited to:

- Facilities subject to storm water effluent limitation guidelines, new source performance standards or toxic pollutant effluent standards under 40 CFR Subchapter N, except facilities with toxic pollutant effluent standards that must obtain a NPDES permit for their wastewater discharges already.
- Facilities classified as:
 - SIC 20 Food and Kindred Products
 - SIC 28 Chemicals and Allied Products (except 283 and 285)
 - SIC 4221 Farm Product Warehousing and Storage
 - SIC 5171 Petroleum Bulk Station and Terminal

- Hazardous waste treatment, storage or disposal facilities, including those that are operating under interim status or a permit under subtitle C of the Resource Conservation and Recovery Act.
- Landfills, land application sites and open dumps that receive or have received any industrial wastes.
- Construction activity including cleaning, grading and excavation activities except operations that result in the disturbance of less than five acres of total land area which are not part of a larger common plan or development or sale.

Facilities or activities that fall under Storm Water regulations are defined on page 55-57. Please review the Storm Water requirements on pages 55-59 before proceeding with any Action Steps.

Permit holders that are subject to monitoring requirements are NOT required to submit monitoring results to the IDNR; however, monitoring results must be retained and be available to the IDNR upon request.

A Storm Water Pollution Prevention Plan must include and/or address the following issues:

- Description of potential pollutant sources.
- Storm water management controls.
- Visual inspections.
- Special requirements for storm water discharge in cities serving a population of 100,000 or more, if applicable.
- Consistency with other plans (Spill Prevention Control and Countermeasures plan, etc.).
- Additional requirements for facilities subject to SARA Title III Section 313 requirements (see pages 95-96), if applicable.
- Salt storage.

Spill Prevention, Control and Countermeasure (SPCC) Plans The Oil Pollution Prevention regulations addressed in 40 CFR Section 112 apply to facilities that store petroleum products in above ground storage tanks and con-

ACTION STEPS

SPILL PREVENTION, CONTROL AND COUNTERMEASURE PLANS (SPCC)

1. Determine if your facility exceeds one or both of the thresholds at right.
2. If you exceed a threshold, prepare and implement an SPCC plan. This plan is designed to minimize the potential for petroleum product releases and to mitigate any environmental impacts if one occurs.

tainers if the storage capacity exceeds either of the following thresholds:

- A total facility storage capacity greater than 1,320 gallons.
- One or more individual storage tanks greater than 660 gallons in capacity.

The term petroleum product includes both new and used oil as well as fuel. Please review pages 59-62 of the Environmental Regulation Overview before following any Action Steps.

SPCC Plan Preparation and Amendment

SPCC plans must be reviewed and certified by a registered Professional Engineer. Copies of the plan must be maintained at the facility or property where the petroleum product is stored or the nearest attended facility if the storage area is not normally attended at least eight hours per working day.

SPCC plans must be amended within six months whenever there is a change in facility design, construction, operation or maintenance that affects potential for petroleum product discharge. They must also be reviewed and evaluated at least once every three years.

SPCC Plan Content

1. A written description of any spill events in the preceding twelve months, including corrective action and plans to prevent recurrence.
2. A prediction of the direction, rate of flow and total quantity of petroleum product that could be discharged.
3. A complete discussion of the spill containment and/or diversionary structures or equipment used at the facility, including:
 - Dikes, berms or retaining walls.
 - Curbing.
 - Culverting, gutters or other drainage systems.
 - Weirs or booms.

- Spill diversion/retention ponds.
 - Double-wall tanks.
 - Sorbent materials.
4. A description of how the facility manages containment area drainage, including:
- Storm water in dikes (i.e., restrained by locked valves).
 - Dike drainage practices (i.e., inspection procedure and manual discharge).
 - Management of undiked areas (i.e., diversion to retention pond).
5. Bulk storage practices, including:
- Verification of tank material/construction and stored material compatibility.
 - Secondary containment means (i.e., double-walled tanks with interstitial monitoring, dikes with capacity equal to the largest tank plus 10 percent, holding ponds, etc.).
 - Procedures that ensure containment area drainage does not release petroleum products and a record keeping system that documents compliance (i.e., diked area drain valve locked shut; area inspected for petroleum product before valve opened; valve opened to drain precipitation; valve locked closed; and valve operator signs inspection/drainage record for that event).
 - Integrity testing procedures and recordkeeping (i.e., hydrostatic testing, visual inspection and/or nondestructive shell thickness testing).
6. Facility transfer practices, including:
- Means to limit corrosion of buried piping.
 - Means to inspect and maintain above ground valves and piping.
 - Procedures that warn vehicles to avoid damaging above ground piping and storage, where appropriate.
7. Tank truck loading and unloading practices, including:
- Documentation that loading and unloading

procedures meet Department of Transportation (DOT) requirements.

- Loading/unloading area capacity (i.e., at least the capacity of the largest single compartment of the vehicle being loaded or unloaded) and containment means.
 - Means to prevent vehicle departure before transfer lines are disconnected.
 - Inspection and documentation means to assure the plan is being implemented.
 - Records must be kept for at least three years.
8. Site security, including:
- Restriction of access to petroleum product handling and storage areas.
 - Means to secure tank valves, pumps and loading and unloading connections when in standby status.
9. Records of SPCC-related training programs conducted, including:
- Operation and maintenance of equipment.
 - Applicable environmental regulations and requirements overview.
 - Designation of an SPCC plan coordinator.
 - Training schedule.
 - Personnel training records.

Reporting

In addition to emergency notification, facilities must provide a written report to EPA Region VII and the IDNR within 60 days of a discharge of more than 1,000 gallons of petroleum product or if there are two spill events in a 12-month period. The report should include:

- Name of facility.
- Name of facility owner or operator.
- Location of the facility.
- Date and year of initial facility operation.
- Maximum storage or handling capacity and normal daily throughput.
- Description of the facility, including maps and flow diagrams.
- Complete copy of the SPCC plan.
- Cause(s) of the spill, including failure analysis.

- Corrective actions and/or countermeasures, including any equipment repair or replacement.
- Additional preventive measures to minimize recurrence.

Above Ground Tank Installation Requirements Iowa Department of Public Safety Regulations require plans to be submitted and approved by the Fire Marshal's office or local agency if either requires permits for above ground storage tank installation prior to construction or replacement of above ground storage tanks and distribution systems containing flammable or combustible material.

If the plan conforms to applicable flammable and combustible liquid storage requirements contained in IAC 661, Chapter 5, the applicant will be notified that the plans have been approved. If the plan does not conform to the applicable requirements, the applicant will be advised accordingly.

Above Ground Tank Registration Iowa Department of Public Safety Regulations also require registration of above ground storage tanks.

An additional \$25 late fee is required for tanks not registered within 30 days of being placed in service.

Registration tags will be issued to the tank owner upon receipt of the registration form and fees. Tags must be attached to, or near, the registered tank fill-pipe.

Underground Storage Tank (UST) Rules Effective December 22, 1998, underground storage tanks (USTs) with a capacity greater than 110 gallons must be installed with or upgraded to include EPA-approved means to accomplish the following:

- Leak detection.
- Corrosion protection.
- Spill/overflow prevention.

Refer to pages 83-88 for specific details.

ACTION STEPS

ABOVE GROUND TANK INSTALLATION REQUIREMENTS

1. Develop a plan that consists of scale drawings, blueprints and specifications addressing the following types of information:
 - Name and address of the applicant and location of the proposed installation.
 - A drawing showing all streets and highways, buildings and other items in the immediate area of the installation.
 - Capacity and dimensions of the tank.
 - The type and class of liquid to be stored in the tank.
 - Layout of tank, filling and dispensing areas, dispensing equipment, supports and heating devices, if any.
 - Specifications and location of tank fill and dispensing pipes, venting and pressure relief valves, gauges, valves, pumps, etc.
2. Submit the plan to the State Fire Marshal's office and/or local agency if either requires permits for above ground storage tank installation.

ACTION STEPS

ABOVE GROUND TANK REGISTRATION

1. Determine if any above ground storage tanks have a storage capacity greater than 1,100 gallons.
2. Determine if those tanks contain regulated hazardous substances. This includes heating fuel offered for resale, motor vehicle fuels and new oil and used oil.
3. Heating oil tanks for consumptive use at the tank's location are not subject to registration requirements.
4. Submit State Form CFN #595-1401, enclosed as Appendix 10, along with a one-time \$10 registration fee, to:

Iowa Department of Public Safety
 Division of State Fire Marshal
 Flammable Liquids Section
 621 E 2nd St.
 Des Moines, IA 50309-1831

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ACTION STEPS

UNDERGROUND STORAGE TANK RULES (UST)

1. Register the UST with the IDNR and provide proof of an approved means of financial assurance to cover clean-up expenses in the event of leaks or spills.
2. Closure of an existing UST is also subject to IDNR regulations. Closure requires:
 - Notifying the IDNR 30 days prior to beginning closure.
 - Removing all liquids and accumulated sludge.
 - Removing the tank from the ground or filling the tank with an inert material.
 - Assessment of soil and groundwater contamination.
 - Site remediation is required if contamination is detected.
 - Maintenance of records to document proper closure.

ACTION STEPS

AIR EMISSIONS - CONSTRUCTION PERMIT

1. Identify all air emission sources.
2. Determine if one of the following exemptions apply:
 - Air emissions sources emitting only VOCs (volatile organic compounds) installed before April 22, 1987.
 - Gasoline storage tanks with a capacity of 5,000 gallons or an annual throughput of less than 40,000 gallons.
 - Storage tanks containing coolant, diesel fuel, detergents, fuel oil, LPG, lubricating oils and other nonhazardous air pollutant-emitting storage tanks with a capacity of less than 10,570 gallons and an annual throughput of less than 40,000 gallons.
3. Complete an air quality construction permit application for every non-exempt air emissions source.

Underground tanks that store heating fuel for consumptive use at the tank location are not subject to the UST regulations. However, if the fuel in the tank is dispensed for wholesale or retail sales, the tank is subject to all applicable UST rules. Tanks that are out of service for more than 12 months must be permanently closed.

Air Emissions Regulations

Construction Permit or New Source Review Air quality construction permit rules apply to all the different operations of agribusinesses handling bulk fuel (retail and wholesale) including storage tanks.

Title V or Operating Permits Actual and potential emissions from any air emission source in bulk fuel activity needs to be included in the facility emissions inventory. A facility emissions inventory identifies each emission source at the facility and shows actual and potential emissions from each source. A completed facility emissions inventory documents the status (major or minor) of the facility under Title V of the Clean Air Act (CAA) and determines whether or not an operating permit (Title V permit) is required.

A completed emissions inventory can be used to document compliance in case of 'minor' sources. For 'major' sources, it identifies sources or operations responsible for making the facility 'major.' In some cases, with appropriate limits, the facility may avoid Title V permitting and opt for a less burdensome permitting option.

New Source Performance Standards (NSPS) Some petroleum storage tanks are included in one of the established New Source Performance Standard (NSPS) categories. Pressure vessels which are designed to operate in excess of 15 pounds per square inch gauge without emissions to the atmosphere (except under emergency conditions) are not considered an air emission source. There are three categories of storage tanks regulated under this NSPS.

Category I. In this category petroleum liquids means petroleum, condensate and any finished or intermediate products manufactured in a petroleum refinery. Definition of petroleum liquids does not include, among others, #2 through #6 fuel oils and diesel fuel oils #2-D and 4-D. Storage tanks with capacities greater than 40,000 gallons, but not exceeding 65,000 gallons, and that were constructed or modified between March 8, 1974 and May 19, 1978 are regulated. Also, storage tanks with capacities greater than 65,000 gallons and that were constructed or modified between June 11, 1973 and May 19, 1978 are regulated.

For more details see 40 CFR Part 60 Subpart K.

Category II. In this category petroleum means the crude oil removed from the earth as well as the oils removed from the earth and the oils derived from tar sands, shale and coal. Storage tanks with capacities greater than 40,000 gallons and that were constructed or modified between May 18, 1978 and July 23, 1984 are regulated. Storage tanks with capacities less than 420,000 gallons and that are used for petroleum or condensate storage, processing or treatment prior to custody transfer are exempt.

For more details see 40 CFR Part 60 Subpart K(a).

Category III. Volatile Organic Liquid (VOL) storage is regulated under this category. VOLs include petroleum liquids and any other organic liquid that can emit volatile organic compounds into the atmosphere. Storage tanks with capacities greater than 40 cubic meters and that were constructed or modified after July 23, 1984 are regulated. The following tanks are exempt from the requirements of this category:

- Storage vessels with capacities less than 75 cubic meters, provided records are kept documenting dimensions of the vessel and an analysis showing the capacity of the vessel is on file.
- Storage vessels with capacities greater or equal to 75 cubic meters that store a liquid with vapor pressure less than 15 Kpa, provided records are kept documenting dimensions of the vessel and an analysis showing the capacity of the vessel is on file.

ACTION STEPS

TITLE V OR OPERATING PERMITS

1. Identify all potential air emissions sources at the facility. For example, any unpressurized above ground storage tank is an air emissions source (VOCs being the pollutant).
2. Calculate or estimate actual and potential emissions (AE/PE) from each air emissions source.
3. Include AE/PE of emissions sources from this section in the facility emissions inventory.
4. Compare facility emissions to thresholds on page 67-68 and in Appendix 11 and obtain an appropriate operating permit if needed.
5. Prevention of Significant Deterioration (PSD).
 - All emissions sources need to be included in the facility emissions inventory, including fugitive emissions for making the PSD applicability determination.
 - Compare facility's PE against the 100 or 250 tons/year threshold to determine if a PSD (Prevention of Significant Deterioration) permit is needed (refer to page 68-69).

ACTION STEPS

AIR EMISSIONS - NSPS

1. Identify each unpressurized vessel tank and compare it with the eligibility criteria listed on pages 48-50 for the three categories of tanks regulated under NSPS.
2. List those tank(s) regulated under NSPS.
3. Contact your local SBAP for additional assistance and information.

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- Storage vessels with capacities greater or equal to 151 cubic meters and that store a liquid with vapor pressure less than 3.5 Kpa, provided records are kept documenting dimensions of the vessel and an analysis showing the capacity of the vessel is on file.
- Storage tanks with capacities less than 1589.874 cubic meters and that are used for petroleum or condensate storage, processing or treatment prior to custody transfer.
- Storage vessels at bulk gasoline plants.

For more details see 40 CFR Part 60 Subpart K(b).

Each of these categories has similar reporting and monitoring requirements and applicable emission standards (with some variations). Contact your local small business assistance provider for further assistance.

Hazardous Waste Regulations

Sand Blast Media Many facilities generate spent sandblasting media as a result of storage tank maintenance. If your facility generates spent sandblasting media, or if an outside contractor generates spent sandblasting media on your property, you must follow applicable regulations. Sand blast media may contain toxic heavy metals that, when left on the ground, could contaminate ground and surface water.

If the media is hazardous, it must be managed in accordance with hazardous waste management standards appropriate for your generator status and as discussed on pages 76-80.

ACTION STEPS

SAND BLAST MEDIA

1. Facilities that sand blast or have sand blasting done on site should make sure it is conducted on an impermeable surface (concrete or a tarp) and that all spent media is collected and properly disposed.
2. A representative sample should be tested to make a hazardous/non-hazardous waste determination using TCLP methodology. Refer to Appendix 3 for a list of laboratories that can perform the TCLP test.

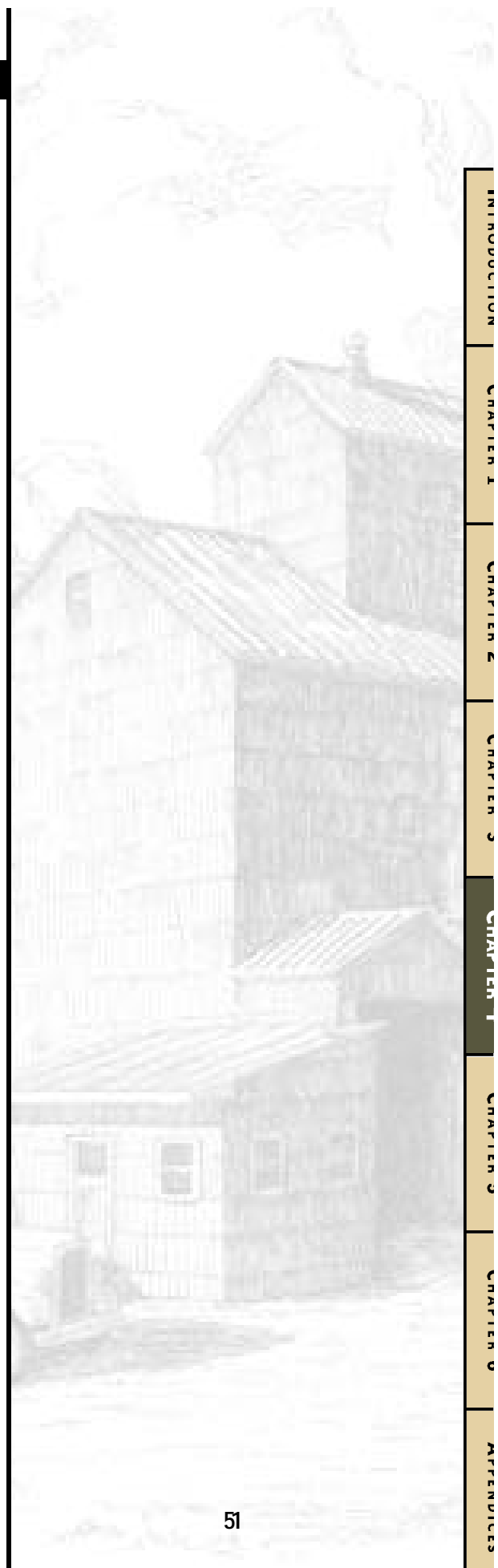
T A B L E 4.1		RECOMMENDED TOXICITY CHARACTERISTIC LEACHING PARAMETERS FOR SAND BLAST MEDIA*
TCLP Parameter	Regulatory Limit(mg/L)	
● Metals		
Arsenic	5.0	
Barium	100.0	
Cadmium	1.0	
Chromium	5.0	
Lead	5.0	
Mercury	0.2	
Selenium	1.0	
Silver	5.0	
● Volitile Organic Compounds		
Benzene	0.5	
Methyl ethyl ketone	200.0	
Tetrachloroethylene	0.7	
Trochloroethylene	0.5	
*This is only a portion of the complete TCLP. Pesticides and manufacturing byproducts are not listed here. To see the complete TCLP list, refer to page 74.		

If the media is nonhazardous, it may be disposed after a Special Waste Authorization (SWA) has been obtained from the IDNR. See pages 81-82 and Appendix 16 for more information. In addition to a hazardous waste determination, local regulations may require other testing or monitoring. Check with your local landfill. Direct application of spent sandblast media on the ground (landspreading) should be avoided as it may cause environmental damage for which the generator will be held liable.

P ² TIP	SAND BLAST MEDIA
<ul style="list-style-type: none"> ● Recycling and reuse options may be available for this material. Check with your local landfill and/or the state recycling coordinator. ● Your local landfill may be able to use the material as cover materials or road base. This operation may lower your disposal costs. 	

C. Where Can I Get More Help and Information?

Chapter 6 contains an extensive list of resources for each environmental regulation covered in the *Handbook of Environmental Regulations for Agribusiness*.



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Environmental Regulation Overview

A. Water Regulations

The Clean Water Act (CWA) was established to restore and maintain the quality of our nation's waters by prohibiting the discharge of toxic pollutants. The Environmental Protection Agency (EPA) is responsible for developing regulations to achieve clean water goals. The CWA includes the following provisions.

Industrial Wastewater Program

Wastewater is subject to a variety of regulations depending on the discharge method employed. Wastewater discharged to a publicly owned treatment works (POTW) or sanitary sewer is subject to the general prohibitions found in Title 40 of the Code of Federal Regulations (CFR), Part 403.5.

General Wastewater Discharge Prohibitions These regulations prohibit discharges of any pollutant that may pass through or cause interference with the POTW treatment process. Wastewater pollutants that create an explosion hazard, corrosive structural damage, obstructions to flow, excessive heat and toxic gases are also prohibited.

National Pollution Discharge Elimination System (NPDES) Wastewater discharged to surface water (which may include discharges to the ground, storm sewers and field drain tiles) is subject to National Pollutant Discharge Elimination System (NPDES) regulations. These require application for a permit and compliance with established pollutant concentration limits. Some form of pretreatment may be required to meet these limits.

On-site Wastewater System Wastewater discharged to an on-site wastewater system is subject to the following state and federal regulations.

1. Iowa rules do not allow septic tanks to be used for the disposal of 1) chemical waste or grease in quantities which might be detrimental to the bacterial action in the tank or 2) drainage from roof, foundation or area

drains. Motor oil, lubricants, antifreeze, gasoline, diesel fuel, pesticide, fertilizer, parts cleaning solution and other chemicals are examples of industrial waste that, in sufficient quantity, might interfere with the bacterial action in a septic tank. *Septic tanks are designed to treat domestic sewage, not industrial waste, and should not be used except for the treatment of sanitary sewage.*

2. Iowa rules also require construction permits for installation and/or modification of on-site wastewater treatment and disposal systems. Septic tanks/leach fields and cesspools designed for flows of less than 1,500 gallons/day must obtain construction/modification authorization from the county sanitarian in accordance with county rules and IDNR regulations contained in the Iowa Administrative Code (IAC) 576, Chapter 69. Septic tanks/leach fields or cesspools designed for flows greater than 1,500 gallons/day must obtain a construction/modification permit from the IDNR. Application for a IDNR construction/modification permit requires submittal of a Wastewater Construction Permit Application, adequate engineering plans and specifications to allow a thorough review and site survey by IDNR field office staff.

Underground Injection Control Program The federal Underground Injection Control (UIC) program under Part C of the Safe Drinking Water Act also governs underground injection or discharge of wastewater. The UIC regulations define five types or classes of injection wells. Classes I through IV include deep injection wells (used for injection of fluids to recover oil, natural gas and minerals, and shallow wells for injection of hazardous or radioactive waste). A Class V injection well is the general category of shallow injection wells that do not fall under any of the other class criteria and include:

1. Septic tanks/leach fields or cesspools that receive waste other than sanitary wastewater. Sanitary wastewater is wastewater from bathroom facilities, hand washing, showers and food preparation. Waste other than sanitary wastewater includes fluids from vehicle repair

facilities, manufacturing and industrial process wastes and/or spills, wastewater from car washes and storm water runoff.

2. Septic tanks/leach fields or cesspools that have the capacity to receive sanitary wastewater from 20 or more persons per day.

Owners and operators of Class V injection wells (for example, on-site septic systems) must register their systems by providing inventory information to EPA. A reporting form is included as Appendix 1 in this guide. The completed form should be sent to:

**U.S. Environmental Protection Agency – Region VII
Underground Injection Control Program
726 Minnesota Ave.
Kansas City, KS 66101
(913) 551-7413**

Receipt of this information will demonstrate compliance under the Authorized-by-Rule provision. If EPA determines that the system poses an unacceptable risk to human health or the environment, the owner/operator will be notified and may be required to obtain a UIC permit and/or comply with certain contaminant limitations. Proposed EPA rules may further restrict or eliminate use of commercial septic systems in areas considered to be at high risk for contamination of drinking water sources.

Storm Water Permit Program

Storm Water In 1990, EPA issued regulations which require NPDES permits for storm water discharges associated with industrial activity. Storm water discharge is any precipitation, drainage or surface, street or snow melt runoff. Contaminants commonly found in storm water discharges include oil, grease, fertilizer, sediment from construction sites, lead, zinc, solvents, etc. Contaminants introduced into a storm sewer or other conveyance may impact drinking water sources, ground water sources and waters protected for recreation and/or aquatic life.

The following facilities must apply for a Storm Water Discharge Permit:

- Facilities that discharge storm water associated with industrial activity.
- Facilities that discharge storm water associated with industrial activity from asphalt plants, concrete batch plants and rock crushing plants.
- Facilities that discharge storm water associated with industrial activity for construction.
- Large and medium municipal separate storm sewer systems (MS4s) with a population of 100,000 or greater.
- Discharges that the IDNR determines contribute to a water quality standard violation and/or any discharge that is a significant contributor of pollutants to water of the United States.

Storm water discharge associated with industrial activity is discharge from any conveyance (road, yard, ditch, pipe, storm sewer, etc.) that collects and conveys storm water and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. Facilities that meet this definition include:

- Those already regulated by other CWA limitations or permits.
- Those that have Standard Industrial Classification (SIC) codes of 24 (except 2434), 26 (except 265 and 267), 28 (except 283 and 285), 29, 311, 32, (except 323), 33, 3441 and 373. An SIC code is a four digit number used to classify establishments by type of economic activity. SIC codes are reported on income taxes on IRS form 1120.
- Mineral industries with SIC code 10 - 14.
- All permitted hazardous waste treatment, storage and disposal facilities (TSDFs).
- Landfills, land application sites and open dumps that receive industrial wastes from the previously specified industrial activities.
- Facilities involved in the recycling of materials, including metal scrap yards, battery reclaimers, salvage yards and automobile junkyards, including those classified as SIC 5015 and 5093.
- Steam electric powered generating facilities, including coal-handling sites.

- Transportation facilities classified as SIC 40 - 42 (except 4221, 4222, 4223, 4224, and 4225), 43 - 45 and 5171 that also perform vehicle maintenance, equipment cleaning operations or airplane deicing operations. Only those areas of the facility where maintenance, cleaning operations, deicing operations or other specified industrial activities take place are subject to the permit requirement.
- All POTWs with a design flow rate larger than one million gallons per day.

These industries must obtain coverage of storm water discharge from:

- Plant yards.
- Immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material or by-products that have been used or created by the facility.
- Material handling sites.
- Refuse sites.
- Sites used for the application or disposal of process waste waters.
- Sites used for the storage and maintenance of material handling equipment.
- Sites used for residual treatment, storage or disposal.
- Shipping and receiving areas.
- Manufacturing buildings.
- Storage areas (including tank farms) for raw materials, intermediate and finished products.
- Areas where industrial activity has taken place in the past and where significant materials remain and are exposed to storm water.

Industry categories classified by SIC codes as 20 - 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35 - 37 (except 373), 38, 39, 4221, 4222, 4223, 4224 and 4225 are also required to obtain a Storm Water Discharge Permit. For these industries, the permit includes only storm water discharges from the areas (except access roads and rail lines) listed above and where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products or

industrial machinery are exposed to storm water. Facilities in some industry categories are exempt from the rule if they meet the criteria of "no-exposure." To obtain information on eligibility for No-Exposure Certification contact the Iowa Waste Reduction Center at (319) 273-8905 or (800) 422-3109 or the IDNR at (515) 281-7017.

Storm water discharge associated with industrial construction activity is discharge from all businesses, regardless of SIC category, that engage in construction activity such as clearing, grading and excavation that result in the disturbance of more than five acres of total land. These businesses must apply for a Storm Water Permit. Any construction activity covering less than five acres requires a Storm Water Permit if it is part of a larger development plan or sale.

Although Iowa issues General Permits 1, 2, 3 and an Individual Permit for storm water discharge, only General Permits 1 and 2 are typically applicable to agribusiness. Therefore General Permit 3 and the Individual Permit will not be discussed in this *Handbook*.

Obtaining a NPDES General Permit 1 or 2 Submittal of a completed Notice of Intent (NOI) to the IDNR is required for an existing storm water discharge. A new storm water discharge (after October 12, 1997) associated with industrial activity requires submittal of a completed NOI at least 24 hours prior to the start of the operation.

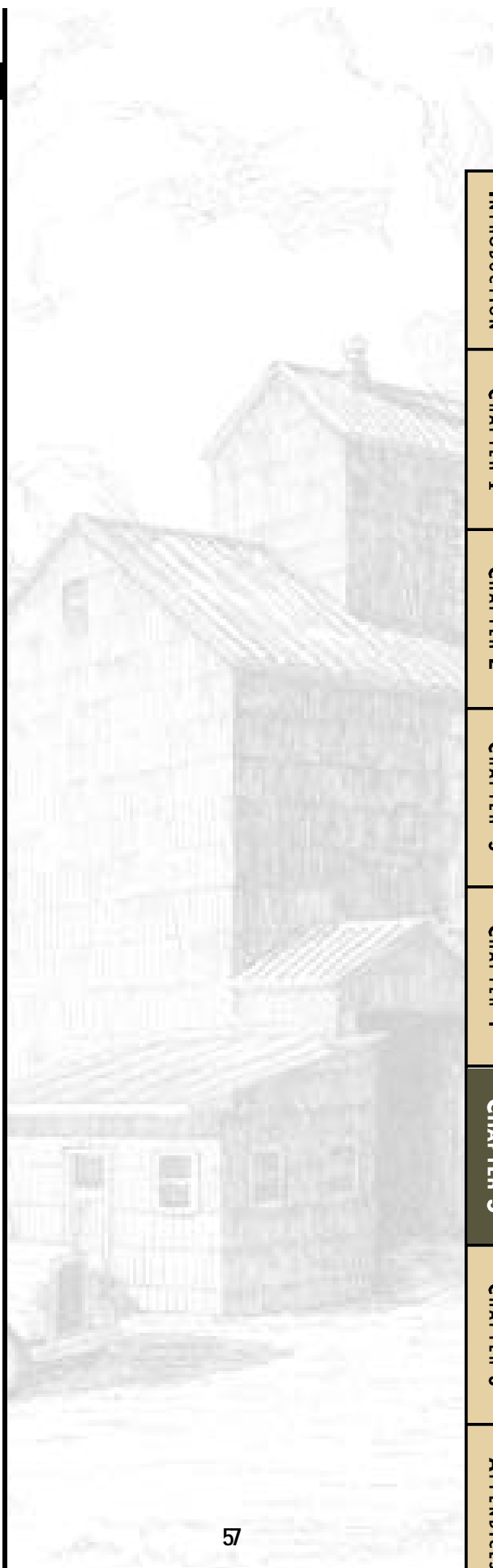
Failure to notify the IDNR of any discharge of pollutants to Iowa waters is a violation of the CWA and the Code of Iowa and is subject to civil penalties not to exceed \$25,000 per day.

The following fees must accompany the completed NOI:

General Permits 1 or 2:

Annual	\$150
3-year	\$300
4-year	\$450
5-year	\$600

If a facility chooses to pay fees on an annual, four-year or three-year basis, the appropriate fee should be submitted to



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the IDNR on the anniversary of obtaining the permit. All existing general permits that expired October 7, 1997 should have been renewed April 1, 1998.

Notice of Discontinuation A Notice of Discontinuation (NOD) must be submitted in writing to the IDNR within 30 days of the discontinuance of a storm water discharge. General Permits 1 and 2 have separate NOD forms that must be filed. Contact the IDNR for guidance on filing a NOD for an Individual Permit.

Permit Renewal Within 180 days after a General Permit expires, the permittee is required to resubmit a completed NOI for coverage. If a General Permit has not been reissued within the 180 days after permit expiration, the storm water discharger must apply for an Individual NPDES. All forms and applications should be submitted to:

Storm Water Coordinator
Iowa Department of Natural Resources
Environmental Protection Division
502 East 9th Street
Des Moines, IA 50319-0034

Questions may be directed to the IDNR Storm Water Coordinator at (515) 281-7017 or to the Iowa Waste Reduction Center at (319) 273-8905 or (800) 422-3109.

Storm Water Pollution Prevention Plan (SWPPP)

Every permit holder must develop and implement a Storm Water Pollution Prevention Plan (SWPPP). The plan should identify potential sources of pollution that may reasonably be expected to affect the quality of storm water. Facilities must implement provisions of the SWPPP required under the permit and the SWPPP must be completed before the NOI is submitted to the IDNR. The SWPPP does not need to be submitted with the NOI. However, the facility must make the SWPPP available upon request to the IDNR or to the municipal separate storm sewer system operator. The SWPPP must be amended whenever a business makes a change in the design, construction, operation or maintenance of its facilities that is related to the discharge of pollutants.

The SWPPP must include and/or address the following issues:

- Site map.
- Description of potential pollutant sources.
- Storm water management controls.
- Visual inspections.
- Special requirements for storm water discharge in cities serving a population of 100,000 or more (if applicable).
- Consistency with other plans.
- Additional requirements for facilities subject to SARA Title III Section 313 requirements (if applicable).
- Salt storage.
- Non-storm water discharges.

Step-by-step summary guidance documents, complete with worksheets, are available from the Iowa Waste Reduction Center and the IDNR to help businesses develop a site-specific SWPPP.

Monitoring and Reporting Monitoring requirements are delineated for specific facilities that fall under Section 313 of SARA Title III (primary metal industries, land disposal units/incinerators, airports, battery reclaimers, animal handling/meat packing, coal fired steam electric and wood treatment facilities, and facilities with coal pile runoff). Specific instructions can be found in the permit.

Permittees who are subject to monitoring requirements are NOT required to submit monitoring results to the IDNR; however, monitoring results must be retained and be made available to the IDNR upon request.

Oil Pollution Prevention Act: Spill Prevention Control and Countermeasures Plan Program

The Oil Pollution Prevention regulations addressed in 40 CFR, Section 112 apply to facilities that store petroleum products (both new and used oil, fuels, etc.) in above ground storage tanks and containers if the storage capacity exceeds either of the following thresholds:

1. A total facility storage capacity greater than 1,320 gallons or

2. One or more individual storage tanks greater than 660 gallons in capacity.

Facilities exceeding one or both of these thresholds are required to prepare and implement a Spill Prevention Control and Countermeasures (SPCC) plan designed to minimize the potential for petroleum product releases and to mitigate any environmental impacts if a release occurs.

SPCC Plan Preparation and Amendment SPCC plans must be reviewed and certified by a registered Professional Engineer. Copies of the plan must be maintained at the facility or property where the petroleum product is stored or the nearest attended facility if the storage area is not normally attended at least eight hours per working day.

SPCC plans must be amended within six months whenever there is a change in facility design, construction, operation or maintenance that affects the potential for petroleum product discharge. They must also be reviewed and evaluated at least once every three years.

SPCC Plan Content All SPCC plans must include the following information:

1. A written description of any spill events in the preceding twelve months, including corrective action and plans to prevent recurrence.
2. A prediction of the direction, rate of flow and total quantity of petroleum product that could be discharged.
3. A complete discussion of the spill containment and diversionary structures or equipment used at the facility, including:
 - Dikes, berms or retaining walls.
 - Curbing.
 - Culverting, gutters or other drainage systems.
 - Weirs or booms.
 - Spill diversion/retention ponds.
 - Double-wall tanks.
 - Sorbent materials.
4. A description of how the facility manages containment area drainage, including:
 - Storm water in dikes (i.e., restrained by locked valves).
 - Dike drainage practices (i.e., inspection procedure

- and manual discharge).
- Management of undiked areas (i.e., diversion to retention pond).
5. Bulk storage practices, including:
 - Verification of tank material/construction and stored material compatibility.
 - Secondary containment includes double-walled tanks with interstitial monitoring, dikes with capacity equal to the largest tank plus 10 percent, holding ponds, etc.
 - Procedures that ensure containment area drainage does not release petroleum products and a record-keeping system that documents compliance (i.e., diked area drain valve locked shut; area inspected for petroleum product before valve opened; valve opened to drain precipitation; valve locked closed; and valve operator signs inspection/drainage record for that event).
 - Integrity testing procedures and recordkeeping (i.e., hydrostatic testing, visual inspection, and/or nondestructive shell thickness testing).
 6. Facility transfer practices, including:
 - Method to limit corrosion of buried piping.
 - Method to inspect and maintain above ground valves and piping.
 - Procedures that warn vehicles to avoid damaging above ground piping and storage, where appropriate.
 7. Tank truck loading and unloading practices, including:
 - Documentation that loading and unloading procedures meet Department of Transportation (DOT) requirements.
 - Loading/unloading area capacity (at least the capacity of the largest single compartment of the vehicle being loaded or unloaded).
 - Inspection and documentation means to assure the plan is being implemented. Records must be kept for at least three years.
 8. Site security, including:
 - Restriction of access to petroleum product handling and storage areas.
 - Means to secure tank valves, pumps and loading

- and unloading connections when in standby status.
9. Records of SPCC-related training programs conducted, including:
 - Operation and maintenance of equipment.
 - Applicable environmental regulations and requirements overview.
 - Designation of an SPCC plan coordinator.
 - Training schedule.
 - Personnel training records.

Reporting In addition to emergency notification, facilities must provide a written report to EPA Region VII and the IDNR within 60 days of a discharge of more than 1,000 gallons of petroleum product or if there are two or more spill events in a twelve-month period. The report should include:

- Name of facility.
- Name of facility owner or operator.
- Location of the facility.
- Date and year of initial facility operation.
- Maximum storage or handling capacity and normal daily throughput.
- Description of the facility, including maps and flow diagrams.
- Complete copy of the SPCC plan.
- Cause(s) of the spill, including failure analysis.
- Corrective actions and/or countermeasures, including any equipment repair or replacement.
- Additional preventive measures to minimize spill recurrence.

Above Ground Tank Registration Iowa Department of Public Safety regulations require registration of above ground tanks to be submitted to and approved by the Fire Marshal's office (or local agency if it requires permits for above ground storage tank installation) prior to construction or replacement of above ground storage tanks and distribution systems containing flammable or combustible material. The plan must consist of scale drawings, blueprints and specifications addressing the following:

- Name and address of the applicant and location of the proposed installation.

- A drawing showing all streets and highways, buildings and other items in the immediate area of the installation.
- Capacity and dimensions of the tank.
- The type and class of liquid to be stored in the tank.
- Layout of tank, filling and dispensing areas, dispensing equipment, supports and heating devices, if any.
- Specifications and location of tank fill and dispensing pipes, venting and pressure relief valves, gauges, valves, pumps, etc.

If the plan conforms to applicable flammable and combustible liquid storage requirements contained in IAC 661, Chapter 5, the applicant will be notified that the plans have been approved. If the plan does not conform to the applicable requirements, the applicant will be advised accordingly.

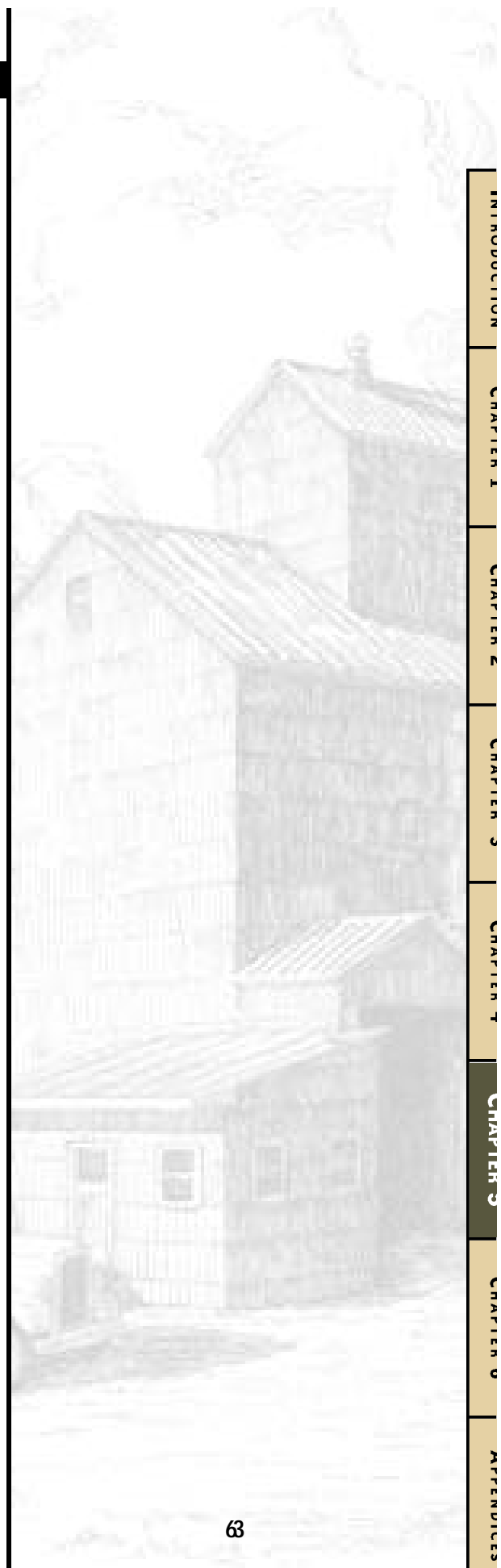
Iowa Department of Public Safety regulations also require registration of above ground storage tanks greater than 1,100 gallons in capacity that contain regulated hazardous substances including heating fuel offered for resale, motor vehicle fuels and new and used oil. (Heating oil tanks for consumptive use at the tank's location are not subject to registration requirements.) To register a tank, submit state form CFN #595-1401, enclosed as Appendix 10, along with a one-time \$10 registration fee, to:

Iowa Department of Public Safety
Division of State Fire Marshal
Flammable Liquids Section
621 East 2nd St.
Des Moines, IA 50309-1831

An additional \$25 late fee is required for tanks not registered within 30 days of being placed in-service. Registration tags will be issued to the tank owner upon receipt of the registration form and fees and must be attached to, or near, the registered tank fill-pipe.

B. Air Emissions Regulations

Throughout the discussion of air emissions regulations certain terms will be used. Some of these are explained here to facilitate understanding of the regulatory requirements:



Fugitive Emissions: emissions that could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening. Fugitive emissions eventually escape the building through doors, windows or roof vents. Leaks from equipment or vents, solvent cleaning without a vent, grain loading/unloading and bulk solid transport on a conveyor belt are examples of situations in which fugitive emissions may exist.

Air Pollutants are divided into two major groups: criteria pollutants and hazardous air pollutants.

1. Criteria air pollutants include sulfur oxides (SO_x), nitrogen oxides (NO_x), particulate matter (PM), particulate matter less than 10 microns in diameter (PM₁₀), carbon monoxide (CO), ozone (regulated as volatile organic compounds (VOCs) and lead (Pb).
2. The 188 hazardous air pollutants (HAPs), also known as air toxics, are listed in Appendix 12. Some of the HAPs (benzene and toluene, for example) are also criteria pollutants and VOCs.

Emission Point: any equipment or process that emits regulated air pollutants to the atmosphere. Examples include grain dryers, silo vents and welding hoods. All industrial and commercial operations may have emission points in areas such as manufacturing, material loading/unloading, fuel combustion, grain drying or equipment and materials cleanup.

Air Pollution Control Equipment: any equipment that prevents or reduces emissions of one or more air pollutant(s) to the atmosphere from an emission point. Examples include baghouses, cyclones, scrubbers or spray booth filters.

Actual Emissions: the amount of emissions emitted based on the actual operating hours, actual operating capacity of equipment or process and actual material consumption. Air pollution control equipment control efficiency should be considered when estimating actual emissions.

Potential Emissions: the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation

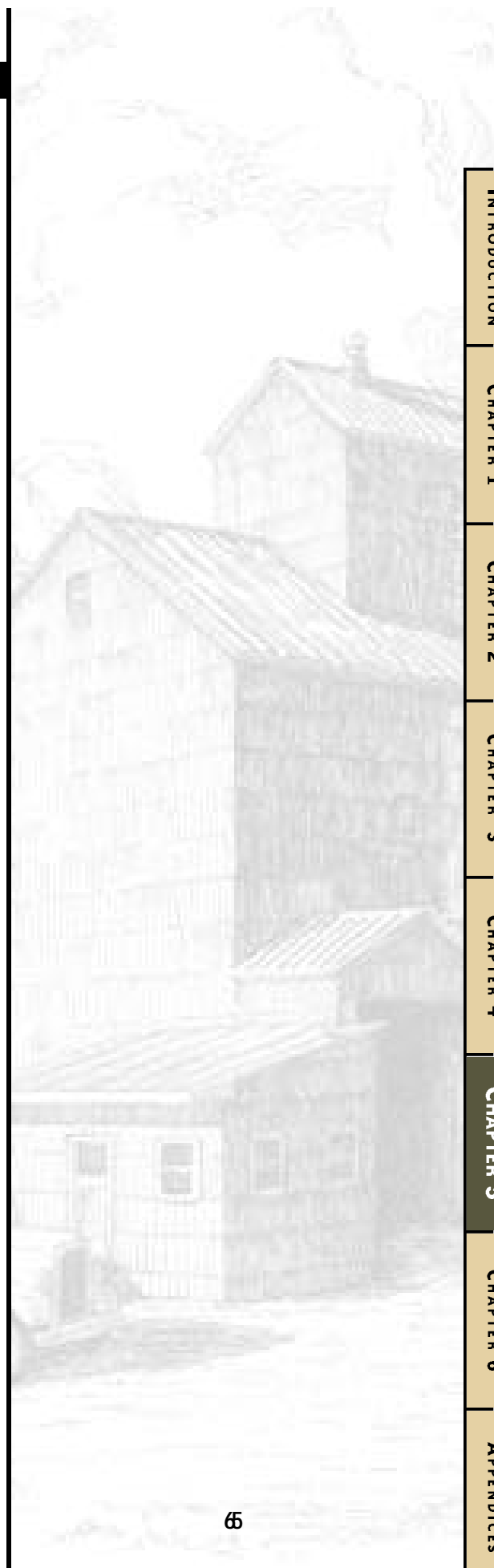
on the capacity of a source to emit an air pollutant (including air pollution control equipment and restriction on hours of operation or on the type or amount of material combusted, stored, or processed) must be treated as part of its design. Potential emissions may not reflect actual emissions or frequency of equipment use.

Emission Factors/Estimates: a formula or number used to determine the quantity of a pollutant emitted from a source. For example, suppose that for every ton of grain unloaded from a silo there were five pounds of grain dust emissions. Then the emission factors for the grain unloading operation are five pounds of particulates per ton of grain unloaded. Emission factors are available from several sources.

Emissions Inventory: an inventory of emissions from all sources of air pollutants within the facility. All emissions, including fugitive source and non-permitted sources, should be included in the inventory. An emissions inventory must indicate actual and potential emissions from the facility as well as the individual emission sources. Generally, the estimation of actual and potential emissions will be based on maximum design capacity, annual throughput and specific emission factors for each emission source. The emissions inventory should also separately show emissions of criteria pollutants and each individual air toxic, if applicable. It is necessary to do a facility-wide emissions inventory to determine what state and federal air regulations apply. Businesses should establish and document air emissions inventories to determine further regulatory requirements, as well as to document compliance.

New Source Review (NSR) or Construction Permits

New Source Review monitors new stationary air pollutant sources through two basic air quality management strategies: ambient air standards and emission limitations. The program involves new source review permits, also known as construction permits in Iowa.



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In general, a construction permit is required for each air emission source that emits to the outside atmosphere regardless of equipment size, facility size or frequency of operation. Available exemptions in Iowa include equipment installed prior to September 23, 1970, provided no modifications have been completed. There are also other sources that are exempt from construction permit requirements (for example, natural gas-fired combustion units used for indirect heating with a maximum capacity of less than 10 million BTUs/hour). Facilities should apply for a construction permit before installing or constructing an air emission source. Facilities operating without a construction permit should use the same application form to apply for an "As built" construction permit.

An approved construction permit never expires unless the source is modified or process changes are made that affect air emissions from a source.

No fee is associated with construction permit application in Iowa. Depending on the emissions, geographic location and stack dimensions, some sources may be required to meet additional requirements (such as air dispersion modeling or stack testing).

Title V (Operating Permit)

Under the 1990 Clean Air Act Amendments (CAAA), all 'major' sources of air pollutants are required to apply for an operating, or Title V, permit. An emissions inventory is necessary to determine whether a source is classified as 'major' or 'nonmajor' as defined in the CAAA.

An emissions inventory is an estimate of emissions from all sources of air pollutants from a facility and must indicate actual and potential emissions as well as the individual emission sources. Generally, the estimation of potential and actual emissions will be based on maximum design capacity, annual throughput and specific emission factors for each source.

Major source thresholds are 100 tons per year of a criteria pollutant, 25 tons per year of a combination of HAPs or 10 tons per year of a single toxic. Actual and potential emissions are used to determine whether or not a facility is a 'major' source and what permitting options are available. In Iowa, the following permitting options are available to 'major' sources.

- Option 1: A Title V Operating Permit is the only option available for 'major' sources with actual and potential emissions greater than the established thresholds.
- Option 2: A Voluntary Operating Permit (VOP) applies to 'major' sources with actual emissions less than the thresholds.
- Option 3: A Small Source Operating Permit (SSOP) is available to 'major' sources with actual emissions less than 50 percent of the thresholds.

A Title V operating permit requires the facility to certify compliance with all other applicable state and federal air emissions regulations. For 'major' sources applying for a Title V permit, an annual fee will be assessed based on actual emissions. Facilities qualifying for a VOP or SSOP are not subject to any fees.

Title V Exemptions Certain country grain elevators are eligible for a simplified Title V applicability determination if they are not regulated under NSPS (see page 66 for a more detailed explanation). This rule is also known as the 1.2 Potential to Emit (PTE) rule for grain elevators. A country grain elevator is any grain elevator that receives more than 50 percent of its grain from individual farms in the vicinity. Grain means corn, wheat, sorghum, rice, rye, oats, barley and soybeans. For the purpose of determining the PTE for a country grain elevator meeting the above criteria, "maximum capacity" is the greatest amount of grain received by the elevator during one year of the previous five-year period, multiplied by an adjustment factor of 1.2. After the maximum capacity is determined, appropriate emission factors can be used to estimate potential emissions and hence Title V applicability. For example, an elevator

handling corn (no feed milling) with an annual throughput of less than 18 million bushels would be considered a 'minor' source. Another example would be an elevator handling soybeans (with feed milling) with an annual throughput of less than 1.7 millions bushels. It would be considered a 'minor' source.

Prevention of Significant Deterioration (PSD)

The EPA has issued Prevention of Significant Deterioration (PSD) rules to prevent air quality degradation in areas that meet National Ambient Air Quality Standards (NAAQS). Attainment areas have air quality that meet NAAQS. Non-attainment areas currently have air quality that does not meet NAAQS. PSD regulations apply only to attainment areas and are applicable in the following three situations.

1. A new 'major' source for the PSD program is 1) any non-listed stationary air source with the potential to emit (PTE) 250 tons per year (TPY) for individual criteria pollutants or 2) a listed stationary air source from the 28 source categories with the PTE 100 TPY or more of any single PSD pollutant. Fugitive emissions are included in the PTE if the source is one of the 28 listed source categories or it is a source for which an NSPS (see page 69) or NESHAP (see page 70) was established prior to August 7, 1980. The only process on the list likely to affect users of this guide involves petroleum storage and transfer units with a total storage capacity exceeding 12,600,000 gallons. Therefore, for nearly all users of this guide, the PSD threshold will be 250 TPY.
2. A major modification is a physical or operational change which results in a significant net emissions increase to a major PSD stationary source, such as the addition of new units, changes to units, changes in operation or increasing permit limited hours or capacity. A list of PSD pollutants and significant net emission threshold levels is included in Appendix 13.

3. Any modification to a 'minor' stationary source that would by itself constitute a major source (for example, a PTE of 100 or 250 TPY) is applicable to PSD regulations.

New Source Performance Standards (NSPS)

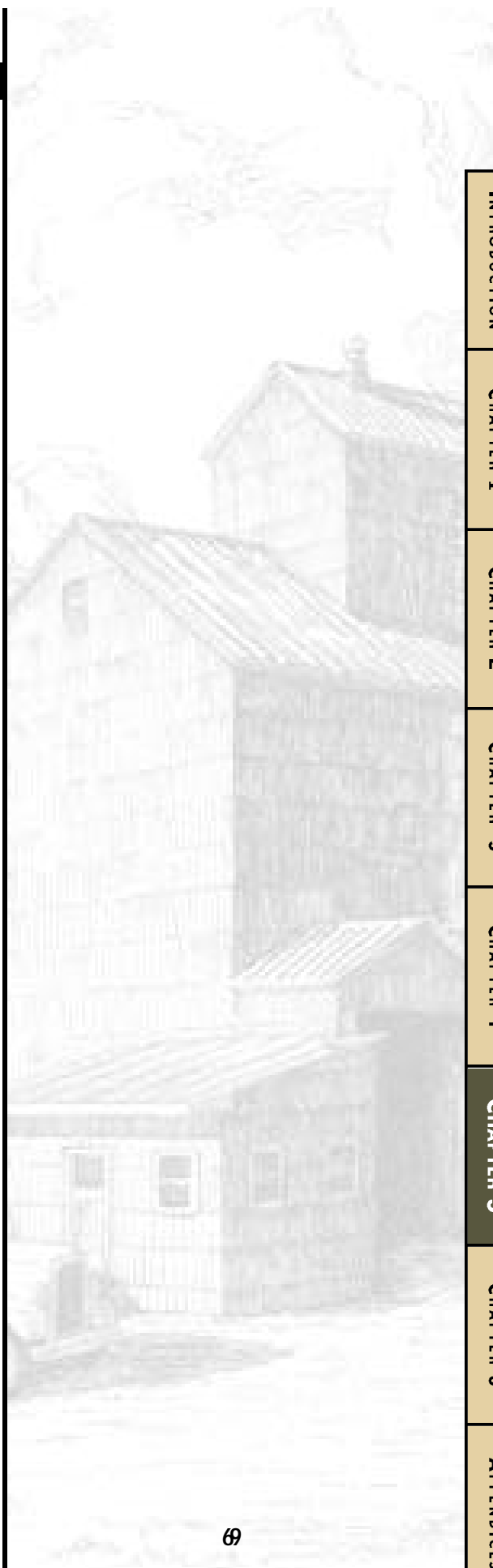
Federal standards of performance for new stationary sources, known as New Source Performance Standards (NSPS), apply to certain industrial processes. States have the option to regulate and enforce these standards. However, if a state chooses not to regulate and enforce NSPSs, EPA regulates and enforces them. For some categories a "new source" includes any source constructed after 1971. Generally, requirements include initial notification, emission tests to demonstrate compliance with performance standards and recordkeeping. Each category of NSPS defines what facilities are subject to it and contains emission limits for specified pollutants, compliance requirements, specific monitoring requirements and applicable test methods and procedures.

Two examples of NSPS-affected sources are 1) petroleum storage vessels constructed between June 11, 1973 and July 23, 1984 with a storage capacity greater than 40,000 gallons, and 2) certain grain elevators constructed after August 3, 1978 with a permanent storage capacity greater than one million bushels.

NSPS eligibility will also affect Title V applicability determination. For example, sources subject to NSPS are required to include fugitive emissions when determining Title V applicability and are not eligible for the 1.2 PTE rule discussed under the Title V Permit requirements on page 65.

National Emission Standard for Hazardous Pollutants (NESHAP)

National Emission Standards for Hazardous Air Pollutants (NESHAPs) are promulgated under the CAAA to regulate 188 hazardous air pollutants listed in the CAAA. No existing NESHAPs or NESHAPs to be promulgated within



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the next seven years appear to regulate the agribusiness industry. A NESHAP, however, may be promulgated in the future that could impact agribusiness. For further information on any NESHAP, please contact the Iowa Waste Reduction Center at (800) 422-3109 or (319) 273-8905.

Risk Management Program 112 (r) Requirements

Section 112(r) of the CAAA requires EPA to establish a program to prevent accidental chemical releases. This regulation communicates potential risks to the public and ensures that facilities have implemented a safety management program to reduce the possibility of a release. The primary tool to accomplish this goal is the Risk Management Plan (RMP). A facility must develop an RMP if they use or store chemical substances identified under section 112(r) at or above specific threshold quantities.

Section 112(r) lists 139 substances and establishes specific thresholds for each. This list contains 63 flammable substances (for example, propylene) with threshold quantities of 10,000 to 67,000 pounds and toxic substances (for example, ammonia) with threshold quantities ranging from 500 to 20,000 pounds. This list of substances and thresholds is included as Appendix 11. If these threshold quantities are exceeded in a single process at any time, 112(r) requirements apply. A process is any activity involving the use, storage, manufacture, handling or on-site movement of any regulated substance. The decision tree in Appendix 14 will help you determine if your facility is regulated by 112(r).

There are three levels of compliance programs for facilities that have a process using a 112(r) regulated substance over the threshold quantity. Program 1 is the easiest to comply with, while Program 3 is the most difficult. Programs 2 and 3 must complete the following requirements and document them in the RMP:

- A hazard assessment.
- A prevention plan.
- An emergency response plan.

Appendix 15 can assist in determining which program is applicable to an agribusiness and lists the specific requirements for each program.

RMP Exemptions and General Duty Clause A facility may be required to comply with some 112(r) requirements even if they do not have any processes that use any of the listed substances above the thresholds. If a facility uses any substance regulated by 112(r), regardless of the volume, they still must comply with the 112(r) general duty clause. A facility complying with the general duty clause is not required to complete an RMP but must:

- Identify hazards.
- Design, maintain and operate a safe facility.
- Minimize the consequences of an accidental release.

The general duty clause does not specify how a business should comply with or document compliance with these requirements. In general, a facility following acceptable industry standards for chemical safety management would be in compliance with the general duty clause. The decision tree in Appendix 14 will assist in 112(r) applicability and program determination. Appendix 15 provides the specific requirements for each program.

C. Hazardous Waste Regulations

The Resource Conservation and Recovery Act (RCRA) regulations are the primary EPA rules governing the management of solid and hazardous waste. These rules are published in Title 40 of the CFR:

- 40 CFR Part 260 - Hazardous Waste Management System
- 40 CFR Part 261 - Identification and Listing of Hazardous Waste
- 40 CFR Part 262 - Standards Applicable to Generators of Hazardous Waste
- 40 CFR Part 263 - Standards Applicable to Transporters of Hazardous Waste
- 40 CFR Part 264 - Standards for Owners/Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities

The following is general hazardous waste information that is applicable to all businesses.

Types of Hazardous Waste

There are four main categories or types of hazardous waste.

Listed Wastes Listed wastes appear on any of four lists of hazardous wastes (F, P, K, U) contained within RCRA regulations.

- F-listed wastes are from nonspecific sources. Five wastes from pesticide manufacturing or use are included (40 CFR 261.31).
- P-listed wastes are acutely hazardous commercial chemical products including many pesticides [40 CFR 261.33 (e)].
- K-listed wastes are from specific sources, with 22 from pesticide manufacturing (40 CFR 261.32).
- U-listed wastes are toxic commercial chemical products, including several commercial pesticides [40 CFR 261.33(f)].

Characteristic Wastes Characteristic wastes have one or more of the following characteristics:

1. Ignitable wastes have a flash point of less than 140° F. They can be liquids, solids, flammable gases or oxidizers.
Examples: kerosene, mineral spirits and petroleum naphtha
2. Corrosive wastes are extremely alkaline (12.5 pH or greater) or extremely acidic (2 pH or less). They will dissolve skin, metals and other materials.
Examples: rust remover, acidic or alkaline cleaning fluids and battery acid
3. Reactive wastes are unstable or undergo rapid or violent chemical reactions when exposed to heat, pressure, water or other materials. Reactions may produce toxic fumes or gases.
Examples: chromic acids, perchlorates and peroxides

4. Toxic wastes contain concentrations of heavy metals (i.e., arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver), solvents and/or pesticides. Toxicity is determined by a test called the Toxicity Characteristic Leaching Procedure (TCLP), which must be conducted by a laboratory.

A listing of the TCLP regulated parameters and their corresponding regulatory limits may be found in Table 5.1. (See page 74)

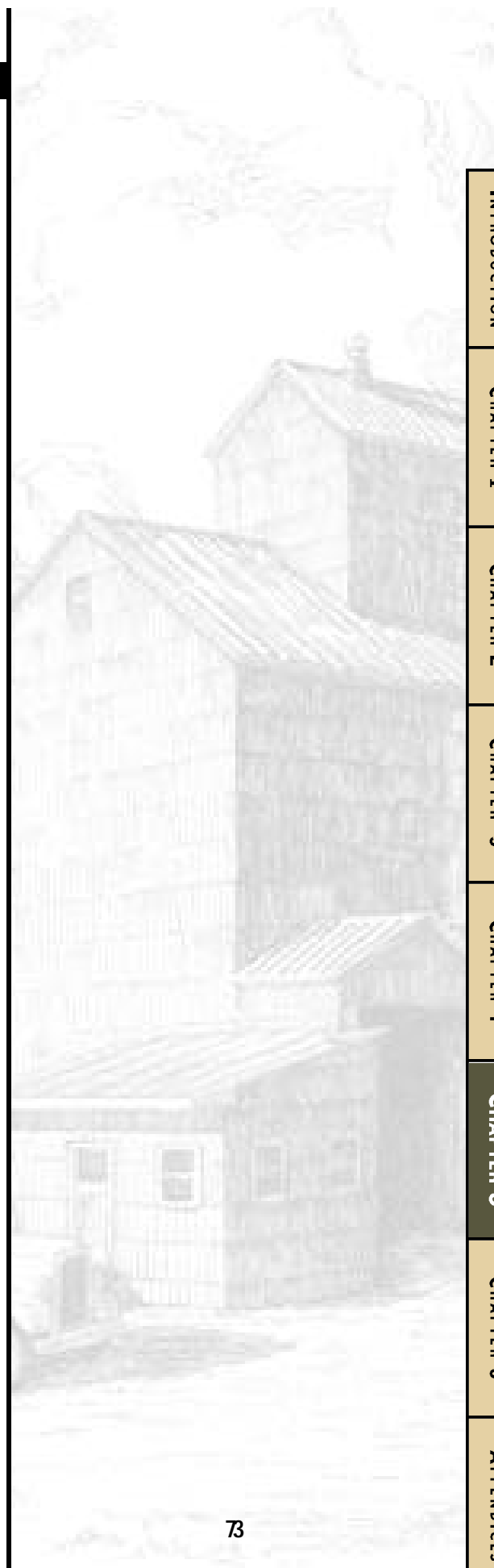
Toxic wastes can cause cancer, kidney damage, birth defects and blood disease.

Examples: many pesticides, used absorbent (such as floor dry), part washer sludge, floor drain sludge, antifreeze, and paint-contaminated wastes such as floor sweepings, masking, paint booth filters, mixing cups, paper towels and cloth rags.

Waste Mixtures Any mixture of listed hazardous waste and nonhazardous wastes in any quantity is considered hazardous. A mixture of characteristic hazardous waste and a nonhazardous waste that, when mixed, still exhibits a characteristic of hazardous waste (ignitability, corrosivity, reactivity or toxicity) is hazardous. Purposely mixing a characteristic hazardous waste with a nonhazardous waste to "eliminate" the hazardous characteristic is illegal.

Acutely Hazardous Wastes These wastes are so toxic that EPA regulates them in very small amounts.

Examples: dioxin-containing wastes and some pesticides



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TABLE 5.1		
TOXICITY CHARACTERISTIC LEACHING PROCEDURE		
Parameter	Regulatory Level (Mg/L)	EPA Hazardous Waste Number
ARSENIC	5.0 MG/L	D004
BARIUM	100.0 MG/L	D005
BENZENE	0.5 MG/L	D018
CADMIUM	1.0 MG/L	D006
CARBON TETRACHLORIDE	0.5 MG/L	D019
CHLORDANE	0.03 MG/L	D020
CHLOROBENZENE	100.0 MG/L	D021
CHLOROFORM	6.0 MG/L	D022
CHROMIUM	5.0 MG/L	D007
M-CRESOL	200.0 MG/L	D024
O-CRESOL	200.0 MG/L	D023
P-CRESOL	200.0 MG/L	D025
CRESOLS (TOTAL)	200.0 MG/L	D026
1,4-DICHLOROBENZENE	7.5 MG/L	D027
1,2-DICHLOROETHANE	0.5 MG/L	D028
1,1-DICHLOROETHYLENE	0.7 MG/L	D029
2,4-DINITROTOLUENE	0.13 MG/L	D030
ENDRIN	0.02 M/L	D012
HEPTACHLOR	0.008 MG/L	D031
HEXACHLOROBENZENE	0.13 MG/L	D032
HEXACHLORO-1,3-BUTADIENE	0.5 MG/L	D033
HEXACHLOROETHANE	3.0 MG/L	D034
LEAD	5.0 MG/L	D008
LINDANE	0.4 MG/L	D013
MERCURY	0.2 MG/L	D009
METHOXYCHLOR	10.0 MG/L	D014
METHYLETHYLKETONE	200.0 MG/L	D035
NITROBENZENE	2.0 MG/L	D036
PENTACHLOROPHENOL	100.0 MG/L	D037
PYRIDINE	5.0 MG/L	D038
SELENIUM	1.0 MG/L	D010
SILVER	5.0 MG/L	D011
TETRACHLOROETHYLENE	0.7 MG/L	D039
TOXAPHENE	0.5 MG/L	D015
TRICHLOROETHYLENE	0.5 MG/L	D040
VINYLCHLORIDE	0.2 MG/L	D043
2,4,-D	10.0 MG/L	D016
2,4,5-TP	1.0 MG/L	D017
2,4,5-TRICHLOROPHENOL	400.0 MG/L	D041
2,4,6-TRICHLOROPHENOL	2.0 MG/L	D042

Making a Hazardous Waste Determination

A business is responsible for determining if its wastes are hazardous or nonhazardous. The Material Safety Data Sheet (MSDS) that accompanies each hazardous material purchased is a resource for reactive, corrosive or ignitable characteristic information. Toxic characteristics are more difficult to determine and require TCLP testing. Mixtures of hazardous wastes can easily be eliminated through management and storage practices (for example, never mix waste materials and keep all wastes in separate storage containers).

One of the following methods can be used to make a toxicity characteristic hazardous waste determination:

1. Toxicity Characteristic Leaching Procedure (TCLP) Laboratory analysis.
2. Thorough knowledge of the process or product. If a raw material or product is hazardous prior to use, it may also be hazardous when spent. TCLP testing is not always required because a business has the option of designating a waste as hazardous and managing it as hazardous waste.

Examples: spent liquid solvent-based paint waste and spent petroleum-based parts wash solvent

Note: If a material is nonhazardous before use and it has been in contact with contaminants such as oil, grease or heavy metals (arsenic, barium, cadmium, chromium, mercury, lead, silver, selenium or any of the other TCLP parameters listed in Table 5.1) it may become hazardous when spent. A TCLP test is required to determine if these types of wastes are hazardous.

Examples: oil-soaked absorbents, floor drain sludge, paint booth filters, paint-contaminated wastes, sump or pit wastes and sludge

Hazardous Waste Generator Categories

The amount of hazardous waste a business generates in a calendar month and stores on site will determine its waste generator category.

Conditionally Exempt Small Quantity Generators (CESQG) generate less than 220 lbs. (about 25 gallons) of hazardous waste and no more than 2.2 pounds of acutely hazardous waste per month. CESQGs must never store more than 2,200 pounds of hazardous waste at one time.

Small Quantity Generators (SQG) generate between 220 pounds and 2,200 pounds (more than 25 gallons but less than 250 gallons) of hazardous waste and no more than 2.2 pounds of acutely hazardous waste per month. SQGs must never store more than 13,200 pounds of hazardous waste.

Large Quantity Generators (LQG) generate 2,200 pounds (about 250 gallons) or more of hazardous waste or 2.2 pounds or more of acutely hazardous waste per month, or store more than 13,200 pounds of hazardous waste at any given time.

Table 5.2 on page 80 is a summary of RCRA hazardous waste requirements.

The following wastes should be included when determining your hazardous waste generator category:

- All listed and characteristics wastes as previously described.
- Waste mixtures that are hazardous (liquid mixtures, shop rags, floor absorbent, paint-contaminated wastes, etc., unless TCLP testing has proven them to be nonhazardous).

Do not include wastes that are exempt from hazardous waste regulations such as:

- Used oil that is being recycled.
- Lead-acid batteries that are being sent off site for reclamation.

- Containers that are considered empty.
Example: less than one inch of residue in a 55-gallon container or 3 percent by weight.

Handling, Storage and Disposal Requirements - Hazardous Wastes

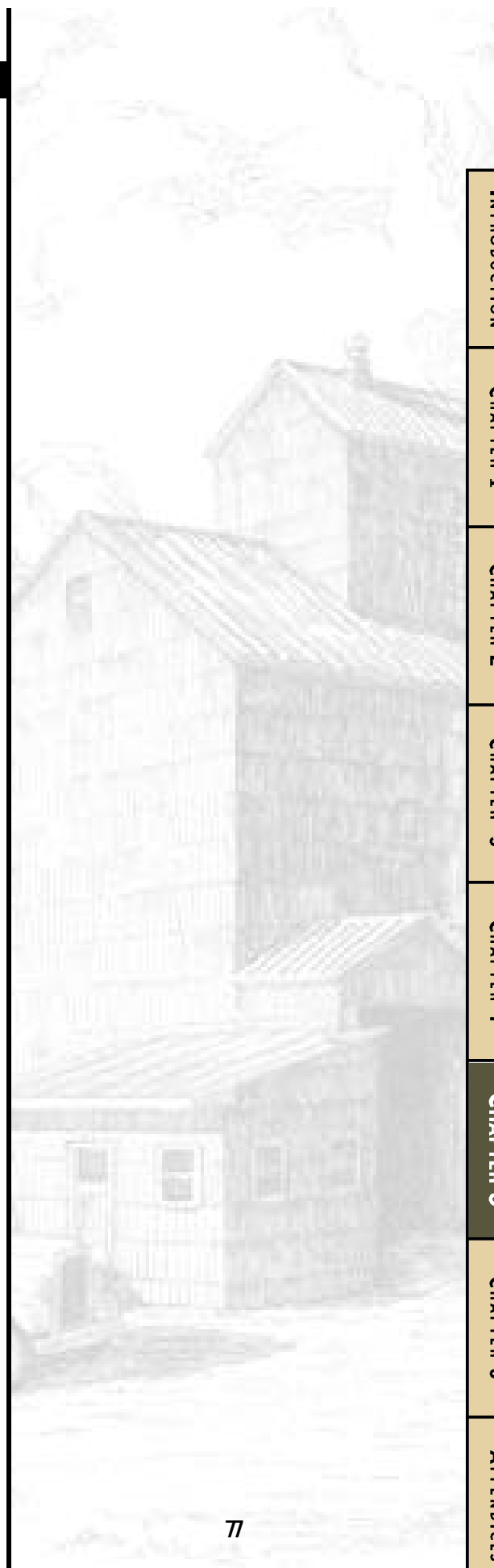
Handling and Storage On site All hazardous waste generators, regardless of category designation, have "cradle-to-grave liability" (remain legally responsible) for the final treatment and/or disposal of wastes generated as a result of business activities. Prior to recycling and/or disposal of hazardous wastes, all business must comply with labeling, handling and storage requirements, such as the following:

- Store hazardous wastes in leak-proof containers that are compatible with the materials being stored.
- Keep containers closed at all times, except for periodic additions of wastes.
- Label containers as "Hazardous Waste" and indicate the contents of the container.
- Containers can be kept in permanent storage and/or satellite storage areas (discussed below). Waste containers kept in a permanent storage area must be dated when the first drop of hazardous waste is put in the container if the facility is a SQG or LQG. Do not store hazardous wastes longer than your generator category allows. Categories and their specific requirements are found in Table 5.2 on page 80.

In general, individual waste "types" are best kept separate to facilitate easier recycling or disposal.

Satellite Accumulation - Hazardous Wastes Satellite accumulation is a regulatory provision that allows a generator to accumulate a hazardous waste stream, which may be generated at a relatively slow rate, without having the regulatory accumulation time begin until an amount has been accumulated that is reasonable for packaging and shipping.

The accumulation must be in a container at or near the point of generation and must be under the control of the operator of the process that is generating the waste. The container must be in good condition and must be kept



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closed except when it is necessary to add or remove wastes. The container must also be labeled "Hazardous Waste - Satellite Storage."

When the maximum amount of waste allowable under this provision (55 gallons of hazardous waste or one quart of acutely hazardous waste) is accumulated, the container must immediately be marked with the date the maximum amount was reached. The waste is now subject to the generator accumulation time limits. The container must be moved to the permanent storage area within three days, including weekends.

Hazardous Waste Disposal

Hazardous Waste Manifest and Land Disposal

Restrictions A hazardous waste manifest and land disposal restriction (LDR) form must accompany every hazardous waste shipment. These documents track the waste as it is shipped from the point of generation to the final destination. While the transportation company will generally supply and prepare this paperwork, it is the generator's responsibility to assure it is correct and that it accompanies the shipment. Each party that handles the waste (the generator, transporter and disposal facility) must sign the document and keep a copy. When the waste reaches its final destination, the original copy of the manifest, which should be signed by all parties, must be returned to the generator within 60 days. The generator should keep this paperwork on file for at least five years.

The discarding of pesticides, residues and rinsates is usually regulated under RCRA. However, disposal requirements for empty containers are mandated by EPA under the Federal Insecticide, Fungicide, Rodenticide Act (FIFRA). FIFRA is discussed beginning on page 103.

Many RCRA wastes fall under the LDR. Land disposal is defined as (but not limited to): landfills, waste piles, injection wells, land treatment facilities, salt domes or salt bed formations, underground mines or caves and concrete vaults or bunkers intended for disposal purposes.

Most listed (F, P, K and U) wastes have been assigned specific treatment standards by EPA and are restricted from land disposal unless designated treatment standards are met. Characteristic hazardous wastes, including metal- or pesticide-containing wastes are subject to the LDR and must be treated before disposal. Typically the waste management company and/or disposal facility will provide the waste generator with an LDR or "land ban" form to complete and sign to fulfill notification requirements. The generator should keep a copy of this form with the manifest copy.

A list of hazardous waste management companies is included in Appendix 4. Wastes which test hazardous must be stored in sealed and labeled containers and included in the facility's hazardous waste inventory used to determine the applicable generator category.

Transportation of hazardous materials is also covered under U.S. Department of Transportation (DOT) regulations. These rules are beyond the scope of this *Handbook* and will not be covered. To obtain information about specific DOT requirements contact Captain Tom Sever of Department of Motor Vehicle Compliance at (515) 237-3278 or by e-mail at tsever@max.state.ia.us. Information is also available on the Department's web site at <http://www.state.ia.us/government/dot/mvd/omve/index.htm>.

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TABLE 5.2

FEDERAL RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) WASTE GENERATOR CATEGORIES AND CORRESPONDING REGULATORY REQUIREMENTS- MARCH 1998

FEDERAL REGULATION	LOG= 2,200 LBS. HW OR 2.2 AHW PER MONTH	LOG= 2,200 LBS. HW OR 2.2 AHW PER MONTH	LOG= 2,200 LBS. HW OR 2.2 AHW PER MONTH
HW DETERMINATION AND IDENTIFICATION	IDENTIFY ALL HW ONSITE RECORD LBS. GENERATED PERMONTH RECORD MAXIMUMAMOUNT STORED	IDENTIFY ALL HW ONSITE RECORD LBS. GENERATED PERMONTH RECORD MAXIMUMAMOUNT STORED	IDENTIFY ALL HW ONSITE RECORD LBS. GENERATED PERMONTH RECORD MAXIMUMAMOUNT STORED
EPA ID NUMBER	REQUIRED	REQUIRED	NOT REQUIRED RECOMMENDED FORRECORDKEEPING
HW ACCUMULATION QUANTITY	UNLIMITEDQUANTITY	NEVERMORE THAN 13,200 LBS.	NEVERMORE THAN 2,200 LBS.
SATELLITE ACCUMULATION	NO MORE THAN 55 GALSOF HW OR 1 QT OF AHW	NO MORE THAN 55 GALSOF HW OR 1 QT OF AHW	NO MORE THAN 55 GALSOF HW OR 1 QT OF AHW
STORAGE CONTAINER REQUIREMENTS	COMPATIBLE WITH HW STORED CLOSEDUNLESS TO ADD/REMOVE HW HANDLED TO AVOID DAMAGE STORED 50 FT FROMPROPERTY LINEIFHOLD IGNITABLE ORREACTIVE WASTES STOREDSEPARATELY IF HW INCOMPATIBLE STORED FOLLOWING EPA CONTAINER STANDARDSIF >100 CONTAINERSUSED	COMPATIBLE WITH HW STORED CLOSEDUNLESS TO ADD/REMOVE HW HANDLED TO AVOID DAMAGE	COMPATIBLE WITH HW STORED CLOSEDUNLESS TO ADD/REMOVE HW HANDLED TO AVOID DAMAGE
CONTAINER LABELING	RCRA HW & DATED DOT LABELS	RCRA HW & DATED DOT LABELS	RCRA HW & DATED DOT LABELS
INSPECTIONS	STORAGE AREASWEEKLY TANKS DAILY FACILITY FOR HW SPILLS PREVENTION/DETECTIONEQUIPMENT	STORAGE AREASWEEKLY TANKS DAILY FACILITY FOR HW SPILLS PREVENTION/DETECTIONEQUIPMENT	STORAGE AREASWEEKLY TANKS DAILY FACILITY FOR HW SPILLS PREVENTION/DETECTIONEQUIPMENT
TRANSPORT WASTES	FOLLOW DOT REGULATIONS FOR PACKAGING, LABELING, MARKING AND PLACARDING USEREGULATED HW FACILITY USE HW MANIFEST FILE EXCEPTIONREPORTS SHIP/RECYCLE WITHIN 90 DAYS	FOLLOW DOT REGULATIONS FOR PACKAGING, LABELING, MARKING AND PLACARDING USEREGULATED HW FACILITY USE HW MANIFEST LETTER OFEXCEPTION TO EPA SHIP/RECYCLE WITHIN 180 (270 DAYS)	FOLLOW DOT REGULATIONS FOR PACKAGING, LABELING, MARKING AND PLACARDING USEREGULATED HW FACILITY USE HW MANIFEST LETTER OFEXCEPTION TO EPA SHIP/RECYCLE WITHIN 180 (270 DAYS)
WASTE MINIMIZATION	WASTE MINIMIZATIONPROGRAMINPLACE COMPLETE BIENNIAL REPORTS	WASTE MINIMIZATIONPROGRAMINPLACE COMPLETE ANNUAL REPORTS	WASTE MINIMIZATIONPROGRAMINPLACE COMPLETE ANNUAL REPORTS
TRAINING	EACHEMPLOYEEWHO HANDLES HW MUSTBE TRAINEDIN: REGULATORY COMPLIANCE EMERGENCYRESPONSE EMERGENCYEQUIPMENT	EACHEMPLOYEEWHO HANDLES HW MUST BETRAINEDIN: REGULATORY COMPLIANCE EMERGENCYRESPONSE EMERGENCYEQUIPMENT	EACHEMPL OYEEWHO HANDLES HW MUST BETRAINEDIN: REGULATORY COMPLIANCE EMERGENCYRESPONSE EMERGENCYEQUIPMENT
EMERGENCY RESPONSE	CONTINGENCYPLAN PREPAREDNESS/PREVENTIONREQUIRED INCIDENT REPORTS TO EPA EMERGENCYPROCEDURES	PREPAREDNESS/PREVENTIONREQUIRED EMERGENCYPROCEDURES	PREPAREDNESS/PREVENTIONREQUIRED EMERGENCYPROCEDURES
REPORTING	EXCEPTIONREPORTSWITHIN 45 DAYS (IF MANIFESTNOT RECEIVED FROM TSD) QUARTERLY REPORTSWITHIN 45 DAYS EXPANDED 4TH QUARTERREPORT	EXCEPTIONREPORTSWITHIN 60 DAYS (IF MANIFESTNOT RECEIVED FROM TSD) ANNUAL REPORT	EXCEPTIONREPORTSWITHIN 60 DAYS (IF MANIFESTNOT RECEIVED FROM TSD) ANNUAL REPORT
RECORDKEEPING	MANIFEST & LDR FOR 5 YEARS EXCEPTIONREPORTS FOR 3 YEARS TESTRESULTS /SAMPLES ANALYSES FOR 3 YEARS TRAININGDOCUMENTATION INSPECTION LOGS BIENNIAL REPORTS LAND DISPOSAL RESTRICTION	MANIFEST & LDR FOR 5 YEARS EXCEPTIONREPORTS FOR 3 YEARS TESTRESULTS /SAMPLES ANALYSES FOR 3 YEARS TRAININGDOCUMENTATION INSPECTION LOGS LAND DISPOSAL RESTRICTION	MANIFEST & LDR FOR 5 YEARS EXCEPTIONREPORTS FOR 3 YEARS TESTRESULTS /SAMPLES ANALYSES FOR 3 YEARS TRAININGDOCUMENTATION INSPECTION LOGS LAND DISPOSAL RESTRICTION

CESQG - CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR
 SQG - SMALL QUANTITY GENERATOR
 LQG - LARGE QUANTITY GENERATOR
 AHW - ACUTELY HAZARDOUS WASTE
 HW - HAZARDOUS WASTE

RCRA - RESOURCE CONSERVATION AND RECOVERY ACT
 TSD - TREATMENT, STORAGE AND DISPOSAL FACILITY
 P2 - POLLUTION PREVENTION
 LDR - LAND DISPOSAL RESTRICTION
 SW - SOLID WASTE

D. Solid Waste Regulations

Nonhazardous solid waste disposal is regulated by the IDNR. Landfill disposal of potentially toxic waste requires IDNR approval in the form of a Special Waste Authorization (SWA). An SWA is obtained through laboratory testing using the TCLP methodology. Appendix 16 contains the SWA application form. Analytical laboratories that can perform TCLP tests are listed in Appendix 3.

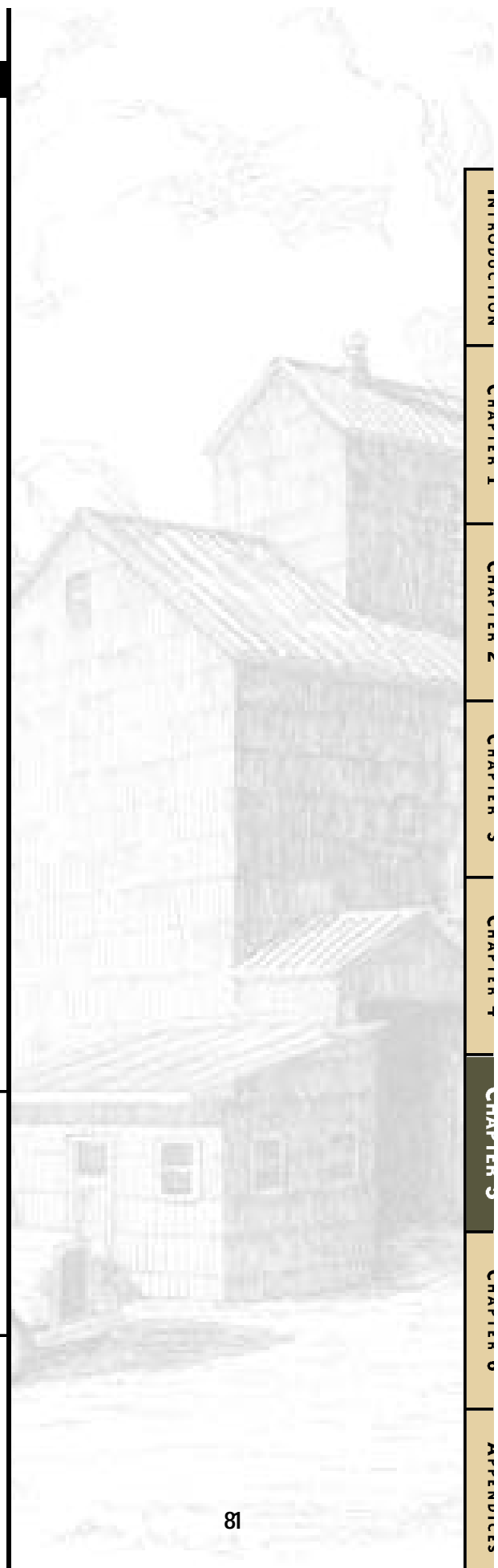
The IDNR requires a Special Waste Authorization (SWA) for landfill disposal of commercial or industrial non-hazardous solid wastes. Potential sources of non-hazardous solid wastes include paint booth exhaust filters, sump sludge, oily wastes and spent sandblast media. A copy of an SWA application is provided in Appendix 16. An SWA may be issued for a period of up to three years and the holder should apply for renewal 30 days in advance of the expiration date. An SWA application should be completed and submitted to the IDNR with a copy of the TCLP test results for the wastes requiring disposal. It is also advisable to contact landfill authorities to insure the landfill will accept the waste and to determine if any special packaging, sampling or handling requirements will be necessary. According to Iowa law, if a landfill will not accept a waste it must provide you with an alternative sanitary landfill site.

SWA Test Parameters

1. Toxic Characteristic Leaching Procedure: Eight Heavy Metals

<u>TCLP Parameter</u>	<u>Regulatory Level</u>
Arsenic	5.0 mg/l
Barium	100.0 mg/l
Cadmium	1.0 mg/l
Chromium	5.0 mg/l
Lead	5.0 mg/l
Mercury	0.2 mg/l
Selenium	1.0 mg/l
Silver	5.0 mg/l

2. Other TCLP contaminants may be found; you must test for those as well. Please review the complete list of TCLP parameters found in Table 5.1 on page 74.



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3. If a virgin material is being landfilled, a MSDS may be substituted for the TCLP test if it contains adequate information confirming that the waste is not hazardous.
4. The initial pH of the waste must be between 2 and 12.5.
5. A paint filter liquid test is a pass/fail test to determine if there are any free liquids in the waste material. If there are no free liquids, the material passes the test.

If the laboratory data show applicable TCLP parameter concentrations less than the limits listed previously in Table 5.1 and no free liquids are present, then the waste may be sent to a sanitary landfill provided an approved SWA is obtained.

If any parameter exceeds its regulatory limit, the waste is hazardous and off-site disposal by an EPA-permitted hazardous waste management company is necessary.

E. Underground Storage Tanks

The purpose of the Underground Storage Tank (UST) regulations is to protect public health and safety and natural resources. A UST is any one tank or combination of tanks that has 10 percent or more of its volume below ground level. A UST system includes any underground piping, ancillary equipment and containment systems that are attached to the tank. For the purposes of this manual, the term UST will refer to tanks containing petroleum, petroleum-based products or liquid hazardous substances.

Storage devices commonly found at agribusinesses that are not considered USTs include the following:

- Farm or residential tanks storing 1,100 gallons or less of motor fuel that have existed prior to July 1, 1987.
- Tanks storing heating oil for consumptive use at the same site.
- Septic tanks.
- Pipeline facilities.
- Surface impoundment, pit, pond or lagoon.
- Storm water or wastewater collection system.
- Flow-through process tanks.
- Tanks in underground areas (i.e., basement) if the tanks are on or above the floor.

USTs that are excluded from UST regulations include:

- USTs holding hazardous waste.
- Wastewater treatment tanks regulated by the Clean Water Act.
- Hydraulic lift tanks.
- Electrical equipment tanks.
- USTs with capacities less than 110 gallons.
- Emergency spill or overflow tanks that are emptied after use.

All USTs must be registered with the IDNR. Registration tags issued by the IDNR must be affixed to the UST fill pipe. Tanks without tags are not to be filled.

Requirements for USTs

All existing and new USTs and underground piping must be upgraded by installing leak detection, corrosion protection and spill/overflow prevention or be removed from service and closed. Requirements for upgraded or new tanks include:

Leak Detection Leak detection equipment should include the following:

- Automatic tank gauging able to detect a 0.2 gallon leak rate.
- Vapor monitoring able to detect any significant increase in regulated substance vapors or tracer compounds in the UST. Vapor monitoring equipment must be installed if the stored substance is sufficiently volatile to release vapors.
- Groundwater monitoring measurements should be taken at least 20 feet below ground surface level. Manual or continuous monitoring methods should allow for a detection of at least 1/8 inch of product on top of groundwater.
- Interstitial monitoring on double-walled UST systems must be able to detect leaks through the inner wall.
- Automatic line leak detectors should be able to detect leaks of three gallons/hour at 10 pounds/inch² line pressure within one hour.

- Line tightness testing should be able to detect a 0.1 gallon per hour leak at 1.5 times the operating pressure.
- Tank tightness testing should be able to detect a 0.1 gallon/hour leak in portions of the tank that routinely contain product.
- Inventory control equipment must be able to detect a release of at least 1 percent of monthly flow-through plus 130 gallons and be capable of measuring the level of stored product to nearest 1/8 inch over full range of tank heights.

Corrosion Protection Corrosion protection applies only to steel tanks. Corrosion protection can consist of an interior lining and/or cathodic protection.

Cathodic protection systems must be tested within six months of installation or repair and every three years thereafter. Impressed current cathodic protection systems must also be inspected every 60 days to ensure proper function. Records for operation and maintenance must include the results from the last two system tests and the last three inspection records for impressed current systems.

Spill/Overfill Control The UST owner or operator must ensure that adequate volume capacity is available in the tank for the amount of product being delivered. The transfer operation must be monitored constantly and any spill or overfill must be reported, investigated and cleaned up according to protocol discussed in Release Reporting and Investigation on page 85.

Overfill prevention equipment must automatically shut off flow to the tank when it is 95 percent full or alert the transfer operator when the tank is 90 percent full by restricting flow or triggering an audible alarm.

Spill prevention equipment must prevent the release or spill of the stored product when a transfer hose is detached.

UST Repairs All repairs must be conducted in accordance with the code of practice from a national association or independent testing lab. Fiberglass reinforced plastic

tank repairs may be made by a manufacturer's authorized representative or in accordance with a code of practice. Metal pipe and fittings that have released product must be replaced. Fiberglass pipes and fittings may be repaired.

Repaired tank systems must be tightness tested within 30 days of repair unless the tank is internally inspected according to code of practice and the repaired portion is monitored monthly by automatic tank gauging, vapor monitoring, groundwater monitoring or interstitial monitoring.

Records must be kept to document compliance with these requirements.

Release Reporting and Investigation For a suspected release, the conditions listed below require reporting to the IDNR with 24 hours of a release or spill [(515)281-4367 or fax (515)281- 8895)] or within six hours if a hazardous condition exists (515)281-8694. Release investigation is also required.

1. The discovery of released product at the UST site or in the surrounding area.
2. Any unusual operating conditions, unless due solely to defective equipment.
3. Any leak detected by a monitoring method, unless:
 - The monitoring device is defective and replaced and additional monitoring does not confirm leak.
 - A second month of data from inventory control information does not confirm that a release occurred.

Release investigation must begin within seven days of a spill or release and include the following steps:

1. A UST system tightness test must be conducted to determine whether a leak exists.
 - If the test indicates a leak, then the UST system must be replaced, repaired or upgraded and corrective action must begin.
 - If the test does not indicate a leak, but environmental contamination is present, then there must be a site check.

- If the test does not indicate a leak and environmental contamination is not present, then no further action is required.
2. A site check must test for a release in the area where contamination is most likely to be present.
 - If a site check indicates a release has occurred, then corrective action must begin.
 - If a site check indicates that no release has occurred, then no further action is required.

Spills and overfills must be immediately contained, cleaned up and reported to the IDNR within 24 hours of the spill/overflow or within six hours if a hazardous condition exists.

Contact the IDNR at (515) 281-4367 [fax (515) 281-8895]. The following conditions must be reported and cleaned up:

1. Any spill or overflow of petroleum that exceeds 25 gallons.
2. Spills or overfills of less than 25 gallons must be reported only when the cleanup cannot be accomplished within 24 hours.
3. Any spill or overflow of a hazardous substance that exceeds a reportable quantity. This must also be reported immediately to the National Response Center at (800) 424-8802.

Upon confirmation of a release, the following response activities and corrective action must be performed within 24 hours:

1. The release must be reported to IDNR.
2. Immediate action must be taken to prevent any further release.
3. Fire, explosion and vapor hazards must be identified and reduced, if possible.

Additional corrective action will be determined in conjunction with the IDNR.

Closure

Temporary Closure: During a temporary closure, operation and maintenance of corrosion protection must be maintained and release detection must continue, unless the UST is empty. The UST is considered empty if no more than one inch of residue (or 0.3 percent by weight of total tank capacity) remains in the tank.

When a UST is temporarily closed for three months or more, vent lines must be left open and functioning and all other lines, pumps, manways and ancillary equipment must be capped and secured. USTs closed for more than 12 months must be permanently closed unless they meet standards for new UST systems.

Permanent Closure: The IDNR must be notified 30 days prior to beginning closure by calling (515) 281-4367. When permanently closing a UST, the following actions must be performed:

- All liquids and accumulated sludge must be removed.
- USTs must be removed from the ground or filled with an inert material.
- An assessment for contamination where it is most likely to be present must be conducted. (The assessment requirement is satisfied if vapor monitoring or ground-water monitoring wells are in place and no release has been detected.) If contamination is discovered, then corrective action must begin.

IDNR can require USTs closed before December 22, 1988 to undergo a site assessment.

Records to document compliance with closure requirements must be kept by the following persons considered responsible:

- Owners or operators who closed the UST.
- Current owners/operators of site.

If they cannot be maintained at the closed facility, records should be mailed to:

Iowa Department of Natural Resources (IDNR)
Underground Storage Tanks Section
900 East Grand Avenue,
Des Moines, Iowa 50319-0034

General Reporting and Recordkeeping

Reporting to the IDNR includes:

1. Notification of all UST systems, including certification of installation for new UST systems.
2. Reports of all releases, including suspected releases, spills/overfills and confirmed releases.
3. Corrective action plans.
4. Notification before permanent closure.

Recordkeeping includes:

1. Records to document corrosion protection equipment.
2. UST system repair records.
3. Site inspection records for permanent closure.
4. Compliance with release detection records:
 - Results of any sample testing or monitoring for one year.
 - Results of tank tightness testing until next test is conducted.
 - Calibration, maintenance and repair records for release detection equipment at the site.

E. Emergency Planning and Community-Right-to-Know Reporting

The Emergency Planning and Community and Right-to-Know Act (as known as SARA Title III or EPCRA) establishes requirements for emergency planning and hazardous chemical reporting.

EPCRA contains four major components aimed at informing EPA, state and local officials and the public about chemicals that are produced, used, stored or released at or from local businesses. These reporting requirements include:

- Section 302 & 303: Emergency Planning and Notification
- Section 304: Emergency Release Notification

- Section 311 & 312: Community Right-To-Know Reporting
- Section 313: Toxic Chemical Release Inventory Reporting

A flow chart is included at the end of this chapter as Table 5.3 to assist agribusiness in determining which EPCRA requirements apply to their facility. Also included as Table 5.4 is the List of Common Chemicals that are subject to EPCRA. The chemicals are ones that are used by agribusinesses and is only a partial list of chemicals regulated by EPCRA. The list is arranged by Chemical Abstract System (CAS) number. The Consolidated Chemical List identifies these chemicals and their reporting thresholds. The list can be obtained by calling the Iowa Waste Reduction Center (IWRC) at (319) 273-8905 or (800) 422-3109 or by downloading it from the Internet at www.epa.gov/ncepihom/index.html.

Section 302 - Emergency Planning Notification (40 CFR 355)

Section 302 details local and state requirements for emergency planning and stipulates that members of state and local emergency planning committees represent the varied interests of the community. The State Emergency Response Committee (SERC) and the Local Emergency Response Committee (LEPC) must prepare plans to deal with local, regional and state emergencies. Extremely hazardous substances (EHSs) and their established threshold planning quantities (TPQ) are included in Section 302 (b)(1) with specific TPQs.

It is the responsibility of a facility to notify the local emergency response committee and state emergency response committee within 60 days when it has an EHS over the threshold planning quantity.

Section 304 - Emergency Notification (40 CFR 355)

Section 304 provides the requirements and means to report the spill or release of a hazardous chemical or waste to the applicable local and state response agencies. Notification is also required for the release of a hazardous substance that is

continuous and stable in quantity and rate under normal operation (also known as Continuous Release Reporting). Chemicals regulated by the Comprehensive Environmental Responsibility, Compensation and Liability Act (CERCLA) are listed in 40 CFR 302.4 and EHSs are listed in 40 CFR 355. The Consolidated Chemical List identifies these chemicals and their reporting thresholds. The list can be obtained by calling the Iowa Waste Reduction Center (IWRC) at (319) 273-8905 or (800) 422-3109 or by downloading it from the Internet at www.epa.gov/ncepi-hom/index.html.

Spills or releases of chemicals into the environment must be reported if:

- The chemical(s) is listed in the columns titled Section 304 - EHS RQ or CERCLA RQ of the Consolidated Chemical List and,
- The quantity of the chemical released exceeds the reportable quantity (RQ) for that chemical.

Any questions about reporting a release should be directed to Kathleen Lee at the IDNR at (515) 281-8793 or the Iowa Waste Reduction Center at (319) 273-8905 or (800) 422-3109.

Reporting a Spill or Release If the amount of listed chemical in the release exceeds its RQ as found in the Consolidated Chemical List, the following information must be gathered and reported through initial telephone contacts and must be completed within 15 minutes of the discovery of the release.

1. The chemical name, whether it was listed as an EHS or CERCLA chemical and quantity released.
2. Time and duration of release.
3. Whether the release occurred into the air, water and/or land.
4. Health affects and advice regarding medical attention for exposed individuals.
5. Precautions and cleanup actions taken.
6. Name and telephone number of contact person.

To report a release of a CERCLA-regulated substance notify:

- The National Response Center (NRC) at (800) 424-8802.
- The State Emergency Response Commission (SERC) at the IDNR at (515) 281-8694.
- The Local Planning Committee (LEPC). To determine your LEPC, contact the Iowa Division of Energy Management at (515) 281-3231.

To report a release of an EHS, notify:

- The State Emergency Response Commission (SERC) at the IDNR at (515)281-8694.
- The Local Planning Committee (LEPC). To determine your LEPC, contact the Iowa Division of Energy Management at (515) 281-3231.

After reporting a release, written notification, including an updated summary of the initial telephone report, must be provided within 14 days to the LEPC and to the SERC/IDNR at the address listed below.

IDNR Records Department
900 East Grand Avenue
Des Moines, IA 50319

Continuous Release Reporting Special reduced reporting exists for releases that exceed the established RQ but are continuous and stable in quantity and rate. It is important to establish that the release meets the definition of "continuous" and "stable in quantity and rate."

"Continuous" is defined as a release occurring without interruption or abatement or that is routine (occurs during normal operating procedures), anticipated, intermittent and incidental to normal operations. "Stable in quantity and rate" describes a release that is predictable and regular in amount and rate of emission. Examples include the release of a hazardous substance from a tank vent each time the tank is filled (intermittent), the release of radon from a stockpile (continuous) or the release of benzene during the production of polymers (process).

The same RQs established for spills exist for continuous releases of hazardous substances.

To report a continuous release of a hazardous substance, a facility should:

1. Establish that the release is continuous and stable in quantity and rate.
2. Determine if it is a CERCLA- or EHS-regulated substance and confirm that the RQ is exceeded on a 24-hour basis. If CERCLA-regulated, the NRC, the SERC and LEPC must be contacted by telephone. For EHS-regulated substances, only the SERC and LEPC need to be contacted.
3. Provide the following information:
 - Identify the release as a continuous release under CERCLA Section 303 (f)(2) or as an EHS under Section 302 (b)(1). Be clear that this is a continuous release and not an episodic report (spill). For CERCLA-regulated releases, the NRC will assign a CR-ERNS number that will be used to identify the facility in the CR-ERNS database. For EHSs, the NRC need not be notified and the SERC and LEPC will assign an number from its own numbering system.
 - Identify the name and location of the facility responsible for the release and provide the corporate affiliation and address.
 - Identify each hazardous substance released.
 - Provide the name and telephone number of the person in charge of the facility.

A written report must be submitted within 30 days of the initial telephone contact. If the release is regulated by CERCLA, the report must be submitted to the SERC, LEPC and the EPA Regional Office. For releases of EHSs, reports need to be submitted only to the SERC and LEPC. The information required within the written report is summarized in the EPA document "Reporting Requirements for Continuous Releases of Hazardous Substances" (EPA 540-R-97-047). This document is available from the RCRA/Superfund/EPCRA Hotline at (800) 424-9346.

An electronic copy is available from <http://www.epa.gov/ncepihom/index.html>.

Continuous releases of CERCLA hazardous substances only must submit a follow-up report to the EPA Regional Office one year after the release. This is a one-time report and must be submitted within 30 days after the one year anniversary of the initial continuous release report. The information to be included in the report is the same as the initial report above.

All other continuous release reporting must be done each year via an additional notification or by using EPCRA forms. Contact the Iowa Waste Reduction Center at (319) 273-8905 or (800)-422-3109 or Kathleen Lee at the IDNR Division of Emergency Management at (515) 281-8793.

Sections 311 and 312 - Community Right-to-Know (40 CFR 370)

Section 311 Section 311 mandates a one-time submission (with periodic updates) of chemical hazard information to local and state response agencies for chemicals stored on site in quantities greater than established thresholds.

Facilities must submit copies of MSDSs or a list of hazardous chemicals to the SERC, LEPC and local fire department for:

1. Any EHS listed in the column titled Sec. 302 (EHS) - TPQ in the Consolidated Chemical List if ever present at the facility in quantities greater than 500 pounds or the threshold planning quantity (TPQ), whichever is lower.
2. All other hazardous chemicals present in quantities greater than 10,000 pounds.

A hazardous chemical is any material for which the Occupational Health and Safety Administration (OSHA) requires a MSDS to be maintained at the workplace. You may wish to review a more complete definition of "hazardous" in the Resources Conservation and Recovery Act overview on pages 72-76.

The five exemptions from EPCRA Section 311 reporting requirements are:

1. Food additives regulated by the Food and Drug Administration.
2. A solid (such as steel) that does not present a hazard under normal conditions. The solid is included, however, if it is used in a manner (cutting, welding, grinding, etc) that creates exposure to hazards.
3. A substance used for personal, family or household purposes or a material used by a business that is in the same form and concentration (packaged for home use) as a material sold to the general public.
4. Substances used in research labs, hospitals or medical facilities under the direct supervision of a technically qualified individual.
5. Any substance used in routine agricultural operations or any fertilizer held for sale by a retailer.

Note: If an EHS exceeds its TPQ, but is used for routine agricultural operations or is included in a fertilizer held for sale by a retailer, it is exempt from reporting under Section 311 but must be reported under Section 302.

If a list of chemicals is submitted, each reportable chemical must be placed in one of the following categories:

- Immediate/acute health hazard (toxic or irritant).
- Delayed/chronic health hazard (carcinogenic).
- Fire hazard.
- Pressure hazard.
- Reactive hazardous.

An MSDS or revised list must be provided to the SERC, LEPC and the local fire department when new hazardous chemicals become present at a facility in quantities greater than the thresholds listed above. Also, a revised MSDS must be submitted if significant new information is discovered about the hazardous chemical.

Refer to the flow chart on page 98 for help understanding the requirements of Section 311.

Section 312 Section 312 requires annual chemical hazard reporting based on the same criteria as Section 311.

Facilities must submit an annual "Tier II" hazardous chemical inventory form to the SERC, LEPC and local fire department by March 1 for EHSs and other hazardous chemicals reportable under Section 311 criteria. Tier II forms and instructions are available from:

IDNR Records Department
900 East Grand Avenue
Des Moines, IA 50319
(515) 281-6175

Refer to the flow chart on page 98 for help understanding the requirements of Section 312.

Section 313 - Toxic Chemical Release Reporting (40 CFR 372) This section requires annual reporting of hazardous chemical usage and disposal for specified chemicals above established threshold levels. The regulated chemicals are listed in 40 CFR 372.65 or the Consolidated Chemical List.

A facility must submit an annual Form R to the EPCRA Reporting Center and the SERC by July 1 for the preceding year if all three of the following criteria are met:

1. If it employs the equivalent of 10 or more full-time employees.
2. If it has a Standard Industrial Classification (SIC) code in the range of 2000 -3999. An SIC code is a four digit number used to classify establishments by type of economic activity. SIC codes are reported on income taxes on IRS form 1120. Additional SIC codes that do not describe agribusiness activities must also comply with Section 313 regulations. **NOTE: If your business has more than one operation you may be defined by more than one SIC codes. A new system called the North American Industrial Classification System is replacing the SIC. Appendix 17 is a copy of SIC/NAICS conversions.**
3. If it manufactured or processed any of the chemicals listed in the Section 313 column of the Consolidated Chemical List in quantities greater than 25,000 pounds, or otherwise used any of these listed chemicals in quantities greater than 10,000 pounds during the preceding year.

Information on the Form R includes:

- The name, location and types of business.
- The off-site location to which the facility transfers toxic chemicals for waste recycling, energy recovery, treatment or disposal.
- Information on whether the chemical is manufactured, processed or otherwise used and the general categories of use.
- The amounts of reportable chemicals manufactured, processed or otherwise used at the facility.
- The quantity of chemicals released from the facility via air, land, water or other transfer.
- Waste treatment/disposal methods and efficiency of methods for each waste stream.
- Any source reduction and recycling activities.

The required forms and instructions are available from:

U.S. EPA/NCEPI
P.O. Box 42419
Cincinnati, OH 45242-2419
(800) 490-9198
Fax (513) 489-8695
<http://www.epa.gov/ncepihom/index.html>

Questions can be addressed to the EPCRA Information Hotline at (800) 535-0202.

Refer to the TRI Decision Chart in Table 5.5 on page 99 for help understanding the requirements of Section 313.

Important Names and Numbers

Emergency Planning (Sections 301-303) LEPCs must develop emergency response plans for their communities. Facilities with EHSs on site above threshold planning quantities must notify the SERCs and LEPCs within 60 days of making the determination if a TPQ is exceeded.

- Anne Jackson, Iowa Division of Labor at (515) 281-8460
- Ellen Hester, SERC Secretary at (515) 281-6175

Emergency Notification (Section 304) Facilities must report accidental releases of CERCLA-regulated chemicals and EHSs above established RQs.

If CERCLA-regulated:

1. National Response Center (NRC) - (800) 422-8802
2. SERC (IDNR) - (515) 281-8694 (24-hours)
3. LEPC – Contact Division of Emergency Management at (515) 281-3231 to determine the LEPC contact for your area. After hours, during an emergency, use 911 if LEPC emergency contact is not posted.

If EHS:

1. SERC (IDNR) - (515) 281-8694 (24-hours)
2. LEPC - Contact Division of Emergency Management at (515) 281-3231 to determine the LEPC contact for your area. After hours or during an emergency use 911 if LEPC emergency contact is not posted.

Questions regarding the need to report can be addressed to the 24 hour number or Kathleen Lee at (515) 281-8793, Clark Ott at (515) 281-8873 or Dave Perry at (515) 281-8883.

Community Right To Know (Sections 311-312)

Facilities required to prepare MSDSs for hazardous chemicals in quantities above established TPQs must submit detailed information to the SERC, LEPC and their local fire department. For hazardous substances present at a facility in quantities greater than 10,000 pounds, or EHSs above 500 pounds or the established TPQ, contact:

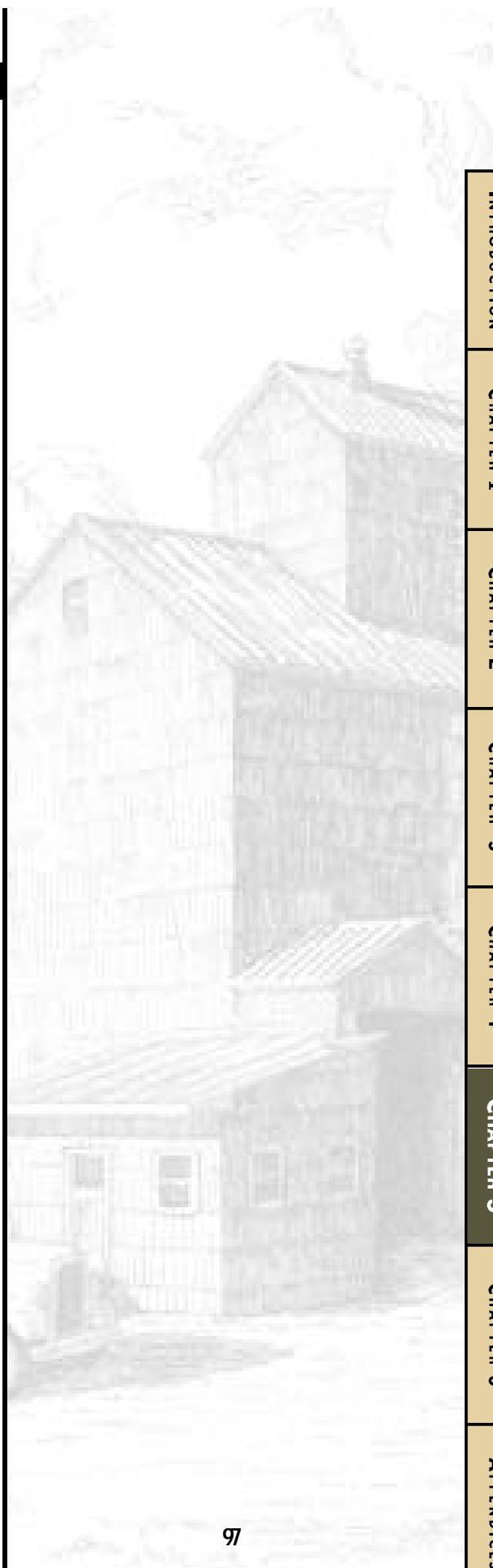
- Anne Jackson, Iowa Division of Labor at (515) 281-8460
- Ellen Hester, SERC Secretary at (515) 281-6175

Toxic Chemical Release Reporting (Section 313)

Manufacturing facilities that use certain toxic chemicals in excess of 10,000 pounds per year or 25,000 pounds per year (depending on use) must provide an inventory of how the toxic was used and its release from the facility.

- Reporting is to the EPA and the SERC.
- IDNR Records Center at (515) 242-5818
Jim Hirtz or Ruben McCullers, USEPA Region VII at (913) 551-7472
- EPCRA Hotline (800) 535-0202

Obtaining Lists Title III List of Lists (EPA-550-B-98-017) and the Consolidated Chemical List are available electronically from <http://www.epa.gov/ncepihom/index.html> and from the EPCRA Hotline at (800) 535-0202 or (800) 490-9198.

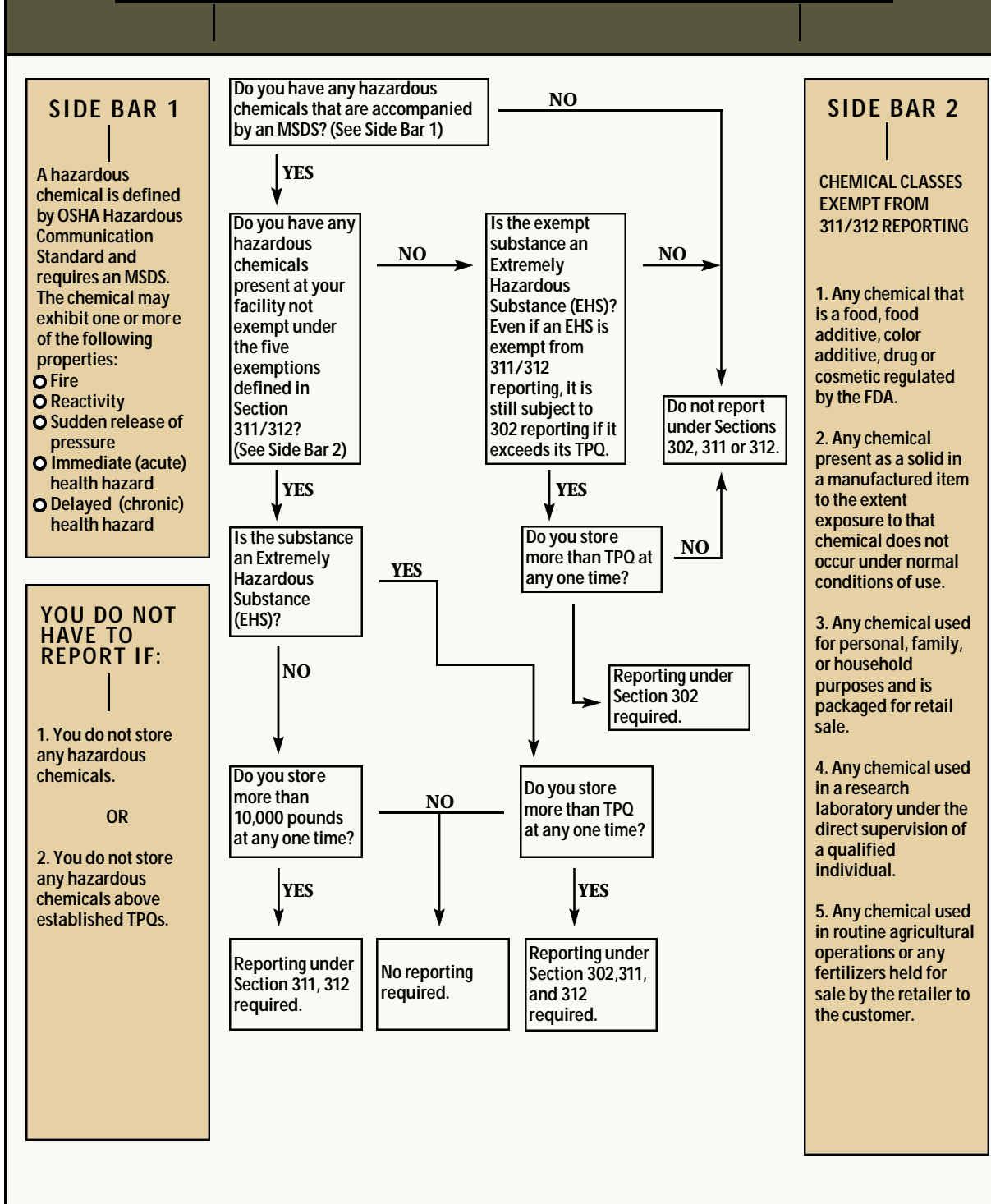


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TABLE 5.3

DO I NEED TO NOTIFY UNDER EMERGENCY PLANNING (SECTION 302) OR COMMUNITY RIGHT-TO-KNOW REPORTING (SECTIONS 311 & 312)?



SIDE BAR 1

A hazardous chemical is defined by OSHA Hazardous Communication Standard and requires an MSDS. The chemical may exhibit one or more of the following properties:

- Fire
- Reactivity
- Sudden release of pressure
- Immediate (acute) health hazard
- Delayed (chronic) health hazard

YOU DO NOT HAVE TO REPORT IF:

1. You do not store any hazardous chemicals.

OR

2. You do not store any hazardous chemicals above established TPOs.

SIDE BAR 2

CHEMICAL CLASSES EXEMPT FROM 311/312 REPORTING

1. Any chemical that is a food, food additive, color additive, drug or cosmetic regulated by the FDA.
2. Any chemical present as a solid in a manufactured item to the extent exposure to that chemical does not occur under normal conditions of use.
3. Any chemical used for personal, family, or household purposes and is packaged for retail sale.
4. Any chemical used in a research laboratory under the direct supervision of a qualified individual.
5. Any chemical used in routine agricultural operations or any fertilizers held for sale by the retailer to the customer.

Environmental Regulation Overview

TABLE 5.5 TRI DECISION CHART: DETERMINING IF YOUR FACILITY MUST FILE TOXIC RELEASE INVENTORY FORM R		
CRITERIA	REQUIREMENTS	EXEMPTIONS
<p>SIC CODE: IS YOUR FACILITY'S PRIMARY SIC CODE BETWEEN 20-39? *SEE APPENDIX 17 FOR NORTH AMERICAN INDUSTRIAL CLASSIFICATION & SIC CONVERSIONS</p>	<p>FOR MULTIPLE ESTABLISHMENT FACILITIES THAT ARE DEFINED BY DIFFERENT SIC CODES, YOU MUST CALCULATE THE VALUE OF THE PRODUCTS PRODUCED OR SHIPPED FROM EACH ESTABLISHMENT. IF ONE ESTABLISHMENT HAS GREATER THAN 50 PERCENT OF THE FACILITY'S TOTAL VALUE (BASED ON THE CURRENT MARKET VALUE OF THE FACILITY'S SERVICES OR PRODUCTS), THAT ESTABLISHMENT WILL DEFINE THE FACILITY'S PRIMARY SIC CODE. IF NO ESTABLISHMENT HAS GREATER THAN 50 PERCENT OF THE FACILITY'S TOTAL VALUE, THEN THE ESTABLISHMENT WITH THE GREATEST VALUE DEFINES THE FACILITY'S PRIMARY SIC CODE.</p>	<p>IF YOUR PRIMARY SIC IS NOT IN THIS RANGE, YOU DO NOT HAVE TO FILE TRI FORM R.</p>
<p>FULL-TIME EMPLOYEE THRESHOLD: DO YOU EMPLOY 10 OR MORE FULL-TIME EMPLOYEE EQUIVALENTS? A FULL-TIME EMPLOYEE IS DEFINED AS 2,000 HOURS PER YEAR.</p>	<p>CALCULATE THE TOTAL NUMBER OF HOURS WORKED BY ALL EMPLOYEES FOR ONE YEAR. IF THE TOTAL NUMBER OF HOURS WORKED BY ALL EMPLOYEES IS 20,000 HOURS OR MORE, YOUR FACILITY MEETS THE 10 FULL-TIME EMPLOYEE THRESHOLD.</p>	<p>IF YOU DO NOT MEET THE 10 FULL-TIME EMPLOYEE THRESHOLD, YOU DO NOT HAVE TO FILE TRI FORM R.</p>
<p>TOXIC CHEMICAL THRESHOLD: DO YOU USE ANY CHEMICAL IN EXCESS OF 10,000 POUNDS PER YEAR?</p>	<p>YOU NEED TO MAKE A THRESHOLD DETERMINATION.</p> <ol style="list-style-type: none"> 1. IS THE CHEMICAL A TRI REGULATED TOXIC? CHECK THE CONSOLIDATED LIST OF CHEMICALS AND MATERIAL SAFETY DATA SHEET (MSDS). 2. DO YOU MANUFACTURE, PROCESS OR OTHERWISE USE THIS CHEMICAL? THRESHOLDS ARE ESTABLISHED INDIVIDUALLY FOR EACH OF THESE ACTIVITIES (MANUFACTURING, PROCESSING AND OTHERWISE USE). MANUFACTURING AND PROCESSING HAVE A 25,000 POUND PER YEAR THRESHOLD. OTHERWISE USE HAS A 10,000 POUNDS PER YEAR THRESHOLD. 	<p>IF YOU DO NOT USE ANY REGULATED TOXIC IN EXCESS OF THE ESTABLISHED THRESHOLD, YOU DO NOT NEED TO FILE TRI FORM R.</p>

Note: If you meet all three criteria (SIC code, full-time employee threshold and toxic chemical threshold) you must complete Toxic Release Inventory Form R. If you meet one or two of the criteria, but not a third, you do not need to file TRI Form R.

If you have any questions concerning TRI Form R, please call the Iowa Waste Reduction Center at (800) 422-3109 or EPA Region VII at (913)551-7020

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TABLE 5.4

ALPHABETICAL LIST OF COMMON CHEMICALS USED BY AGRIBUSINESSES
SUBJECT TO EPCRA REPORTING

CAS #	CHEMICAL NAME	SEC 302 ¹	EHS		CAA 112(r)	SEC 313	RCRA CODE
			TPQ	CERCLA			
116-06-3	ALDICARB	10/10,000			10,000		
20859-73-8	ALUMINUMPHOSPHIDE	500		100		X	P006
7664-41-7	AMMONIA	500		100		X	
2642-71-9	AZINPHOS-ETHYL	100/10,000	100				
85-50-0	AZINPHOS-METHYL	10/10,000		1			
1912-24-9	ATRAZINE					X	
28772-56-7	BROMADIOLONE	100/10,000	100				
1563-66-2	CARBOFURAN	10/10,000		10		X	P127
786-19-6	CARBOPHENOTHION	500	500				
57-74-9	CHLORDANE	1,000		1		X	U036
470-90-6	CHLORFENVINFOS	500	500				
999-81-5	CHLORMEQUAT CHLORIDE	100/10,000	100				
3691-35-8	CHLOROPHACINONE	100/10,000	100				
1982-47-4	CHLOROXURON	500/10,000	500				
66-81-9	CYCLOHEXIMIDE	100/10,000	100				
919-86-8	DEMETON-S-METHYL	500	500				
8065-48-3	DEMETRON	500	500				
62-73-7	DICHLORVOS (AKA PHOSPHORIC ACID, 2 DICHLOROETHENYL)	1,000		10		X	
141-66-2	DICROTOPHOS	100	100				
115-26-4	DIMEFOX	500	500				
60-51-5	DIMETHOATE	500/10,000		10		X	P044
131-11-3	DIMETHYLPHTHALATE			5,000		X	U102
534-52-1	DINITROCRESOL	10/10,000		10		X	P047

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TABLE 5.5

**ALPHABETICAL LIST OF COMMON CHEMICALS USED BY AGRIBUSINESSES
SUBJECT TO EPCRA REPORTING**

CAS #	CHEMICAL NAME	SEC 302 ¹	EHS		CAA 112(R)	SEC 313	RCRA CODE
			TPQ	CERCLA			
			RQ	RQ	TQ		
85-85-7	DINOSEB (AKA DINITROBUTYLPHENOL)	100/10,000		1,000		X	P020
78-34-2	DIOXATHION	500	500				
82-66-6	DIPHACINONE	10/10,000	10				
298-04-4	DISULFOTON	500		1			P039
115-29-7	ENDOSULFAN	10/10,000		1			P050
563-12-2	ETHION	1,000		10			
22224-92-6	FENAMIPHOS	10/10,000	10				
115-90-2	FENSULFOTHION	500	500				
4301-50-2	FLUENETIL	100/10,000	100				
944-22-9	FONOFOS	500	500				
23422-53-9	FORMETANATE HYDROCHLORIDE	500/10,000		1*			P198
2540-82-1	FORMOTHION	100	100				
21548-32-3	FOSTHETAN	500	500				
74-90-8	HYDROGENCYANIDE	100		10	2,500	X	P063
297-78-9	ISOBENZEN	100/10,000	100				
21609-90-5	LEPTOPHOS	500/10,000	500				
58-89-9	LINDANE	1,000/10,000		1		X	U129
950-37-8	METHIDATHION	500/10,000	500				
2032-65-7	METHIOCARB	500/10,000		10		X	P199
16752-77-5	METHOMYL	500/10,000		100			P066
556-61-6	METHYLISOTHIOCYANATE	500	500			X	
298-00-0	METHYL PARATHION	100-10,000		100		X	P071
7786-34-7	MEVINPHOS	500		10		X	
315-18-4	MEXACARBATE	500/10,000		1,000			P199
6923-22-4	MONOCROTOPHOS	10/10,000	10				
991-42-4	NOBORMIDE	100/10,000	100				
23135-22-0	OXAMYL	100/10,000		1*			P194

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TABLE 5.5

ALPHABETICAL LIST OF COMMON CHEMICALS USED BY AGRIBUSINESSES
SUBJECT TO EPCRA REPORTING

CAS #	CHEMICAL NAME	SEC 302 ¹	EHS		CAA 112(r)	SEC 313	RCRA CODE
			TPQ	CERCLA			
			RQ	RQ	TQ		
56-38-2	PARATHION	100		10			P089
108-95-2	PHENOL	500/10,000		1,000		X	U188
298-02-2	PHORATE	10		10		X	P094
947-02-4	PHOSFOLAN	100/10,000	100				
732-11-6	PHOSMET	10/10,000	10				
13171-21-6	PHOSPHAMIDON	100	100				
7803-51-2	PHOSPHINE	500		100	5,000		P096
2631-37-0	PROMECARB	500/10,000		1*		X	P201
62-74-8	SODIUM FLUORACETATE	10/10,000		10			P058
57-24-9	STRYCHNINE	100/10,000		10		X	P108
13071-79-9	TERBUFOS	100	100				
39196-18-4	THIOFANOX	100/10,000		100			P045
1031-47-6	TRIAMIPHOS	500/10,000	500				
998-30-1	TRIETHOXYSILANE	500	500				
129-06-6	WARFARIN SODIUM	100/10,000		100			
1314-84-7	ZINCPHOSPHIDE	500		100			P122
1314-84-7	ZINCPHOSPHIDE (CONC. <= 10%)	500		100			U249
1314-84-7	ZINCPHOSPHIDE (CONC. >= 10%)	500		100			P122

1. In the Section 302 column, for threshold planning quantities with two thresholds, the first (lower) figure applies to chemicals in the forms of dust, fumes or mist.

Note: This is not a complete list of the Chemicals covered by the Emergency Planning and Community Right to Know Act Section 112(r), Risk Management Program of the Clean Air Act.

Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)

The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) of 1947 regulates the distribution, use and sale of pesticides within the United States (40 CFR, Sections 150-189). Unlike other federal environmental regulations such as the Clean Air Act or the Resource Conservation and Recovery Act, FIFRA gives very little authority to the states.

The EPA defines a pesticide as any substance that is intended for "preventing, destroying, repelling or mitigating any pest" or for "use as a plant regulator, defoliant or desiccant." Pests are defined as insects, rodents, worms, fungus, weeds, plants, viruses, bacteria, microorganisms and other animal life.

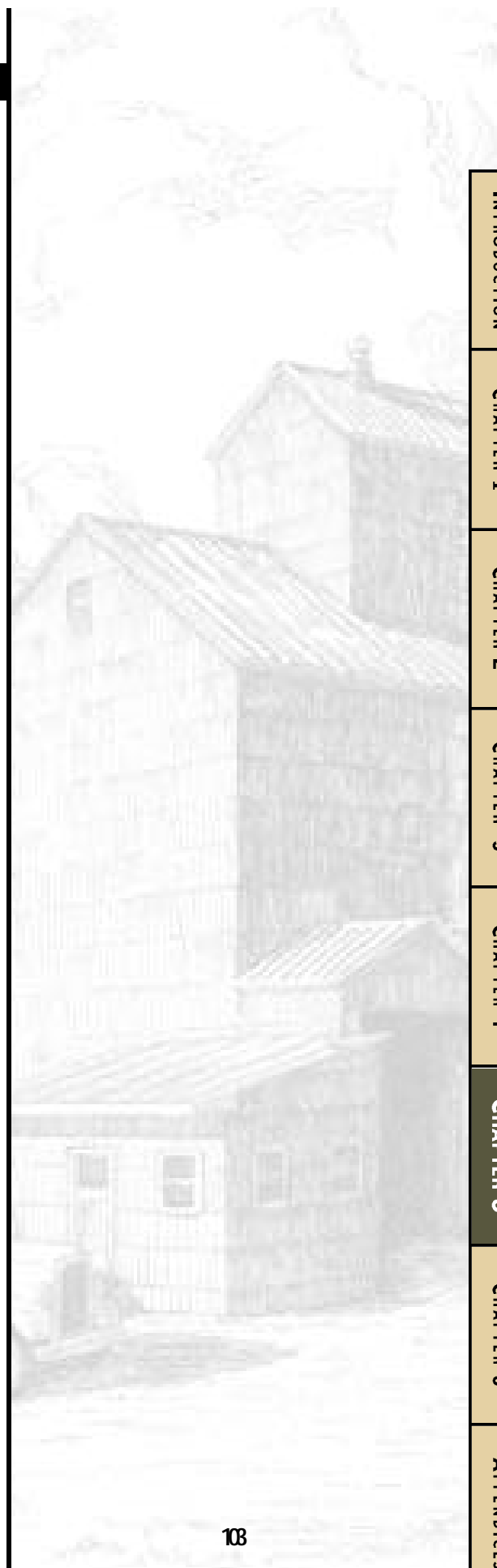
In 1972, Congress passed the Federal Pesticide Control Act as an amendment to FIFRA. It is on this Act that most pesticide legislation is based.

Registration

The central feature of FIFRA is its pesticide registration program, which requires all pesticides be registered with and approved by the EPA prior to manufacturing, marketing and distribution to ensure that the pesticide poses no serious threats to human health or the environment when used properly. Registration of new pesticides includes submitting to the EPA the pesticide's complete formula, a proposed label and a detailed description of the tests and results upon which the pesticide's manufacturer claims that the pesticide is an effective and safe method of controlling pests. A separate registration is required for each formulation. Each use of the pesticide must be supported by research documenting the environmental/health safety and effectiveness of the pesticide.

Microbial and Biochemical Pest Control Agents

Registration Biopesticides include biochemical pest control agents (BPCA), microbial pest control agents (MPCA) and transgenic plants that act as pesticides. Biopesticide



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registration generally costs less and is completed more quickly than conventional chemical pesticides.

A biochemical pest control agent must be a naturally occurring substance or have a similar structure and identical function as a naturally occurring counterpart. Its mode of action must be nontoxic.

Labeling Requirements

The EPA requires that a pesticide product's label provide the amount (percentage by weight) of ingredients listed on the ingredient statement. FIFRA makes it unlawful to use any registered product in a manner inconsistent with its labeling. Provisions to enforce the correct use of a pesticide must be included on its label.

Worker Protection, Safety and Training

EPA has established worker protection standards to protect workers from agricultural pesticides. The standards apply to registered pesticides used in the production of agricultural crops on farms, forests, nurseries or greenhouses and are directed toward the following types of workers:

1. Those who handle agricultural pesticides (mix, load, apply, clean or repair equipment, act as flaggers, etc.).
2. Those who perform tasks related to cultivation and harvesting.

Worker protection standards should inform employees about pesticide hazards, mitigate any exposures that occur and eliminate or reduce exposure to pesticides. The EPA has established restricted entry intervals for most pesticides.

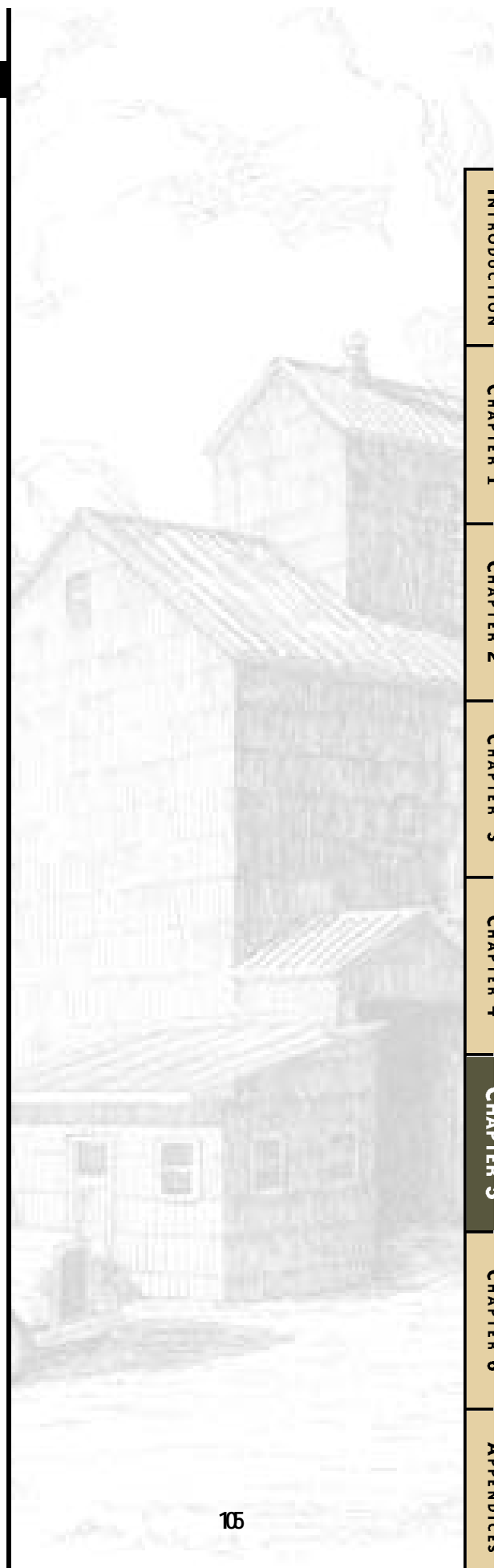
Facilities that produce or use pesticides in the production of agricultural crops must train handlers and workers, provide pesticide-specific information to employees and provide decontamination water and emergency assistance for handlers and workers.

Iowa State University Extension provides extensive information, assistance and training programs concerning these issues. ISU Extension can be reached at (515) 294-1101.

Reporting and Recordkeeping Requirements

FIFRA requires registration of all facilities that produce pesticides and substances that may be used or are intended to be used as an active ingredient in the manufacture of a pesticide. Produce also means to repackage and/or relabel a pesticide. Custom blenders under EPA's Customer Blend Policy are not included in this rule.

Pesticide manufacturers who offer pesticide products or devices for sale, as well as any pesticide distributor, carrier or dealer, must keep and maintain records.



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Resources

1. Wastewater Regulations – Clean Water Act

Industrial Wastewater Pretreatment/NPDES

Iowa Waste Reduction Center

Sue Behrns or Marci Carter
(319) 273-8905 or (800) 422-3109
<http://www.iwrc.org>

U.S. EPA - Region 7

Mike Turvey (919) 551-7424
<http://www.epa.gov/region07>

Iowa Department of Natural Resources

NPDES - Steve Williams (515) 281-8884
Construction Permit - Dick Sandal (515) 281-8982
<http://www.state.ia.us/government/dnr/organiza/epd/index.htm>

Individual Wastewater Treatment Systems (septic)

Iowa Department of Natural Resources

Brent Parker (515) 281-7814
<http://www.state.ia.us/government/dnr/organiza/epd/index.htm>

Storm Water Permit Program

Iowa Waste Reduction Center

Sue Behrns
(319) 273-8905 or (800) 422-3109
<http://www.iwrc.org>

Iowa Department of Natural Resources

Joe Griffin (515) 281-7017
<http://www.state.ia.us/government/dnr/organiza/epd/index.htm>

Spill Prevention, Control and Countermeasure (SPCC) Plans

Iowa Waste Reduction Center

Jim Olson
(319) 273-8905 or (800) 422-3109
<http://www.iwrg.org>

EPA Small Business Ombudsman,
Washington, D.C. 20460
(800) 368-5888

RCRA Hotline
(800) 424-9346

Above Ground Tank Registration

Iowa Waste Reduction Center
Chris Horan or Jim Olson
(319) 273-8905 or (800) 422-3109
<http://www.iwrc.org>

Iowa Department of Public Safety
Division of State Fire Marshal
Flammable Liquids Section
621 E 2nd St.
Des Moines, IA 50309-1831
(515) 281-5821

Underground Storage Tank (UST) Rules

Iowa Waste Reduction Center
Jim Olson or Chris Horan
(319) 273-8905 or (800) 422-3109
<http://www.iwrc.org>

EPA Small Business Ombudsman
Washington, D.C. 20460
(800) 368-5888

RCRA Regulatory Hotline
U.S. EPA – Headquarters in Washington D.C.
(800) 424-9346

Underground Injection Control Program

Iowa Waste Reduction Center
Jim Olson or Sue Behrns
(319) 273-8905 or (800)422-3109
<http://www.iwrc.org>

U.S. Environmental Protection Agency – Region 7

(913) 551-7413

<http://www.epa.gov/OGWDW/uic.html>

2. Air Emissions Regulations – Clean Air Act Amendments

Iowa Waste Reduction Center

Somnath Dasgupta, Dan Nickey, Chris Horan

(319) 273-8905 or (800) 422-3109

<http://www.iwrc.org>

Iowa Department of Natural Resources

Catharine Fitzsimmons (515) 281-8034

<http://www.state.ia.us/government/dnr/organiza/epd/index.htm>

3. Hazardous and Solid Waste Regulations – Resource Conservation and Recovery Act (RCRA)

Iowa Waste Reduction Center

Hazardous Waste, Jim Olson

Solid Waste, Jennifer Drenner

(319) 273-8905 or (800) 422-3109

<http://www.iwrc.org>

RCRA Helpline -- U.S. EPA Region 7

(913) 551-7861

RCRA Regulatory Hotline -- U.S. EPA – Headquarters in Washington D.C.

(800) 424-9346

4. Environmental Planning and Community Right-to-Know Act – SARA Title III (RCRA)

Iowa Waste Reduction Center

Lisa Hurban

(319) 273-8905 or (800) 422-3109

<http://www.iwrc.org>

Iowa Department of Natural Resources

Division of Emergency Management

Kathleen Lee (515) 281-8793

Clark Ott (515) 281-8873

Dave Perry (515) 281-8883

<http://www.state.ia.us/government/dnr/organiza/epd/index.htm>

U.S. EPA – Region 7

Jim Hirtz or Ruben McCullers (913) 551-7472

Hotline (800) 424-9346

Continuous Release Form - U.S. EPA RCRA/SUPER FUND/EPCRA

Ask for document # EPA 540-R-97-047

5. Federal Insecticide, Fungicide and Rodenticide Act

Iowa Department of Agriculture and Land Stewardship

John Whipple (515) 281-8599

Chuck Eckermann (515) 281-8590

<http://www.state.ia.us/agriculture/index.html>

Iowa State University Extension

(515) 294-1101

<http://extension.agron.iastate.edu/>

EPA Region 7 Pesticide Program

(913)551-7033

Agribusiness Association of Iowa

(515) 294-1682

<http://www.agribiz.org>

EPA Occupational Safety Branch

Worker Protection and Safety Standards

(703) 305-7666

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6 Other Resources

IDNR Environmental Protection Division Field Offices

Atlantic	(712) 243-1934
Des Moines	(515) 281-3622
Washington	(319) 653-2135
Manchester	(319) 927-2640
Mason City	(515) 424-4043
Spencer	(712) 262-4177

<http://www.state.ia.us/government/dnr/organiza/epd/index.htm>

EPA's Ag Compliance Assistance Center

<http://es.epa.gov/oeca/ag/>

Iowa Department of Economic Development

<http://www.state.ia.us/ided>

American Petroleum Institute

<http://www.api.org>

U.S. EPA Office of Water

<http://www.epa.gov/watrhome/>

APPENDIX 1

EPA-REGION 7 SHALLOW INJECTION WELL REGISTRATION/INFORMATION VERIFICATION RECORD

FACILITY INFORMATION (Complete a separate form for each Facility that has an Injection Well)

Facility Name: _____

Facility Contact: _____ Title: _____

Address: _____

City: _____ State: _____ Zip: _____

County: _____ Phone: _____

Number of Employees (full and part time): _____

EPA Identification Number(s): _____

IDNR Identification Number(s): _____

FACILITY OWNER INFORMATION (If different than Facility Information)

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____

INJECTION WELL INFORMATION (Complete this section for each Injection Well at Facility)

Well Type: CESSPOOL DRAINAGE WELL DRYWELL HEAT PUMP RETURN FLOW WELL
SEPTIC SYSTEM (tank size in gallons: _____)

OTHER (please describe: _____)

Well Status: PROPOSED ACTIVE ABANDONED PLUGGED

Approximate Date Installed: _____ If Plugged or Abandoned, When? _____

Well Location: Township: _____ Range: _____ Section: _____ 1/4 Section: _____

Latitude: _____ Longitude: _____

Depth of Well (In Feet): _____ Injection Formation: _____

Nature of Injected Fluid(s): _____

Has any chemical analysis been done on the injectate? YES NO (if yes please attach copies of the results)

FACILITY WATER SUPPLY

Municipal / Public / Rural: YES NO Private: YES NO (if yes, answer the following questions)

Is the water supply well at the facility used for human consumption: YES NO

Is the well protected with a backflow prevention device: YES NO

Signature: _____ Date: _____

Owner Operator

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APPENDIX 2

Federal Register/Vol. 57, No. 135/Tuesday, July 14, 1992/Rules and Regulations

31269

MVAC RECOVER/RECYCLE OR RECOVER EQUIPMENT CERTIFICATION FORM

1. _____
Name of Establishment

Street

City, State, Zip Code

(Area Code) Telephone Number

2. _____
Name of Equipment Manufacturer and Model Number

Serial Number(s) Year

3. I certify that I have acquired approved recover/recycle or recover equipment under Section 609 of the Clean Air Act. I certify that only properly trained and certified technicians operate the equipment and that the information given above is true and correct.

Signature of Owner/Operator Date

Name (Please Print) Title

For Iowa, Kansas, Missouri, and Nebraska, please send this form to Ms. Alice M. Law, CFC Enforcement Coordinator, EPA Region VII, ARTD/APCO, 901 North 5th Street, Kansas City, KS 66101.

MVAC RECOVER/RECYCLE OR RECOVER EQUIPMENT CERTIFICATION FORM INSTRUCTIONS

Motor vehicle recover/recycle or recover equipment must be acquired by January 1, 1992, and certified to EPA on or before January 1, 1993, under Section 609 of Clean Air Act. To certify your equipment, please complete the above form according to the following instructions and mail to EPA.

1. Please provide the name, address, and telephone number of the establishment where the recover/recycle or recover equipment is located.
2. Please provide the name brand, model number, year, and serial number(s) of the recover/recycle or recover equipment acquired for use at the above establishment.
3. The certification statement must be signed by the person who has acquired the recover/recycle or recover equipment (the person may be the owner of the establishment or another responsible officer). The person who signs is certifying that they have acquired the equipment, that each individual authorized to use the equipment is properly trained and certified, and that the information provided is true and correct.

S25055-3

Appendix B to Subpart B - Standard for Recover Equipment [Reserved]

[FR Doc.92-15881 Filed 7-13-92; 8:45 am]

BILLING CODE 6560-50-M

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APPENDIX 3

ANALYTICAL LABORATORIES

AZUR ENVIRONMENTAL
2232 RUTHERFORD ROAD
CARLSBAD, CA 92008
(760) 438-8282
(800) 642-7629
FAX: (760) 438-2980
WEB SITE: [HTTP://WWW.AZURENV.COM](http://www.azurenv.com)
EMAIL: MICROTOXI@AOL.COM

KEYSTONE LABORATORIES, INC.
600 E. 17TH STREET SOUTH
NEWTON, IA 50208
(515) 792-8451
(800) 858-5227
FAX: (515) 792-7989
WEB SITE: [HTTP://WWW.KEYSTONELABS.COM](http://www.keystonelabs.com)
EMAIL: CGILBREATH@KEYSTONELABS.COM

MAXIM TECHNOLOGIES, INC.
8235 DOUGLAS AVENUE
DALLAS, TX 75225
(214) 369-4395
FAX: (214) 369-4664

MIDWEST LABORATORIES, INC.
13611 B STREE
OMAHA, NE 68144
(402) 334-7770
FAX: (402) 334-9121
WEB SITE: [HTTP://WWW.MIDWESTLABS.COM](http://www.midwestlabs.com)
EMAIL: ADMIN@MIDWESTLABS.COM

PEORIA DISPOSAL CO.
4700 N. STERLING AVE.
PEORIA, IL 61615
(309) 688-0760
FAX: (309) 688-0881

TESTAMERICA
122 LYMANN ST.
ASHVILLE, NC 28801
(800) 344-5759
FAX: (704) 258-3973

ENVIRONMETRICS, INC.
11401 MOOG DRIVE
ST. LOUIS, MO 63146
(314) 432-0550
(800) 333-3278
FAX: (314) 432-4977
WEB SITE:
EMAIL: ENVIRON@ANET-STL.COM

MAXIM TECHNOLOGIES, INC.
5058 111TH ST.
OMAHA, NE 68137
(402) 331-4453
FAX: (702) 331-5961

MIDWEST LABORATORIES, INC.
303 LAMP KASTNER DRIVE
HOLSTEIN, IA 51025

NOVA ENVIRONMENTAL SERVICES, INC.
1107 HAZELTINE BOULEVARD
SUITE 400
CHASKA, MN 55318
(612) 448-9393
(800) 482-4092
FAX: (612) 448-5159

TESTAMERICA
704 ENTERPRISE DRIVE
CEDAR FALLS, IA 50613
(319) 277-2401
(800) 750-240
FAX: (319) 277-2425
EMAIL: CMM@CEDAR.NET-LAB.COM

This list IS NOT AN ENDORSEMENT OR WARRANTY by/from the Iowa Waste Reduction Center relating to any company or product. Businesses should determine that any company or product they use complies with all applicable environmental laws.

HAZARDOUS WASTE MANAGEMENT COMPANIES

BARTON SOLVENTS
2135 4TH AVE.
COUNCIL BLUFFS, IA 51502
(712) 322-2509

CHEM-MET SERVICES, INC.
7441 NORTH LAKE DRIVE
FOX POINT, WI 53217
(414) 351-2418
FAX (414) 351-2458

CHEMICAL WASTE MANAGEMENT, INC.
3003 BUTTERFIELD RD.
OAKBROOK, IL 60521
(708) 218-1812

CYANOKEM TREATMENT SERVICES
12381 SCHAEFER HWY.
DETROIT, MI 48227
(800) 933-2536

ENVIROSOTA
6135 KELLOG AVE. SOUTH
MINNEAPOLIS, MN 55424
(612) 929-2670
FAX (612) 929-3873

HYDRITE CHEMICAL
2815 WCF AND N DR.
WATERLOO, IA 50703
(319) 232-9731
FAX (319) 232-1112

LIDLAW ENVIRONMENTAL
21750 CEDAR AVE.
LAKEVILLE, MN 55044
(612) 469-3475

SAFETY KLEEN - DAVENPORT
3035 W 73RD ST.
DAVENPORT, IA 52806
(319) 386-3024

LIDLAW ENVIRONMENTAL SERVICES
6125 N. PECATONICA RD.
PECATONICA, IL 61063-0479
(815) 239-2377
FAX (815) 239-2337

LEAD RECYCLING & MANAGEMENT
11777 NY S, ROUTE 176
CATO, NY 13033
(315) 471-0400
FAX (315) 478-3442

MAXIM TECHNOLOGIES, INC.
4080 FIRST AVE. NE
CEDAR RAPIDS, IA 52402
(319) 362-8106

MAXIM TECHNOLOGIES, INC.
2213 LAPORTE RD.
WATERLOO, IA 50702
(319) 232-6591

MELL'S TRUCKING
P.O. Box 89, R.R. 8
MANKATO, MN 56001
(507) 625-8130

PEORIA DISPOSAL COMPANY (PDC)
P.O. Box 9071
PEORIA, IL 61615
(309) 688-0760

ROLLINS ENVIRONMENTAL SERVICES,
INC.
P.O. Box 74137
BATON ROUGE, LA 70874-4137
(504) 778-3535

SYSTECH ENVIRONMENTAL
CORPORATION
245 N. VALLEY RD.
XENIA, OH 45385
(513) 372-8077

SAFETY KLEEN - DAVENPORT
3035 W 73RD ST.
DAVENPORT, IA 52806
(319) 386-3024

SUPERIOR SPECIAL SERVICES (DYNEX)
6801 INDUSTRIAL LOOP
GREENDALE, WI 53129
(800) 249-3310

SYSTECH ENVIRONMENTAL
CORPORATION
245 N. VALLEY RD.
XENIA, OH 45385
(513) 372-8077

VAN WATERS AND ROGERS
1819 W. BURLINGTON AVE.
BURLINGTON, IA 52601
(319) 753-2253
FAX (515) 278-4421

WRR ENVIRONMENTAL SERVICES, INC.
5200 STATE RD. 93
EAU CLAIRE, WI 54701
(715) 834-9624
FAX (715) 836-9807

*This list IS NOT AN ENDORSEMENT OR WARRANTY by/from the Iowa Waste Reduction Center relating to any company or product.
Businesses should determine that any company or product they use complies with all applicable environmental laws.*

LOW MERCURY LAMP MANUFACTURERS

ALL TECH, INC.
RAILROAD & MAIN
PO BOX 137
ELKHART, IA 50073
(515) 367-5915
(800) 747-3040
FAX: (515) 367-3865

GE LIGHTING
3839 MERLE HAY ROAD
SUITE 254
DES MOINES, IA 50310
(515) 278-1127
FAX: (515) 278-0185
WEBSITE: [HTTP://WWW.GE.COM](http://www.ge.com)

OSRAM SYLVANIA, INC., ADVENTURE
90 WASHINGTON AVE.
DES MOINES, IA 50314
(515) 288-0444
FAX: (515) 288-1934
WEBSITE: [HTTP://WWW.ADVENTURELIGHTING.COM](http://www.adventurelighting.com)

BETHLEHEM APPARATUS CO., INC.
890 FRONT STREET
PO BOX Y
HELLERTOWN, PA 18055
(610) 838-7034
FAX: (610) 838-6333

MAGUIRE & STRICKLAND REFINING, INC.
1290 EIGHTY-FIRST STREET
NORTHEAST
MINNEAPOLIS, MN 55432
(612) 768-2858
(800) 486-2858
FAX: (612) 786-7793

PHILIPS LIGHTING COMPANY
200 FRANKLIN SQUARE DRIVE
SOMERSET, NJ 08875
(732) 563-3197
FAX: (732) 563-3114
WEBSITE: [HTTP://WWW.PHILIPSLIGHTING.CO](http://www.philipslighting.com)
EMAIL: JLT8781@USSMLT6!SNADS.PHILIPS

This list IS NOT AN ENDORSEMENT OR WARRANTY by/from the Iowa Waste Reduction Center relating to any company or product. Businesses should determine that any company or product they use complies with all applicable environmental laws.

APPENDIX 6

REFILLABLE SPRAY CAN & BULK PRODUCTS SUPPLIERS

ALL STAR MARKETING, INC.
 457 WINNEBAGO DRIVE
 LAKE WINNEBAGO, MO 64034
 (816) 537-6077
 FAX: (816) 537-6076
 EMAIL: ASMBILLJR@AOL.COM

ALL TECH, INC.
 RAILROAD & MAIN
 PO BOX 137
 ELKHART, IA 50073
 (515) 367-5915
 (800) 747-3040
 FAX: (515) 367-3865

ENVIROSOTA, INC.
 6135 KELLOG AVENUE SOUTH
 SUITE 223
 MINNEAPOLIS, MN 55424
 (612) 929-2670
 (800) 598-9559
 FAX: (612) 929-3873
 EMAIL: ENVIROMN@VITEX.COM

MILWAUKEE SPRAYER MANUFACTURING
 5635 WEST DOUGLASS AVE.
 MILWAUKEE, WI 53218
 (414) 527-0330
 (800) 558-7035
 FAX: (414) 527-0086

NUCO INDUSTRIES INC.
 110 SCHMITT BLVD.
 PO BOX 25
 FARMINGDALE, NY 11735
 (516) 752-8600
 (800) 645-9198
 FAX: (516) 752-7848

W.W. GRANGER, INC.
 715 33RD AVE. SW
 CEDAR RAPIDS, IA 52404
 (319) 366-7174
 FAX: (319) 362-4858

*This list IS NOT AN ENDORSEMENT OR WARRANTY by/from the Iowa Waste Reduction Center relating to any company or product.
 Businesses should determine that any company or product they use complies with all applicable environmental laws.*

APPENDIX 7

CHECKLIST FOR NO-EXPOSURE CERTIFICATION

I. Facility Operator Information

Has this facility ever had a NPDES storm water permit? (Check One) Yes No.
 If yes, please list authorization number or permit number : _____ SIC CODE: _____

Name: _____ Phone: _____

Address: _____

City: _____ State: _____ Zip Code: _____

II. Facility/Site Location Information

Facility Name: _____

Facility Address/Location: _____

City: _____ County: _____ State: _____

Give The Location By Section/Township/Range or Latitude/Longitude

1/4 SECTION	TOWNSHIP	RANGE	LATITUDE			LONGITUDE		
			DEGREES	MINUTES	SECONDS	DEGREES	MINUTES	SECONDS

III. Exposure Checklist

Are any of the following items exposed to precipitation, now or in the foreseeable future?

a. Vehicles used in material handling (excepting adequately maintained mobile equipment).	Yes	No
b. Industrial machinery or equipment.	Yes	No
c. Residue from the cleaning of machinery or equipment.	Yes	No
d. Materials associated with vehicular maintenance, cleaning or fueling.	Yes	No
e. Materials or products during loading/unloading or transporting activities.	Yes	No
f. Materials or products at uncovered loading docks.	Yes	No
g. Materials or products stored outdoors.	Yes	No
h. Materials or products handled/stored on roads or railways owned or maintained by the certifier.	Yes	No
i. Materials or spill/leak residues accumulated in storm water inlets.	Yes	No
j. Residuals on the ground from spills/leaks (including subsurface residuals from percolation).	Yes	No
k. Materials contained in open or deteriorated storage tanks/drums/containers.	Yes	No
l. Industrial activities conducted outdoors.	Yes	No
m. Materials or products from past outdoor industrial activity.	Yes	No
n. Waste material.	Yes	No
o. Process wastewater disposed of outdoors (unless otherwise permitted).	Yes	No
p. Particulate matter from roof stacks/vents not otherwise regulated (i.e., under an air quality control permit) and in quantities detectable in the storm water outflow.	Yes	No
q. Visible deposits of residuals near roof or side vents.	Yes	No
r. Spills/leaks resulting from maintenance of stacks or air exhaust systems.	Yes	No

Have you paved or roofed over a large (greater than 1 acre or 43,560 square feet), formerly exposed pervious area in order to qualify for no-exposure? (Answering Yes to this question does not disqualify you for the no exposure exemption unless you are notified of such by IDNR.)

	Yes	No
--	-----	----

Appendix 7, continued

IV. Certification

I certify that there are no discharges of storm water which have been exposed to industrial activities or materials as defined in this document from the facility identified in this document.

I understand that I am obligated to make this certification once every five years to the NPDES permitting authority and, if requested, to the municipality (or other local government) in which this facility is located providing the facility discharges storm water into the local municipal separate storm sewer system (MS4) or to any other interested person. I understand that I must seek coverage under an NPDES storm water permit prior to a point-source discharge of exposed storm water from the facility. I understand that I must allow the permitting authority, or municipality where the discharge is into the MS4, to perform inspections to confirm the condition of no-exposure and to make inspection reports publicly available upon request.

Additionally, I certify under penalty of law this document was prepared under my direction and that qualified personnel gathered and evaluated the information submitted. Based upon my knowledge of the personnel directly involved in gathering the information, the information is true, accurate and complete. I am aware there are significant penalties for providing false information, including the possibility of fine and imprisonment.

Signed _____

Date: _____

Print Name and Title _____

Appendix 7, continued

INSTRUCTIONS CHECKLIST FOR NO-EXPOSURE CERTIFICATION FOR NPDES STORM WATER PERMITTING

Who May File a No-Exposure Certification

In accordance with the Clean Water Act, all industrial facilities that discharge storm water meeting the definition of storm water associated with industrial activity must apply for coverage under a National Pollutant Discharge Elimination System (NPDES) permit. However, permit coverage is not required at certain facilities where a "no-exposure" condition exists. These facilities include those which are classified under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, or 4221-4225, and which are not otherwise included within categories (ii)-(x) of 40 Code of Federal Regulations 122.26(b)(14). This document may be used to certify that at the facility described herein, a condition of no-exposure exists. Should the industrial activity change such that a condition of no-exposure no longer exists, this certification is no longer valid and coverage under an NPDES storm water permit must be sought.

Definition of No-Exposure

No-exposure exists at an industrial facility when all industrial materials or activities, including, but not limited to, material handling equipment, industrial machinery, raw materials, intermediate products, final products, by-products or waste products, however packaged, are protected by a storm-resistant shelter so as not to be exposed to rain, snow, snowmelt, or runoff. Adequately maintained mobile equipment (trucks, automobiles, trailers or other such general purpose vehicles found at the industrial site which themselves are not industrial machinery or material handling equipment and which are not leaking contaminants or are not otherwise a source of industrial pollutants) may be exposed to precipitation or runoff. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any material or product as described above.

Completing the Form

You must type or print in the spaces provided only. One form must be completed for each facility or site for which you are seeking to certify no-exposure.

Section I. Facility Operator Information

Provide the legal name of the person, firm, public organization, or any other entity that operates the facility or site described in this certification. The name of the operator may or may not be the same as the name of the facility. The operator is the legal entity that controls the facility's operation, rather than the plant or site manager. Enter the complete address and telephone number of the operator.

Section II. Facility/Site Location Information

Enter the facility's or site's official or legal name and complete street address (directional address is OK if no street address exists). Do not provide a P.O. box number as the street address. In addition, provide the latitude and longitude of the facility to the nearest 15 seconds of the approximate center of the site (if you do not know your site's latitude and longitude, call 1-800-USA-MAPS).

Section III. Exposure Checklist

Circle "Yes" or "No" as appropriate to describe conditions at your facility. For the purposes of this document, "material" is defined as any raw material, intermediate product, final product, by-product or waste product, however packaged. "Material handling activities", by definition, include storage, loading and/or unloading, transportation or conveyance of a raw material, intermediate product, final product, by-product or waste product.

Interpretation of Results

If you answer "Yes" to ANY of the questions a. through r. in Section III, a potential for exposure exists at your site and you cannot certify a no-exposure condition exists. You must obtain (or already have) coverage under an NPDES Storm Water permit. After obtaining permit coverage, you can institute modifications to eliminate the potential for a discharge of storm water expose to industrial activity, and then claim no-exposure and terminate coverage under the existing permit.

Section IV. Certification

If a no exposure condition exists the certification must be signed by a qualified official. This includes the following:

For a corporation: A principal executive officer of at least the level of vice-president.

For a partnership or sole proprietorship: A general partner or the proprietor.

For municipality, State, Federal, or other public facility: by either a principal executive officer or ranking elected official.

Where to File This Form

Mail the completed form to:

Storm Water Coordinator
Iowa Department of Natural Resources
Environmental Protection Division
502 East 9th Street
Des Moines, IA 50319-0034

Questions may be directed to the Storm Water Coordinator at (515) 281-7017.

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Appendix 8

IOWA DEPARTMENT OF NATURAL RESOURCES ENVIRONMENTAL PROTECTION DIVISION

Cashier's Use Only
17-1709 -

NOTICE OF INTENT FOR NPDES COVERAGE UNDER GENERAL PERMIT

No. 1 FOR "STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY"

or

No. 2 FOR "STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FOR CONSTRUCTION ACTIVITIES"

or

No. 3 FOR "STORM WATER DISCHARGE ASSOCIATED WITH INDUSTRIAL ACTIVITY FOR ASPHALT PLANTS, CONCRETE BATCH PLANTS, ROCK CRUSHING PLANTS, AND CONSTRUCTION SAND AND GRAVEL FACILITIES."

PERMIT INFORMATION

Has this storm water discharge been previously permitted (Check One) Yes No

If yes, please list permit number _____

Under what General Permit are you applying for coverage?

General Permit No. 1 General Permit No. 2 General Permit No. 3

NPDES PERMIT FEE OPTIONS

For coverage under the NPDES General Permit the following fees apply:

Annual Permit Fee \$150 (per year)

or

3-year Permit Fee \$300

Coverage by the 3-year permit fee expires no later than the expiration date of the general permit (October 1, 2002). Maximum coverage is three years.

FACILITY OR PROJECT INFORMATION

Enter the name and full address/location (not mailing address) of the facility or project for which permit coverage is requested.

NAME:		ADDRESS / LOCATION OF SITE:	
CITY:	COUNTY:	STATE:	ZIP CODE:

CONTACT INFORMATION Give name, mailing address and telephone number of a contact person (Attach additional information on separate pages as needed). This will be the address to which all correspondence will be sent and to which all questions regarding your application will be directed.

NAME:		ADDRESS:	
CITY:	STATE:	ZIP CODE:	TELEPHONE ()

Check the appropriate box to indicate the legal status of the operator of the facility.

Federal State Public Private Other (specify) _____

SIC CODE* (General Permit No. 1 & 3 Applicants Only)

* SIC code refers to Standard Industrial Classification code number used to classify establishments by type of economic activity.

Appendix 8 continued

FACILITY LOCATION OR LOCATION OF CONSTRUCTION SITE

Give the location by section/township/range or latitude/longitude (Attach additional information on separate pages as needed).

1/4 SECTION	SECTION	TOWNSHIP	RANGE	LATITUDE			LONGITUDE		
				DEGREES	MINUTES	SECONDS	DEGREES	MINUTES	SECONDS

OWNER INFORMATION

Enter the name and full address of the owner of the facility.

NAME:		ADDRESS:		
CITY:	STATE:	ZIP CODE:	TELEPHONE: ()	

OUTFALL INFORMATION

Discharge Start Date _____

Is any storm water monitoring information available describing the concentration of pollutants in storm water discharges? Yes No

NOTE: Do not attach any storm water pollutant information as part of this Notice of Intent.

Receiving Water(s):

Compliance With The Following Conditions:

1. Will this Notice of Intent be included in the pollution prevention plan?
2. Has the pollution prevention plan been developed prior to the submittal of this Notice of Intent?
3. Will the Storm Water Pollution Prevention Plan comply with approved State (Section 467A.64, Code of Iowa) or local sediment and erosion plans?
4. Have two (2) public notices been published for at least one day in newspapers with the largest circulation in the area where the discharge is located (new applications only).

Yes No

GENERAL PERMIT NO. 2 AND GENERAL PERMIT NO. 3 APPLICANTS COMPLETE THIS SECTION.

Description of Project:

For General Permit No. 3 - Is this facility to be moved this year?
 Yes No

Number of Acres of Disturbed Soil: _____
 (Construction Activities Only)

Estimated Timetable For Activities / Projects:

CERTIFICATION

I certify under penalty of law that this document was prepared under my direction or supervision in accordance with a system designed to assure that qualified people properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, this information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME (please print)

TITLE:

SIGNATURE:

DATE:

Appendix 8 continued

"HOW TO FILE A COMPLETE NOTICE OF INTENT"

for

NPDES General Permit No.1

for "Storm Water Discharge Associated With Industrial Activity"

or

NPDES General Permit No.2

for " Storm Water Discharge Associated with Industrial Activity for Construction Activities"

or

NPDES General Permit No.3

for "Storm Water Discharge Associated with Industrial Activity for Asphalt Plants, Concrete Batch Plants, Rock Crushing Plants and Construction Sand and Gravel Facilities"

IOWA DEPARTMENT OF NATURAL
RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
WASTEWATER PERMITS SECTION
502 E. 9TH STREET
DES MOINES, IOWA 50319-0034

These instructions are provided to dischargers who need to notify the IDNR that their storm water discharge will be covered under either Iowa's NPDES General Permit No.1, General Permit No.2, or General Permit No. 3. The instructions are the same for all general permits. When a discharger provides a complete Notice of Intent with the IDNR, its storm water discharges will be subject to the terms and conditions of the appropriate general permit unless notified by the IDNR.

To file a complete Notice of Intent you must provide the following three items:

1. A completed Form 1415 entitled "Notice of Intent for NPDES Coverage Under General Permit",
2. Proof of Public notification: and,
3. Permit fee.

Each of these items are discussed in detail on the following pages.

Mail your completed Notice of Intent to the following address:

Storm Water Coordinator
Department of Natural Resources
502 E. 9th Street
Des Moines, Iowa 50319-0034

1. Notice of Intent for NPDES Coverage Under General Permit No. 1, General Permit No. 2 or General Permit No. 3. (Form 1415)

Form 1415 provides the Iowa Department of Natural Resources with a Notice of Intent that the discharge will be covered under the appropriate general permit (General Permit No.1, General Permit No.2, or General Permit No.3). By submitting a completed Form 1415 to the IDNR you are agreeing that the storm water discharge will meet the terms and conditions of the general permit.

You must complete the form and it must be signed by a qualified official. Those qualified to sign are:

- a. Corporations - A principal executive officer of at least the level of vice-president.
- b. Partnership - A general partner.
- c. Sole proprietorship - the proprietor.
- d. Public facilities. For a municipal, state, or other public facility, either the principal executive officer, or the ranking elected official.
- e. In the case of a storm water discharge associated with industrial activity from construction as identified in 40 Code of Federal Regulations (CFR) 122.26(b) (14)(x), either the owner of the site or the general contractor.

Appendix 8 continued

2. Proof of Public Notification

Iowa law requires dischargers to make public notice for seeking coverage under a general permit. The public notice must be published at least one day at your own expense in two newspaper with the largest circulation in the area where the discharge is located.

The wording to use in the public notice is specified as a rule of the IDNR and is included as a separate page for your convenience. This wording contains the minimum information that must be provided in the public notice. Dischargers may add more information to the notice if they choose.

To determine which newspapers have the largest circulation ask your local newspaper or call the Iowa Newspaper Association (INA) at (515) 244-2145 for circulation information. You can contact the individual newspapers directly or place your public notice order through the INA. The INA is located at 319 E. Fifth Street, Des Moines, Iowa 50309.

When you send your Notice of Intent to the IDNR, enclose a clipping of each public notice with the names of the newspaper and date published, or an affidavit from each newspaper to demonstrate your public notification requirement.

3. Fees

There is a permit fee for each general permit. The fee schedule is the same for General Permit No.1, No.2, or No.3. The applicant has the option of paying an annual permit fee or a multi-year permit fee.

Option 1. You may choose to submit an annual permit fee of \$150 each year. A bill will be mailed to you each year. Failure to pay will void coverage under the general permit.

Option 2. Multi-year which provides for coverage under the general permit until the permit expires on October 1, 2002.

5-year Permit Fee	\$600
4-year Permit Fee	\$450
3-year Permit Fee	\$300

(Coverage provided by the 5-year, 4-year, and 3-year permit fees expires no later than the expiration date of the general permit. Maximum coverage is five years, four years, and three years, respectively.)

Enclose a check or money order make payable to the Iowa Department of Natural Resources for the sum of the permit fee.

If you need assistance contact the IDNR at (515) 281-7017 or (515) 281-6782.

ACUTELY HAZARDOUS AND TOXIC PESTICIDES

TABLE A

ACUTELY HAZARDOUS COMMERCIAL PESTICIDES (RCRA "E" List) ACTIVE INGREDIENTS, (NOINERTS) ¹

ALDICARB	0,0-DIMETHYL 0-P-NITROPHENYLPHOSPHOROTHIOATE (METHYL PARATHION)	OCTAMETHYLPYROPHOSPHORAMIDE (OMPA, SCHRADAN)
ALDRIN	4,6-DINITRO-O-CRESOL ANDSALTS	PARATHION
ALLYL ALCOHOL	4,6-DINITRO-O-CYCLOHEXYLPHENOL	PHENYLMERCURIC ACETATE (PMA)
ALUMINUMPHOSPHIDE	2,4 DINITROPHENOL	PHORATE
4-AMINOPYRIDIN	DINOSEB	POSTASSIUMCYANIDE
ARSENIC ACID	ENDOSULFAN	PROPARGYL ALCOHOL
ARSENIC PENTOXIDE	ENDOTHALL	SODIUMAZIDE
ARSENIC TRIOXIDE	ENDRIN	SODIUMCYANIDE
CALCIUMCYANIDE	FAMPHUR	SODIUM FLUOROACETATE
CARBONDISULFIDE	FLUROACETAMIDE	STRYCHNINE ANDSALTS
P-CHLOROANILINE	HEPTACHLOR	0,0,0,0-TETRAETHYLDITHIOP ROPHOSPHATE (SULFOTEPP)
CYANIDES (SOLUBLE CYANIDE SALTS, NOT SPECIFIED ELSEWHERE)	HEXANETHYL TETRAPHOSPHATE	TETRAETHYL PYROPHOSPHATE
CYANOGENCHLORIDE	HYDROCYANIC ACID	THALLIUMSULFATE
2-CYCLOHEXYL-4,6-DINITROPHENOL	HYDROGEN CYANIDE	THIEFANOX
DIELDRIN	METHOMYL	TOXAPHENE
0,0-DIETHYL S-[2 ETHYLTHIO)ETHYL] PHOSPHO- RODITHIOATE (DISULFOTON, DI-SYSTON)	ALPHA-NAPHTHYLTHIOUREA (ANTU)	WARFARIN
0,0-DIETHYL O-PYRAZINYLPHOS- PHOROTHICATE (ZINOPHOS)	NICOTINE ANDSALTS	ZINCPHOSPHIDE
DIMETHOATE		

¹THERE ARE CURRENTLY NO INERT INGREDIENTS FOR COMMERCIAL PESTICIDES ON THE "ACUTELY HAZARDOUS" LIST (RCRA "E" List).

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APPENDIX 9

ACUTELY HAZARDOUS AND TOXIC PESTICIDES

TABLE B.1

TOXIC COMMERCIAL PESTICIDE PRODUCTS (RCRA "F" LIST) ACTIVE INGREDIENTS

ACETONE	2,4-DICHLOROPHOXYACETIC, ESTERS AND SALTS (2,4-D)	NAPHTHALENE
ACRYLONITRILE	1,2-DICHLOROPROPANE	NITROBENZENE
AMITROLE	1,3-DICHLOROPEOPANE (TELONE)	P-NITROPHENOL
BENZENE	DIMETHYLPHTHALATE	PENTACHLORETHANE
BIS(2-ETHYLHEXYL)PHTHALATE	ETHYL ACETATE	PENTACHLORNITROBENZENE (PCNB)
CACODYLIC ACID	ETHYL 4,4'-DICHLOROBENZILATE (CHLOROBENZILATE)	PENTACHLOROPHENOL
CARBON TETRACHLORIDE	ETHYLENE DIBROMIDE (EDB)	PHENOL
CHLORAL (HYDRATE)	ETHYLENEDICHLORIDE	PHOSPHORODITHIOIC ACID, O,O DIETHYL, METHYLESTER
CHLORDANE (TECHNICAL)	ETHYLENE OXIDE	PROPYLENEDICHLORIDE
CHLOROBENZENE	FORMALDEHYDE	PYRIDINE
4-CHLORO-M-CRESOL	FURFURAL	RESORCINOL
CHLOROFORM	HEXACHLOROBENZENE	SAFROLE
O-CHLOROPHENOL	HEXACHLOROCYCLOPENTADIENE	SELENIUMDISULFIDE
4-CHLORO-O-TOLUIDINE HYDROCHLORIDE	HEXACHLOROETHANE	SILVEX
CREOSOTE	HYDROFLUORIC ACID	1,2,4,5-TETRACHLOROBENZENE
CRESYLIC ACID	ISOBUTYL ALCOHOL	1,1,2,2-TETRACHLOROETHANE
CYCLOHEXANE	LEAD ACETATE	TETRACHLOROETHYLENE
DECACHLOROCTAHYDRO-1,3,4 METHENO-2H-CYCLOBUTA(C,D)-PENTALEN-2-ONE (KEPONE, CHLORDECONE)	LINDANE	2,3,4,6-TETRACHLOROPHENOL
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	MALEICHYDRAZIDE	THIRAM
DIBUTYLPHTHALATE	MERCURY	TOLUENE
S-3,3-(DICHLOROALLYLDIISOPROP LTHIOCARBAMATE (DIALLATE, AVADEx)	METHYL ALCOHOL	1,1,1-TRICHLOROETHANE
O-DICHLOROBENZENE	METHYLBROMIDE	TRICHLORCETHYLENE
P-DICHLOROBENZENE	METHYLCHLORIDE	TRICHLOROMONOFLURO-INETHANE (FREON 11)
DICHLORODIFLUOROMETHANE (FREON 12)	2,2'-METHYLENEBIS(3,4,6-TRICHLOROPH NOL) (HEXACHLOROPHENE)	2,4,5-TRICHLOROPHENOL
3,5-DICHLORO-N-(1,L-DIMETHYL-2 PROPYNYL) BENZAMIDE (PRO-NANIDE, KERB)	METHYLENECHLORIDE	2,4,6-TRICHLOROPHENOL
DICHLORODIPHENYL DICHLOROETHANE (DDD)	METHYLETHYLKETONE	2,4,5-TRICHLOROPHOXYACETIC ACID (2,4,5-T)
DICHLORODIPHENYL TRICHLOROETHANE (DDT)	4-METHYL-2-PENTANONE (METHYLISOB VTYLKETONE)	XYLENE
DICHLORETHYLETHER		

CONTINUED ON THE NEXT PAGE

APPENDIX 9

ACUTELY HAZARDOUS AND TOXIC PESTICIDES

TABLE B.2

TOXIC COMMERCIAL PESTICIDE PRODUCTS (RCRA "F" List) INERT INGREDIENTS

ACETONE	DIETHYLPHTHALATE	METHYLMETHACRYLATE
ACETONITRILE	DIMETHYLAMINE	NAPHTHALENE
ACETOPHENONE	DIMETHYLPHTHALATE	SACCHARIN ANDSALTS
ACRYLIC ACID	1,4-DIOXANE	THIOUREA
ANILINE	ETHYLENE OXIDE	TOLUENE
BENZENE	FORMALDEHYDE	1,1,1-TRICHLOROETHANE
CHLOROBENZENE	FORMIC ACID	1,1,2-TRICHLOROETHANE
CHLOROFORM	ISOBUTYL ALCOHOL	TRICHLOROFLUCLUOROMETHANE (FREON 11)
CYCLOHEXANE	METHYL ANHYDRIDE	VINYLCHLORIDE
CYCLOHEXANONE	METHYL ALCOHOL (METHANOL)	XYLENE
DICHLORODIFLUOROMETHANE (FREON 12)	METHYLETHYL KETONE	

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Appendix 10



THOMAS J. WILSACK
GOVERNOR

SALLY J. PEDERSON
LT. GOVERNOR

DEPARTMENT OF PUBLIC SAFETY

E. A. "PENNY" WESTFALL
COMMISSIONER

ABOVEGROUND STORAGE TANK REGISTRATION FORM IOWA STATE FIRE MARSHAL DIVISION

Note: Tank registration shall NOT be construed as plan approval. Plan approval is required for all tanks; registration is not [Tanks placed into service without plan approval are in violation of State Code, IAC 661-5.301(1)]

When to register an aboveground petroleum storage tank.

"Aboveground petroleum storage tank" means one or a combination of tanks, including connecting pipes connected to the tanks which are used to contain an accumulation of petroleum and the volume of which, including the volume of the underground pipes, is more than ninety percent above the surface of the ground. As defined in 191.21(1), an aboveground petroleum storage tank DOES NOT include any of the following: 1) Aboveground tanks of 1,100 gallons or less capacity; 2) Tanks used for storing heating oil for consumptive use on the premises where stored; 3) Underground tanks as defined by section 455B.471; 4) A flow-through process tanks, or a tank containing a regulated substance, other than motor vehicle fuel used for transportation purposes, for use as part of a manufacturing process, system, or facility.

APPLICANT & PAYMENT INFORMATION

DATE: _____ YEAR: _____ COUNTY: _____ COUNTY # _____

APPLICANT: _____ PHONE # _____

TANK OWNER (Business Name & Address): _____

MAILING ADDRESS: _____

CITY: _____ STATE: _____ ZIP CODE: _____

- This registration form shall be accompanied by a fee of \$10.00 (ten dollars) for EACH tank. In addition, a late fee of \$25.00 (twenty five dollars) per tank shall be imposed for existing tanks not registered by May 1, 1990 OR, new tanks not registered within 30 days of being put into service.

- Amount Due and Enclosed: _____ (DO NOT ENCLOSE CASH!)

Make check or money order payable to: TREASURER, STATE OF IOWA, and mail to:

IOWA STATE FIRE MARSHAL DIVISION
FLAMMABLE LIQUIDS SECTION
621 East 2nd STREET
DES MOINES, IA 50309-1831

See Reverse Side for Additional Registration Information to be Completed by the Applicant

Appendix 10

SECTION A – Registering Aboveground Storage Tanks

This section of the form is to be completed for registering aboveground storage tanks. Upon receiving your application, the State Fire Marshal will assign a registration number for each tank registered. A tag and registration number will be returned to you for each tank. The tag is to be affixed to the fill stem or to the tank within one foot of the fill stem.

YEAR MFG.: Year the tank was manufactured. If unknown, use your best estimate.
SIZE: Capacity of the tank in U.S. gallons.
TYPE: Material the tank is constructed of. Specify single wall or double wall.
CONTENTS: Type of material stored in the tank, (e.g., gasoline, diesel, fuel oil)
LOCATION: City and county the tank is located in.

	YEAR MFG.	SIZE (gallons)	TYPE	CONTENTS	LOCATION	Office Use Only
TANK #1						
TANK #2						
TANK #3						
TANK #4						
TANK #5						

SECTION B – Reporting Tanks Taken Out of Service

This section is to be completed to report a tank that was previously registered but is no longer in service. The registration tag must be removed from the tank and returned to the State Fire Marshal's office along with this form. This office will then make a notation in the tank registration log that the tank is no longer in service. Tanks taken out of service **CANNOT** be placed back in service without State Fire Marshal plan review and approval. Tanks permanently taken out of service shall be emptied of liquid, rendered vapor-free and safeguarded against trespassing in accordance with NFPA 30.

	YEAR MFG.	SIZE (gallons)	TYPE	CONTENTS	LOCATION	Office Use Only
TANK #1						
TANK #2						
TANK #3						
TANK #4						
TANK #5						

"DO NOT use this form, it is for example only. A business must contact the State Fire Marshall to receive updated forms and additional application information."

APPENDICES

APPENDIX 11

LIST OF REGULATED CHEMICALS UNDER 112(R)

CHEMICAL	CAS #	THRESHOLD (IN LBS.)	CHEMICAL	CAS #	THRESHOLD (IN LBS.)
ACETALDEHYDE	75070	10,000	IRON, PENTACARBONYL	13463406	2,500
ACETYLENE	74862	10,000	ISOBUTANE	75285	10,000
ACROLEIN	107028	5,000	ISOBUTYRONITRILE	78820	20,000
ACRYLONITRILE	107131	20,000	ISOPENTANE	78784	10,000
ACRYLYLCHLORIDE	814686	5,000	ISOPRENE	78795	10,000
ALLYL ALCOHOL	107186	15,000	ISOPROPYLAMINE	75310	10,000
ALLYLAMINE	107119	10,000	ISOPROPYLCHLORIDE	75296	10,000
AMMONIA (ANHYDROUS)	7664417	10,000	ISOPROPYLCHLOROFORMATE	108236	15,000
AMMONIA (CONC. OF 20% OR GREATER)	7664417	20,000	METHACRYLONITRILE	126987	10,000
ARSENOTRICHLORIDE	7784341	15,000	METHANE	74828	10,000
ARSINE	7784421	1,000	METHYLCHLORIDE	74873	10,000
BORONTRICHLORIDE	10294345	5,000	METHYLCHLOROFORMATE	79221	5,000
BORONTRIFLUORIDE	7637072	5,000	METHYLETHER	115106	10,000
BORONTRIFLUORIDE COMPOUND WITH METHYLETHER	353424	15,000	METHYL FORMATE	107313	10,000
BROMINE	7726956	10,000	METHYLHYDRAZINE	60344	15,000
BROMOTRIFLUORETHYLENE	598732	10,000	METHYLSOCYANATE	624839	10,000
BUTANE	106978	10,000	METHYLMERCAPTAN	74931	10,000
BUTENE	25167673	10,000	METHYL THIOCYANATE	556649	20,000
1-BUTENE	106989	10,000	2-METHYL-1-BUTENE	563462	10,000
1,3-BUTADIENE	106990	10,000	3-METHYL-1-BUTENE	563451	10,000
2-BUTENE	107017	10,000	2-METHYLPROPENE	115117	10,000
2-BUTENECIS	590181	10,000	METHYLTRICHLOROSILANE	75796	5,000
2-BUTENETRANS	624646	10,000	MONOMETHYLAMINE	74895	10,000
CARBONDISULFIDE	75150	20,000	NICKELCARBONYL	13463393	1,000
CARBON OXSULFIDE	463581	10,000	NITRIC ACID (CONC. OF 80% OR GREATER)	7697372	15,000
CHLORINE	7782505	2,500	NITRIC OXIDE	10102439	10,000
CHLORINEDIOXIDE	10049044	1,000	OLEUM	8014957	10,000
CHLORINEMONOXIDE	7791211	10,000	1,3-PENTADIENE	504609	10,000
CHLOROFORM	67663	20,000	PENTANE	109660	10,000
CHLOROMETHYLETHER	542881	1,000	1-PENTENE	109671	10,000
CHLOROMETHYLMETHYLETHER	107302	5,000	2-PENTENE, (E)	646048	10,000
1-CHLOROPROPYLENE	590216	10,000	2-PENTENE, (Z)	627203	10,000
2-CHLOROPROPYLENE	557982	10,000	PERACETIC ACID	79210	10,000
CROTONALDEHYDE	4170303	20,000	PERCHLOROMETHYLMERCAPTAN	594423	10,000
CROTONALDEHYDE, (E)-	123739	20,000	PHOSGENE	75445	5,000
CYANOGEN	460195	10,000	PHOSPHINE	7803512	5,000
CYANOGENCHLORIDE	506774	10,000	PHOSPHORUS OXYCHLORIDE	10025873	5,000
CYCLOHEXYLAMINE	108918	15,000	PHOSPHORUSTRICHLORIDE	7719122	15,000
CYCLOPROPANE	75194	10,000	PIPERIDINE	110894	15,000
DIBORANE	19287457	2,500	PROPADIENE	463490	10,000
DICHLOROSILANE	4109960	10,000	PROPANE	74986	10,000
DIFLUOROETHANE	75376	10,000	PROPIONITRILE	107120	10,000
DIMETHYLAMINE	124403	10,000	PROPYLENE	115071	10,000
DIMETHYLDICHLOROSILANE	75785	5,000	PROPYLENIMINE	75558	10,000
1,1-DIMETHYLHYDRAZINE	57147	15,000	PROPYLCHLOROFORMATE	109615	15,000
2,2-DIMETHYLPROPANE	463821	10,000	PROPYLENE OXIDE	75569	10,000
EPICHLOROHYDRIN	106898	20,000	PROPYLENE	74997	10,000
ETHANE	74-84-0	10,000	SILANE	7803625	10,000
ETHYLAMINE	75047	10,000	SULFURDIOXIDE	7446095	5,000
ETHYL ACETYLENE	107006	10,000	SULFUR TETRAFLUORIDE	7783600	2,500
ETHYLCHLORIDE	75003	10,000	SULFURTRIOXIDE	7446119	10,000
ETHYLETHER	60297	10,000	TETRAFLUOROETHYLENE	116143	10,000
ETHYLMERCAPTAN	75081	10,000	TETRAMETHYL LEAD	75741	10,000
ETHYLNITRITRILE	109955	10,000	TETRAMETHYLSILANE	75763	10,000
ETHYLENE	74851	10,000	TETRAMETHYLENE SULFIDE	509148	10,000
ETHYLENEDIAMINE	107153	20,000	TITANIUM TETRACHLORIDE	7550-45-0	2,500
ETHYLENIMINE	151564	10,000	TOLUENEDIISOCYANATE	26471625	10,000
ETHYLENE OXIDE	75218	10,000	TOLUENE-2,4-DIISOCYANATE	584849	10,000
FLUORINE	7782414	1,000	TOLUENE-2,6-DIISOCYANATE	91087	10,000
FORMALDEHYDE (SOLUTION)	50000	15,000	TRICHLOROSILANE	10025782	10,000
FURAN	110009	5,000	TRIFLUOROCHLOROETHYLENE	79389	10,000
HYDRAZINE	302012	15,000	TRIMETHYLAMINE	75503	10,000
HYDROCHLORIC ACID (CONC. OF 30% OR GREATER)	7647010	15,000	TRIMETHYLCHLOROSILANE	75774	10,000
HYDROCYANIC ACID	74908	2,500	VINYL ACETYLENE	689974	10,000
HYDROGEN	1333740	10,000	VINYLCHLORIDE	75014	10,000
HYDROGENCHLORIDE	7647010	5,000	VINYLETHYLETHER	109922	10,000
HYDROGENSULFIDE	7783064	10,000	VINYL FLUORIDE	75025	10,000
HYDROGEN FLUORIDE	7664393	1,000	VINYLDIENECHLORIDE	75354	10,000
HYDROGENSELENIDE	7783075	500	VINYLDIENE FLUORIDE	75387	10,000
HYDROFLUORIC ACID (CONC. OF 50% OR GREATER)	7664393	1,000	VINYL ACETATE MONOMER	108054	15,000
			VINYLMETHYLETHER	107255	10,000

APPENDICES

APPENDIX 12

CAAA 112 (R) HAZARDOUS AIR POLLUTANTS (HAPS)

This draft list includes current EPA staff recommendations for technical corrections and clarifications of the hazardous air pollutants (HAP) list in Section 112(b)(1) of the Clean Air Act. This draft has been distributed to apprise interested parties of potential future changes in the HAP list and is informational only. The recommended revisions of the current HAP list which are included in this draft do not themselves change the list as adopted by Congress and have no legal effect. EPA intends to propose specific revisions of the HAP list, including any technical corrections or clarifications of the list, only through notice and comment rulemaking.

CHEMICAL ABSTRACTS SERVICE NUMBER	POLLUTANT	CHEMICAL ABSTRACTS SERVICE NUMBER	POLLUTANT
75-07-0	ACETALDEHYDE	510-15-6	CHLOROBENZILATE
60-35-5	ACETAMIDE	67-66-3	CHLOROFORM
75-05-8	ACETONITRILE	107-30-2	CHLOROMETHYLMETHYLETHER
98-86-2	ACETOPHENONE	126-99-8	CHLOROPRENE
53-96-3	2-ACETYLAMINOFLUORENE	1319-77-3	CRESOL/CRESYLIC ACID (MIXEDISOMERS)
107-02-8	ACROLEIN		
79-06-1	ACRYLAMIDE	95-48-7	O-CRESOL
79-10-7	ACRYLIC ACID	108-39-4	M-CRESOL
107-13-1	ACRYLONITRILE	106-44-5	P-CRESOL
107-05-1	ALLYLCHLORIDE	98-82-8	CUMENE
92-67-1	4-AMINOBIPHENYL	N/A	2,4-D (2,4-DICHLOROPHENOXYACETIC ACID) (INCLUDING SALTS AND ESTERS)
62-53-3	ANILINE		
90-04-0	O-ANISIDINE		
1332-21-4	ASBESTOS	84-74-2	DIBUTYLPHTHALATE
71-43-2	BENZENE (INCLUDING BENZENE FROM GASOLINE)	132-64-9	DIBENZOFURAN
		34-88-3	DIAZOMETHANE
92-87-5	BENZIDINE	72-55-9	DDE (1,1-DICHLORO-2,2-BIS (P-CHLOROPHENYL) ETHYLENE)
98-07-7	BENZOTRICHLORIDE		
100-44-7	BENZYLCHLORIDE	106-46-7	1,4-DICHLOROBENZENE
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE (DEHP)	91-94-1	3,3'-DICHLOROBENZIDINE
92-52-4	BIPHENYL	96-12-8	1,2-DIBROMO-3-CHLOROPROPANE
542-88-1	BIS(CHLOROMETHYL) ETHER	542-75-6	1,3-DICHLOROPROPENE
75-25-2	BROMOFORM	111-44-4	DICHLOROETHYLETHER (BIS[2-CHLOROETHYL]ETHER)
106-99-0	1,3-BUTADIENE		
156-62-7	CALCIUMCYANAMIDE	62-73-7	DICHLORVOS
105-60-2	CAPROLACTAM (REMOVED 6/18/96, 61FR30816)	119-90-4	3,3'-DIMETHOXYBENZIDINE
		111-42-2	DIETHANOLAMINE
133-06-2	CAPTAN	64-67-5	DIETHYLSULFATE
63-25-2	CARBARYL	60-11-7	4-DIMETHYLAMINOAZOBENZENE
75-15-0	CARBONDISULFIDE	121-69-7	N,N-DIMETHYLANILINE
56-23-5	CARBON TETRACHLORIDE	119-93-7	3,3'-DIMETHYLBENZIDINE
463-58-1	CARBONYLSULFIDE	79-44-7	DIMETHYLCARBAMOYLCHLORIDE
120-80-9	CATECHOL	68-12-2	N,N-DIMETHYLFORMAMIDE
133-90-4	CHLORAMBEN	57-14-7	1,1-DIMETHYLHYDRAZINE
57-74-9	CHLORDANE	131-11-3	DIMETHYLPHTHALATE
7782-50-5	CHLORINE	77-78-1	DIMETHYLSULFATE
79-11-8	CHLOROACETIC ACID	51-28-5	2,4-DINITROPHENOL
532-27-4	2-CHLOROACETOPHENONE	N/A	4,6-DINITRO-O-CRESOL (INCLUDING SALTS)
108-90-7	CHLOROBENZENE		

CONTINUED ON THE NEXT PAGE

APPENDICES

APPENDIX 12

CAAA 112 (R) HAZARDOUS AIR POLLUTANTS (HAPS)

CHEMICAL ABSTRACTS SERVICE NUMBER	POLLUTANT	CHEMICAL ABSTRACTS SERVICE NUMBER	POLLUTANT
121-14-2	2,4-DINITROTOLUENE	74-87-3	METHYLCHLORIDE (CHLOROMETHANE)
122-66-7	1,2-DIPHENYLHYDRAZINE	78-93-3	METHYLETHYLKETONE (2-BUTANONE)
123-91-1	1,4-DIOXANE (1,4-DIETHYLENEOXIDE)	60-34-4	METHYLHYDRAZINE
106-88-7	1,2-EPOXYBUTANE	108-10-1	METHYLISOBUTYLKETONE (HEXONE)
140-88-5	ETHYL ACRYLATE	74-88-4	METHYL IODIDE (IODOMETHANE)
106-89-8	EPICHLOROHYDRIN (L-CHLORO-2,3-EPOXYPROPANE)	80-62-6	METHYLMETHACRYLATE
100-41-4	ETHYLBENZENE	624-83-9	METHYLISOCYANATE
75-00-3	ETHYLCHLORIDE (CHLOROETHANE)	1634-04-4	METHYL TERT-BUTYLETHER
51-79-6	ETHYLCARBAMATE (URETHANE)	101-14-4	4,4'-METHYLENEBIS (2-CHLOROANILINE)
107-06-2	ETHYLENEDICHLORIDE (1,2-DICHLOROETHANE)	75-09-2	METHYLENECHLORIDE (DICHLOROMETHANE)
106-93-4	ETHYLENEDIBROMIDE (DIBROMOETHANE)	101-77-9	4,4'-METHYLENEDIANILINE
151-56-4	ETHYLENEIMINE (AZIRIDINE)	91-20-3	NAPHTHALENE
107-21-1	ETHYLENEGLYCOL	101-68-8	4,4'-METHYLENEDIIPHENYL DIISOCYANATE (MDI)
75-21-8	ETHYLENE OXIDE	92-93-3	4-NITROBIPHENYL
96-45-7	ETHYLENE THIOUREA	98-95-3	NITROBENZENE
75-34-3	ETHYLIDENEDICHLORIDE (1,1-DICHLOROETHANE)	100-02-7	4-NITROPHENOL
50-00-0	FORMALDEHYDE	79-46-9	2-NITROPROPANE
87-68-3	HEXACHLOROBUTADIENE	684-93-5	N-NITROSO-N-METHYLUREA
76-44-8	HEPTACHLOR	62-75-9	N-NITROSODIMETHYLAMINE
118-74-1	HEXACHLOROENZENE	59-89-2	N-NITROSOMORPHOLINE
N/A	1,2,3,4,5,6-HEXACHLORO-CYCLYHEXANE (ALL STEREOISOMERS, INCLUDING LINDANE)	56-38-2	PARATHION (QUINTOBENZENE)
67-72-1	HEXACHLOROETHANE	82-68-8	PENTACHLORONITROBENZENE
110-54-3	HEXANE	87-86-5	PENTACHLOROPHENOL
302-01-2	HYDRAZINE	108-95-2	PHENOL
77-47-4	HEXACHLOROCYCLOPENTADIENE	106-50-3	p-PHENYLENEDIAMINE
7647-01-0	HYDROCHLORIC ACID	75-44-5	PHOSGENE
822-06-0	HEXAMETHYLENEDIISOCYANATE	7803-51-2	PHOSPHINE
123-31-9	HYDROQUINONE	N/A	PHOSPHORUS COMPOUNDS
680-31-9	HEXAMETHYLPHOSPHORAMIDE (HYDROGENCHLORIDE [GASONLY])	85-44-9	PHTHALIC ANHYDRIDE
78-59-1	ISOPHORONE	1336-36-3	POLYCHLORINATEDBIPHENYLS (AROCLORS)
108-31-6	MALEIC ANHYDRIDE	1120-71-4	1,3-PROPANESULTONE
7664-39-3	HYDROGEN FLUORIDE (HYDROFLUORIC ACID)	123-38-6	PROPIONALDEHYDE
67-56-1	METHANOL	57-57-8	BETA-PROIOLACTONE
72-43-5	METHOXYCHLOR	114-26-1	PROPOXUR (BAYGON)
74-83-9	METHYLBROMIDE (BROMOMETHANE)	78-87-5	PROPYLENEDICHLORIDE (1,2-DICHLOROPROPANE)
71-55-6	METHYLCHLOROFORM (1,1,1-TRICHLOROETHANE)	75-55-8	1,2-PROPYLENIMINE

CONTINUED ON THE NEXT PAGE

APPENDIX 12		CAAA 112 (R) HAZARDOUS AIR POLLUTANTS (HAPs)
CHEMICAL ABSTRACTS SERVICE NUMBER	POLLUTANT	
75-56-9	PROPYLENE OXIDE (2-METHYLAZIRIDINE)	<p>NOTE: For all listings above which contain the word "compounds" and for glycol ethers, the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substance that contains the named chemical (antimony, arsenic, etc.) as part of that chemical's infrastructure.</p> <p>¹ X'CN where X = H' or any other group where a formal dissociation may occur. For example, KCN or Ca(CN)₂.</p> <p>² Under review. Glycol Ether definition draft options include:</p> <p>Possible correction to CAA 112(b)(1) footnote that would be consistent with OPPTS modified definition. New OPPTS definition as published is:</p> <p>R - (OCH₂CH₂)_n - OR' where: n = 1, 2 or 3 R = alkyl C7 or less or R = phenyl or alkyl substituted phenyl R' = H or alkyl C7 or less or OR' = carboxylic acid ester, sulfate, phosphate, nitrate or sulfonate</p> <p>CAA Glycol Ether definition with technical corrections made. (A 2 was left out of the last formula). "Includes mono- and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-(OCH₂CH₂)_n-OR where: n = 1, 2 or 3 R = alkyl or aryl groups R' = R, H, or groups which, when removed, yield glycol ethers with the structure R-(OCH₂CH₂)_n-OH. Polymers are excluded from the glycol category.</p> <p>³ Under review</p> <p>⁴ Under review</p> <p>⁵ A type of atom which spontaneously undergoes radioactive decay.</p>
91-22-5	QUINOLINE	
106-51-4	QUINONE (P-BENZOQUINONE)	
100-42-5	STYRENE	
96-09-3	STYRENE OXIDE	
127-18-4	TETRACHLOROETHYLENE (PERCHLOROETHYLENE)	
1746-01-6	2,3,7,8-TETRACHLORODIBENZO- P-DIOXIN	
79-34-5	1,1,2,2-TETRACHLOROETHANE	
108-88-3	TOLUENE	
7550-45-0	TITANIUM TETRACHLORIDE	
95-53-4	O-TOLUIDINE	
95-80-7	TOLUENE-2,4-DIAMINE	
120-82-1	1,2,4-TRICHLOROBENZENE	
584-84-9	2,4-TOLUENEDIISOCYANATE	
79-00-5	1,1,2-TRICHLOROETHANE	
8001-35-2	TOXAPHENE (CHLORINATEDCAMPHENE)	
79-01-6	TRICHLOROETHYLENE	
88-06-2	2,4,6-TRICHLOROPHENOL	
95-95-4	2,4,5-TRICHLOROPHENOL	
121-44-8	TRIETHYLAMINE	
1582-09-8	TRIFLURALIN	
540-84-1	2,2,4-TRIMETHYLPENTANE	
108-05-4	VINYL ACETATE	
540-84-1	2,2,4-TRIMETHYLPENTANE	
593-60-2	VINYLBROMIDE	
75-01-4	VINYLCHLORIDE	
75-35-4	VINYLDENECHLORIDE (1,1-DICHLOROETHYLENE)	
1330-20-7	XYLENES (MIXEDISOMERS)	
95-47-6	O-XYLENE	
108-38-3	M-XYLENE ANTIMONY, BERYLLIUM AND CADMIUM, COBALT, CYANIDE, ¹ LEAD, MERCURY, NICKEL AND SELENIUM COMPOUNDS	
106-42-3	P-XYLENE ARSENIC COMPOUNDS (INORGANICINCLUDING ARSINE), CHROMIUM COMPOUNDS, COKE OVEN EMISSIONS, GLYCOETHERS, ² MANGANESE COMPOUNDS, FINEMINERAL FIBERS, ³ POLYCYCLIC ORGANIC MATTER ⁴ AND RADIONUCLIDES (INCLUDINGRADON) ⁵	

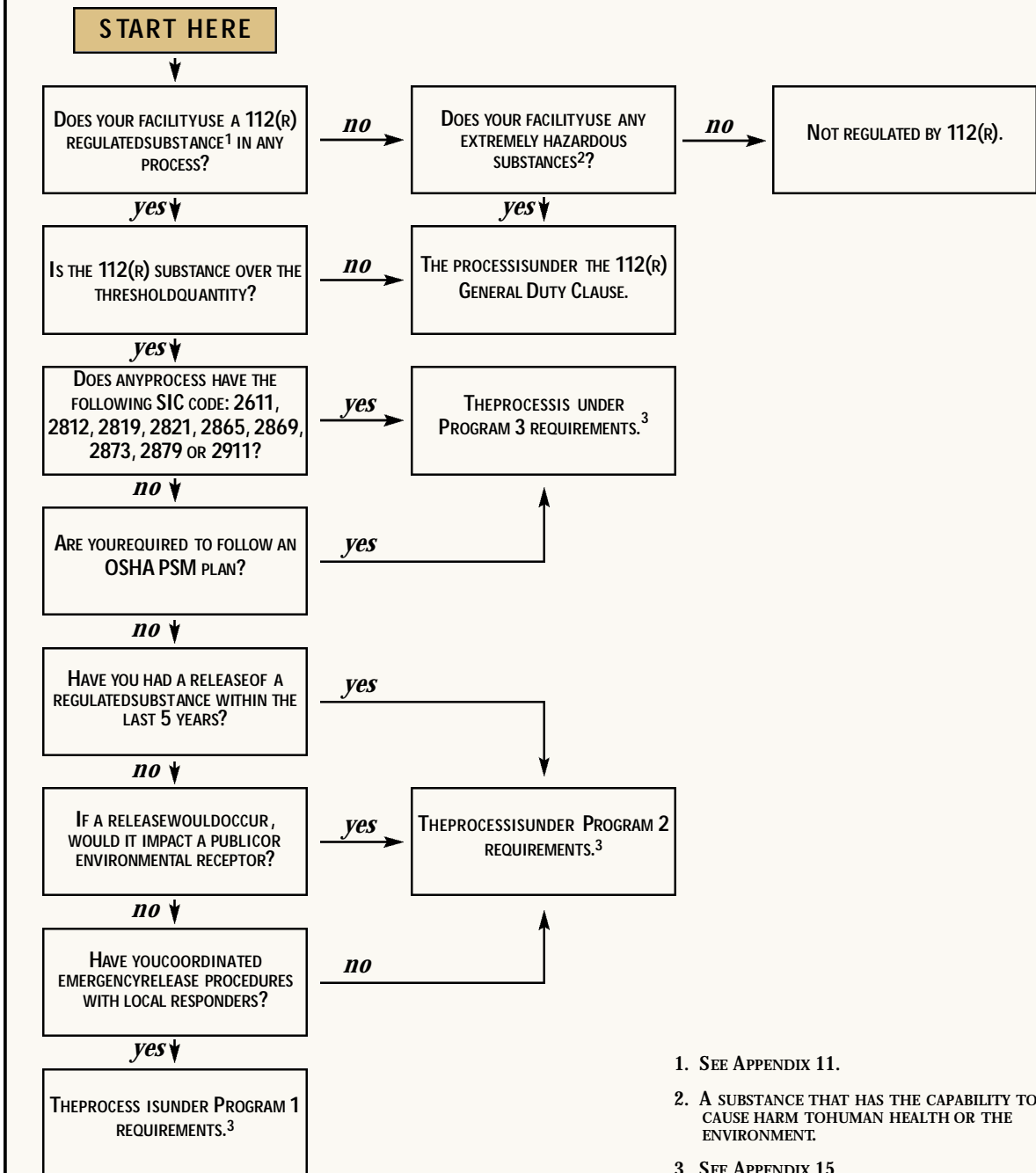
APPENDICES

APPENDIX 13

CLEAN AIR ACT: PSD POLLUTANTS AND THRESHOLDS FOR SIGNIFICANT EMISSION INCREASE

PSD POLLUTANTS	POTENTIAL TO EMIT (TONS PER YEAR)
PARTICULATE MATTER LESS THAN 10 MICRONS (PM10)	15
SULFUR DIOXIDE (SO ₂)	40
NITROGEN DIOXIDE (NO ₂)	40
VOLATILE ORGANIC COMPOUNDS (VOC)	40
CARBON MONOXIDE (CO)	100
ELEMENTAL LEAD (Pb)	0.6
PARTICULATE MATTER (PM)	25
FLOURIDES	3
SULFURIC ACID MIST	7
TOTAL REDUCED SULFUR (TRS) COMPOUNDS	10
HYDROGEN SULFIDE (H ₂ S)	10
MUNICIPAL WASTE COMBUSTOR (MWC) ACID GASES	40
MWC METALS	15
MWC ORGANICS	3.5 x 10 ⁻⁶
OZONE DEPLETING SUBSTANCE (ODS)	ANY INCREASE
MUNICIPAL SOLID WASTE LANDFILL EMISSIONS (NON METHANE ORGANIC COMPOUND (NMOC))	50

112 (R) DECISION TREE



1. SEE APPENDIX 11.
 2. A SUBSTANCE THAT HAS THE CAPABILITY TO CAUSE HARM TO HUMAN HEALTH OR THE ENVIRONMENT.
 3. SEE APPENDIX 15.

INTRODUCTION
 CHAPTER 1
 CHAPTER 2
 CHAPTER 3
 CHAPTER 4
 CHAPTER 5
 CHAPTER 6
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APPENDICES

APPENDIX 15		PROGRAM REQUIREMENTS OF 112 (R)		
	PROGRAM 1	PROGRAM 2	PROGRAM 3	
ELIGIBILITY REQUIREMENTS	1. NO OFF-SITE ACCIDENT HISTORY IN LAST 5 YEARS. 2. NO PUBLIC OR ENVIRONMENTAL RECEPTORS IMPACTED IF A RELEASE DOES OCCUR. 3. EMERGENCY RESPONSE COORDINATED WITH LOCAL EMERGENCY RESPONSE OFFICIALS.	THE PROCESS IS NOT ELIGIBLE FOR PROGRAMS 1 OR 3.	1. PROCESS IS SUBJECT TO OSHA'S PSM. 2. PROCESS HAS ONE OF THE FOLLOWING SIC CODES: 2611, 2812, 2819, 2821, 2865, 2869, 2873, 2879 OR 2911.	
RMP REQUIREMENTS				
HAZARD ASSESSMENT	1. WORSTCASE ANALYSIS. 2. FIVE YEAR ACCIDENT HISTORY.	1. WORSTCASE ANALYSIS. 2. FIVE YEAR ACCIDENT HISTORY. 3. ALTERNATIVE RELEASE.	1. WORSTCASE ANALYSIS. 2. FIVE YEAR ACCIDENT HISTORY. 3. ALTERNATIVE RELEASE.	
PREVENTION PROGRAM	CERTIFY NO ADDITIONAL STEPS ARE REQUIRED.	1. SAFETY INFORMATION. 2. HAZARD REVIEW. 3. OPERATING PROCEDURES. 4. TRAINING. 5. MAINTENANCE. 6. INCIDENT INVESTIGATIONS. 7. COMPLIANCE AUDIT.	1. SAFETY INFORMATION. 2. HAZARD REVIEW. 3. OPERATING PROCEDURES. 4. TRAINING. 5. MAINTENANCE. 6. INCIDENT INVESTIGATIONS. 7. COMPLIANCE AUDIT. 8. MANAGEMENT OF CHANGE. 9. PRE-STARTUP REVIEW. 10. CONTRACTORS. 11. EMPLOYEE PARTICIPATION. 12. HOT WORK PERMITS.	
EMERGENCY RESPONSE PROGRAM MANAGEMENT PROGRAM EXECUTIVE SUMMARY REGISTRATION CERTIFICATION	COORDINATE WITH LOCAL OFFICIALS. NONE YES. YES. YES.	DEVELOP PLAN AND PROGRAM. DOCUMENT MANAGEMENT SYSTEM. YES. YES. YES.	DEVELOP PLAN AND PROGRAM. DOCUMENT MANAGEMENT SYSTEM. YES. YES. YES.	

Appendix 16

IOWA DEPARTMENT OF NATURAL RESOURCES REQUEST FOR SPECIAL WASTE AUTHORIZATION

NOTE: Completion of this form requires reference to Chapter 40, Code of Federal Regulations (CFR), Part 261. Please type or print in ink. Complete each item in its entirety.				
SEND TO	Special Waste Authorization Environmental Protection Department of Natural Henry A. Wallace Building, 502 East 9th Street Des Moines, IA 50319-			
PHONE	515/281-3426			
PART I - GENERAL INFORMATION				
IS THIS A REQUEST FOR RENEWAL OF A CURRENT SPECIAL WASTE AUTHORIZATION(SWA)? Yes <input type="checkbox"/> No <input type="checkbox"/> IF YES, SWA NUMBER IS -				
WASTE GENERATOR	NAME			
	ADDRESS	CITY	STATE	ZIP
	NAME OF CONTACT PERSON		TITLE	PHONE ()
DISPOSAL SITE	NAME			
	ADDRESS	CITY	STATE	ZIP
PART II - WASTE CHARACTERIZATION				
IDENTIFICATION	NAME OF WASTE		SOURCE OF WASTE	
	GENERATION PROCESS			WASTE ON HAND FOR IMMEDIATE DISPOSAL
DISPOSAL RATE	WEIGHT PER DISPOSAL		TIME PERIOD BETWEEN DISPOSALS	
	BASIC PHYSICAL STATE AT 70F (room temperature) [] Solid [] Liquid [] Sludge	PERCENT SOLIDS	pH (if solid, use 10% distilled water)	FLASH POINT
HAS ANY PRETREATMENT BEEN UTILIZED? [] Yes [] No		If Yes, describe.		

Appendix 16 continued

NECESSARY SAFETY EQUIPMENT FOR HANDLING WASTE	<input type="checkbox"/> Protective clothing/suit <input type="checkbox"/> Rubber gloves <input type="checkbox"/> Rubber boots <input type="checkbox"/> Face shield/goggles <input type="checkbox"/> Type "B" fire extinguisher/ fire blanket	<input type="checkbox"/> Respirator <input type="checkbox"/> Gas mask <input type="checkbox"/> Self-contained breathing apparatus <input type="checkbox"/> Other (specify)	<input type="checkbox"/> Absorbent <input type="checkbox"/> Portable eye wash/shower <input type="checkbox"/> Pump truck w/water <input type="checkbox"/> Lime => lbs <input type="checkbox"/> None
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CONDUCT AND SUBMIT A LABORATORY ANALYSIS AS DESCRIBED ON PAGE 3

RCRA APPLICABILITY (you may need laboratory results to complete this item)

Is this waste a listed hazardous waste under RCRA? If the answer is yes, give the EPA hazardous waste number.

Is this waste a characteristic hazardous waste under RCRA? If the answer is yes, give the EPA hazardous waste number.

When appropriate give Toxicity Characteristic Leaching Procedure (TCLP) test results.

Does this waste contain greater than 50 ppm of PCB's?

Does this waste contain greater than 200 ppm carcinogenic PAH's?

Does this waste contain greater than 500 ppm total PAH's?

Appendix 16 continued

PART III - OTHER USES FOR WASTE

INDICATE ALTERNATIVE USES FOR THE GENERATED (OTHER THAN DISPOSAL) AND REASONS NOT UTILIZED

PART IV - CERTIFICATION

I certify under penalty of law (455B.417.1(c), Code of Iowa) that I have personally examined and am familiar with the information submitted in this document concerning hazardous waste, and all attachments, and that, based on inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information concerning hazardous waste, including the possibility of fine and imprisonment. I am aware that the Special Waste Authorization for this waste will be voided if false representation occurs.

TYPED NAME	TITLE	DATE
SIGNATURE	COMPANY	

INSTRUCTIONS FOR LABORATORY ANALYSIS

WASTE ANALYSIS

1. Perform the Toxicity Characteristic Leaching Procedure test outlined in 40 C.F.R. 261, Appendix III. Report all results in mg/l of eluate, mg/kg of original sample. In some cases, if there is reason to believe some of the TCLP constituents are not present, the TCLP metals need only be analyzed for. Contact the department prior to deleting the specific constituents.

2. Provide initial pH of waste.

3. If a virgin product is being disposed, an MSDS sheet may be substituted for the TCLP test. Contact the department for verification.

4. Conduct the paint filter liquids test according to EPA publication SW-846, Third Edition, Test Methods for Evaluating Solid Waste.

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APPENDICES

APPENDIX 17		SIC AND NAICS CONVERSIONS	
1987 SIC CODE	1987 USSIC DESCRIPTION	1997 NAICS CODE	1997 NAICS US DESCRIPTION
0723	CUSTOM GRAIN GRINDING	115114	POSTHARVEST CROP ACTIVITIES (EXCEPT COTTON GINNING)
0723	CUSTOM GRAIN GRINDING	311119	OTHER ANIMAL FOOD MANUFACTURING (PT)
2043	WET CORN MILLING	311221	WET CORN MILLING
2048	PREPARED FEED AND FEED INGREDIENTS FOR ANIMALS AND FOWLS, EXCEPT DOG AND CATS	311119	OTHER ANIMAL FOOD MANUFACTURING (PT)
2075	SOYBEAN PROCESSING	311222	SOYBEAN PROCESSING (PT)
2041	FLOUR AND OTHER GRAIN MILL PRODUCTS	311211	FLOUR MILLING (PT)
5153	GRAIN AND FIELD BEANS	422510	GRAIN FIELD BEAN WHOLESALERS
5159	FARM-PRODUCT RAW MATERIALS, (NEC)	422590	OTHER FARM PRODUCT RAW MATERIAL WHOLESALERS
5191	FARM SUPPLIES WHOLESALERS	422910	FARM SUPPLIES WHOLESALERS
4221	FARM PRODUCT WAREHOUSING AND STORAGE	493130	FARM PRODUCT WAREHOUSING AND STORAGE
5984	LIQUEFIED PETROLEUM GAS (BOTTLE GAS) DEALERS	454312	LIQUEFIED PETROLEUM GAS (BOTTLED GAS) DEALERS (PT)
7699	REPAIR SHOPS AND RELATED SERVICES	811310	COMMERCIAL AND INDUSTRIAL MACHINERY AND EQUIPMENT (EXCEPT AUTOMOTIVE AND ELECTRONIC) REPAIR AND MAINTENANCE

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