Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194

Audit Checklist – Solvents

Vehicle Maintenance Providers
Environmental Audit Checklist

Environmental audit checklists are designed to assist businesses by providing a low cost way of reviewing compliance with Minnesota's environmental laws and rules. Because the laws and rules are numerous and often complicated, this checklist cannot be a complete guide to your legal obligations. You may have obligations that are not covered on this checklist. If you have questions regarding the Environmental Audit Program or this checklist, please call the Small Business Environmental Assistance Program (SBEAP) at 651-282-6143 or 800-657-3938.

Date of audit _____
Company _____
Completed by/Title _____

Environmental Audit Program Participation

A check mark in any of the boxes indicating that a requirement is not being met designates a violation of one or more regulations. To participate in the Environmental Audit Program, submit a report of your findings to the Minnesota Pollution Control Agency (MPCA). The Report Inventory form lists items that need to be included in the report and meets the audit report requirements. You do not need to submit a copy of this checklist.

Answer each question unless specifically directed otherwise.

1. Do you use solvents? (Solvents are commonly used for cleaning.)

☐ Yes You need to complete this checklist. You also need to complete the *Vehicle Maintenance Providers: Audit Checklists - Air Quality.*

☐ No You do not need to complete this checklist.

Hint: *There are many choices in cleaning systems today. Check into modifications like filtration, oil skimming, and other separation techniques that keep the cleaner usable longer. Your best choice will allow for maximum use and minimum generation of waste.*

2. Do you use a petroleum-based solvent? (Petroleum-based solvents include, but are not limited to, mineral spirits, stoddard solvent, and petroleum naptha used in parts washers. Most paint thinners contain petroleum-based solvents. Material Safety Data Sheets are good sources of information about your cleaners.)

☐ Yes Call SBEAP for Hazardous Waste fact sheet #4.43, *Managing Solvent-Based Parts Washers*, or find it at http://www.pca.state.mn.us/publications/w-hw4-43.pdf . Continue on to the next question.

☐ No **Skip to question 6.**

3. Is this petroleum-based solvent found on the F-list in Table 2?

☐ Yes

- Spent solvent is a hazardous waste.
- All filters, sorbents, and sludge will also be hazardous wastes.
- Manage spent solvent, filters, sorbents, and sludge according to hazardous waste rules. You also need to complete the *Vehicle Maintenance Providers: Audit Checklists - Hazardous Waste.*
- You are done with this checklist.

☐ No Continue on to the next question.

4. Is the flash point of this petroleum-based solvent less than 140° Fahrenheit (60° Celsius)?

☐ Yes The liners must be empty to be eligible for disposal as solid waste.

- Spent solvent is a hazardous waste because it is ignitable. Manage the spent solvent according to hazardous waste rules. You also need to complete the *Vehicle Maintenance Providers: Audit Checklists - Hazardous Waste.*
- Filters, sludge, and sorbents that contain no free liquids or contaminants found in Table 1 in levels above the maximum allowable concentrations listed, and that do not spontaneously combust are non-hazardous. Manage them as industrial solid waste. Follow the guidance in Table 3.
- You are done with this checklist.

☐ No Continue on to the next question.

5. Are any of the contaminants in this petroleum-based solvent present in levels above the maximum allowable concentrations listed in Table 1? (Your answer can sometimes be based on your knowledge of the waste. If you can not make a determination based on your knowledge of the waste, test results using the Toxicity Characteristic Leaching Procedure can be used.)

☐ Yes

- Spent solvent is a hazardous waste because it is toxic.
- Further evaluation is necessary to determine if filters, sorbents, and sludge are hazardous wastes. For more help, contact SBEAP or your county hazardous waste staff as appropriate.

☐ No Review your answers to questions 3, 4, and 5. Waste evaluations for petroleum-based solvents need to address whether the waste is a hazardous waste because it is toxic, ignitable, or on the F-list. For further help, contact SBEAP or your county hazardous waste staff as appropriate.

6. Do you use a water-based solvent?

☐ Yes Continue to next question. Call SBEAP for Hazardous Waste fact sheet #4.44, *Managing Aqueous Parts Washer,* or find it at http://www.pca.state.mn.us/waste/pubs/4_44.pdf.

☐ No Review your answer to question 2. The solvent will either be water-based or petroleum-based (if you use a citrus-based solvent consider it to be water-based). If you need more help with this section of the audit, call SBEAP or your county hazardous waste staff as appropriate.

7. Is the flash point of this water-based solvent less than 140° Fahrenheit (60° Celsius)?

☐ Yes

- Spent solvent is a hazardous waste because it is ignitable. Manage the spent solvent according to hazardous waste rules. You also need to complete the *Vehicle Maintenance Providers: Audit Checklists - Hazardous Waste.*
- Filters, sludge, and sorbents that contain no free liquids, or contaminants found in Table 1 in levels above the maximum allowable concentrations listed, and that do not spontaneously combust are non hazardous. Manage them as industrial solid waste. Follow the guidance in Table 3.
- You are done with this checklist.

☐ No Continue on to the next question.

8. Are any of the contaminants in this water-based solvent present in levels above the maximum allowable concentrations listed in Table 1? (Your answer can be based on your knowledge of the waste or on test results using the Toxicity Characteristic Leaching Procedure.)

☐ Yes

- Spent solvent is a hazardous waste based on the toxicity characteristic.
- Further evaluation is necessary to determine if filters, sorbents, and sludge are hazardous wastes. For more help, contact SBEAP or your county hazardous waste staff as appropriate.

☐ No Continue on to the next question.

9. Have any solvents on the F-list been mixed with the water-based cleaner? See Table 2.

☐ Yes

- Spent solvent that has been mixed with a solvent that is on the F-list is a hazardous waste.
- Associated filters, sorbents, and sludge are hazardous wastes.

☐ No

- Spent solvent is non-hazardous.
- Recycle or discharge water-based solvents to a sewer. Make sure you have approval from your sewer authority before you discharge any water-based solvents to a sewer.

Hint: *Chances are your cleaner can perform adequately longer than you think it can. Just because it looks dirty, doesn't mean it isn't cleaning. If you do nothing but increase your change time from eight weeks to 10 weeks, over a year you will reduce your waste generation by 20 percent!*

Table 1
Character Waste - Toxicity

Contaminant	Hazardous Waste Code	Maximum Allowable Concentration (milligrams per liter)
•Arsenic	D004	5.0
•Barium	D005	100.0
Benzene	D018	0.5
•Cadmium	D006	1.0
Carbon Tetrachloride	D019	0.5
Chlordane	D020	0.03
Chlorobenzene	D021	100.0
Chloroform	D022	6.0
•Chromium	D007	5.0
o-Cresol	D023	200.0*
m-Cresol	D024	200.0*
p-Cresol	D025	200*
Cresol*	D026	200.0
1,4-Dichlorobenzene	D027	7.5
1,2-Dichloroethane	D028	0.5
1,1-Dichloroethylene	D029	0.7
2,4-Dichlorophenoxyacetic acid (2,4-D)	D016	10.0
2,4-Dinitrotoluene	D030	0.13
Endrin	D012	0.02
Heptachlor	D031	0.008
Hexachlorobenzene	D032	0.13
Hexachlorobutadiene	D033	0.5
Hexachloroethane	D034	3.0
•Lead	D008	5.0
Lindane	D013	0.4
•Mercury	D009	0.2
Methoxychlor	D014	10.0
Methyl ethyl ketone	D035	200.0
Nitrobenzene	D036	2.0
Pentachlorophenol	D037	100.0
Pyridine	D038	5.0
•Selenium	D010	1.0
•Silver	D011	5.0
Tetrachloroethylene (perchloroethylene)	D039	0.7
Toxaphene	D015	0.5
Trichloroethylene	D040	0.5
2,4,5-Trichlorophenol	D041	400.0
2,4,6-Trichlorophenol	D042	2.0
2,4,5-Trichlorophen-oxypropanoic or propionic acid (Silvex)	D017	1.0
Vinyl chloride	D043	0.2

*Laboratory analyses that show any individual cresol above the 200.0 milligrams/liter level are hazardous for that reason. For analyses where o-, m-, and p-cresol concentrations cannot be differentiated, the total cresol concentration is used.

•Heavy metals - toxic

Table 2

F-Listed Solvents

Check the solvent's Material Safety Data Sheet for a description of contents.

F001 Solvents (used in degreasing):

methylene chloride (dichloromethane); trichloroethylene; tetrachloroethylene (perchloroethylene); 1,1,1-trichloroethane; carbon tetrachloride; chlorinated fluorocarbons; and all spent solvent mixtures/blends used in degreasing containing, before use, a total of 10 percent or more by volume of one or more F001, F002, F004, or F005 solvents.

F002 Solvents:

methylene chloride (dichloromethane); trichloroethylene; tetrachloroethylene (perchloroethylene); 1,1,1-trichloroethane; 1,1,2-trichlorethane, chlorobenzene; orthodichlorobenzene; trichlorofluoromethane; 1,1,2-trichloro-1,2,2-trifluoroethane; and all spent solvent mixtures/blends containing, before use, a total of 10 percent or more by volume of one or more F001, F002, F004, or F005 solvents.

F003 Solvents:

xylene; acetone; methanol; methyl isobutyl ketone; n-butyl alcohol; ethyl acetate; ethyl benzene; ethyl ether; cyclohexanone; and all spent solvent mixtures/blends containing, before use, only the above spent solvents.

F004 Solvents:

cresols and cresylic acid; nitrobenzene; and all spent solvent mixtures/blends containing, before use, a total of 10 percent or more by volume of one or more F001, F002, F004, or F005 solvents.

F005 Solvents:

toluene; methyl ethyl ketone; benzene; carbon disulfide; 2-ethoxyethanol; isobutanol; 2-nitropropane; pyridine; and all spent solvent mixtures/blends containing before use, a total of 10 percent or more by volume of one or more F001, F002, F004, or F005 solvents.

Table 3

Industrial Solid Waste Guidance

- Ensure that liquids do not go to landfills.
- Arrange for transport of this waste to a permitted solid waste incinerator or to a mixed municipal or industrial landfill that specifies in its industrial solid waste management plan that it will accept and can safely manage this waste.
  - Find out where your hauler plans to take your solid waste.
  - Contact SBEAP at 651-282-6143 or 800-657-3938 to verify that the disposal facility has an MPCA permit.
  - Contact the operator of the disposal facility to find out what material it accepts. Verify that the facility accepts this waste.
- Store this waste separately in marked containers for the hauler.
- Solid waste facilities may require testing prior to accepting a waste.
- Keep records of any tests or determinations used in the evaluation of paint-related wastes for at least three years. (For protection from future liability, we recommend that you never discard these records.)

Contacts

MPCA Web site http://www.pca.state.mn.us

Small Business Environmental Assistance Program (SBEAP) 651-282-6143 800-657-3938
http://www.pca.state.mn.us/programs/sbap_p.html

Minnesota Technical Assistance Program 612-624-1300
http://www.mntap.umn.edu 800-247-0015

Metropolitan Counties Hazardous Waste Staff

Anoka County 763-422-7093
http://www.co.anoka.mn.us

Carver County 952-361-1800
http://www.co.carver.mn.us

Dakota County 952-891-7557
http://www.co.dakota.mn.us

Hennepin County 612-348-3777
http://www.hennepin.us

Ramsey County 651-266-2400
http://www.co.ramsey.mn.us

Scott County 952-496-8475
http://www.co.scott.mn.us

Washington County 651-430-6655
http://www.co.washington.mn.us

Minnesota Department of Transportation

Hazardous Materials Section 651-215-6330
http://www.dot.state.mn.us/cvo/hazmat.html