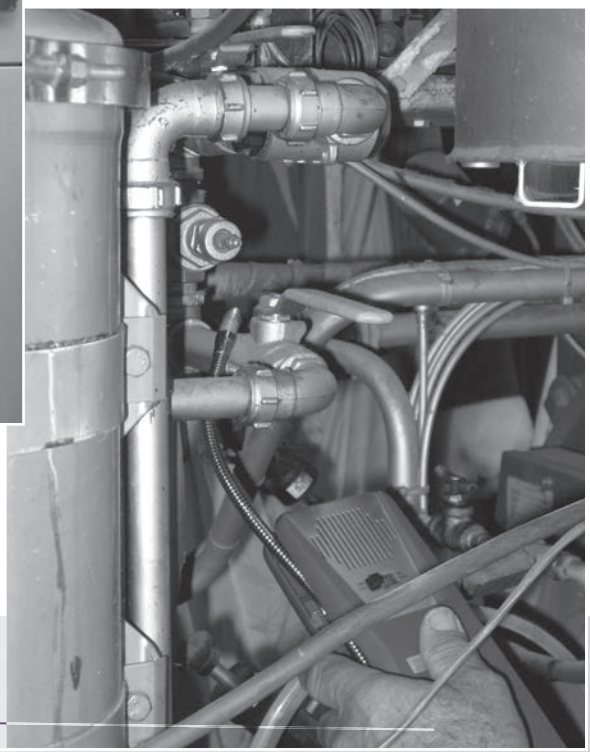
# Drycleaner Compliance Manual



Brought to you by:

Iowa Waste Reduction Center
IWRC
University of Northern Iowa

DNR

The publication of this document has been funded in part by the Iowa Department of Natural Resources.
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# Introduction

The Iowa Waste Reduction Center (IWRC) at the University of Northern Iowa has provided environmental services including business assistance, industry training, as well as research and development for nearly 25 years. Since inception, the center has conducted over 3,600 on-site reviews in all 99 Iowa counties and as a result has become a national leader in small business environmental assistance. The IWRC works with dry cleaning facilities providing environmental on-site assistance offering recommendations for air, hazardous waste, wastewater, and solid waste compliance issues.

For additional information, contact the IWRC by phone 800-422-3109, or visit www.IWRC.org.

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Blog: www.iwrc.org/blog

The Iowa Air Emissions Assistance Program (IAEAP) at the IWRC, supported by the Iowa Department of Natural Resources (DNR) is pleased to present the Dry Cleaner Compliance Manual. The purpose of this manual is to help Iowa dry cleaning facilities using perchloroethylene, petroleum solvents, or alternative solvents understand and comply with state and federal regulations. The manual is to be used in conjunction with the Environmental Recordkeeping Calendar for Dry Cleaning Facilities. Electronic copies of the Compliance Manual and the Recordkeeping Calendar can be found on the IAEAP website at http://iwrc.org/services/iaeap/dry-cleaning/.

The use of hazardous chemicals in the dry cleaning process, including perchloroethylene (commonly known as perc), petroleum solvents, and even alternative solvent-based cleaners can pose safety and environmental concerns if not managed appropriately. In an effort to minimize these concerns state and federal regulations are in place that may apply to your facility. These regulations have been developed to ensure your business operations will not unexpectedly harm the environment or individuals.

This manual is organized into three sections; one for each of the most commonly used types of dry cleaning chemicals.

Section 1 : Perchloroethylene-Based Dry Cleaning Systems

Section 2: Petroleum Solvent-Based Dry Cleaning Systems

Section 3: Alternative Solvent-Based Dry Cleaning Systems

Each section will cover the applicable requirements to comply with regulations for air quality, hazardous waste, and wastewater for the specific type of cleaner being used.

# Section 1 Perchloroethylene-Based Dry Cleaning

Perchloroethylene, known as perc or PCE, is the most commonly used cleaning agent in the Iowa dry cleaning industry. Perc facilities are mandated under the Clean Air Act Amendments (CAAA) of 1990 and the Environmental Protection Agency (EPA) to comply with the National Emission Standards for Hazardous Air Pollutants (NESHAP). This rule provides specific requirements for dry cleaning facilities that use perc, including reporting perc consumption, routine leak inspections, and control equipment monitoring.

Since September 22, 1993, all perc dry cleaners have been required to comply with the NESHAP found in Title 40 of the Code of Federal Regulations, Part 63 Subpart M. On July 27, 2006, the EPA significantly strengthened the NESHAP for all dry cleaners that use perc and final rule revisions went into effect on July 11, 2008. The new rules also set new control requirements for machines installed after December 21, 2005.

Four categories of perc dry cleaners are affected by this latest rule:

- Small Sources (new and existing)
- Large Sources (new and existing)
- Major Sources (large industrial and commercial dry cleaners - not covered in this manual)
- Co-located Sources (located in residential buildings - not covered in this manual)

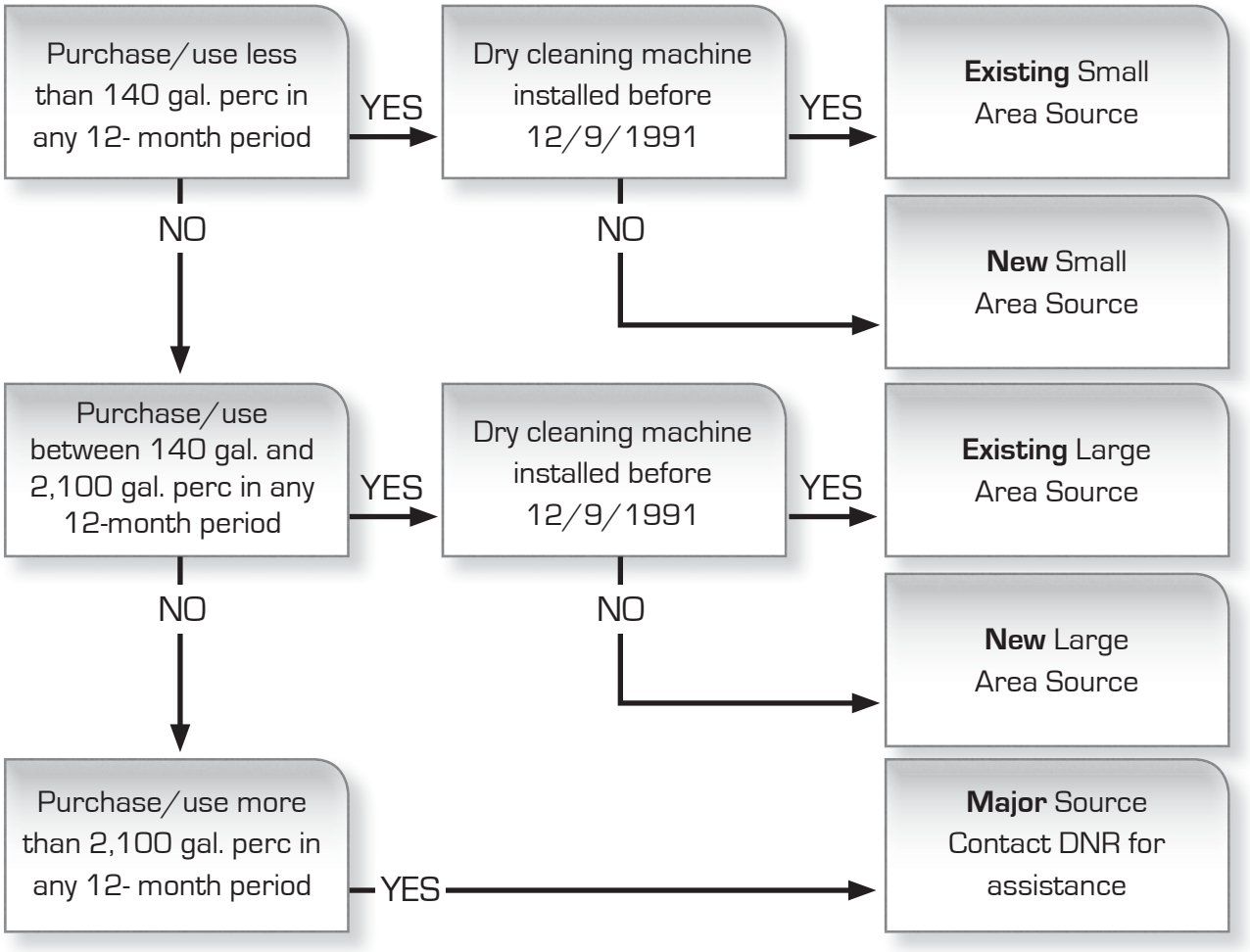
**Sources not covered in this manual (Major Sources and Co-located Sources) can contact the IAEAP at 800-422-3109 or the DNR at 515-725-9514 for more information and assistance.**

NOTE: The 2006 amendments required all remaining transfer machines (pre-1993) to be shut down by July 28, 2008. If you have a transfer machine, it should be shut down as soon as possible. Contact the IAEAP at 800-422-3109 or the DNR at 515-725-9514 for more information and assistance.

Specific compliance requirements differ depending on how much perc you purchase in a 12-month period and the date your perc dry cleaning equipment was purchased or installed. Use the flow chart on page 4 to help determine which regulatory category your operations fall under.

For guidance on determining 12 month total of perc purchases, which is known as the rolling or running total, see Appendix A. If you need assistance in determining compliance requirements contact the IAEAP at 800-422-3109.

Flow Chart 1: Source Category for Air Quality (NESHAP) Regulations



# Air Quality Regulations – NESHAP Requirements – Perchloroethylene

## EXISTING SMALL AND LARGE AREA SOURCES

### Existing Small Area Sources

Dry cleaners that installed their dry cleaning machine before December 9, 1991 and purchase less than 140 gallons of perc in any 12-month period.

### Existing Large Area Sources

Dry cleaners that installed their equipment before December 9, 1991, but purchase between 140 gallons and 2,100 gallons of perc in any 12-month period.

## General Requirements:

Both:

- Keep documentation of equipment installation dates.
- Keep copies of design specifications and operating manuals for each machine.
- Keep all material safety data sheets (MSDS) for perc solvent and all other hazardous chemicals used in your facility readily accessible (e.g., stain removers and facility cleaning products).
- Keep cleaning equipment door closed at all times except when adding/removing clothes.
- Operate machine based on manufacturer specification and recommendations.
- Before removing filters from the facility, drain them in their housing or in a sealed container for a 24-hour period.
- Store all perc and perc wastes in sealed, leak-proof containers.

## [1]Leak Detection Monitoring:

Both:

- Leak inspections done using the perceptible method involve checking for leaks that are obvious by sight, smell or touch
- Leak inspections done using the hand-held leak detector method involve using a halogenated hydrocarbon detector or perc gas analyzer.
- Leak checks must be done when the machine is running.
  - » Equipment that must be inspected include hoses, pipes, fittings, couplings, valves, gaskets, seals, pumps, solvent tanks and containers, waste separator, muck cooker, stills, diverter valves and cartridge filter housings.
- Document leak inspections.
- Repair any leaks found within 24 hours. If new parts are needed, they should be ordered within 2 days of finding the leak and installed within 5 days of receiving the part.

**Existing** Small Area Source:

- Once every 14 days (two times a month), conduct leak inspections in and around machines. At least one leak inspection each month must be done using a hand-held leak detector. The other inspection may be done using the perceptible method.

### **Existing** Large Area Source:

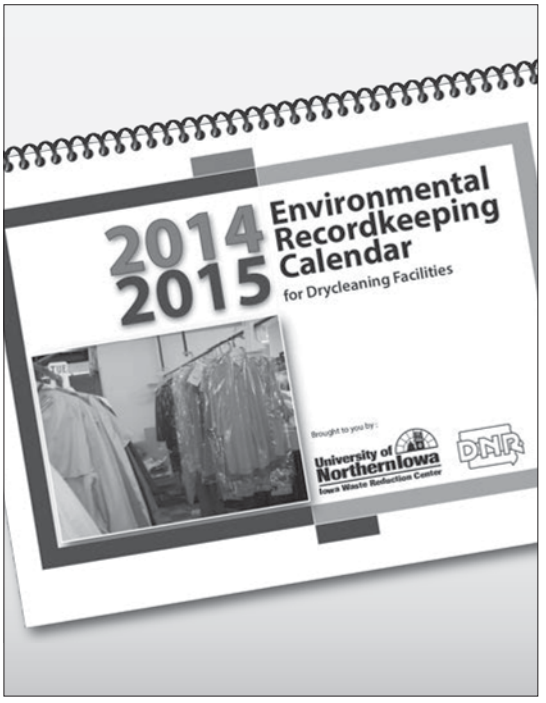
- Weekly conduct leak inspections in and around machines. At least one leak inspection each month must be done using a hand-held leak detector. The other inspections may be done using the perceptible method.

[1]A Leak Detection Monitoring tutorial illustrating use of a hand held leak detection device is available at http://iwrc.org/services/iaeap/dry-cleaning

## [2]Recordkeeping and Reporting Requirements:

### Both:

- Keep perc usage/purchase logs up to date and receipts for perc purchases for a minimum of five years.
- Maintain a 12-month running total of perc purchase/usage to document your category.
- Log leak inspection dates and results (i.e., leaks found, repairs needed, parts ordered, repairs completed, etc.), and maintain log onsite for a minimum of five years.
- An Initial Notification and a Compliance Report for Pollution Prevention were required to be submitted by June 18, 1994. (These forms have been replaced by a single form, the "Notification of Compliance Status.")
- Submit a new Notification of Compliance Status within 180 days of a change in the size classification at the facility, from Small Area Source to Large Area Source, or from Large Area Source to Major Source.
- Submit a new Notification of Compliance Status within 30 days of the purchase and installation of new equipment.
- The Notification of Compliance Status form and submittal addresses are found in Appendix B.
- All reports and forms should be submitted to the DNR or if located in Polk or Linn County to the Polk or Linn County air agency. If a facility has not submitted these forms, it is encouraged to submit them as soon as possible.




### **Existing** Large Area Source only:

- A Compliance Report for Control Requirements was required to be submitted by October 22, 1996. (This form has been replaced by the "Notification of Compliance Status.")
- A Notification of Compliance Status was required to be submitted by July 28, 2008, to document compliance with the 2006 amendments to the Dry Cleaner NESHAP.
- Log pollution control monitoring results, and maintain log onsite for a minimum of five years.

[2]An Environmental Recordkeeping Calendar for Dry Cleaning Facilities can be used to record weekly leak inspections and repairs, weekly refrigerated condenser/adsorber monitoring logs, perc purchase rolling totals and hazardous waste generation. The Calendar is available from the IWRC at http://iwrc.org/services/iaeap/dry-cleaning or by calling 800-422-3109.

## Air Pollution Control Device Requirements:

### **Existing** Small Area Source:

- Air pollution control devices are not required for Existing Small Area Sources installed before December 9, 1991.

### **Existing** Large Area Source:

- **Existing** Large Area Sources must use a refrigerated condenser or equivalent control device to remove perc from the air stream within each dry cleaning machine.
  - » A carbon adsorber can be used as a substitute for a refrigerated condenser if it was installed before September 22, 1993.
- Monitor one of the following parameters on a weekly basis:
  - » The refrigeration system high and low pressure readings. Reading must be taken during the drying phase. If readings are not in the range specified in the manufacturer's operating instructions, you must make repairs or adjustments and promptly write down the corrective actions taken, or;
  - » The temperature of the exhaust on the outlet of the refrigerated condenser. The temperature must be 45 degrees Fahrenheit or less. If the temperature is greater than 45 degrees Fahrenheit, you must make repairs or adjustments and promptly write down the corrective actions taken.
- The refrigerated condenser must not allow perc to escape during machine operation and must prevent outside air from coming into the condenser when the door is open.
- If using a carbon adsorber, it must be used at all times while the machine is running. The exhaust of the carbon adsorber must be measured once each week using a colorimetric detector tube or perc gas analyzer. The measurement should be taken at the end of the last dry cleaning cycle while perc is being released to the adsorber prior to steaming out (cleaning) of the adsorber. The concentration of perc must be 100 parts per million (ppm) or less at the exhaust and less than 300 ppm in the dry cleaning drum. The concentration must be recorded weekly.

## Air Quality Construction Permit

### Both:

- For facilities not located in Linn County or Polk County, complying with the requirements of the NESHAP will typically fulfill a facility's air permitting requirements for perc dry cleaning facilities. Facilities located in Linn County or Polk County should consult their local air permitting authority with any construction permitting questions.

# NEW SMALL AND LARGE AREA SOURCES

## New Small Area Sources

Dry cleaners that installed their dry cleaning machine on/after December 9, 1991 and purchase less than 140 gallons of perc in any 12-month period.

## New Large Area Sources

Dry cleaners that installed their equipment on/after December 9, 1991, but purchase between 140 gallons and 2,100 gallons of perc in any 12-month period.

## General Requirements:

### Both:

- Keep documentation of equipment installation dates.
- Keep copies of design specifications and operating manuals for each machine.
- Keep all material safety data sheets (MSDS) for perc solvent and all other hazardous chemicals used in your facility readily accessible (e.g., stain removers and facility cleaning products).
- Keep cleaning equipment door closed at all times except when adding/removing clothes.
- Operate machine(s) based on manufacturer's specification and recommendations.
- Before removing filters from the facility, drain them in their housing or in a sealed container for 24-hours.
- Store all perc and perc wastes in sealed, leak-proof containers.

## [1]Leak Detection Monitoring:

### Both:

- Weekly conduct leak inspections in and around machines. Leak inspections can be done using the perceptible method which involves checking for leaks that are obvious by sight, smell or touch.
- Monthly conduct at least one inspection using a halogenated hydrocarbon detector or perc gas analyzer.
  - » Leak checks must be done when the machine is running.
  - » Equipment that must be inspected include hoses, pipes, fittings, couplings, valves, gaskets, seals, pumps, solvent tanks and containers, waste separator, muck cooker, stills, diverter valves and cartridge filter housings.
- Document leak inspections.
- Repair any leaks found within 24 hours. If new parts are needed, they should be ordered within 2 days of finding the leak and installed within 5 days of receiving the part.

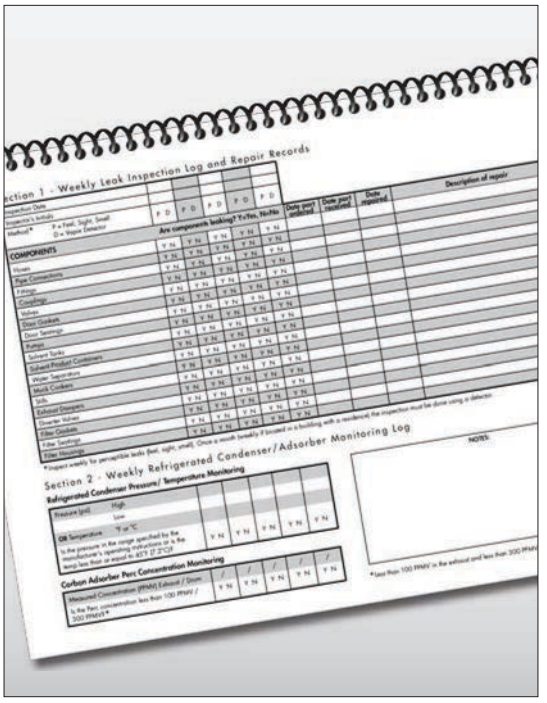
[1]A Leak Detection Monitoring tutorial illustrating use of a hand held leak detection device is available at http://iwrc.org/services/iaeap/dry-cleaning

## [2]Recordkeeping and Reporting Requirements:

### Both:

- Keep perc usage/purchase logs up to date and receipts for perc purchases for a minimum of five years.
- Maintain a 12-month running total of perc purchase/usage to document your category.
- Log leak inspection dates and results (i.e., leaks found, repairs needed, parts ordered, repairs completed, etc.), and maintain log onsite for a minimum of five years.

- Log pollution control monitoring results, and maintain log onsite for a minimum of five years.
- For equipment that has already been installed, an Initial Notification, Compliance Report for Pollution Prevention, and Compliance Report for Control Requirements were required to be submitted within 30 days of startup. (These three forms have been replaced by a single form, the "Notification of Compliance Status.")
- Submit a new Notification of Compliance Status within 180 days of a change in the size classification at the facility from Large Area Source to Major Source.
- Submit a new Notification of Compliance Status within 30 days of the purchase and installation of new equipment.
- For equipment in operation before July 28, 2008, a Notification of Compliance Status was required to be submitted by July 28, 2008, to document compliance with the 2006 amendments to the Dry Cleaner NESHAP.
- The form and addresses are available in Appendix B.
- All reports and forms should be submitted to the DNR or to the Polk or Linn County air agency, if located in those counties. If a facility has not submitted these forms, it is encouraged to submit them as soon as possible.




[2]An Environmental Recordkeeping Calendar for Dry Cleaning Facilities can be used to record weekly leak inspections and repairs, weekly refrigerated condenser/adsorber monitoring logs, perc purchase rolling totals and hazardous waste generation. The Calendar is available from the IWRC at http://iwrc.org/services/iaeap/dry-cleaning or by calling 800-422-3109.

## Air Pollution Control Device Requirements:

### Both:

- Use a refrigerated condenser (or equivalent control device). If machine was installed after December 21, 2005 it must be a closed loop system (non-venting) and be equipped with a refrigerated condenser and secondary carbon adsorber. Carbon adsorbers must be desorbed according to manufacturer's directions.
- Refrigerated condenser must not release perc during machine operation and must prevent outside air from coming into the condenser when the door is open.
- Monitor one of the following parameters on a weekly basis:
  - » The refrigeration system high and low pressure readings. Reading must be taken during the drying phase. If readings are not in the range specified in the manufacturer's operating instructions, you must make repairs or adjustments and promptly write down the corrective actions taken.
  - » The temperature of the exhaust on the outlet of the refrigerated condenser. The temperature must be 45 degrees Fahrenheit or less. If the temperature is greater than 45 degrees Fahrenheit, you must make repairs or adjustments and promptly write down the corrective actions taken.
  - » The refrigerated condenser must not allow perc to escape during machine operation and must prevent outside air from coming into the condenser when the door is open.

» If using a carbon adsorber, it must be used at all times while the machine is running. The exhaust of the carbon adsorber must be measured once each week using a colorimetric detector tube or perc gas analyzer. The measurement should be taken at the end of the last dry cleaning cycle while perc is being released to the adsorber prior to steaming out (cleaning) of the adsorber. The concentration of perc must be 100 parts per million (ppm) or less at the exhaust and less than 300 ppm in the dry cleaning drum. The concentration must be recorded weekly.

## Air Quality Construction Permits:

### Both:

- For facilities not located in Linn County or Polk County, complying with the requirements of the NESHAP will typically fulfill a facility's air permitting requirements for perc dry cleaning facilities. Facilities located in Linn County or Polk County should consult their local air permitting authority with any construction permitting questions.

# MAJOR SOURCES

Dry cleaning facilities identified in this category include facilities that purchased more than 2,100 gallons of perc over the preceding 12-month period.

Requirements for these sources are the most stringent

### All Major Sources:

- Dry cleaners categorized as a major source may be required to obtain a Title V Operating Permit if the facility has the potential to emit 10 tons or more of perc per year.
- Call the IAEAP (1-800-422-3109) at the IWRC for additional information and technical assistance for NESHAP and operating requirements.

Table 2 summarizes NESHAP compliance requirements.

## Table 2: Facility Classification, Controls Required and Monitoring.

| Category Based on 12-month perc Usage. | Category Based on Date Machine** Purchased or Installed. | Emission Control Required. | Leak Detection and Monitoring Required. |
|---|---|---|---|
| SMALL AREA SOURCE<br>Less than 140 gallons. | EXISTING:<br>New or used dry cleaning machine initially installed before Dec. 9, 1991. | NO CONTROLS REQUIRED:<br>If installed before Dec. 9, 1991 – there are no required controls. | MONTHLY:<br>At least once each month use a halogenated hydrocarbon detector or PCE gas analyzer (starting July 28, 2008).<br><br>BIWEEKLY (EVERY 14 DAYS):<br>Perceptible leak check (smell, touch, sight). |
| | NEW:<br>New or used dry cleaning machine initially installed after Dec. 9, 1991. | REFRIGERATED CONDENSER:<br>Unless installed after Dec. 21, 2005, then must also be equipped with a Carbon Adsorber and must recirculate Perc vapor stream through non-vented carbon adsorber before door can open. | MONTHLY:<br>At least once each month use a halogenated hydrocarbon detector or PCE gas analyzer starting on date installed.<br><br>WEEKLY:<br>Perceptible leak check (smell touch, sight). |
| LARGE AREA SOURCE<br>140 gallons to 2,100 gallons. | EXISTING:<br>New or used dry cleaning machine initially installed before Dec. 9, 1991. | REFRIGERATED CONDENSER:<br>Unless installed before Sept. 22 1993, then can use a Carbon Adsorber as a substitute for a Refrigerated Condenser. | MONTHLY:<br>At least once each month use a halogenated hydrocarbon detector or PCE gas analyzer (starting July 28, 2008).<br><br>WEEKLY:<br>Perceptible leak check (smell, touch, sight). |
| | NEW:<br>New or used dry cleaning machine initially installed on or after Dec. 9, 1991. | REFRIGERATED CONDENSER:<br>Unless installed after Dec. 21, 2005, then must also be equipped with a Carbon Adsorber and must recirculate Perc vapor stream through non-vented carbon adsorber before door can open. | MONTHLY:<br>At least once each month use a halogenated hydrocarbon detector or PCE gas analyzer starting on date installed.<br><br>WEEKLY:<br>Perceptible leak check (smell, touch, sight). |
| MAJOR SOURCE<br>2,100 gallons or more. | Date of purchase or installation not applicable to Major Sources. | Contact IAEAP or DNR for assistance. | Contact IAEAP or DNR for assistance. |

** Transfer Machine Systems may not be used by any facility after July 28, 2008.

# Air Quality – Refrigeration System for Perchloroethylene Machines

Perc dry cleaning machines may utilize a refrigeration system for condensation and recovery of solvent. Periodic servicing of the system is expected.

## Applicable Regulations

Conventional hydrocarbon-based refrigerants are Class I or Class II substances and as such are strictly regulated under Clean Air Act regulations. Among other requirements, release of refrigerant during refrigeration equipment service work is prohibited and technicians servicing refrigerant containing systems must be certified and use EPA-approved recovery equipment.

## Compliance Recommendations

Dry cleaning facilities should assure any refrigeration repair work is performed by technicians that maintain proper certification to perform such work and that EPA-approved refrigerant recovery equipment is used or is available for use during service work. Documentation of certification and proper equipment usage (i.e., statements on invoices or work orders) should be maintained to verify compliance. If maintenance is to be done by in-house staff, the equipment and training certification would apply to the facility. Contact the IWRC (1-800-422-3109) or review a summary of these requirements at: http://iwrc.org/services/iaeap/dry-cleaning

# Solid / Hazardous Waste – Perchloroethylene-Based Dry Cleaning

The following chart lists the types of wastes expected to be generated from a perc dry-to-dry machine.

| Waste Type | Source |
|---|---|
| Perc liquid | Waste perc solvent from dry cleaning process |
| Perc still bottoms | Residual from the dry cleaning equipment distillation unit. |
| Carbon filters | Adsorption filters to maintain the quality of perc circulated through the dry cleaning equipment. |
| Lint | Fabric dust screen from garments during the dry cleaning and wash and dry cycles. |

## Applicable Regulations

The EPA solid and hazardous waste regulations contained in Title 40 of the Code of Federal Regulations (CFR) Part 261.31 are explicit regarding perc wastes. In essence, waste perc, any waste contaminated with waste perc and still bottoms from recovery of waste perc are hazardous by definition in all instances.

On- and off-site management of hazardous waste is further regulated under Title 40 of the CFR Parts 261 and 262. These regulations require facilities to accurately document their monthly hazardous waste generation rate and the amount of hazardous waste stored at the facility in some type of log or inventory. The monthly hazardous waste generation rate and on-site storage quantity define which one of the three regulatory categories applies to the facility and the applicable set of hazardous waste regulations that must be met.

### Conditionally Exempt Small Quantity Generator (CESQG)

If a facility consistently generates quantities of hazardous waste less than 220 pounds per calendar month and never accumulates more than 2,200 pounds on site at any time, then CESQG requirements apply. CESQG regulations are the least stringent. A summary of the regulations is enclosed as Appendix C.

- Requirements
  - » Documentation of generation rate and storage quantities (to prove CESQG category applies).
  - » Hazardous waste stored in a sealed container clearly labeled "Hazardous Waste."
  - » Disposal of hazardous waste through an EPA-permitted hazardous waste management company.

### Small Quantity Generator (SQG)

If the facility generates quantities of hazardous waste between 220 and 2,200 pounds during any calendar month or stores between 2,200 and 13,200 pounds on site at any time, then SQG requirements apply. SQG regulations are significantly more involved. A summary of the regulations is enclosed as Appendix D.

- Requirements
  - » All of the requirements of a CESQG as listed above, and:
  - » Obtain an EPA hazardous waste generator identification number.
  - » Perform and document weekly hazardous waste storage area inspections.
  - » Perform and document employee training.
  - » Label and date all hazardous waste storage containers.
  - » Dispose of hazardous waste through an EPA-permitted hazardous waste management company within 180 days of the date waste was first added to the storage container.

If SQG limits are ever exceeded, the most stringent Large Quantity Generator (LQG) requirements apply. LQG regulations include those established for SQGs plus a shorter on-site storage time allowance (i.e., 90 days), biennial reporting to EPA and more stringent training and planning requirements An LQG summary is not enclosed as part of this manual, as it will not likely apply to most dry cleaning facilities, but one can be found at: http://iwrc.org/services/iaeap/dry-cleaning.

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 its final destination. While the hazardous waste management 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, hauler 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 three years.

## Compliance Recommendations

Waste perc liquid and still bottoms are clearly hazardous waste, as discussed above, and must be managed accordingly. While the determination of waste carbon filters and lint as specifically hazardous could be argued, it is the general consensus among most regulatory agencies that these two wastes are, in fact, hazardous due to specific listing and thus should be managed accordingly. Management of these wastes include accounting for the amount of still bottoms, filters, and lint generated in a facility hazardous waste inventory, storage in a sealed and labeled container, on-site management in compliance with the applicable hazardous waste regulations (i.e., CESQG or SQG) and off-site disposal by an EPA-permitted hazardous waste management company.

# Wastewater – Perchloroethylene-Based Dry Cleaning Separator Water

Excess and undesirable water (separator water) accumulates in the perc dry-to-dry machine waste solvent tank and requires periodic decantation and disposal.

## Applicable Regulations

According to Title 40 of the CFR Part 261.4, commercial wastewater is not subject to hazardous waste regulations when it is mixed with domestic sewage and treated through publicly owned treatment works. This exemption does not, however, exclude wastewater "while it is being collected, stored or treated before discharge."

Industrial users of municipal sewers are subject to regulations created as part of the Clean Water Act and contained in Title 40 of the CFR Parts 400 to 699. The regulations prohibit introduction of wastewater pollutants that pass through the treatment system (i.e., enter a waterway) or interfere with the operation of the treatment system (i.e., concentrate in treatment sludge). Also prohibited are pollutants that create a fire or explosion hazard, pollutants that cause corrosive damage, solid or viscous pollutants that cause obstructions and petroleum products that cause interference or pass-through.

Discharge of commercial wastewater (i.e., separator water) to a storm sewer, tile line, surface water, ditch, or ground surface is prohibited. Discharge of separator wastewater to a septic system is also prohibited under any circumstances.

## Compliance Recommendations

Regulatory requirements regarding management of separator water prior to disposal depend on the manner in which it is

disposed. If the separator water is plumbed directly from the dry cleaning equipment to a sanitary sewer, it need not be considered a hazardous waste. Instead it is considered a wastewater and, thus, subject to wastewater regulations. General wastewater regulations require notification of the wastewater treatment plant superintendent and/or city engineer of the types and quantities of wastewater discharged and approval (preferably in writing) prior to discharge. Documentation of this approval should be maintained on site to verify compliance.

As stated previously, the wastewater exemption does not apply to waste "while it is being collected, stored or treated." Furthermore, separator water that has been in contact and/or contaminated with waste perc must be considered hazardous waste the moment it is removed from the dry cleaning equipment and placed in a container. As with other hazardous waste, containerized separator water must be accounted for in the facility's hazardous waste inventory, stored in a sealed and labeled container, managed on site in compliance with the applicable hazardous waste regulations (i.e., CESQG or SQG) and disposed of in compliance with established EPA regulations. Acceptable disposal options include disposal through an EPA-permitted hazardous waste management company or additional on-site treatment (i.e., phase separation and/or carbon absorption) to recover any reusable perc or reduce the perc concentration in the separator water.

If carbon filters or other disposable treatment devices are used, they should be managed as hazardous waste (i.e., stored in sealed and labeled containers, accounted for in the facility's hazardous waste inventory, managed on site in compliance with the applicable hazardous waste regulations (i.e., CESQG or SQG) and disposed of off-site by an EPA-permitted hazardous waste management company).

# Air Quality - Petroleum-Based Dry Cleaning

The Iowa Department of Natural Resources (DNR) administers the air emissions permitting program for new or existing stationary sources of air pollutants. The DNR's permit to install or alter equipment or control equipment for new stationary sources and modifications of existing stationary sources is also known as a construction permit. A construction permit is required for each air emissions source exhausting to the outside atmosphere regardless of equipment size, facility size, and frequency of operation. Construction permits are valid for the life of the source as long as no modification or process changes occur. A facility operating without required construction permits is in violation and subject to enforcement action and administration fines.

Petroleum solvents used in the dry cleaning industry may include Hazardous Air Pollutants (HAPs) and contain Volatile Organic Compounds (VOCs), which are regulated under the Clean Air Act. Petroleum solvent dry cleaning facilities may need to obtain air emissions construction permits for this equipment if they exhaust regulated pollutants directly to the outside atmosphere. In addition, New Source Performance Standards (NSPS) may apply if equipment was installed or modified after December 14, 1982.

For help in determining if your facility is required to obtain a construction permit and/or comply with NSPS, contact the IAEAP at 800-422-3109 or contact the DNR at 877-247-4692.

# Air Quality - Refrigeration System

Dry cleaning machines may utilize a refrigeration system for condensation and recovery of solvent. Periodic servicing of the system is expected.

## Applicable Regulations

Conventional hydrocarbon-based refrigerants are Class I or Class II substances and strictly regulated under Clean Air Act regulations. Among other requirements, release of refrigerant during service work is prohibited and technicians servicing refrigerant containing systems must be certified and use EPA-approved recovery equipment.

## Compliance Recommendations

Dry cleaning facilities should assure any refrigeration repair work is performed by technicians that maintain proper certification to perform such work and that EPA-approved refrigerant recovery equipment is used or is available for use during service work. Documentation of certification and proper equipment usage (i.e., statements on invoices or work orders) should be maintained to verify compliance. If maintenance is to be by done in-house staff, the equipment and training certification would apply to the facility. Contact the IWRC or review a summary of these requirements at http://iwrc.org/services/iaeap/dry-cleaning

# Solid / Hazardous Waste - Petroleum-Based Dry Cleaning Solvent

Petroleum-based dry cleaning operations result in periodic generation of waste solvent that requires subsequent off-site disposal. The following solid and hazardous wastes are likely to be generated:

| Waste Type | Source |
|---|---|
| Petroleum solvent | Waste solvent from dry cleaning process |
| Petroleum still bottoms | Residual from the dry cleaning equipment distillation unit. |
| Carbon filters | Adsorption filters to maintain the quality of petroleum solvent circulated through the dry cleaning equipment. |
| Lint | Fabric dust screen from garments during the dry cleaning and wash and dry cycles. |

## Applicable Regulations

The EPA solid and hazardous waste regulations contained in Title 40 of the Code of Federal Regulations (40 CFR) Parts 261.20 to 261.24 establish the following four characteristics by which a waste may be defined as hazardous:

- Ignitability: A waste exhibits the characteristic of ignitability if it is a liquid and has a flash point (determined by vendor information or laboratory analysis) less than 140 degrees Fahrenheit.
- Corrosivity: A waste exhibits the characteristic of corrosivity if it is a liquid and has a pH (determined by vendor information or laboratory analysis) less than or equal to 2 or greater than or equal to 12.5.
- Reactivity: A waste exhibits the characteristic of reactivity if it reacts violently or generates toxic vapors when mixed with water.
- Toxicity: A waste exhibits the characteristic of toxicity if it contains one or more of the contaminants listed in 40 CFR 261.24 at concentrations equal to or greater than their corresponding regulatory level as measured by laboratory analysis using the Toxicity Characteristic Leaching Procedure (TCLP) test.

EPA also allows hazardous/non-hazardous waste determinations to be accomplished using process knowledge. As the term implies, a process knowledge non-hazardous waste determination would require the generator to have sufficient knowledge of the process and chemicals used in the process to certify the waste does not meet any of the hazardous waste characteristics defined above, and that the waste is not specifically listed as hazardous waste according to 40 CFR 261.31 to 33. Documentation of a process knowledge determination should include copies of vendor information, similar test data, etc. to verify compliance.

Wastes that cannot be determined hazardous/non-hazardous using process knowledge must be subjected to a more definitive hazardous waste determination. This can be done by submitting a representative sample of the potentially hazardous waste to a laboratory for testing. The test to define if the wastes are hazardous or non-hazardous is known as the Toxicity Characteristic Leaching Procedure or TCLP.

On- and off-site management of hazardous waste is further regulated through 40 CFR Parts 261 and 262. These regulations require facilities to accurately document their monthly hazardous waste generation rate and the amount of hazardous waste stored at the facility in some type of log or inventory. The monthly hazardous waste generation rate and on-site storage quantity define which one of the three regulatory categories applies to the facility and the applicable set of hazardous waste regulations that must be met.

## Conditionally Exempt Small Quantity Generator (CESQG)

If a facility consistently generates quantities of hazardous waste less than 220 pounds per calendar month and never accumulates more than 2,200 pounds on site at any time, then CESQG requirements apply. CESQG regulations are the least stringent. A summary of the regulations is enclosed as Appendix C.

- Requirements
  - » Documentation for generation rate and storage quantities (to prove CESQG category applies).
  - » Hazardous waste stored in a sealed container clearly labeled "Hazardous Waste."
  - » Disposal of hazardous waste through an EPA-permitted hazardous waste management company.

## Small Quantity Generator (SQG)

If the facility generates quantities of hazardous waste between 220 and 2,200 pounds during any calendar month or stores between 2,200 and 13,200 pounds on site at any time, then SQG requirements apply. SQG regulations are significantly more involved. A summary of the regulations is enclosed as Appendix D.

- Requirements
  - » All of the requirements of a CESQG as listed above, and:
  - » Obtain an EPA hazardous waste generator identification number.
  - » Perform and document weekly hazardous waste storage area inspections.
  - » Perform and document employee training.
  - » Label and date all hazardous waste storage containers.
  - » Dispose of hazardous waste through an EPA-permitted hazardous waste management company within 180 days of the date waste was first added to the storage container.

If SQG limits are ever exceeded, the most stringent Large Quantity Generator (LQG) requirements apply. LQG regulations include those established for SQGs plus a shorter on site storage time allowance (i.e., 90 days), biennial reporting to EPA and more stringent training and planning requirements. An LQG summary is not enclosed as part of this manual, as it will not likely apply to most dry cleaning facilities, but one can be found at: http://iwrc.org/services/iaeap/dry-cleaning

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 hazardous waste management 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, hauler and disposal facility) must sign the manifest 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 three years.

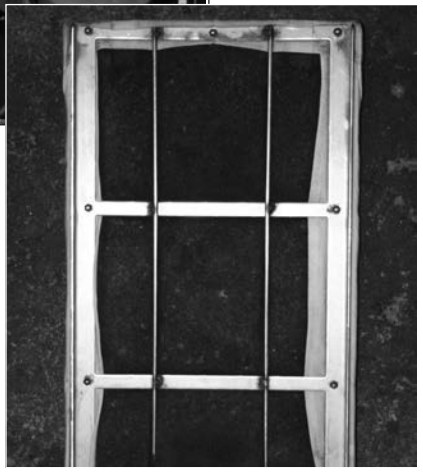
Solid wastes determined to be non-hazardous may be landfilled in Iowa. However, approval in the form of a Special Waste Authorization (SWA) is required. An SWA is obtained by submitting the completed SWA application form enclosed as Appendix E to the DNR along with a copy of the laboratory data or process knowledge information documenting the waste is, in fact non-hazardous. When approved, the applicant and landfill will be issued an SWA (or a waiver letter stating an SWA is not required) and disposal may begin.

## Compliance Recommendations

Waste petroleum-based dry cleaning solvent is likely hazardous due to the characteristic of ignitability (i.e., flash point less than 140 degrees Fahrenheit) and possibly toxicity. As a result, it must be managed accordingly. This includes accounting for the amount of waste solvent generated in a facility's hazardous waste inventory, storage in a sealed and labeled container, on-site management in compliance with the applicable hazardous waste regulations (i.e., CESQG or SQG) and off-site disposal by an EPA-permitted hazardous waste management company.

Waste solvent may also be distilled on site and reused. However, the waste solvent prior to distillation and the resulting distillation residue must be considered hazardous waste and be managed in compliance with applicable hazardous waste regulations.

Lint and carbon filters that have been in contact with petroleum-based solvent have the potential to be hazardous for the toxicity characteristic. If adequate vendor information is available to accurately certify the composition of petroleum solvent as incapable of causing still bottom, carbon filters, and lint to exhibit any of the characteristics of hazardous waste (i.e., ignitability, toxic, etc.), then the wastes may be classified as non-hazardous using process knowledge and managed accordingly.



If such information is not available, or to make a more defensible hazardous/non-hazardous determination, representative samples of each of the wastes (i.e., still bottoms, carbon filters and lint) should be collected and analyzed for flash point and the TCLP parameters listed in the table on the following page.

## Table 3: TCLP Parameters

| TCLP Parameter | Regulatory Limit (Maximum) | EPA Hazardous Waste Number |
|---|---|---|
| Benzene | 0.5 mg/l | D018 |
| Carbon Tetrachloride | 0.5 mg/l | D019 |
| Chlorobenzene | 100.0 mg/l | D021 |
| Chloroform | 6.0 mg/l | D022 |
| 1,2-Dichloroethane | 0.5 mg/l | D028 |
| 1,1-Dichloroethylene | 0.7 mg/l | D029 |
| Methyl ethyl ketone (MEK) | 200.0 mg/l | D035 |
| Tetrachloroethylene (perc) | 0.7 mg/l | D039 |
| Trichloroethylene | 0.5 mg/l | D040 |
| Vinyl chloride | 0.2 mg/l | D043 |

A list of laboratories that can perform this service is included in Appendix F.

If laboratory results show no parameters present at concentrations equal to or greater than their corresponding regulatory limits and the flash point is greater than 140 degrees Fahrenheit, then the waste represented by the sample is non-hazardous and may be landfilled after obtaining an SWA approval or waiver from the DNR. Non-hazardous solid waste may also be disposed of through any reputable waste management company. However, it should be clearly identified as such on the disposal company's Bill-of-Lading. Vendor information and/or laboratory data documenting the non-hazardous claim and SWA approval or wavier or disposal receipts documenting off-site disposal should be maintained to verify compliance.

However, if any contaminant is present in the sample at a concentration equal to or greater than its corresponding regulatory level or the flash point is equal to or less than 140 degrees Fahrenheit, the waste represented by the sample is hazardous. Hazardous waste must be stored in sealed containers labeled "Hazardous Waste," accounted for in the facility's hazardous waste inventory, managed on site in compliance with applicable hazardous waste regulations (i.e., CESQG or SQG), and disposed of offsite through an EPA-permitted hazardous waste management company. A list of hazardous waste management companies is included in Appendix G.

# Wastewater - Petroleum-Based Dry Cleaning Separator Water

Excess and undesirable water (separator water) accumulates in the dry-to-dry machine waste solvent tank and requires periodic decantation and disposal.

## Applicable Regulations

According to Title 40 of the CFR Part 261.4, commercial wastewater is not subject to solid/hazardous waste regulations when it is mixed with domestic sewage and treated through a publicly owned treatment works. This exemption does not, however, exclude wastewater "while it is being collected, stored or treated before discharge."

Industrial users of municipal sewers are subject to regulations created as part of the Clean Water Act and contained in Title 40 of the CFR Parts 400 to 699. The regulations prohibit introduction of wastewater pollutants, which pass through the treatment system (i.e., enter a waterway) or interfere with the operation of the treatment system (i.e., concentrate in treatment sludge). Also prohibited are pollutants that create a fire or explosion hazard, pollutants that cause corrosive damage, solid or viscous pollutants that cause obstructions and petroleum products that cause interference or pass-through.

Discharge of commercial wastewater (i.e., separator water) to a storm sewer, tile line, surface water, ditch, or ground surface is prohibited. Discharge of separator wastewater to a septic system with a leach field is also prohibited under any circumstances.

## Compliance Recommendations

Regulatory requirements regarding management of separator water prior to disposal depend on the manner in which it is disposed. If the separator water is plumbed directly from the dry cleaning equipment to a sanitary sewer, it is not a hazardous waste. Instead it is considered a wastewater and, thus, is subject to wastewater regulations. General wastewater regulations require notification of the wastewater treatment plant superintendent and/or city engineer of the types, and quantities of wastewater discharged and approval (preferably in writing) prior to discharge. Documentation of this approval should be maintained on site to verify compliance.

As stated previously, the wastewater exemption does not apply to waste "while it is being collected, stored or treated." Furthermore, separator water that has been in contact and/or contaminated with waste solvent is potentially hazardous. As a result, it is subject to a hazardous/non-hazardous waste determination as discussed previously for solid wastes. This determination may be conducted using process knowledge if adequate vendor information is available or through laboratory analysis for the TCLP parameters listed in the previous section.

Separator water determined to be non-hazardous may be collected, stored and/or treated without restriction. Acceptable disposal methods include sanitary sewer discharge with prior city approval or off-site disposal through any reputable waste management company. Vendor information and/or laboratory data documenting the non-hazardous claim and sewer discharge approval or disposal receipts documenting off-site disposal should be maintained to verify compliance.

Separator water determined to be hazardous must be stored in sealed containers labeled "Hazardous Waste," accounted for in the facility's hazardous waste inventory, managed on site in compliance with applicable hazardous waste regulations (i.e., CESQG or SQG) and disposed of off-site through an EPA-permitted hazardous waste management company.

# Air Quality - Alternative Solvent-Based Dry Cleaning

The Iowa Department of Natural Resources (DNR) administers the air emissions permitting program for new or existing stationary sources of air pollutants. The DNR's permit to install or alter equipment or control equipment for new stationary sources and modifications of existing stationary sources is also known as a construction permit. A construction permit is required for each air emissions source exhausting to the outside atmosphere regardless of equipment size, facility size, or frequency of operation. Construction permits are valid for the life of the source as long as no modification or process changes occur. A facility operating without required construction permits is in violation and subject to enforcement action and administration fines.

Alternative solvents used in the dry cleaning industry such as substituted aliphatic glycol ethers, synthetic hydrocarbons, decamethyl cyclopentasiloxane, and reformulated petroleum distillates may include Hazardous Air Pollutants (HAPs) and contain Volatile Organic Compounds (VOCs), which are regulated under the Clean Air Act. Alternative solvent dry cleaning facilities need to obtain air emissions construction permits for this equipment if they exhaust regulated pollutants directly to the outside atmosphere. In addition, New Source Performance Standards (NSPS) may apply.

For help in determining if your facility is required to obtain a construction permit and/or comply with NSPS, contact the IAEAP at 800-422-3109 or contact the DNR at 877-247-4692.

# Air Quality - Refrigeration System

Dry cleaning machines may utilize a refrigeration system for condensation and recovery of solvent. Periodic servicing of the system is expected.

## Applicable Regulations

Conventional hydrocarbon-based refrigerants are Class I or Class II substances and are strictly regulated under Clean Air Act regulations. Among other requirements, release of refrigerant during service work is prohibited and technicians servicing refrigerant containing systems must be certified and use EPA-approved recovery equipment.

## Compliance Recommendations

Dry cleaning facilities should assure any refrigeration repair work is performed by technicians that maintain proper certification to perform such work and that EPA-approved refrigerant recovery equipment is used or is available for use during service work. Documentation of certification and proper equipment usage (i.e., statements on invoices or work orders) should be maintained to verify compliance. If maintenance is to be done in-house, the equipment and training certification would apply to the facility. Contact the IWRC or review a summary of these requirements at http://iwrc.org/services/iaeap/dry-cleaning

# Solid / Hazardous Waste - Alternative Solvent-Based Dry Cleaning

Several alternatives to perc and petroleum dry cleaning solvents are available for use in dry-to-dry machines. Types of alternatives include mixtures of azeotropes of substituted aliphatic glycol ethers (Rynex), synthetic hydrocarbons (DF-2000), decamethyl cyclopentasiloxane (GreenEarth), and petroleum distillates (Drylene 800).

As with other dry-to-dry operations, generation of the following types of wastes is expected.

| Waste Type | Source |
|---|---|
| Alternative solvent | Waste alternative solvent dry cleaning liquid |
| Alternative solvent still bottoms | Residual from the dry cleaning equipment distillation unit. |
| Carbon filters | Adsorption filters to maintain the quality of alternative solvent circulated through the dry cleaning equipment. |
| Lint | Fabric dust screened from garments during the dry cleaning wash and dry cycles |

## Applicable Regulations

The Environmental Protection Agency (EPA) solid and hazardous waste regulations contained in Title 40 of the Code of Federal Regulations (40 CFR) Parts 261.20 to 261.24 establish the following four characteristics by which a waste may be defined as hazardous.

- Ignitability: A waste exhibits the characteristic of ignitability if it is a liquid and has a flash point (determined by vendor information or laboratory analysis) less than 140 degrees Fahrenheit.
- Corrosivity: A waste exhibits the characteristic of corrosivity if it is a liquid and has a pH (determined by vendor information or laboratory analysis) less than or equal to 2 or greater than or equal to 12.5.
- Reactivity: A waste exhibits the characteristic of reactivity if it reacts violently or generates toxic vapors when mixed with water.
- Toxicity: A waste exhibits the characteristic of toxicity if it contains one or more of the contaminants listed in 40 CFR 261.24 at concentrations equal to or greater than their corresponding regulatory level as measured by laboratory analysis using the Toxicity Characteristic Leaching Procedure (TCLP) test.

EPA also allows hazardous/non-hazardous waste determinations to be accomplished using process knowledge. As the term implies, a process knowledge non-hazardous waste determination would require the generator to have sufficient knowledge of the process and chemicals used in the process to certify the waste does not meet any of the hazardous waste characteristics defined above, and that the waste is not specifically listed as hazardous waste according to 40 CFR 261.31 to 33. Documentation of a process knowledge determination should include copies of vendor information, similar test data, etc. to verify compliance.

Wastes that cannot be determined hazardous/non-hazardous using process knowledge must be subjected to a more definitive hazardous waste determination. This can be done by submitting a representative sample of the potentially hazardous waste to a laboratory for testing. The test to define if the wastes are hazardous/non-hazardous is known as the Toxicity Characteristic Leaching Procedure or TCLP.

On- and off-site management of hazardous waste is further regulated through 40 CFR Parts 261 and 262. These regulations require facilities to accurately document monthly hazardous waste generation rate and amount of hazardous waste stored at the facility in some type of log or inventory. The monthly hazardous waste generation rate and on-site storage quantity define which one of the three regulatory categories applies to the facility and the applicable set of hazardous waste regulations that must be met.

### Conditionally Exempt Small Quantity Generator (CESQG)

If a facility consistently generates quantities of hazardous waste less than 220 pounds per calendar month and never accumulates more than 2,200 pounds on site at any time, then CESQG requirements apply. CESQG regulations are the least stringent. A summary of the regulations is enclosed as Appendix C.

- Requirements
  - » Documentation for generation rate and storage quantities (to prove CESQG category applies).
  - » Hazardous waste stored in a sealed container clearly labeled "Hazardous Waste."
  - » Disposal of hazardous waste through an EPA-permitted hazardous waste management company.

### Small Quantity Generator (SQG)

If the facility generates quantities of hazardous waste between 220 and 2,200 pounds during any calendar month or stores between 2,200 and 13,200 pounds on site at any time, then SQG requirements apply. SQG regulations are significantly more involved. A summary of the regulations is enclosed as Appendix D.

- Requirements
  - » All of the requirements of a CESQG listed previously, and:
  - » Obtain an EPA hazardous waste generator identification number.
  - » Perform and document weekly hazardous waste storage area inspections.
  - » Perform and document employee training.
  - » Label and date all hazardous waste storage containers.
  - » Dispose of hazardous waste through an EPA-permitted hazardous waste management company within 180 days of the date waste was first added to the storage container.

If SQG limits are ever exceeded, the most stringent Large Quantity Generator (LQG) requirements apply. LQG regulations include those established for SQGs plus a shorter on site storage time allowance (i.e., 90 days), biennial reporting to EPA and more stringent training and planning requirements. An LQG summary is not enclosed as part of this manual, as it will not likely apply to most dry cleaning facilities, but one can be found at: http://iwrc.org/services/iaeap/dry-cleaning

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 hazardous waste management 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, hauler and

disposal facility) must sign the manifest 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 three years.

Solid wastes determined to be non-hazardous may be landfilled in Iowa. However, approval in the form of a Special Waste Authorization (SWA) is required. An SWA is obtained by submitting the completed SWA application form enclosed as Appendix E to the DNR along with a copy of the laboratory data or process knowledge information documenting the waste is, in fact non-hazardous. When approved, the applicant and landfill will be issued an SWA (or a waiver letter stating an SWA is not required) and disposal may begin.

## Compliance Recommendations

Waste alternative solvent dry cleaning solvent may be hazardous due to the characteristic of ignitability (i.e., flash point less than 140 degrees Fahrenheit) and possibly toxicity. As a result, it must be managed accordingly. This includes accounting for the amount of waste generated in a facility's hazardous waste inventory, storage in a sealed and labeled container, on-site management in compliance with the applicable hazardous waste regulations (i.e., CESQG or SQG) and off-site disposal by an EPA-permitted hazardous waste management company.

Waste alternative solvent may also be distilled on site and reused. However, the waste solvent prior to distillation and the resulting distillation residue must be considered hazardous waste and be managed in compliance with the applicable hazardous waste regulations.

While alternative dry cleaning solvents are reportedly less hazardous than their conventional counterparts, wastes contaminated with alternative solvents (i.e., carbon filters and lint) and/or waste generated as a result of alternative solvent processes (i.e., solvent still bottoms) must still be characterized as hazardous/non-hazardous according to EPA protocol. If adequate vendor information is available to accurately certify the composition of alternative solvent as incapable of causing still bottom, carbon filters, and lint to exhibit any of the characteristics of hazardous waste (i.e., ignitability, toxic, etc.), then the wastes may be classified as non-hazardous using process knowledge and managed accordingly.

If such information is not available, or to make a more defensible hazardous/non-hazardous determination, representative samples of each of the wastes (i.e., still bottoms, carbon filters and lint) should be collected and analyzed for flash point and the TCLP parameters listed in the table on the following page.

Table 3: TCLP Parameters

| TCLP Parameter | Regulatory Limit (Maximum) | EPA Hazardous Waste Number |
|---|---|---|
| Benzene | 0.5 mg/l | D018 |
| Carbon Tetrachloride | 0.5 mg/l | D019 |
| Chlorobenzene | 100.0 mg/l | D021 |
| Chloroform | 6.0 mg/l | D022 |
| 1,2-Dichloroethane | 0.5 mg/l | D028 |
| 1,1-Dichloroethylene | 0.7 mg/l | D029 |
| Methyl ethyl ketone (MEK) | 200.0 mg/l | D035 |
| Tetrachloroethylene (perc) | 0.7 mg/l | D039 |
| Trichloroethylene | 0.5 mg/l | D040 |
| Vinyl chloride | 0.2 mg/l | D043 |

A list of laboratories that can perform this service is included in Appendix F.

If laboratory results show no parameters present at concentrations equal to or greater than their corresponding regulatory limits and the flash point is greater than 140 degrees Fahrenheit, then the waste represented by the sample is non-hazardous and may be landfilled after obtaining an SWA approval or waiver from the DNR. Non-hazardous solid waste may also be disposed of through any reputable waste management company. However, it should be clearly identified as such on the disposal company's Bill-of-Lading. Vendor information and/or laboratory data documenting the non-hazardous claim and SWA approval or wavier or disposal receipts documenting off-site disposal should be maintained to verify compliance.

However, if any contaminant is present in the sample at a concentration equal to or greater than its corresponding regulatory level or the flash point is equal to or less than 140 degrees Fahrenheit, the waste represented by the sample is hazardous. Hazardous waste must be stored in sealed containers labeled "Hazardous Waste," accounted for in the facility's hazardous waste inventory, managed on site in compliance with applicable hazardous waste regulations (i.e., CESQG or SQG), and disposed of offsite through an EPA-permitted hazardous waste management company. A list of hazardous waste management companies is included in Appendix G.

# Wastewater - Alternative Solvent-Based Dry Cleaning Separator Water

Excess and undesirable water (separator water) accumulates in the dry-to-dry machine waste solvent tank and requires periodic decantation and disposal.

## Applicable Regulations

According to Title 40 of the CFR Part 261.4, commercial wastewater is not subject to solid/hazardous waste regulations when it is mixed with domestic sewage and treated through a publicly owned treatment works. This exemption does not exclude wastewater "while it is being collected, stored or treated before discharge."

Industrial users of municipal sewers are subject to regulations created as part of the Clean Water Act and contained in Title 40 of the CFR Parts 400 to 699. The regulations prohibit introduction of wastewater pollutants, which pass through the treatment system (i.e., enter a waterway) or interfere with the operation of the treatment system (i.e., concentrate in treatment sludge). Also prohibited are pollutants that create a fire or explosion hazard, pollutants that cause corrosive damage, solid or viscous pollutants that cause obstructions, and petroleum products that cause interference or pass-through.

Discharge of commercial wastewater (i.e., separator water) to a storm sewer, tile line, surface water, ditch, or ground surface is prohibited. Discharge of separator wastewater to a septic system with a leach field is also prohibited under any circumstances.

## Compliance Recommendations

Regulatory requirements regarding management of separator water prior to disposal depend on the manner in which it is disposed. If the separator water is plumbed directly from the dry cleaning equipment to a sanitary sewer, it is not a hazardous waste. Instead it is considered a wastewater and is subject to wastewater regulations. General wastewater regulations require notification of the wastewater treatment plant superintendent and/or city engineer of the types and quantities of wastewater discharged as well as approval (preferably in writing) prior to discharge. Documentation of this approval should be maintained on site to verify compliance.

As stated previously, the wastewater exemption does not apply to waste "while it is being collected, stored or treated." Furthermore, separator water that has been in contact and/or contaminated with waste solvent is potentially hazardous. As a result, it is subject to a hazardous/non-hazardous waste determination as discussed previously for solid wastes. This determination may be conducted using process knowledge if adequate vendor information is available or through laboratory analysis for the TCLP parameters listed in the previous section.

Separator water determined to be non-hazardous may be collected, stored, and/or treated without restriction. Acceptable disposal methods include sanitary sewer discharge with prior city approval or off-site disposal through any reputable waste management company. Vendor information and/or laboratory data documenting the non-hazardous claim and sewer discharge approval or disposal receipts documenting off-site disposal should be maintained to verify compliance.

Separator water determined to be hazardous must be stored in sealed containers labeled "Hazardous Waste," accounted for in the facility's hazardous waste inventory, managed on site in compliance with applicable hazardous waste regulations (i.e., CESQG or SQG), and disposed of off-site through an EPA-permitted hazardous waste management company.

# Appendices, Contacts, and Resources

# Appendix A

## PERCHLOROETHYLENE PURCHASE LOG

| | | |
|---|---|---|
| Previous 12-month rolling total = | | 1. gal |
| Perc purchased in Jan. 2011= | | 2. gal |
| Subtotal = Line 1 minus line 2 | | 3. gal |
| This month's perc purchases | | |
| Date | Gallons | |
| | | |
| | | |
| This month's purchase total = | | 4. gal |
| Current 12-month rolling total = Line 3 plus line 4 | | gal |

## PERCHLOROETHYLENE PURCHASE ROLLING TOTAL EXAMPLE

| | | |
|---|---|---|
| Previous 12-month rolling total = | | 1. 56 gal |
| Perc purchased in Jan. 2011= | | 2. 6 gal |
| Subtotal = Line 1 minus line 2 | | 3. 50 gal |
| This month's perc purchases | | |
| Date | Gallons | |
| 1/12/12 | 4 | |
| | | |
| This month's purchase total = | | 4. 4 gal |
| Current 12-month rolling total = Line 3 plus line 4 | | 54 gal |

On the first day of each month, enter the total volume of perc purchases made in the previous 12 months.

Enter the amount of perc that you bought during this same month last year. You can get that amount from last year's records or calendar. Subtract this amount from the 12-month total above and record below in the subtotal box.

If you bought perc this month, track each individual purchase in the cells above and then record the total amount of perc purchased this month here. Be sure to keep purchase receipts on site for five years.

This is your new 12-month rolling total. Record the bottom number in this column on next month's form in line 1.

# Appendix B

## NOTIFICATION OF COMPLIANCE STATUS
## NESHAP FOR DRY CLEANERS

40 Code of Federal Regulations (CFR) 63.320 – 63.326 (Subpart M)

IOWA DEPARTMENT OF NATURAL RESOURCES
AIR QUALITY BUREAU

# Notification of Compliance Status

## National Emission Standards for Hazardous Air Pollutants (NESHAP) for Perchloroethylene Dry Cleaners

40 Code of Federal Regulations (CFR) 63.320 – 63.326 (Subpart M)

**Due Date for Notification of Compliance Status (Original Dry Cleaner NESHAP):**

- June 18, 1994, or within 30 days of startup, whichever is later, for facilities subject to the pollution prevention requirements of the Dry Cleaner NESHAP (e.g. leak checks, keeping machine doors closed, etc.)
- October 22, 1996, or within 30 days of startup, whichever is later, for facilities subject to the control equipment requirements of the Dry Cleaner NESHAP (e.g. refrigerated condenser, carbon adsorber, etc.)
- Within 180 days of change in classification, from Small Area Source (< 140 gal/yr perc) to Large Area Source (140 – 2,100 gal/yr perc), or from Large Area Source (140 – 2,100 gal/yr perc) to Major Source (over 2,100 gal/yr perc)

**Due Date for Notification of Compliance Status (2006 Amendments to Dry Cleaner NESHAP):**

- July 28, 2008, for all facilities that became subject to the Dry Cleaner NESHAP prior to July 28, 2008 (facilities where all perc dry cleaning machines were installed prior to December 9, 1991, and that use less than 140 gallons of perc per year facility-wide, are exempt from this notification requirement)

*(This form can also be used to notify regulating agencies of a change in ownership, address, etc.)*

### Facility Identification

| Facility Name: | | | Facility Number (if known): |
|---|---|---|---|
| | | | |
| Facility Location - Street: | City: | State: | Zip: |
| | | | |
| Mailing Address (if different): | City: | State: | Zip: |
| | | | |
| Owner/Operator Name: | Phone number: | Email (if available): | |
| | | | |

### Dry Cleaning Machine Information

| Make and Model # of Machine | Installation Date | Type of Control (Refrigerated Condenser, Carbon Adsorber, other) |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

**Facility Information**

1. What is the total volume of perchloroethylene (perc) purchased for ALL of the machines at this facility over the past 12 months?
_____ gallons

2. How many employees work at this facility? _____

3. This facility is a (please choose one):

☐ Major source of hazardous air pollutants (HAP)
*Total yearly perc consumption is greater than 2,100 gallons per year, for facilities that only operate dry-to-dry machines*

☐ Area source: potential and actual emissions below major source levels
*Total yearly perc consumption is less than or equal to 2,100 gallons per year, for facilities that only operate dry-to-dry machines*

4. Is this dry cleaning operation located in building with a residence, even if the residence is vacant at the time of this notification? Yes ☐ No ☐
*Residence means any dwelling or housing in which people reside excluding short-term housing that is occupied by the same person for a period of less than 180 days (such as a hotel room).*

5. Is this dry cleaning operation located in a building with other tenants, leased space, or owner occupants?
Yes ☐ No ☐

6. Are there currently any transfer machine systems being operated at this location? Yes ☐ No ☐

**Compliance Status**
Is the dry cleaning operation in compliance with all applicable requirements of NESHAP Subpart M, as amended through July 11, 2008? Yes ☐ No ☐

| **Responsible Official Certification** | | |
|---|---|---|
| ☐ | **I certify the truth, accuracy, and completeness of this notification.** | |
| Responsible Official Name | Responsible Official Signature | Date |
| | | |

**Submittal Instructions**

Submit this notification to the following agencies:

- NESHAP Coordinator, **Iowa Department of Natural Resources**, 7900 Hickman, Suite 1; Windsor Heights, IA, 50324

# Appendix C

## CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR

# CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR (CESQG) OF HAZARDOUS WASTE

**Iowa Waste Reduction Center / University of Northern Iowa**
**319-273-8905 or 1-800-422-3109**

**40 CFR 261.5** **October 2005**

## *Do these regulations apply to my operation?*

These regulations apply if your facility generates hazardous waste at a rate less than 220 pounds in any calendar month and never stores more than 2,200 pounds of hazardous waste on-site at any time. Facilities generating or storing hazardous waste in quantities greater than the above limits are subject to more stringent Small Quantity Generator (SQG) or Large Quantity Generator (LQG) regulations.

## General Requirements

All waste generators must, at a minimum:

- Accurately characterize each facility waste as hazardous or non-hazardous.
- Maintain an inventory documenting the facility's monthly hazardous waste generation rate and the amount of hazardous waste stored on site.
- Manage hazardous wastes in compliance with applicable on- and off-site federal regulations.

## *What are the benefits of proper management of hazardous waste?*

Hazardous waste regulations were established to minimize human and environmental exposure to hazardous chemicals. The Environmental Protection Agency (EPA) has written a comprehensive set of regulations that govern the management of hazardous waste from the point of generation to disposal. They also incorporate a record keeping/reporting/tracking system to verify and document that the waste is, in fact, managed appropriately. Finally, compliance with hazardous waste regulations is an enforceable law. Non-compliance can result in fines of up to $32,500 per day per violation.

## CESQG Regulatory Requirements

CESQG regulations are relatively lenient compared to the other sets of hazardous waste regulations and only stipulate the following requirements:

- Waste must be appropriately categorized as hazardous or non-hazardous following EPA protocol contained in 40 CFR 262.11.
- CESQGs may not generate more than 220 pounds of hazardous waste in any calendar month.
- CESQG hazardous waste must be treated or disposed of (as discussed below) before the on-site storage amount reaches 2,200 pounds.
- If the facility's hazardous waste generation rate exceeds 220 pounds in any calendar month or more than 2,200 pounds of hazardous waste is allowed to accumulate on site,

then the facility is no longer a CESQG and must comply with the more stringent set of regulations established for Small Quantity Generators (SQGs) or Large Quantity Generators (LQGs).

- CESQG hazardous waste must be treated or disposed of:
    - By an EPA-permitted hazardous waste management company,
    - At a DNR-permitted regional collection center, or
    - At a facility which beneficially uses or legitimately recycles hazardous waste.

CESQGs are not required to obtain an EPA Hazardous Waste Generator Identification Number according to federal law, but may be asked to have an ID number as a matter of policy imposed by the hazardous waste transportation/disposal company providing service. Application for an ID number is accomplished by completing the form enclosed in EPA's "Notification of Regulated Waste Activity" booklet (EPA Form 8700-12).

## CESQG Hazardous Waste Management Recommendations

While not required by law, the following hazardous waste management recommendations should be considered for implementation to reduce the likelihood of spills, mismanagement, adverse human and environmental effects and resulting liabilities.

- Hazardous waste should be stored in sealed containers that are clearly labeled "Hazardous Waste".
- Hazardous waste storage containers should be packaged, labeled and marked according to the Department of Transportation's (DOT) hazardous materials transport regulations.
- All shipments of hazardous waste should be accompanied by a Uniform Hazardous Waste Manifest and a Treatment Standard Notification (TSN) form (if applicable).
- Hazardous waste storage areas should be maintained and operated to minimize the possibility of fire, explosion or release of hazardous waste.
- Personnel handling hazardous waste should receive adequate training to assure they are competent to perform this activity and should have immediate access to a telephone to summon help in the event of a spill. Emergency response telephone numbers should be posted.
- Copies of laboratory data documenting the hazardous/non-hazardous status of waste, hazardous waste generation rate/storage inventories, manifests/TSN forms, proof of employee training, etc., should be maintained on file to document compliance.

# Appendix D

## SMALL QUANTITY GENERATOR

# Small Quantity Generator (SQG) of Hazardous Waste

**Iowa Waste Reduction Center / University of Northern Iowa**
**319-273-8905 or 1-800-422-3109**

**40 CFR Part 262** **October 2005**

## *Do these regulations apply to my operation?*

If your facility generates between 220 and 2,200 pounds of hazardous waste in any calendar month or stores between 2,200 and 13,200 pounds of hazardous waste on site at any time, this regulation applies. Facilities generating or storing more or less than these limits are subject to the Large Quantity Generator (LQG) or Conditionally Exempt Small Quantity Generator (CESQG) regulations respectively.

## *General Requirements*

- All waste generators must, at a minimum:
  - Accurately characterize each facility waste as hazardous or non-hazardous.
  - Maintain an inventory documenting the facility's monthly hazardous waste generation rate and the amount of hazardous waste stored on site.
  - Manage hazardous wastes in compliance with applicable on- and off-site federal regulations.

## *What are the benefits of proper management of hazardous waste?*

Hazardous waste regulations were established to minimize human and environmental exposure to hazardous chemicals. The Environmental Protection Agency (EPA) has written a comprehensive set of regulations that govern the management of hazardous waste from the point of generation to disposal. They also incorporate a record keeping/reporting/tracking system to verify and document that the waste is, in fact, managed appropriately. Finally, compliance with hazardous waste regulations is an enforceable law. Noncompliance can result in fines of up to $32,500 per day for each violation.

## *SQG Regulatory Requirements*

In addition to the general requirements listed previously, SQGs must also comply with the following:

**EPA Identification Number**

SQGs must obtain an EPA Hazardous Waste Generator Identification Number. This number is used to identify the facility and the hazardous waste activities occurring there. It is also required on all waste shipping papers. An ID number is obtained by completing the form enclosed in EPA's "Notification of Regulated Waste Activity" booklet (EPA Form 8700-12).

**Waste Generation, Accumulation and Storage**

- SQGs may not generate more than 2,200 pounds of hazardous waste in any calendar month, nor store more than 13,200 pounds of hazardous waste on site at any given time. If either limit is exceeded, the facility becomes subject to the more stringent Large Quantity Generator (LQG) regulations.
- Hazardous waste storage containers must remain sealed, except when adding or removing waste.
- Hazardous waste storage containers must be clearly labeled "Hazardous Waste".
- Up to 55 gallons of hazardous waste may be accumulated at the point of generation and under the supervision of the individual generating the waste for an indefinite period of time. The container must be labeled "Hazardous Waste" or other words to identify the contents and should include "Satellite Accumulation". When 55 gallons has accumulated, the satellite accumulation container must be moved to a permanent hazardous waste storage area within three days.
- Hazardous waste containers must be marked with the date they first received waste or the date when moved from the satellite accumulation area to the permanent hazardous waste storage area.
- The permanent hazardous waste storage area must be inspected weekly for leaking containers, proper container labeling and dating to assure the containers are sealed, and to maintain adequate access to all containers. Weekly inspections should be documented in a logbook that is maintained on site.
- Hazardous waste may not be stored on site for more than 180 days (270-day storage is allowed if the waste is being transported more than 200 miles for proper management).

**Preparation for Off-Site Transportation**

- Hazardous waste storage containers must be packaged, labeled, and marked according to the Department of Transportation's (DOT) hazardous materials transport regulations. This includes the following information on each container:
    - "HAZARDOUS WASTE - Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U.S. Environmental Protection Agency"
    - Generator's Name and Address
    - Manifest Document Number
    - Commercially available labels can be used.
    - The generator must assure the hazardous waste transport vehicle is affixed with the appropriate DOT placards.

**Shipping Papers**

- A Uniform Hazardous Waste Manifest must accompany all shipments of hazardous waste.
- The manifest is a multiple copy form that must be signed by the generator, transporter, and disposal facility personnel. Each entity should keep its respective copy of the form. The original copy of the manifest must be returned to the generator by the disposal facility within 60 days.
- Both the generator and original copy of the manifest must be filed on site and be readily

available for inspection for at least three years.

- For waste subject to Land Ban restrictions, a Treatment Standard Notification (TSN) form must accompany the hazardous waste manifest. The transporter/disposal facility will assist in determining if a TSN is required. If so, a copy must remain on site and be readily available for inspection for at least three years.

**Preparedness and Prevention**

- Hazardous waste storage areas must be maintained and operated to minimize the possibility of fire, explosion, or release of hazardous waste.
- Hazardous waste storage areas must be equipped with or provide immediate access to the following:
    - Internal communications or alarm system
    - A telephone to summon emergency assistance from local authorities
    - Fire extinguisher and control equipment
    - Spill control equipment
    - Water to supply hoses or sprinkler systems
- All equipment must be tested and maintained to assure proper operation.
- When hazardous waste is handled, all personnel involved must have immediate access to an internal alarm or emergency communication device.
- If just one employee is present, he or she must have immediate access to a device capable of summoning external assistance.
- Aisle space must be maintained to allow for fire protection and spill control in an emergency.
- The generator must familiarize local police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes. An example letter to assist in preparing this notification is attached. Where authorities decline to enter into arrangements, documentation of the attempt to make arrangements (e.g., certified letter requesting arrangements) must be kept on file.

**Contingency Requirements**

- At all times, there must be at least one employee available, or on call, with the responsibility for coordinating all emergency response measures (emergency coordinator).
- The following information must be posted at the telephone closest to the hazardous waste storage area:
    - Name and telephone number of emergency coordinator(s);
    - Location of fire extinguishers, spill control material, and fire alarm; and
    - Telephone number of the fire department.
- All employees involved in waste handling and management must be thoroughly familiar with proper waste handling and emergency procedures (Records of training should be kept on file).
- The emergency coordinator must respond appropriately to emergencies as follows:
    - Fire: Call the fire department and/or attempt to extinguish it.
    - Spill: Contain the flow of waste and clean up waste and contaminated

materials/soil to prevent or minimize release to the environment.
    - For releases that threaten human health outside the facility or spills that could reach surface water: Notify the National Response Center (800/424-8802) and the Iowa Department of Natural Resources (515/281-8694).
- A Contingency Plan should be written and kept on file to document compliance with these requirements.

**Record Keeping**

Copies of hazardous waste generation rate/storage inventories, manifests, TSN forms, hazardous waste storage area inspection logs, and employee training documentation should be maintained on file in chronological order, and be readily available for regulatory agency inspection. Copies of laboratory data documenting the hazardous/non-hazardous status of waste, contingency plans, notification of emergency response agencies, etc., should also be available for review at the facility.

**The Iowa Waste Reduction Center can assist your small business. Please contact the IWRC at 800/422-3109 for free, non-regulatory and confidential environmental assistance.**

## Notification of Small Quantity Waste Generation Activity - Example Letter

Date:

To: (Specific Individual (i.e., Fire Chief, Police Captain, Hospital Administrator by name)).

From: (Company and contact name)

Re: **Notification of Small Quantity Waste Generation Activity.**

Company name generates small quantities (less than 1000 kg/month) of hazardous waste, which is accumulated for time period before being collected by an authorized transporter. Waste generated and stored include type of waste(s).

This waste is collected and stored in our location of storage area which is located at address (see drawing). The maximum amount stored at any one time is less than number gallons.

A Material Safety Data Sheet for the original material is enclosed. Fire and health risks from the used material are expected to be similar to that of the original material.

This letter is sent in order to fulfill 40 CFR Part 262.34 (d)(4) of the Federal Hazardous Waste Regulations.

Sincerely,

Authorized Personnel

Enclosure

**Note:** Send letter by certified mail so a return receipt can document that the letter was received.

# Appendix E

## SPECIAL WASTE AUTHORIZATION

# IOWA DEPARTMENT OF NATURAL RESOURCES

## REQUEST FOR SPECIAL WASTE AUTHORIZATION

**Check one of the following:** ☐ **New Application** ☐ **Renewal, Existing SWA #** _____

The intent of a special waste authorization is to provide safe and proper management for disposal of wastes which present a threat to human health or the environment or a waste with inherent properties which make the disposal of the waste in a sanitary landfill difficult to manage. It is each landfill's responsibility to inform the waste generator if a waste should be handled as a special waste and to ensure that special wastes delivered to the landfill conform to the Special Waste Acceptance Criteria (SWAC) on file with the Department. It is the Department's responsibility to review each application for a special waste authorization to verify that the proposed waste can be landfilled under the current regulations in Iowa.

## READ THE FOLLOWING INSTRUCTIONS BEFORE COMPLETING THIS APPLICATION

**Waste Generator:**

1. Complete Sections 1-3 of this application applicable to the waste characterization and disposal information.
2. Attach Toxicity Characteristic Leaching Procedure (TCLP) test results, material safety data sheet(s) (MSDS), or evidence of "processor knowledge" when appropriate that demonstrates the waste is not considered a characteristic hazardous waste exhibiting the properties of flammability, corrosivity, reactivity or toxicity or a listed hazardous waste as defined in 40 CFR Part 261, Subpart D.
3. Provide signature in Section 3 to verify that the information provided is true, accurate and complete.
4. Mail or deliver (2) copies of the completed application with attachments to the requested disposal destination (*must be a landfill that is authorized to accept waste from the service area of where the waste was generated*). Please contact Sue Johnson at (515) 281-7982 for a list of landfills authorized to accept waste from the service area in which your facility is located.

**Receiving Landfill:**

Prior review of this application by the receiving landfill allows the department to more quickly process and evaluate the application.

1. Complete Section 5 of this application applicable to the landfill.
2. Indicate by signing the application that the landfill is willing to accept the waste if a Special Waste Authorization is issued by the department and if instructions for disposal of the waste, as contained in the landfill's SWAC, are followed by the generator.
3. Attach SWAC procedures for disposal of the waste.
4. Keep 1 copy for your records and submit the remaining one copy of the completed application with attachments (TCLP, MSDS, SWAC, etc.) to the department at the following address:

   Iowa Department of Natural Resources
   Land Quality Bureau- Attn: Susan Johnson
   502 East 9th Street
   Des Moines, IA 50319-0034

Applications will be considered incomplete if not signed by both the waste generator and receiving landfill. The receiving landfill must attach a copy of the SWAC for the particular waste for which the application has been submitted.

Written notification of approval or rejection will be mailed or faxed to the generator and landfill. If approved, a copy of the authorization must accompany the waste hauler to the landfill.

For questions concerning this application contact Sue Johnson at (515) 281-7982 or susan.johnson@dnr.state.ia.us.

**SECTION 1: WASTE GENERATOR INFORMATION**

**Name of Primary Contact*** _____ **Title** _____
***SWA approvals will be sent to this person at the address provided below.***

**Company Name** _____

**Mailing Address** _____

**City** _____ **State** _____ **Zip Code** _____

**Telephone #** _____ **Fax #** _____

**Address or location of the point of generation of the waste, if different from the company address:**

**Address** _____

**City** _____ **State** _____ **Zip Code** _____

**SECTION 2: WASTE CHARACTERIZATION**

**Waste determined to be hazardous may not be landfilled in Iowa. Attach TCLP analysis that demonstrates the waste is not considered hazardous. For raw or virgin materials being disposed of, a MSDS that indicates the waste is not hazardous may be submitted in lieu of a TCLP analysis.**

**The generator may also apply knowledge of the hazardous characteristic(s) of the waste in light of the materials or the processes used ("knowledge of process"). In order to use knowledge to characterize the waste, the knowledge that is applied must be valid and verifiable and the generator must be able to demonstrate the basis for their claim by providing supporting information to justify that conclusion.**

**Name and description of waste:**

**Has any pretreatment been utilized? If so, please describe the pretreatment process:**

**List the alternatives to disposal that were analyzed and reason not utilized (*attach extra sheets if necessary*):**

**SECTION 2: WASTE CHARACTERIZATION (Continued)**

| Physical state at room temperature?<br><br>☐ Solid ☐ Semi-Solid ☐ Liquid | Percent (%) Solid: | pH: | Flashpoint: |
|---|---|---|---|
| Does this waste pass the paint filter liquids test?<br><br>Free liquids are prohibited from landfill disposal. Free liquids are defined as the liquid produced when a 100-millimeter or 100-gram representative sample is placed on a standard mesh number 60 (fine mesh size) conical paint filter for five minutes. | | | ☐ Yes<br>☐ No |
| Is this waste a listed hazardous waste as identified in 40 CFR 261, Subpart D? Refer to the following web link to find listed hazardous wastes: http://www.gpoaccess.gov/cfr/index.html | | | ☐ Yes<br>☐ No |
| Does this waste exhibit the property of *ignitability* as defined in 40 CFR 261, Subpart C? | | | ☐ Yes<br>☐ No |
| Does this waste exhibit the property of *corrosivity* as defined in 40 CFR 261, Subpart C? | | | ☐ Yes<br>☐ No |
| Does this waste exhibit the property of *reactivity* as defined in 40 CFR 261, Subpart C? | | | ☐ Yes<br>☐ No |
| Does this waste exhibit the property of *toxicity* as defined in 40 CFR 261, Subpart C? | | | ☐ Yes<br>☐ No |

**SECTION 3: WASTE DISPOSAL INFORMATION**

**Indicate the proposed disposal location and if this is a request for an on going disposal of a special waste or a one-time disposal. If on going, indicate the approximate amount in pounds to be disposed of quarterly.**

**Landfill Name*** _____

***List only a landfill that is authorized to accept waste from the service area of where the waste was generated. Sue Johnson at (515) 281-7982 or susan.johnson@dnr.state.ia.us for a list of landfills authorized to accept waste from your facility.***

☐ **On going (or intermittent) with an average disposal rate per quarter of** _____ **pounds**

**Indicate the amount on hand to be disposed of immediately:** _____ **pounds**

☐ **One time only, with an estimated quantity of** _____ **pounds**

## SECTION 4: WASTE GENERATOR CERTIFICATION

" I certify under penalty of law (§455B.417.1(c), Code of Iowa) that I have examined and am familiar with the information submitted in this document concerning hazardous waste, and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. "

Applicant Signature: _____ Date: _____

Printed Name: _____ Title: _____

## SECTION 5: LANDFILL INFORMATION

The following section is to be completed by the receiving landfill. By signing below, the landfill verifies that the application has been examined and if approved by the department, is willing to accept the waste described within, provided that instructions for disposal of the waste, as contained in the landfill's Special Waste Acceptance Criteria, are followed by the generator.

Prior review of this application by the receiving landfill will allow the department to more quickly process and evaluate the application. Please address the following:

Indicate the properties that lead you to believe this is a special waste:

Indicate any special handling procedures that the waste generator must follow prior to delivery at the landfill:

Name of Responsible Official*: _____

**SWA approvals will be sent to this person at the address given below.*

Solid Waste Agency Name _____

Mailing Address _____

City _____ State _____ Zip Code _____

Telephone # _____ Fax # _____

Responsible Official Signature: _____ Date: _____

# Appendix F

## ANALYTICAL LABORATORIES

# Analytical Laboratories

**Keystone Laboratories - Newton**
600 E. 17th Street South Suite B
Newton, IA 50208
http://www.keystonelabs.com
(800) 858-5227

**Mangold Environmental Testing**
2004 Expansion BLVD
Storm Lake, IA 50588
(712) 732-7786

**Midwest Laboratories, Inc. - Omaha**
13611 B Street
Omaha, NE 68144
http://www.midwestlabs.com
(402) 334-7770

**Minnesota Valley Testing**
51 L Ave
Nevada, IA 50201
http://www.mvtl.com
(800) 362-0855

**QCAnalytical Services, LLC**
1798 Iowa Drive
LeClaire, IA 52753
http://www.qcanalytical.net/
(563) 289-3373

**QCML, Inc.**
17048 215th Street
Davenport, IA 52804
http://www.qcml.com
(563) 386-7827

**State Hygienic Lab**
U of I Research Park
2490 Crosspark RD
Coralville, IA 52241-4721
http://shl.uiowa.edu/
(319) 335-4500

**TestAmerica**
704 Enterprise Drive
Cedar Falls, IA 50613
http://www.testamericainc.com
(800) 750-2401

**WRR Environmental Services Co., Inc.**
5200 Ryder RD
Eau Claire, WI 54701-9678
http://www.wrres.com/
(800) 727-8760

# Appendix G

## HAZARDOUS WASTE MANAGEMENT SERVICE PROVIDERS

# Hazardous Waste Management Companies

**Acterra Group**
Corporate Center 200
200 35th St., P.O. Box 160
Marion, IA 52302
http://acterragroup.com
(800) 289-7371

**Barton Solvents - Bettendorf**
204 36th St
Bettendorf, IA 52722
http://www.barsol.com
(563) 355-0203

**Barton Solvents - Council Bluffs**
2135 9th Ave
Council Bluffs, IA 51501
http://www.barsol.com
(712) 322-2509

**Barton Solvents - Des Moines**
1970 NE Broadway Ave.
Des Moines, IA 50313
http://www.barsol.com
(515) 265-7900

**Brenntag - Great Lakes**
1979 NE 54th Ave
Des Moines, IA 50313
http://brenntaggreatlakes.com
(515) 265-6019

**Clean Harbors Environmental Services - Chicago**
11800 S. Stony Island
Chicago, IL 60617
http://www.cleanharbors.com/
(800) 645-8265

**Environmental Enterprises Inc.**
4650 Spring Grove Ave
Cincinnatti, OH 45232
http://www.eeienv.com
(513) 722-2812

**Environmental Operations, Inc.**
1530 S 2nd St. Suite 200
St. Louis, MO 63104
http://www.environmentalops.com
(314) 241-0900

**Greenfield Environmental, Inc.**
1824 Lackland Hill Pkwy., Suite 100
Maryland Heights, MO 63146
http://www.geinc.net
(314) 997-4500

**Heritage Environmental Services, LLC - Indianapolis**
7901 West Morris Street
Indianapolis, IN 46231
http://www.heritage-enviro.com
(877) 436-8778

**Heritage-Crystal Clean, LCC**
2175 Point Boulevard, Suite 375
Elgin, IL 60123
http://www.crystal-clean.com
(877) 938-7948

**Hydrite Chemical**
2815 WCF&N DR
Waterloo, IA 50703
http://www.hydrite.com
(319) 232-1112

**Industrial Waste Services, Inc.**
PO Box 50680
Mendota, MN 55150
http://industrialwasteservices.biz
(866) 474-2628

**Kinsbursky Brothers**
125 E. Commercial
Anaheim, CA 92801
http://www.kinsbursky.com
(800) 548-8797

# Hazardous Waste Management Companies

**Northland Products Co.**
1000 Rainbow Dr.
PO Box 418
Waterloo, IA 50701
(319) 234-5585

**Pelton Environmental Services, LLC**
22902 Three Bridge Road
Council Bluffs, IA 51503
(402) 699-4457

**Peoria Disposal Company**
4700 N Sterling AVE
Peoria, IL 61615
http://www.pdcarea.com
(309) 686-8033

**Retrofit Recycling, Inc.**
969 39th AVE NW
Owatonna, MN 55060
http://www.retrofitcompanies.com
(800) 795-1230

**Safety Kleen - Davenport**
3035 W 73rd St.
Davenport, IA 52806
http://www.safety-kleen.com
(563) 386-3024

**Safety Kleen - Des Moines**
4704 NE 22nd
Des Moines, IA 50313
http://www.safety-kleen.com
(515) 262-2949

**Set Environmental Inc.**
450 Sumac Rd
Wheeling, IL 60090
http://www.setenv.com
(847) 537-9221

**Stericycle - Blaine MN**
2850 100th Court NE
Blaine, MN 55449
http://www.stericycle.com/
(877) 927-8311

**Trc Environmental Corporation**
1600 Genessee St., STE 416
Kansas City, MO 641021039
http://www.trcsolutions.com
(816) 474-1500

**Trinity Environmental Technologies, Inc.**
P.O. Box C
Mound Valley, KS 67354
(620) 328-3222

**Univar USA / Chem Care - Omaha**
3002 F. St.
Omaha, NE 681071599
http://www.univarusa.com
(402) 738-4168

**Univar USA / Chem-Care - Burlington**
1819 W Burlington Ave
Burlington, IA 52601
http://www.univarusa.com
(319) 753-2253

**Veolia Environmental Services - Lombard**
700 East Butterfield Rd., Suite 201
Lombard, IL 60148
http://www.veoliaes.com/
(630) 218-1500

**W & S Supply**
65 Bus Brown Dr
Woodbine, IA 51579
(712) 647-2252

**WRR Environmental Services Co., Inc.**
5200 Ryder RD
Eau Claire, WI 54701-9678
http://www.wrres.com/
(800) 727-8760

# Appendix H

## CONTACTS AND RESOURCES

### Code of Federal Regulations – Perchloroethylene Dry Cleaning
http://www.gpo.gov/fdsys/pkg/CFR-2013-title40-vol10/pdf/CFR-2013-title40-vol10-part63-subpartM.pdf

### EPA Dry Cleaning Sector
http://www.epa.gov/ttn/atw/dryperc/dryclpg.html

### EPA Pollution Prevention Information Clearinghouse
http://www.epa.gov/ppic/

### EPA RCRA Hazardous Waste Resources
http://www.epa.gov/osw/hazard/generation/resources.htm
Phone: (800) 223-0425

### Iowa Department of Natural Resources
http://www.iowadnr.gov/InsideDNR/RegulatoryAir.aspx

AIR QUALITY BUREAU
7900 Hickman Rd., Suite 1
Windsor Heights, IA 50324
Phone: (515) 242-5100

AIR QUALITY NESHAP COORDINATOR
Diane Brockshus
Phone: (515) 281-4801
Diane.Brockshus@dnr.iowa.gov

AIR QUALITY SMALL BUSINESS LIAISON
Christina Iiams
Phone: (515) 281-4927
Christina.Iiams@dnr.iowa.gov

### Iowa Air Emissions Assistance Program
http://iwrc.org/services/iaeap/
» Dry Cleaner Compliance Calendar
» Dry Cleaner Compliance Manual
Suite 113, BCS Building
Cedar Falls, IA 50614
Phone: (800) 422-3109

### Iowa Waste Reduction Center
http://iwrc.org
Suite 113, BCS Building
Cedar Falls, IA 50614
Phone: (800) 422-3109

### Linn County Public Health
http://www.linncleanair.org/

AIR QUALITY DIVISION
501 13th St. N.W.
Cedar Rapids, IA 52405-3700
Phone: (319) 892-6000

### Polk County Public Works
http://www.polkcountyiowa.gov/airquality/

AIR QUALITY DIVISION
5885 NE 14th St.
Des Moines, IA 50313
Phone:(515) 286-3705

Iowa Waste Reduction Center

IWRC

University of Northern Iowa

DNR