

Motor Vehicle Salvage Facility Environmental Compliance Manual

Revised June 2002

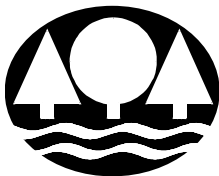
Prepared by the:

Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4149

Endorsed by:

Automotive Recyclers of Minnesota
26 East Exchange Street
St. Paul, Minnesota 55101

Northwest Chapter of the
Institute for Scrap Recycling Industries
c/o Mississippi Street Metals
800 Mississippi St.
St. Paul, Minnesota 55101



Minnesota Pollution Control Agency

(This page intentionally left blank.)

CONTENTS

Introduction 1

How to Use this Manual 2

■ A Quick Guide to Managing Wastes at Your Salvage Yard 3

■ Chapter One — General Operating Procedures 5

Inspecting Incoming Vehicles 6

Spill Control - Prevention and Clean Up 8

Storm Water Management 14

Parts Cleaning 17

Vehicle Crushing 24

■ Chapter Two - Draining, Dismantling and Storage Practices 27

General Practices 28

Engines 32

Transmissions 35

Radiators and Heater Cores 39

Fuel Tanks 42

Air Bags 45

■ Chapter Three - Waste Handling, Storage and Disposal Practices 47

Used Oils 48

Used Oil Filters 53

Antifreeze 56

Fuel 60

Refrigerant 63

Lead-Acid Batteries 67

Lead Parts 72

Mercury Switches 75

Waste Tires 77

Catalytic Converters 81

Window-Washing Fluid 83

Appliances 85

(This page intentionally left blank.)

ACKNOWLEDGEMENTS

Produced by the Minnesota Pollution Control Agency (MPCA).

Thanks to the following organizations and individuals for their contributions to the MPCA's salvage yard effort and this manual:

The Legislative Commission on Waste Management
The Automotive Recyclers of Minnesota
The NW Chapter of the Institute of Scrap Recycling Industries, Inc.
The Minnesota Technical Assistance Program
Minnesota Department of Transportation
Viking Auto Salvage
North Star Steel Company
AAA Auto Salvage
John's Auto Parts
Mississippi Street Metals
Albert Lea Auto Salvage
Twin City Auto & Military Parts
Action Auto Parts of Minnesota
North Branch Salvage
Barnum Automotive
Hugo Auto & Truck Parts
Katherine Logan - Polk County Solid Waste Officer

Thanks to the Motor Vehicle Salvage Facility Task Force:

Task Force members included MPCA staff, salvage yard owners, county solid waste officers and representatives from related industries and organizations. Their purpose was to explore existing and potential environmental problems at salvage yards and assist the MPCA in developing an outreach and training program for the salvage yard industry.

Buford Faust - Viking Auto Salvage
Doug Duren - North Star Steel
Ivan Jacobs - Mississippi Street Metals
Shirley Basta - Pine County Solid Waste Officer
Dave Lucas - Sherburne County Solid Waste Officer
Gary Erickson - Minnesota Department of Transportation

Additional Credits:

Researched and Written by: Mia Bremer, MPCA

Manual Design and Illustrations by: Carol Pruchnofski, MPCA

Photographs by: Deborah Rose, MPCA

Edited by: Scott Hvidsten, MPCA

Cover Design by: Joy Yoshikawa, The Design Group

Technical Review by: Dale Thompson, Jim Kelly, Pat Hanson, Zach Klaus and Jennifer Volkman, MPCA

Revised June 2002 for the Web by: Nancy Ellefson, MPCA

■



This manual was originally printed on recycled and recyclable paper with soy-based inks. The cover was printed on recycled paper including at least 50% post-consumer paper fibers. The inside text pages were printed on recycled paper including at least 15% post-consumer paper fibers. The tabs were printed on recycled paper containing 100% post-consumer paper fibers.

Paper copies of this manual are no longer available. Copies may be printed for your use from the Minnesota Pollution Control Agency's Web site at
<http://www.pca.state.mn.us>

Minnesota Pollution Control Agency
520 Layfayette Road North
St. Paul, MN 55155-4194
(651) 296-6300
1-800-657-8364
TTY (612) 282-5332

Upon request, this manual can be made available to persons with disabilities in other formats, such as braille, large type or audiotape.

Introduction

Motor vehicle salvage facilities play a valuable role in society by recovering and reselling usable parts from worn-out or damaged vehicles, as well as recycling materials that can't be used in their present form. In the process, however, salvage yards also generate wastes that are potentially harmful to humans and the environment when they contaminate the soil, air, and surface and ground water.

The MPCA created this manual to help salvage yard owners, operators and employees manage and dispose of wastes in an environmentally safe way. Managing wastes properly is not only environmentally responsible, it is just plain good business. Spills and poorly managed wastes, such as piles of waste tires or leaking batteries, can create environmental damage that is expensive to clean up. Include the employee hours needed to clean up spills and it's clear that responsible waste management benefits everyone.

This manual offers a wide range of waste management techniques. Time, space and economic factors will determine which methods you choose. Also, it's important to know your local city and county regulations and incorporate them in your waste management plan.

How to Use this Manual

The manual will help you select the proper waste management options for your facility. Specific wastes and waste management methods are discussed in each chapter. State and federal licensing and permitting rules are discussed and referenced throughout the manual. Further information can be found in the appendix and also by calling the Minnesota Pollution Control Agency, Automotive Recyclers of Minnesota or Minnesota Technical Assistance Program. The manual is divided into four parts:

- **Chapter One - General Operating Procedures**

Includes spill prevention plans, storm water management guidelines, parts cleaning methods and vehicle crushing techniques that reduce pollution.

- **Chapter Two - Draining, Dismantling and Storage**

Outlines draining, dismantling and storage of parts and cores, including engines, transmission and radiators.

- **Chapter Three - Waste Handling, Storage and Disposal Practices**

Includes step-by-step management techniques for waste fluids and other components, such as waste tires and lead-acid batteries.

- **Resources**

Resources are included at the end of each section pointing toward additional information available on the Minnesota Pollution Control Agency's Web site. Much of the additional information can be accessed at
<http://www.pca.state.mn.us/industry/ts-main.html>

CHAPTER ONE



General Operating Procedures

Inspecting Incoming Vehicles

Proper vehicle inspection is important, particularly when a vehicle is going to be stored rather than scrapped or crushed. The following section outlines vehicle inspection steps that will help reduce environmental pollution by preventing spills.

WHAT TO DO - An Environmental Checklist

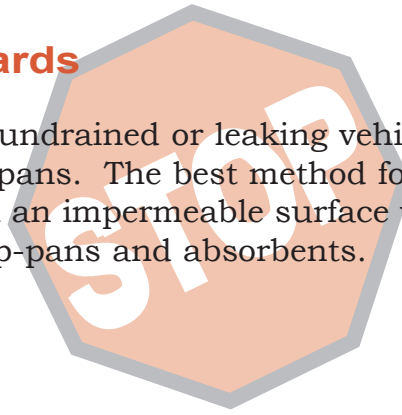


- ✓ Inspect incoming vehicles for leaks. Engines, radiators, transmissions, fuel tanks and damaged areas should be checked.
- ✓ Place drip-pans under leaks to collect fluids for proper recycling or disposal until vehicles can be drained.
- ✓ Remove the fuel, fuel tank and battery as soon as possible after vehicles enter the facility. (Please refer to the sections *Dismantling, Draining and Storage Practices – Fuel Tanks*, on page 42 and *Waste Handling, Storage and Disposal Practices – Lead-Acid Batteries*, on page 67.)
- ✓ Remove refrigerant (CFCs) as soon as possible after vehicles enter the facility. (Please refer to the section *Waste Handling, Storage and Disposal Practices – Refrigerants (CFCs)*, on page 63.)
- ✓ Drain all fluids from vehicles before crushing.

Once drained, vehicles may be safely stored on bare ground without risk of environmental damage. But first, perform a quick inspection to look for leaks on all vehicles that enter the facility. Drain leaking vehicles immediately, or place drip-pans under leaks until vehicles can be drained.

STOP! - Environmental Hazards

- Do not store undrained or leaking vehicles on bare ground without drip pans. The best method for storing undrained vehicles is on an impermeable surface with spill controls, including drip-pans and absorbents.



RESOURCES



Minnesota Pollution Control Agency

Northeast Region (Duluth) (218) 723-4660

North Central Region (Brainerd) (218) 828-2492

Northwest Region (Detroit Lakes) (218) 847-1519

Southwest Region (Marshall) (507) 537-7146

Southeast Region (Rochester) (507) 285-7343

Customer Assistance Center

(651) 297-2274 or toll free at 1-800-646-6247

Public Information Office

520 Lafayette Road North

St. Paul, Minnesota 55155-4194

(651) 296-6300

Toll free at 1-800-657-3864

TTY— (651) 282-5332

Automotive Recyclers of Minnesota

26 East Exchange Street, Suite 500

St. Paul, Minnesota 55101

(651) 290-6262

Minnesota Technical Assistance Program

200 Oak Street, Suite 350

Minneapolis, Minnesota 55455-2008

(612) 624-1300

For further information, please refer to the following sections in this manual:

Draining, Dismantling and Storage Practices - Fuel Tanks Page 42

Waste Handling, Storage and Disposal Practices - Lead-Acid Batteries Page 67

Waste Handling , Storage and Disposal Practices - Refrigerants (CFCs) Page 63

Spill Control - Prevention and Clean Up

Spill prevention is the key to an environmentally friendly salvage facility. Spills are the most likely – and most preventable – cause of environmental damage that occurs at auto-salvage yards. Spills can happen at any time: during dismantling or through improper storage and management of fluids and other hazardous wastes. Spilled waste fluids can pollute ground water, surface waters and wetlands, affect air quality and harm people and the environment.

The following section outlines good management practices for spill prevention and clean up that should be incorporated into your individual spill control plan.

WHAT TO DO - An Environmental Checklist

Equipment

- ✓ Fire extinguishers are required in all salvage facility buildings. Fire extinguishers should also be kept in areas where cutting torches are used as well as in vehicles that employees use in the salvage yard.
- ✓ Safety equipment for employees: rubber or latex gloves and safety glasses.
- ✓ Absorbent material for soaking up oils and solvents: rags, towels, pads, booms and organic absorbents, such as corn cobs, lime (for battery acid) and sawdust. (Please refer to the fact sheet *Towels, Wipes and Sorbents*.)

Spill clean-up kits are available through a number of manufacturers. Some innovative salvage-yard operators devise their own kits – at a fraction of the cost. Whether you buy a kit or make your own, make sure clean-up equipment is easily accessible throughout the facility.

A homemade spill kit might include floor-dri, rags, absorbent towels and protective gloves. You may want to keep everything in a small handcart.

- ✓ Containers to hold spilled waste: drip-pans, pails and drums.
- ✓ Shovels and scoops to pick up organic clean-up materials.
- ✓ Industrial spill clean-up products sold specifically for absorbing oil and solvents. These products absorb many times their own weight in fluids before becoming saturated.

Prevention

- ✓ Drain vehicles, parts and cores as soon as possible after vehicles enter the facility.
- ✓ Dismantle vehicles, parts and cores on a curbed, impermeable, concrete surface with spill controls, such as drip-pans and absorbent materials. Secondary spill containment is required. If draining and dismantling is done outdoors, the work area should be covered to keep rainwater from collecting and to prevent contaminated runoff from rain and melting snow.
- ✓ Clean up small spills right away. Try first to recover fluids as liquids using a squeegee and dustpan. Place in appropriate waste container. If using an absorbent, use the smallest amount possible. Dispose of used absorbents and any contaminated soil properly.
- ✓ Confine inspection, draining and dismantling of vehicles to one area.
- ✓ Store vehicles, parts and cores in a covered location with proper spill containment. Drained vehicles can be stored outside without the need for secondary containment. Undrained vehicles and cores stored on bare ground must have drip-pans under leaks and places where leaks can occur.
- ✓ Remove all fluids from vehicles before crushing.
- ✓ Place all fluids in proper storage containers immediately after draining. Do not leave open pails or containers where they can be knocked over or forgotten.


- ✓ Place a platform or step next to storage drums and tanks so employees do not have to lift drain pans above their waists to pour fluids into containers. Pouring fluids from awkward positions increases the risk of spills. Keeping funnels at waist height or lower makes pouring easier.
- ✓ Store all waste fluids in closed containers to prevent spills. Place containers on an impermeable surface. Check levels daily to prevent overflows. Also, storage containers must be closed tightly so that hazardous fluids do not evaporate. (Please refer to the fact sheet *Steps 4 & 5: Mark and Store Hazardous Waste Correctly*.)
- ✓ Store all used absorbents in closed, covered leak-proof containers. (Please refer to the section *Waste Handling, Storage and Disposal Practices- Used Oils*, on page 48.) Used absorbents that have been tested and found to contain hazardous wastes must be handled according to hazardous waste rules. (Please refer to the fact sheets *Basic Hazardous Waste Requirements of Businesses*, and *Towels, Wipes and Sorbents*.)
- ✓ Inspect storage containers regularly for leaks. (Please refer to the fact sheet *Documenting Container Inspections*.)
- ✓ Develop a maintenance plan for all facility equipment, such as crushers, forklifts and hydraulic lifts. This plan may include the following:
 - Checklists and logs for each piece of equipment that include routine cleaning and maintenance;
 - Manufacturer's handbooks describing recommendations for parts replacement and general upkeep; and
 - Employee educational materials and instructions on equipment maintenance, including this manual.
- Repair leaking or damaged equipment promptly.

Clean up spills right away - no matter how small. And make sure employees are properly trained to handle all types of spills and spill clean-up equipment.

Clean Up

- ✓ Clean up spills right away!
- ✓ Report petroleum and fuel spills of five or more gallons, and any other chemical spill (including lead-acid batteries) which may cause pollution, to the State Duty Officer at 651-649-5451 or 1-800-422-0798. (Please refer to the cleanup fact sheets *Reporting Spills and Leaks*, and *Spill Prevention and Planning*.)
- ✓ It is best to use drip-pans, reusable booms, pails and washable absorbent materials such as oil mops, pads and towels for clean up. Reusable towels, pads and booms must be washed by an industrial laundry service. Absorbents that contain hazardous wastes cannot be recycled or landfilled. Used-oil absorbents may be recycled. (Please refer to the fact sheet *Towels, Wipes and Sorbents* [w-hw4.61] and *Spill Debris Disposal Options* [TS 6.15], or call your County Solid Waste Office.)
- ✓ Keep spill control equipment/absorbent material in a central location, easily accessible to all employees.
- ✓ Train all employees to quickly respond to different kinds of spills.

STOP! - Environmental Hazards

- 
- Do not stack barrels or other waste-fluid containers.
 - Do not use water to dilute spills or wash spills into storm or sanitary sewers or septic systems. Use a squeegee and dust pan to clean up spills when possible. If using dry absorbents, use the least amount possible.
 - Do not use bioremediation (oil-eating microbes) as a primary clean-up method. Bioremediation products can reduce petroleum contamination, but are not effective in cleaning up heavy metals, solvents or other pollutants. If bioremediation techniques are used to clean up soil, additional testing for hazardous wastes may still be necessary to ensure that other contaminants are not present in the soil. (Please refer to the fact sheet *Thin Spreading Small Quantities of Petroleum Contaminated Soil*. [TS6.17])
 - Do not store leaking vehicles. Always drain leaking vehicles as soon as possible. If leaking vehicles cannot be drained immediately, place drip-pans under leaks. The best storage method is on a curbed, impermeable surface with spill controls, such as pads, booms and absorbents.

RESOURCES



Minnesota Pollution Control Agency

Northeast Region (Duluth) (218) 723-4660

North Central Region (Brainerd) (218) 828-2492

Northwest Region (Detroit Lakes) (218) 847-1519

Southwest Region (Marshall) (507) 537-7146

Southeast Region (Rochester) (507) 285-7343

Customer Assistance Center

(651) 297-2274 or toll free at 1-800-646-6247

Public Information Office

520 Lafayette Road North

St. Paul, Minnesota 55155-4194

(651) 296-6300

Toll free at 1-800-657-3864

TTY— (651) 282-5332

Automotive Recyclers of Minnesota

26 East Exchange Street, Suite 500

St. Paul, Minnesota 55101

(651) 290-6262

Minnesota Technical Assistance Program

200 Oak Street, Suite 350

Minneapolis, Minnesota 55455-2008

(612) 624-1300

**For further information, please refer to the following
MPCA fact sheets – located at:
<http://www.pca.state.mn.us/waste/pubs/business.html>**

Basic Hazardous Waste Requirements for Businesses (#1.00)
Steps 4 &5: Mark and Store Hazardous Waste Correctly (#1.04/1.05)
Documenting Container Inspections (#2.41)
Towels, Wipes and Sorbents (#4.61)

**– located at:
<http://www.pca.state.mn.us/cleanup/pubs/ertpubs.html>**

Reporting Spills and Leaks
Spill Prevention and Planning
Spill Debris Disposal Options
Thin Spreading of Petroleum Contaminated Soil

**– located at:
<http://www.pca.state.mn.us/industry/ts-links.html#sewering>**

Managing Liquid Wastes
Managing Floor Drains and Flammable Traps

Also refer to the following chapter in this manual:

Chapter Three - Waste Handling, Storage and
Disposal Practices

Page 47

Storm Water Management

Storm water management and spill prevention go hand-in-hand. The aim of both is to prevent waste fluids from being washed into the environment along with storm water run-off. Contaminated storm water can pollute surface water, ground water and soil. This section offers specific steps to help facilities eliminate or reduce spills that can pollute storm water.

The State of Minnesota requires all industrial facilities, including motor vehicle salvage facilities, to apply for a storm water permit under the federal National Pollutant Discharge Elimination System (NPDES) rules. This permit requires facilities to develop and implement a plan to control storm water discharge from their facility. A Storm Water Management Plan must include:

- A site map.
- A list and description of potential pollutants.
- A description of the facility's Storm Water Best Management Practices (BMPs). BMPs include a spill prevention and spill response plan, waste-fluid management plans and general operating procedures that will reduce or eliminate spills and leaks. A facility should incorporate all or part of this manual into its BMPs.
- A description of the facility's plan to notify state and local government or other agencies about spills.

Animals and people can be adversely affected by contaminated storm water run-off which pollutes ground water and surface water.

Motor vehicle salvage facilities that follow the pollution prevention steps in this manual are likely to be in compliance with federal BMP requirements. Storm water permits require facilities to submit a yearly report to the MPCA, outlining BMPs, describing inspection activities and listing spills that have occurred at the facility. The following resources tell you how to apply for a storm water permit or, if you have a permit, how to develop a Storm Water Management Plan for your facility.

Applying for a Permit

- Copy and fill out the *MPCA Storm Water Permit Application* available on the Minnesota Pollution Control Agency's Web site.
- Contact the Minnesota Pollution Control Agency's Customer Assistance Center at (651) 297-2274 or toll free 1-800-646-6247 for assistance in completing the permit applications.

Additional Resource Material

- The U.S. Environmental Protection Agency (EPA) has developed a manual to guide facilities in developing their own Storm Water Management Plans. To order *Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices Manual*, (document number EPA 832-R-92-006), please call the National Technical Information Service at 1-800-553-6847.

Polluted rivers are a major concern in Minnesota. Responsible storm water management is one of the most effective ways to help keep our rivers safe and clean for generations to come.

Tires and greasy used parts stored on bare ground collect rainwater – creating polluted puddles that may serve as a mosquito breeding area and could eventually contaminate ground water.

RESOURCES



Minnesota Pollution Control Agency

Northeast Region (Duluth) (218) 723-4660

North Central Region (Brainerd) (218) 828-2492

Northwest Region (Detroit Lakes) (218) 847-1519

Southwest Region (Marshall) (507) 537-7146

Southeast Region (Rochester) (507) 285-7343

Customer Assistance Center

(651) 297-2274 or toll free at 1-800-646-6247

Public Information Office

520 Lafayette Road North

St. Paul, Minnesota 55155-4194

(651) 296-6300

Toll free at 1-800-657-3864

TTY— (651) 282-5332

Automotive Recyclers of Minnesota

26 East Exchange Street, Suite 500

St. Paul, Minnesota 55101

(651) 290-6262

Minnesota Technical Assistance Program

200 Oak Street, Suite 350

Minneapolis, Minnesota 55455-2008

(612) 624-1300

For further information, please refer to the following MPCA fact sheets:

Application/Instructions for a NPDES/SDS Storm Water Permit for Industrial Activity located at:

<http://www.pca.state.mn.us/water/stormwater-i.html>

Overview of Underground Disposal Control Program #1 located at:

<http://www.pca.state.mn.us/water/pubs/8-01.pdf>

Parts Cleaning

Wastewater management – keeping hazardous wastes such as used oil, antifreeze and solvents out of wastewater – is essential in operating an environmentally friendly salvage yard. Because of the potential for waste and wastewater to pollute soil and ground water, environmental laws regarding disposal are very strict. The following section lists parts-cleaning methods that are environmentally safe and include proper management of waste and wastewater. Clean parts **only** when necessary!

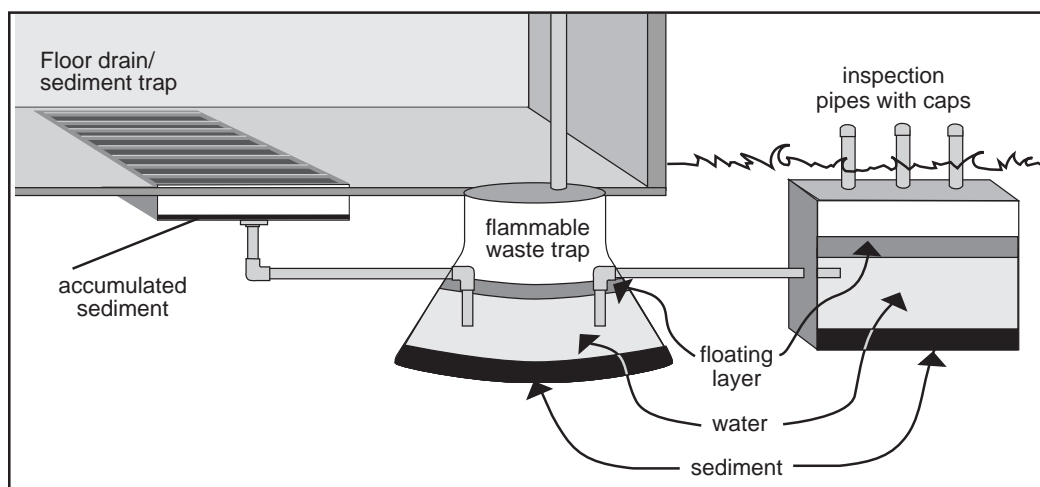
WHAT TO DO - An Environmental Checklist

- ✓ Make sure your facility is using one of the two following wastewater management systems:

- On-site capture and reuse system for wastewater:

This is the **best** method of wastewater management. Motor vehicle salvage facilities that do not have an on-site capture and reuse system should make every effort to install this type of system. Wastewater generated from on-site capture and reuse systems must be tested to determine if it is a hazardous waste. If hazardous, it must be disposed of under hazardous waste disposal requirements. (Please refer to the fact sheet *Basic Hazardous Waste Requirements for Businesses*.) If the wastewater is not hazardous it may be transported to a wastewater facility for treatment, or landspread in an approved manner. Do not discharge to an on-site septic

system. Contact your local wastewater treatment facility for more information. (Please refer to the fact sheet *Underground Disposal Control Program – Car Wash and Vehicle Maintenance Facilities #4*.)



A wastewater capture and reuse system, typically used with high-pressure washers, prevents hazardous wastes from entering the city sewer system or a private sewer system, thereby reducing the risk of pollution.

- Connection to a city sewer and wastewater treatment facility:
This method of wastewater disposal should only be used when an on-site capture and reuse system is not yet available. Salvage facilities must have written permission from their city wastewater treatment facility operator to release this type of wastewater into the system because it may be hazardous.

Scraping

- ✓ Remove caked-on grease and oil from parts with a scraper or knife before washing to reduce cleaning time and water usage. (Wire brushes are commonly used to clean parts but tend to clog easily.)
- ✓ Dispose of oil and grease as used oil. Manage scraped-off material as a sorbent. (Please refer to the section *Waste Handling, Storage and Disposal Practices – Used Oils*, on page 48.)

Solvent-based parts washing

- ✓ Clean parts in a closed-loop parts-cleaning system that uses cleaning solvents. Recycle cleaning solvents through the manufacturer or a solvent recycler.
- ✓ Drain parts on a drip tray before removing them from the parts washer. This allows excess solvent to run-off in the washer and not on the ground. (Special conditions exist for certain solvents. Please see fact sheet *Managing Solvent-Based Parts Washers* [4.43].)
- ✓ Keep parts washers closed or covered when not in use to reduce the amount of solvent lost through evaporation.
- ✓ Store usable solvents inside the parts-washing system or in closed containers on a curbed, impermeable concrete surface with spill controls, including curbing and absorbents.
- ✓ Store waste solvents in closed containers on a covered, curbed, impermeable concrete surface with spill controls, including curbing and absorbents. Mark with a clear description and the words "Hazardous Waste."

Solvent-based parts washing systems are an efficient way to clean parts because the solvent is reused and recycled. Drain parts inside the washer and keep the lid closed when not in use to reduce solvent evaporation.

- ✓ Record the accumulation start date on all waste solvent containers. (Please refer to the fact sheet *Steps 4 & 5: Mark and Store Hazardous Waste Correctly*.)
- ✓ Keep cleaning-solvent storage containers closed when not in use.
- ✓ Keep solvent-soaked rags in a covered metal container; reuse if possible. (Please refer to the fact sheet *Towels, Wipes and Sorbents* [4.61].)
- ✓ Note: Small amounts of cleaning solvent may be mixed with used oil provided the following requirements are met:
 - The salvage facility qualifies as a Very Small Quantity or Minimal Generator. (Please refer to the fact sheet *Basic Hazardous Waste Requirements for Businesses*.);
 - The solvent is not chlorinated or does not contain paint waste; and
 - The solvent has not been mixed with gasoline or carburetor cleaner.
- ✓ Explore the possibility of using an aqueous(water)-based parts cleaning system. (For more information, please refer to the fact sheet *Managing Aqueous Parts Washers* [4.44].)

Caustic cleaning solution dip tanks

- ✓ Dip parts in a tank filled with a cleaning solution. Cleaning solutions used for engine cleaning are caustic and may also contain hazardous levels of lead or other toxic wastes from paint flakes or metal fragments.
- ✓ Drain and tip engines on drip tray before removing from dip tank. Rotate/roll parts to drain solution caught in crevices and pockets. This allows excess cleaning solution to run-off in the washer and not on the ground.
- ✓ Rinse engines. Collect rinse water for filtering or reuse. Do not allow this reixe water to enter an on-site septic system. If rinse water cannot be reused it may, as a last resort, be discharged to the local wastewater treatment facility only if:
 - The rinse water is tested and results show it is nonhazardous;
 - The wastewater treatment facility operator has been notified (Please contact your local wastewater treatment facility for information on sewer notification procedures.); and

- Rinse water does not exceed any limits set by the wastewater treatment facility or local ordinances.
- ✓ Reuse dip tank cleaning solutions in order to reduce waste.
- ✓ Mark all waste and sludge storage containers “Caustic Solution - Hazardous Waste.”
- ✓ Record the accumulation start date on all caustic-waste storage containers.
- ✓ Separate and recycle oil and sludge collected in capture and reuse system holding tanks. (Please refer to the section *Waste Handling, Storage and Disposal Practices – Used Oils*, on page 48.)
- ✓ Evaluate sludge and waste-cleaning solution to determine whether it is a hazardous waste. Hazardous wastes must be disposed of using a hazardous waste hauler. (Please refer to the fact sheets *Basic Hazardous Waste Requirements for Businesses* and *Step 6: Transport and Dispose of Waste Correctly*.)
- ✓ Dispose of non-hazardous waste materials collected from drains, traps and filters as industrial solid waste. (Contact your county solid waste officer for more information about local disposal of industrial solid waste.)

Pressure washing (jet-cleaners and hand-held units) and Steam cleaners

- ✓ Use one or more of the following pressure or steam cleaning methods:

Make sure used filters and sludge collected from pressure washing systems are disposed of using a hazardous waste hauler or are tested to determine if they contain hazardous waste.

- **Pressure clean** in a closed-loop parts-washing machine that reuses washwater and filters waste fluids. Evaluate filters to determine if they should be disposed of as a hazardous waste;
- **Pressure clean** using a hand-held pressure washer. Wash parts in an enclosed area with an on-site capture and reuse system to collect waste and wastewater. (Cleaning solvents may not be released into an on-site sewage treatment system.);
- **Steam clean** on a wash rack with an on-site capture and reuse system to collect wastewater; or
- **Steam clean** using a hand held steam-cleaner in an enclosed area with an on-site capture and reuse system to collect waste and wastewater.

- ✓ Separate and recycle oil and sludge collected in capture and reuse system holding tanks. (Please refer to the section *Waste Handling, Storage and Disposal Practices – Used Oils*, on page 48.)
- ✓ Evaluate waste sludge and liquid to determine whether it is hazardous. Hazardous sludge must be disposed of using a hazardous waste hauler. (Please refer to the fact sheets *Basic Hazardous Waste Requirements for Businesses* and *Step 6: Transport and Dispose of Hazardous Waste Correctly*.)
- ✓ Dispose of non-hazardous waste materials collected from drains and traps and filters as industrial solid waste.


Carburetor dip solutions

- ✓ Clean carburetors or use a carburetor cleaning solution **only** when necessary. Some carburetor cleaning solutions are caustic but most are solvent-based. Carburetors are usually cleaned and rebuilt before they can be used in another vehicle. Since most salvage yards do not rebuild carburetors due to cost, customers typically clean and rebuild them.
- ✓ Clean carburetors in solvent- or aqueous-based parts washers, rather than carburetor cleaning solution dip tanks, whenever possible. This will get the part “clean enough” and will not leave caustic solution in the carburetor's moving parts. Caustic carburetor-cleaning solutions (which usually contain methylene chloride) can remain in the part and damage the metal.
- ✓ Use carburetor cleaning solution only when absolutely necessary. A few drops of carburetor cleaning solution, which is a **chlorinated solvent**, can contaminate an entire tank or drum of solvent- or aqueous-based parts-washing fluid or used oil, making it hazardous, and thereby increasing disposal costs.
- ✓ Reuse carburetor cleaning solutions to reduce waste.
- ✓ Mark waste storage containers “Carburetor Cleaning Solution – Hazardous Waste.”
- ✓ Record the accumulation start date on all carburetor cleaning solution storage containers. (Please refer to the fact sheet *Steps 4 & 5: Mark and Store Hazardous Waste Correctly*.)

Sand blasting or “bead” blasting

- ✓ Clean parts using a sand or bead blaster.
- ✓ Perform bead-blasting of parts in a cabinet to contain beads and collect them for reuse.
- ✓ Perform sand-blasting of parts in a blasting booth or over a covered and curbed, impermeable concrete surface to collect excess sand. Collected sand may contain paint chips or metal fragments and must be tested to determine if it is a hazardous waste.
- ✓ Dispose of sand that contains hazardous wastes according to hazardous waste rules. (Please refer to the fact sheet *Basic Hazardous Waste Requirements for Businesses* [1.00].)
- ✓ Dispose of nonhazardous sand waste according to solid/industrial solid waste rules.

STOP! - Environmental Hazards

- 
- Do not clean parts without a proper wastewater management system in place.
 - Do not clean parts on unprotected ground.
 - Do not pour or spill cleaning solution or solvents on the ground.
 - Do not pour cleaning solutions or solvents down sanitary or storm sewers or septic drains.
 - Do not store solvents directly on asphalt surfaces. Cover asphalt surfaces with heavy polypropylene plastic with a minimum thickness of 10 mil. (Solvents can cause asphalt to disintegrate.)
 - Do not store cleaning fluids in open or uncovered storage containers.
 - Do not mix cleaning solutions or solvents with other fluids.
 - Do not mix carburetor cleaners with other types of cleaning solutions or used oil.
 - Do not store or leave solvent-soaked rags on the ground.
 - Do not wash solvent-soaked rags.
 - Mark waste containers to identify contents and prevent mixing.

RESOURCES



Minnesota Pollution Control Agency

Northeast Region (Duluth) (218) 723-4660

North Central Region (Brainerd) (218) 828-2492

Northwest Region (Detroit Lakes) (218) 847-1519

Southwest Region (Marshall) (507) 537-7146

Southeast Region (Rochester) (507) 285-7343

Customer Assistance Center

(651) 297-2274 or toll free at 1-800-646-6247

Public Information Office

520 Lafayette Road North

St. Paul, Minnesota 55155-4194

(651) 296-6300

Toll free at 1-800-657-3864

TTY— (651) 282-5332

Automotive Recyclers of Minnesota

26 East Exchange Street, Suite 500

St. Paul, Minnesota 55101

(651) 290-6262

Minnesota Technical Assistance Program

200 Oak Street, Suite 350

Minneapolis, Minnesota 55455-2008

(612) 624-1300

For further information, please refer to the following fact sheets on the MPCA Web site
<http://www.pca.state.mn.us/waste/pubs/business.html>

Basic Hazardous Waste Requirements for Businesses (#1.00)

Steps 4 & 5: Mark and Store Hazardous Waste Correctly (#1.04/1.05)

Step 6: Transport and Dispose of Hazardous Waste Correctly (#1.06)

Managing Solvent-Based Parts Washers (#4.43)

Managing Aqueous Parts Washers (#4.44)

Towels, Wipes and Sorbents (#4.61)

Underground Disposal Control Program – Car Wash and Vehicle Maintenance Facilities #4 located at:

<http://www.pca.state.mn.us/water/pubs/8-04.pdf>

Also, refer to the following section in this manual:

Waste Handling, Storage and Disposal – Used Oils

Page 48

Vehicle Crushing

Salvage facilities use a variety of methods to crush vehicles. Regardless of the method, facilities need to make sure that precautions are taken to prevent hazardous material releases during crushing, whether it is done by facility employees or by a contracted crusher.

The following section outlines vehicle crushing steps that should be used with all crushing methods to help reduce environmental pollution and prevent spills.

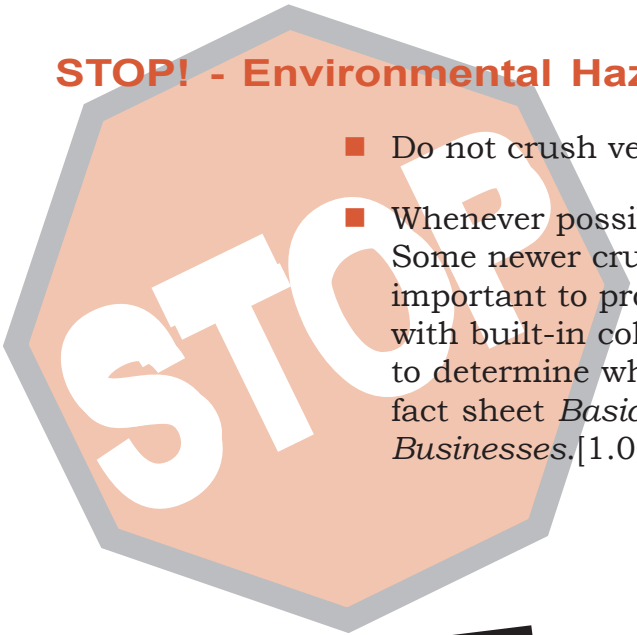
WHAT TO DO - An Environmental Checklist



- ✓ Drain all waste fluids before crushing to prevent releases.
- ✓ Crush vehicles on an impermeable concrete surface with spill controls. Any leftover wastes collected from the crusher or concrete pad during crushing should be removed and managed properly. Expensive testing can be avoided by making sure all cars are drained before crushing.
- ✓ Make sure that the contract crushers you hire follow these practices.
- ✓ Clean crusher regularly by removing accumulated oil and grease and removing dirt and debris from the crushing area. This prevents polluted run-off caused by rain or melting snow.

The best way to deal with the problem of hazardous crusher residue (and the costly testing that goes with it), is to drain vehicles completely before crushing. Pails, placed under draining troughs, can be used to collect any remaining fluid.

STOP! - Environmental Hazards

- 
- Do not crush vehicles until all fluids have been removed.
 - Whenever possible, do not crush vehicles on unprotected ground. Some newer crushers have built-in fluid collection systems. It is important to properly manage waste fluids collected in crushers with built-in collection systems. Collected fluids must be tested to determine whether they are hazardous. (Please refer to the fact sheet *Basic Hazardous Waste Requirements for Businesses*. [1.00])

Poorly maintained crushers are harmful and costly to both salvage yard owners and the environment. Keep crushers, the crushing area and all yard equipment clean and well-maintained to avoid expensive repairs and cleanups.

Operate wisely! Protect your property and the environment by placing your crusher on an impermeable surface to contain spills and prevent polluted run-off caused by rain and melting snow. And, if you use a contract crusher, make sure they follow the same practices.

RESOURCES



Minnesota Pollution Control Agency

Northeast Region (Duluth) (218) 723-4660

North Central Region (Brainerd) (218) 828-2492

Northwest Region (Detroit Lakes) (218) 847-1519

Southwest Region (Marshall) (507) 537-7146

Southeast Region (Rochester) (507) 285-7343

Customer Assistance Center

(651) 297-2274 or toll free at 1-800-646-6247

Public Information Office

520 Lafayette Road North

St. Paul, Minnesota 55155-4194

(651) 296-6300

Toll free at 1-800-657-3864

TTY— (651) 282-5332

Automotive Recyclers of Minnesota

26 East Exchange Street, Suite 500

St. Paul, Minnesota 55101

(651) 290-6262

Minnesota Technical Assistance Program

200 Oak Street, Suite 350

Minneapolis, Minnesota 55455-2008

(612) 624-1300

For further information, please refer to the following fact sheets on the MPCA Web site:

Managing Liquid Wastes

Managing Floor Drains and Flammable Traps located at

<http://www.pca.state.mn.us/industry/ts-links.html#sewering>

Basic Hazardous Waste Requirements for Businesses located at

<http://www.pca.state.mn.us/waste/pubs/1-00.pdf>

CHAPTER TWO



**Draining, Dismantling
and Storage Practices**

GENERAL PRACTICES

Waste-fluid spills are most likely to occur while dismantling, draining or storing vehicles, parts and cores. Proper dismantling, draining and storage procedures help prevent pollution, such as fluids seeping into ground water, waste contact with storm-water run-off or air-conditioning refrigerant escaping into the air.

DEFINITIONS

- *Parts* — Vehicle parts that can be resold or rebuilt.
- *Scrap* — Vehicle parts that will be sorted by metal type and sent to scrap recyclers to be baled and melted down into reusable raw materials.
- *Cores* — Vehicle parts that are sold for reconditioning or rebuilding.

WHAT TO DO - An Environmental Checklist

- ✓ Inspect engine before draining to determine condition and usability of engine or parts.
- ✓ Drain vehicles during incoming inspection, if possible. All vehicles, parts and cores must be drained before storing and crushing. The salvage facility must decide when to drain fluids, depending upon the risk of leaks and whether specific parts can be re-sold.
- ✓ Drain:
 - engines
 - transmissions
 - brake lines
 - lines/hoses
 - torque converters
 - window-washing fluid tanks
 - air-conditioning units
 - radiators
 - heater cores
 - differentials
 - fuel tanks

A well-designed draining and dismantling area makes it easier to prevent environmental pollution at your facility.

- ✓ Design one area for dismantling and draining vehicles, parts, scrap and cores. Dismantling and draining should be done in an area where spills can be easily contained, such as inside a building or on a curbed, impermeable, concrete surface with proper spill controls, including drain-pans and absorbents.
- ✓ Keep drain-pans under vehicles while unclipping hoses, unscrewing filters and removing parts. *Replace drain plugs when done draining.*
- ✓ Plug all hoses after draining. Store-bought plugs or golf tees work well to plug rubber hoses. Crimp metal lines.
- ✓ Pour collected waste fluids into properly marked containers immediately after draining. (Please refer to the fact sheet *Steps 4 & 5: Mark and Store Hazardous Wastes Correctly.*)
- ✓ Store all parts and cores in a leak-proof container or on a covered and curbed, impermeable, concrete surface with spill controls, including drain-pans and absorbents. Parts and cores need to be stored in closed bins or in a covered area to keep rainwater from collecting and prevent polluted run-off from contaminating rain or melting snow.

Use an adjustable drain-pan when draining vehicles. Keep the drain-pan close to the fluid stream to reduce spills, splashes and overflows.

STOP! - Environmental Hazards

- Do not dismantle or drain vehicles on unprotected ground.
- Do not allow waste fluids to enter floor, storm or sanitary sewer drains.



Years of poor dismantling and storage practices take their toll on the environment and lead to long-term pollution.

RESOURCES



Minnesota Pollution Control Agency

Northeast Region (Duluth) (218) 723-4660

North Central Region (Brainerd) (218) 828-2492

Northwest Region (Detroit Lakes) (218) 847-1519

Southwest Region (Marshall) (507) 537-7146

Southeast Region (Rochester) (507) 285-7343

Customer Assistance Center

(651) 297-2274 or toll free at 1-800-646-6247

Public Information Office

520 Lafayette Road North

St. Paul, Minnesota 55155-4194

(651) 296-6300

Toll free at 1-800-657-3864

TTY— (651) 282-5332

Automotive Recyclers of Minnesota

26 East Exchange Street, Suite 500

St. Paul, Minnesota 55101

(651) 290-6262

Minnesota Technical Assistance Program

200 Oak Street, Suite 350

Minneapolis, Minnesota 55455-2008

(612) 624-1300

For further information, please refer to the following fact sheet on the MPCA Web site:

Steps 4 & 5: Mark and Store Hazardous Waste Correctly, located at <http://www.pca.state.mn.us/waste/pubs/business.html#general>


ENGINES

All engines should be evaluated during incoming inspection to determine their value. It is recommended that salvage facilities classify and handle used engines in one of the three following categories:

- Reusable engines that are left in vehicles to be sold "as is";
- Reusable engines to be removed from vehicles and sold as parts; and
- Scrap core engines.

WHAT TO DO - An Environmental Checklist

- ✓ Drain used engine oil from all engines. Oil left in reusable engines does not protect parts. Engine oil can be added if the engine needs to be started. It should be drained to prevent oil from leaking during storage.
- ✓ Drain engines on a hoist or draining stand. Place drain-pans below vehicles to collect waste fluids or use a funnel to drain fluids directly into storage containers. If draining is done outdoors, make sure the area is covered to prevent rainwater from collecting and that the stand is located on a curbed, impermeable, concrete surface with spill controls.
- ✓ Remove engines using a large forklift or hoist to lift vehicles for engine removal. Do not tip vehicles on their sides to remove engines unless all fluids have been drained from the vehicles.
- ✓ Store engines in an area where spills and polluted run-off can be easily controlled, such as in a covered container or on a covered and curbed, impermeable, concrete surface with spill controls.
- ✓ Regularly remove accumulated contaminants and water from storage areas; manage properly.
- ✓ Drain differential fluid on all rear-wheel drive vehicles. Store the one to two quarts of fluid and recycle with used oils.



A hydraulic rack for lifting vehicles makes engines and other parts easily accessible for draining.

STOP! - Environmental Hazards



- Do not punch holes in the oil pan to drain engines. Remove the drain plug and replace the plug after draining to prevent leaks.
- Do not drain vehicles or engines on unprotected ground.
- Do not tip undrained vehicles on their sides to remove engines. This may cause gas, transmission fluid or other fluids to spill on the ground.
- Do not store oily engines uncovered outdoors or without secondary containment.
- Do not pile scrap engines or crush vehicles until fluids have been removed.

Throwing scrap engines and transmissions into a pile can cause a number of environmental hazards. Manage them carefully to prevent the cost and associated liabilities that accompany soil and water contamination.

RESOURCES



Minnesota Pollution Control Agency

Northeast Region (Duluth) (218) 723-4660

North Central Region (Brainerd) (218) 828-2492

Northwest Region (Detroit Lakes) (218) 847-1519

Southwest Region (Marshall) (507) 537-7146

Southeast Region (Rochester) (507) 285-7343

Customer Assistance Center

(651) 297-2274 or toll free at 1-800-646-6247

Public Information Office

520 Lafayette Road North

St. Paul, Minnesota 55155-4194

(651) 296-6300

Toll free at 1-800-657-3864

TTY— (651) 282-5332

Automotive Recyclers of Minnesota

26 East Exchange Street, Suite 500

St. Paul, Minnesota 55101

(651) 290-6262

Minnesota Technical Assistance Program

200 Oak Street, Suite 350

Minneapolis, Minnesota 55455-2008

(612) 624-1300

**For further information, please refer to the following
fact sheets on the MPCA Web site**

<http://www.pca.state.mn.us/waste/pubs/business.html#specific>

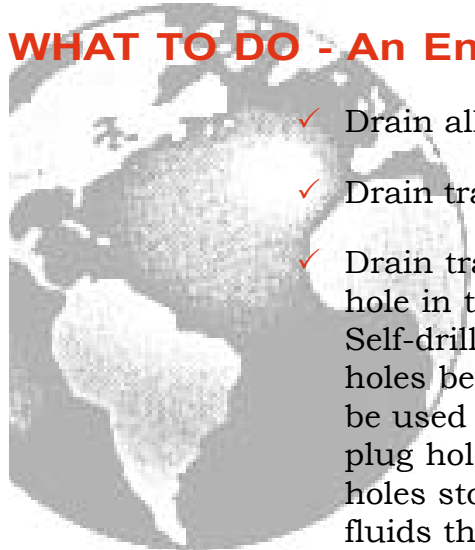
Managing Towels, Wipes and Sorbents (#4.61)

Managing Used Oil and Related Wastes – for Generators (#4.30)

TRANSMISSIONS

Transmission fluid is difficult to remove and spills are a very common occurrence. Up to eight quarts of fluid can be drained from a car's transmission. Take extra care to properly drain transmissions so that spills do not occur.

WHAT TO DO - An Environmental Checklist

- 
- ✓ Drain all transmissions before crushing vehicles.
 - ✓ Drain transmissions on a hoist or work rack.
 - ✓ Drain transmissions by either removing the oil pan or by drilling a hole in the pan. Replace the pan after draining and seal holes. Self-drilling or self-tapping screws work well for drilling drain holes because they can be used to easily re-plug holes. Sealing holes stops leaking of fluids that may be left after draining.
 - ✓ Drain transmissions on a drain rack over a drain-pan, or use a funnel to drain fluids directly into a storage container.
 - ✓ Drain transmissions on a curbed, impermeable concrete surface with spill controls. If the draining area is outdoors, it should be covered to prevent rainwater from collecting and also to prevent contaminated run-off from polluting rain and melting snow.




Removing all of the fluid from transmissions is very difficult. For this reason, it is important to store drained transmissions on a covered and curbed, impermeable surface to capture leaks or in a leak-proof storage container. If storing outdoors, take precautions to prevent contaminating run-off from rainwater and melting snow.

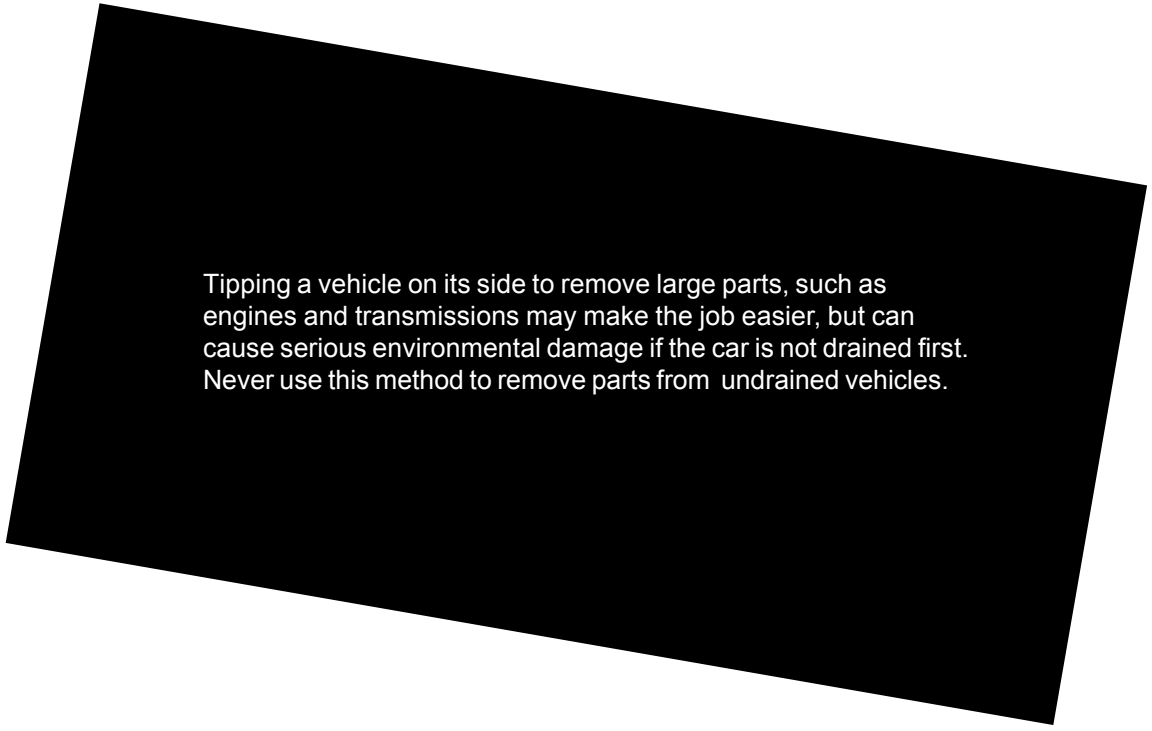
- ✓ Leave drive-shaft yokes on transmissions to prevent leaks. Wire yokes in place to prevent them from falling out.
- ✓ Remove and drain torque converters when removing transmissions. Torque converters are difficult to drain because of their round shape. Tip them at different angles to remove as much fluid as possible. Plug torque converter openings to prevent leaks. (See photo below.)
- ✓ Seal all fluid lines after draining so they do not leak. Metal lines can be crimped or bent; openings can be sealed with plugs or golf tees.
- ✓ Store transmissions on a curbed, impermeable, concrete surface with spill controls. Transmissions stored outdoors should be placed in a leak-proof container and covered to prevent contaminated run-off from polluting rain and melting snow.
- ✓ Store transmission fluid with other used oils. (Please refer to the section *Waste Handling, Storage and Disposal Practices – Used Oils*, on page 48.)

Stockpiles of scrap can create both storage and environmental problems. Recycle transmissions and other cores regularly.

Use all-purpose plugs in torque converters, transmissions, and other parts to prevent excess fluids from leaking out after the parts have been drained.

STOP! - Environmental Hazards

- 
- Do not store transmissions without proper spill protection, including a cover, secondary containment, drain-pans and absorbents.
 - Do not crush vehicles that contain fluids.
 - Do not drain transmissions on bare ground.
 - Do not tip undrained vehicles on their side to remove transmissions.
 - Do not stack vehicles or transmissions until all fluids are removed.
 - Do not smelt aluminum transmissions unless they have been drained well.



Tipping a vehicle on its side to remove large parts, such as engines and transmissions may make the job easier, but can cause serious environmental damage if the car is not drained first. Never use this method to remove parts from undrained vehicles.

RESOURCES



Minnesota Pollution Control Agency

Northeast Region (Duluth) (218) 723-4660

North Central Region (Brainerd) (218) 828-2492

Northwest Region (Detroit Lakes) (218) 847-1519

Southwest Region (Marshall) (507) 537-7146

Southeast Region (Rochester) (507) 285-7343

Customer Assistance Center

(651) 297-2274 or toll free at 1-800-646-6247

Public Information Office

520 Lafayette Road North

St. Paul, Minnesota 55155-4194

(651) 296-6300

Toll free at 1-800-657-3864

TTY— (651) 282-5332

Automotive Recyclers of Minnesota

26 East Exchange Street, Suite 500

St. Paul, Minnesota 55101

(651) 290-6262

Minnesota Technical Assistance Program

200 Oak Street, Suite 350

Minneapolis, Minnesota 55455-2008

(612) 624-1300

For further information, please refer to the following section in this manual:

Waste Handling, Storage and Disposal Practices -
Used Oils

Page 48

RADIATORS & HEATER CORES


WHAT TO DO - An Environmental Checklist

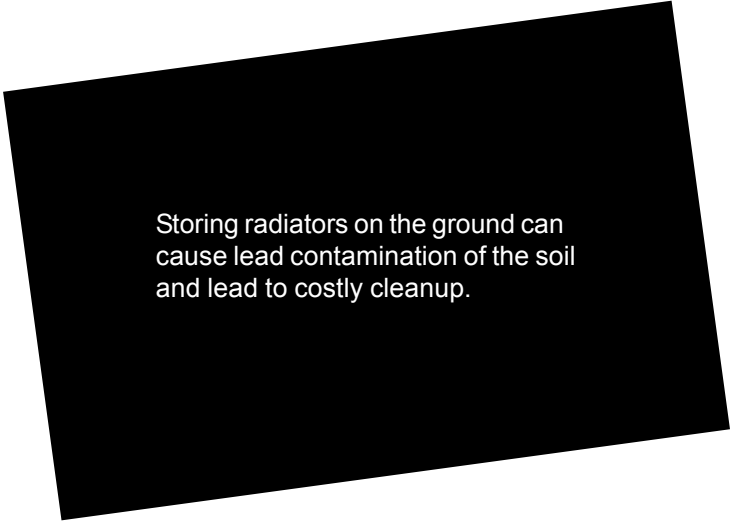


- ✓ Drain antifreeze from radiators and heater cores as soon as possible after vehicles enter the facility. Store antifreeze in a marked container for recycling or disposal. (Please refer to section *Waste Handling, Storage and Disposal Practices – Antifreeze*, on page 56.)
- ✓ Place drain-pans under radiators and heater cores while draining. Use separate drain pans for antifreeze and oil to prevent cross-contamination.
- ✓ Remove drained radiators and heater cores on a curbed, impermeable, concrete surface with spill controls. If draining outdoors, make sure the draining area is covered to keep rainwater from collecting and prevent contaminated run-off from rain and melting snow.
- ✓ Remove iron parts from radiators and heater cores for separate recycling. Cutting torches should be used in a well-ventilated area. Wear respiratory protection, such as a filtering mask, to reduce the risk of breathing airborne lead that may be released by heating lead straps on radiators. Also, all lead parts and components must be removed from vehicles before crushing.
- ✓ Store radiators and heater cores in a leak-proof container or on a covered and curbed, impermeable, concrete surface with spill controls, including drip-pans and absorbents.
- ✓ Recycle used radiators and heater cores regularly.
- ✓ Cover radiators and heating cores exposed to the weather to prevent heavy (toxic) metals from contaminating the soil.

Drain and store antifreeze properly for reuse or recycling.

STOP! - Environmental Hazards

- 
- Do not store undrained radiators and heater cores uncovered or without proper spill protection.
 - Do not drain antifreeze from radiators and heater cores into floor drains or sanitary or storm sewer systems.
 - Do not stack radiators and heater cores without draining first.
 - Do not leave radiators and heater cores in vehicles to be crushed. All lead parts must be removed from vehicles before crushing.



Storing radiators on the ground can cause lead contamination of the soil and lead to costly cleanup.

RESOURCES



Minnesota Pollution Control Agency

Northeast Region (Duluth) (218) 723-4660

North Central Region (Brainerd) (218) 828-2492

Northwest Region (Detroit Lakes) (218) 847-1519

Southwest Region (Marshall) (507) 537-7146

Southeast Region (Rochester) (507) 285-7343

Customer Assistance Center

(651) 297-2274 or toll free at 1-800-646-6247

Public Information Office

520 Lafayette Road North

St. Paul, Minnesota 55155-4194

(651) 296-6300

Toll free at 1-800-657-3864

TTY— (651) 282-5332

Automotive Recyclers of Minnesota

26 East Exchange Street, Suite 500

St. Paul, Minnesota 55101

(651) 290-6262

Minnesota Technical Assistance Program

200 Oak Street, Suite 350

Minneapolis, Minnesota 55455-2008

(612) 624-1300

For further information, please refer to the following section in this manual:

Waste Handling, Storage and Disposal Practices – Antifreeze
Page 56

General Operating Procedures – Storm Water Management
Page 14

FUEL TANKS

WHAT TO DO - An Environmental Checklist



- ✓ Drain and remove fuel tanks as soon as possible. Use one of the following draining methods:
 - Remove tank from vehicle and pump or pour fuel into storage tank;
 - Use an air-driven pump to remove and drain fuel into a storage container; or
 - Remove plug where sensor and gas line enter the tank and drain the fuel into a storage container.

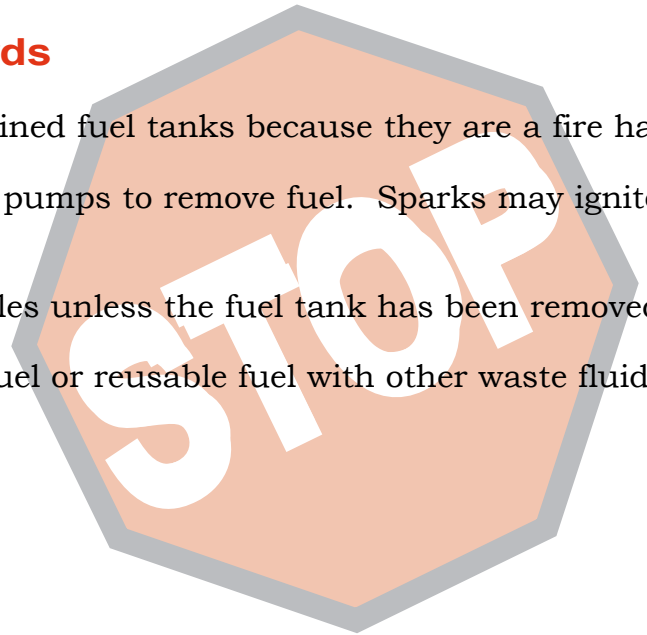
Clearly mark all fuel storage containers. For example, if the fuel is contaminated or mixed with hazardous waste, mark the container as "Hazardous Waste – Fuel."

An air-driven pump can siphon fuel directly into a storage container, eliminating spills that can occur when transferring fluids from one container to another.

- ✓ Store used tanks in piles on a covered and curbed, impermeable, concrete surface with spill controls.
- ✓ Store waste fuel and reusable fuel in closed storage containers that are clearly marked. (Please refer to the fact sheet *Steps 4 & 5: Mark and Store Hazardous Wastes Correctly*.) Do not mix waste or reusable fuel with other fluids. (Please refer to the section *Waste Handling, Storage and Disposal Practices – Fuel*, on page 60.)

STOP! - Environmental Hazards

- Do not store undrained fuel tanks because they are a fire hazard.
- Do not use electric pumps to remove fuel. Sparks may ignite fuel vapors.
- Do not crush vehicles unless the fuel tank has been removed.
- Do not mix waste fuel or reusable fuel with other waste fluids.



RESOURCES



Minnesota Pollution Control Agency

Northeast Region (Duluth) (218) 723-4660

North Central Region (Brainerd) (218) 828-2492

Northwest Region (Detroit Lakes) (218) 847-1519

Southwest Region (Marshall) (507) 537-7146

Southeast Region (Rochester) (507) 285-7343

Customer Assistance Center

(651) 297-2274 or toll free at 1-800-646-6247

Public Information Office

520 Lafayette Road North

St. Paul, Minnesota 55155-4194

(651) 296-6300

Toll free at 1-800-657-3864

TTY— (651) 282-5332

Automotive Recyclers of Minnesota

26 East Exchange Street, Suite 500

St. Paul, Minnesota 55101

(651) 290-6262

Minnesota Technical Assistance Program

200 Oak Street, Suite 350

Minneapolis, Minnesota 55455-2008

(612) 624-1300

For further information, please refer to the following fact sheet on the MPCA Web site
<http://www.pca.state.mn.us/waste/pubs/business.html#general>

Steps 4 & 5: Mark and Store Hazardous Wastes Correctly

Also, please refer to the following section in this manual:

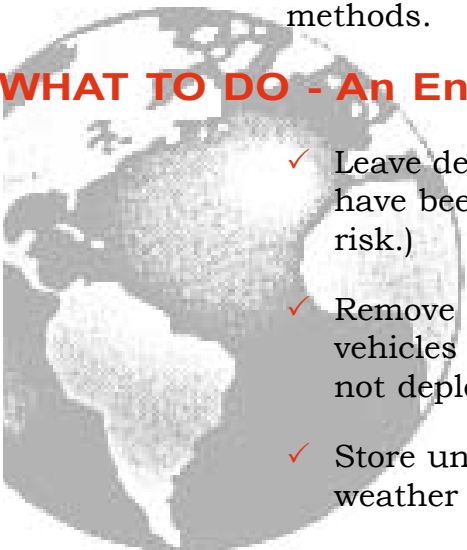
Waste Handling, Storage and Disposal Practices – Fuel

Page 60

AIR BAGS

In the past few years, air bag units have presented a new problem for salvage facilities. There are no regulations governing the final disposal of air bag units, yet they are becoming more common in salvaged vehicles. The units, whether made of plastic, vinyl or metal, contain a propellant called sodium azide, a hazardous substance, which is dangerous if inhaled and may burn exposed skin. Undeployed air bags can also damage vehicle shredders by releasing sodium azide into the processing equipment and ultimately into the auto “fluff.” Contaminated fluff requires costly handling and disposal methods.

WHAT TO DO - An Environmental Checklist

- 
- ✓ Leave deployed (used) air-bag units in vehicles. (Air bags that have been deployed do not present a human or an environmental risk.)
 - ✓ Remove or deploy all undeployed (unused) air-bag units when vehicles enter the facility. Undeployed air bags are valuable, so do not deploy unless necessary.
 - ✓ Store undeployed air bag units indoors, protected from the weather until they can be resold or disposed of properly.
 - ✓ Deploy air bags using the following method:
 - Disconnect cables from the vehicle’s battery.
 - Wait 20 minutes for the unit's internal battery to discharge completely.
 - Deploy air bags remotely using the jumper harness/wiring system outlined in the fact sheet *Disposal of Air Bags in Scrap Vehicles*, or by using the manufacturer’s recommended method.

The chemical in undeployed air bags is a hazardous substance called sodium azide, which is harmful to humans if inhaled. It can also damage vehicle shredders and contaminate the auto “fluff,” which then requires costly disposal methods. Remove bags carefully for resale.

STOP! - Environmental Hazards

- Do not deploy air-bag units using methods that do not meet industry approval.



RESOURCES



Minnesota Pollution Control Agency

Northeast Region (Duluth) (218) 723-4660

North Central Region (Brainerd) (218) 828-2492

Northwest Region (Detroit Lakes) (218) 847-1519

Southwest Region (Marshall) (507) 537-7146

Southeast Region (Rochester) (507) 285-7343

Customer Assistance Center

(651) 297-2274 or toll free at 1-800-646-6247

Public Information Office

520 Lafayette Road North

St. Paul, Minnesota 55155-4194

(651) 296-6300

Toll free at 1-800-657-3864

TTY— (651) 282-5332

Automotive Recyclers of Minnesota

26 East Exchange Street, Suite 500

St. Paul, Minnesota 55101

(651) 290-6262

Minnesota Technical Assistance Program

200 Oak Street, Suite 350

Minneapolis, Minnesota 55455-2008

(612) 624-1300

**For further information, please refer to the following
fact sheet on the MPCA Web site**

<http://www.pca.state.mn.us/industry/ts-links.html#airbags>

Disposal of Air Bags in Scrap Vehicles

CHAPTER THREE



Waste Handling, Storage and Disposal Practices

Used Oils

State law requires that used oils be collected, stored and disposed of properly. Used oil from vehicle use usually contains contaminants such as lead, other heavy metals, and benzene. It can contaminate drinking water and is harmful to the environment. For these reasons, it is important to make sure used oil does not reach the ground or surface water.

Used oils* – include, but are not limited to, the following petroleum-based or synthetic lubricants:

- motor oil
- brake fluid
- transmission fluid
- power-steering fluid
- differential oil
- transaxle fluid

*Note: Refer to hazardous waste fact sheet *Managing Used Oil and Related Waste – for Generators* (#4.30).

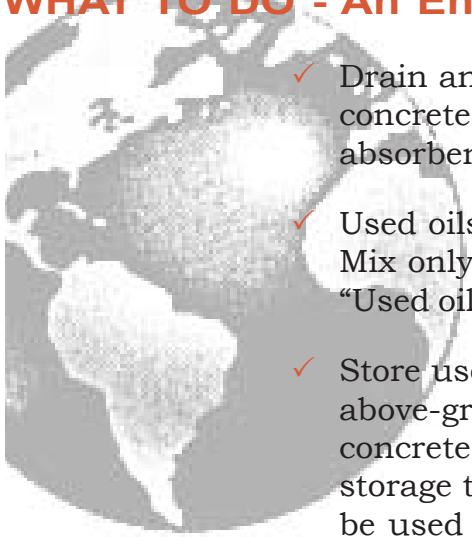
If hazardous wastes have been mixed with used oils, the entire mixture is considered a hazardous waste. Hazardous wastes **cannot** be offered to used-oil collectors for recycling. (Please refer to the fact sheets *Basic Requirements for Businesses that Generate Hazardous Waste* (#1.00).)



Do not mix wastes!

Combining hazardous and non-hazardous wastes will make all the waste hazardous and increase your disposal costs.

WHAT TO DO - An Environmental Checklist



- ✓ Drain and collect all oils on a covered and curbed, impermeable, concrete surface with spill controls, including drain-pans and absorbents.
- ✓ Used oils can be mixed together and stored in the same container. Mix only those fluids defined in the beginning of this section as “Used oils.”
- ✓ Store used oil in leak-proof, closed containers, such as drums or above-ground storage tanks placed on a curbed, impermeable, concrete surface with spill controls. (Do not use underground storage tanks for above-ground storage. They are constructed to be used underground only.)
- ✓ Label all used oil storage containers “Used Oils.”
- ✓ Regularly check all used-oil storage containers for leaks. (Please refer to the fact sheet *Documenting Container Inspections*, #2.41.)
- ✓ Keep outdoor storage containers closed and remove funnels after filling tanks. Failure to properly close the container may cause used oil to overflow.



Place storage containers on a curbed, impermeable surface.

- ✓ Remove oil from all engines. (Please refer to the section *Dismantling, Draining and Storage Practices - Engines*, on page 32.)
- ✓ Used oil may be recycled by: 1) filtering and reusing it on site in personal vehicles; 2) recovering and eventual re-refining by an oil hauler or fuel marketer; or 3) burning in an approved on-site heating unit.

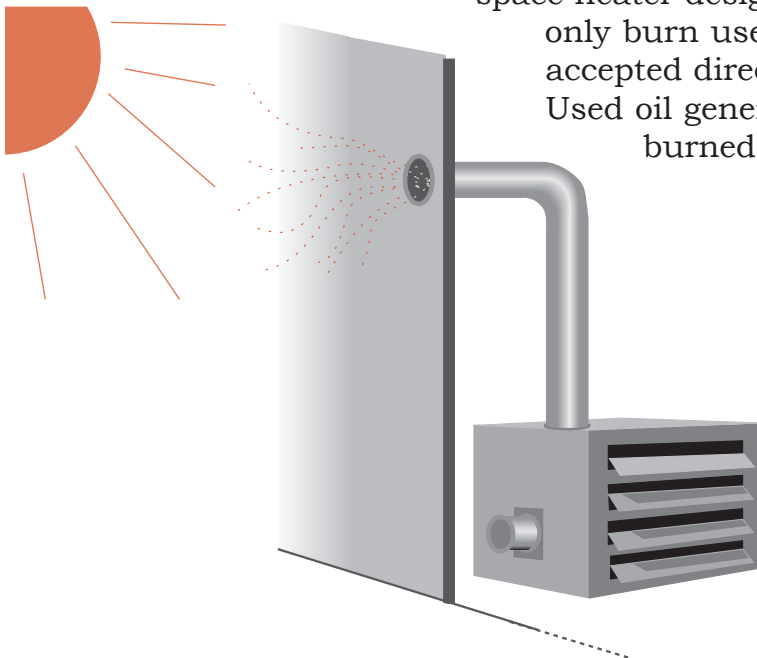
1. **Reuse:** Used oil can be reused in vehicles if it has been filtered to remove metal particles and other contaminants.
2. **Hauling:** Used oil can be removed from the facility (for recycling) by a licensed used-oil hauler or marketer. (Keep receipts of all shipments of used oil.) If the used oil has not been mixed with a hazardous waste, a hazardous-waste hauler or waste manifest is not required. (Please refer to the hazardous waste fact sheet *Used Oil Services*, #6.00.)

Recycle used oil on a regular basis to avoid accumulating more used oil than your spill containment area can handle. A secondary spill containment area, such as a curbed, impermeable surface, must hold the volume of the largest tank stored on it. For instance, if you store four, 55 gallon drums of waste fluid on a curbed surface, the containment area must be capable of safely holding only 55 gallons of waste fluid, not 220 gallons.

Burning used-oil in an approved space heater is a great way to recycle petroleum-based waste fluids.

3. **Burning on site:** Used oil can be burned on site in a space heater designed for that purpose. The heater must only burn used oil generated at the facility or accepted directly from "do-it-yourself" oil changers. Used oil generated by another business may not be burned at the facility unless it has been tested and found to meet regulatory standards. (Please refer to the fact sheets *Managing Used Oil and Related Wastes – for Generators*, #4.30.) The space heater requirements for burning used oil are:

- The space heater must be rated at less than 500,000 BTU's per hour; and
- The space heater must be vented outside.



STOP! - Environmental Hazards



- Do not store oil in open or leaking containers.
- Do not pour used oil or allow it to drip or leak on the ground.
- Do not pour used oil down a drain or into sanitary or storm-water sewer systems or on-site septic systems.
- Do not leave oil storage containers open; remove funnels from oil storage drums or tanks. Close containers when not adding or removing oil.
- Do not use oil on roads to control dust.
- Do not use oil to control weeds.
- Do not burn used oil unless using an approved boiler, furnace or space heater.
- **CAUTION:** Do not mix antifreeze, solvents, gasoline, degreasers, paint or anything else with used oil.

Dented barrels make poor storage containers. They are unstable and at risk for leaks and spills. Place oil containers on a secondary storage surface that will contain the fluids should a spill occur. Remember to remove funnels and close containers!

RESOURCES



Minnesota Pollution Control Agency

Northeast Region (Duluth) (218) 723-4660

North Central Region (Brainerd) (218) 828-2492

Northwest Region (Detroit Lakes) (218) 847-1519

Southwest Region (Marshall) (507) 537-7146

Southeast Region (Rochester) (507) 285-7343

Customer Assistance Center

(651) 297-2274 or toll free at 1-800-646-6247

Public Information Office

520 Lafayette Road North

St. Paul, Minnesota 55155-4194

(651) 296-6300

Toll free at 1-800-657-3864

TTY— (651) 282-5332

Automotive Recyclers of Minnesota

26 East Exchange Street, Suite 500

St. Paul, Minnesota 55101

(651) 290-6262

Minnesota Technical Assistance Program

200 Oak Street, Suite 350

Minneapolis, Minnesota 55455-2008

(612) 624-1300

For further information, please refer to the following fact sheets on the MPCA Web site

<http://www.pca.state.mn.us/waste/pubs/business.html> :

Basic Hazardous Waste Requirements for Businesses (#1.00)

Burning Used Oil (#4.32)

Documenting Container Inspections (#2.41)

Managing Used Oil and Related Wastes – for Generators (#4.30)

Managing Towels, Wipes and Sorbents (#4.61)

Used Oil Services (#6.00)

Also, refer to the following section in this manual:

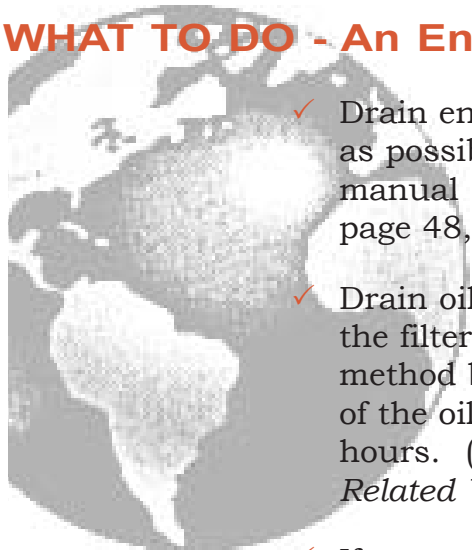
Dismantling, Draining and Storage Practices – Engines

Page 32

Used Oil Filters

Used oil filters are a potential source of pollution if engine oil from them is spilled during draining, crushing or storage. This section outlines environmentally safe steps for handling used oil filters.

WHAT TO DO - An Environmental Checklist



- ✓ Drain engine oil and remove used oil filters from vehicles as soon as possible after vehicles enter the facility. (Please refer to the manual section *Waste Handling, Storage and Disposal – Used Oils*, page 48, for information on managing used oil.)
- ✓ Drain oil filters of all free-flowing oil by poking holes in the top of the filter, and draining it with the filter threads facing up. This method bypasses the check valves in the filter, ensuring that most of the oil is removed. Oil filters should be drained for 12 to 24 hours. (Please refer to the fact sheet *Managing Used Oil and Related Wastes – for Generators*.)
- ✓ If you crush filters, use a crushing area with an impermeable surface.
- ✓ Store drained and crushed used oil filters in a closed, leak-proof storage container or on a curbed, impermeable, concrete surface.
- ✓ Recycle used oil filters that have been drained and crushed. These filters may be transported to a scrap-metal recycling facility. Oil filters should be transported in drums or large storage containers. Properly drained oil filters may be placed inside vehicles that are being transported to a scrap

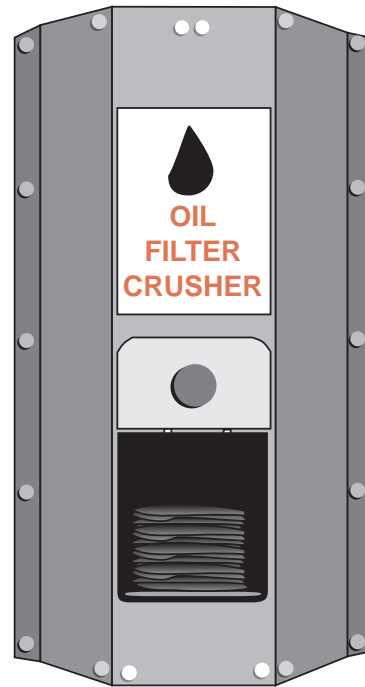
recycling facility, *provided there is an agreement with the recycling facility operator to accept drained oil filters in that manner.* Oil filters that have not been drained cannot be transported inside vehicles. Contact the recycler in your area for more information. (Please refer to the fact sheet *Used Oil Services*, #6.00.)

A stainless steel restaurant sink makes a good drainage area for small parts, such as oil filters and torque converters. Fluids drain into a bucket placed beneath the sink drain.

(continued)

(continued from page 53)

- ✓ Transport used oil filters in a way that will ensure that leftover oil is not dumped or dripped on the ground. To prevent oil leakage, transport used oil filters in a closed, leak-proof container.
- ✓ Keep receipts of used oil filter shipments.



Crushing removes excess oil left in an oil filter. Even a few teaspoons of excess oil add up when you consider that thousands of oil filters are removed daily at salvage yards throughout the state.

STOP! - Environmental Hazards



- Do not dispose of used oil filters in the trash. Oil filters may not be disposed of as solid waste under **any** circumstances.
- Do not drain, crush or store used oil filters on unprotected ground.
- Do not store used oil filters outdoors in uncovered containers.
- Do not recycle or dispose of used oil filters that have not been drained.

RESOURCES



Minnesota Pollution Control Agency

Northeast Region (Duluth) (218) 723-4660

North Central Region (Brainerd) (218) 828-2492

Northwest Region (Detroit Lakes) (218) 847-1519

Southwest Region (Marshall) (507) 537-7146

Southeast Region (Rochester) (507) 285-7343

Customer Assistance Center

(651) 297-2274 or toll free at 1-800-646-6247

Public Information Office

520 Lafayette Road North

St. Paul, Minnesota 55155-4194

(651) 296-6300

Toll free at 1-800-657-3864

TTY— (651) 282-5332

Automotive Recyclers of Minnesota

26 East Exchange Street, Suite 500

St. Paul, Minnesota 55101

(651) 290-6262

Minnesota Technical Assistance Program

200 Oak Street, Suite 350

Minneapolis, Minnesota 55455-2008

(612) 624-1300

For further information, please refer to the following fact sheets on the MPCA Web site

<http://www.pca.state.mn.us/industry/ts-links.html#oilfilters>

Managing Used Oil and Related Wastes – for Generators (#4.30)

Used Oil Services (#6.00)

Also refer to the following section in this manual:


Waste Handling, Storage and Disposal – Used Oil

Page 48

Antifreeze

Used antifreeze, through contact with a car's cooling system, may contain traces of fuel, oil and metal particles (including lead), making it a possible hazardous waste. If not properly managed and stored, these pollutants can seep into soil and ground water, harming people and the environment.

WHAT TO DO - An Environmental Checklist

- 
- ✓ Drain antifreeze from vehicles as soon as possible after they enter the facility. (Please refer to the section *Draining, Dismantling and Storage -Radiators*, on page 39 for information on draining antifreeze from radiators.)

- ✓ Determine whether the antifreeze is reusable or is a waste fluid. **Reusable antifreeze** is considered a product and can be used in facility vehicles, sold or given away. **Waste antifreeze** is antifreeze that is contaminated or too old to be reused. Test results have shown that used antifreeze may contain lead, benzene and other contaminants at levels that make it

hazardous. Waste antifreeze is considered a special waste and must be disposed of according to special waste guidelines. (Please refer to the fact sheet *Pilot Project for Special Hazardous Waste – Generator Requirements*, #2.22.)

Over-sized funnels make transferring antifreeze and other waste fluids to storage containers easier – and reduce the risk of spills! Using a secondary containment unit around containers will capture any spilled fluids.

- ✓ Store antifreeze in closed containers on a curbed, impermeable surface with spill controls.
- ✓ Mark storage containers of antifreeze for recycling.
- ✓ Keep outdoor storage containers closed; remove funnels when not in use. Otherwise containers may fill with rain causing used antifreeze to overflow.

- ✓ Recycle reusable antifreeze using one of these methods:

- Reuse: Antifreeze can be reused in facility vehicles or machinery, sold as used antifreeze or given away. (Reusable antifreeze can be filtered to remove undissolved solids. But filtration does not remove dissolved contaminants.) This antifreeze does not need to be recycled using the distillation or ion exchange methods listed below.

You may recycle antifreeze on site using a distillation or other acceptable recycling unit. Or, you can bring used antifreeze to a recycling service in your area. Some recycling services come to your site, recycle your waste antifreeze and leave the recycled product with you. When antifreeze is distilled, it may be able to be resold to service centers for use in some vehicles under warranty.

- Distillation: Restores used antifreeze to a high level of purity.
- Ion exchange: Restores used antifreeze to a high level of purity.

- ✓ Purchase distillation, ion exchange or filtration equipment for your facility or use an approved antifreeze recycling service to recycle used antifreeze. For a list of equipment and services, refer to the fact sheet *Managing Waste Antifreeze*, #4.02 on the MPCA Web site.
- ✓ Dispose of waste antifreeze according to the fact sheet *Managing Waste Antifreeze*, #4.02 on the MPCA Web site. You may discharge it to a drain connected to a wastewater treatment facility only if:
 - You generate less than 50 gallons per month;
 - The wastewater treatment facility is permitted by the MPCA and has agreed to accept it; and
 - You have submitted a Sewered Waste Notification Form to the wastewater treatment facility and received approval in writing.

Whenever practical, reuse and recycling are preferred over disposal.

STOP! - Environmental Hazards

- Do not store antifreeze in open or leaking containers.
- Do not pour antifreeze on the ground.
- Do not pour antifreeze down a drain connected to a storm sewer system or into an on-site septic system.
- Do not leave funnels in storage drums or tanks.
- Do not mix antifreeze with other fluids.

Do not mix wastes!

Combining hazardous and non-hazardous wastes will make the entire mixture hazardous and increase your disposal costs.



RESOURCES



Minnesota Pollution Control Agency

Northeast Region (Duluth) (218) 723-4660

North Central Region (Brainerd) (218) 828-2492

Northwest Region (Detroit Lakes) (218) 847-1519

Southwest Region (Marshall) (507) 537-7146

Southeast Region (Rochester) (507) 285-7343

Customer Assistance Center

(651) 297-2274 or toll free at 1-800-646-6247

Public Information Office

520 Lafayette Road North

St. Paul, Minnesota 55155-4194

(651) 296-6300

Toll free at 1-800-657-3864

TTY— (651) 282-5332

Automotive Recyclers of Minnesota

26 East Exchange Street, Suite 500

St. Paul, Minnesota 55101

(651) 290-6262

Minnesota Technical Assistance Program

200 Oak Street, Suite 350

Minneapolis, Minnesota 55455-2008

(612) 624-1300

For further information, please refer to the following fact sheets on the MPCA Web site

<http://www.pca.state.mn.us/waste/pubs/business.html> :

Basic Hazardous Waste Requirements for Businesses (#1.00)

Managing Waste Antifreeze (#4.02)

Fuel

Used and waste fuel poses not only a pollution risk to motor vehicle salvage facilities, but also a safety risk to facility employees. Handling, storing and disposing of fuel requires special care to prevent spills, explosions and fires, as well as human health hazards from exposure to skin and inhalation.

WHAT TO DO - An Environmental Checklist

- ✓ Remove fuel tanks and drain fuel as soon as possible after vehicles enter the facility. (Please refer to the manual section *Draining, Dismantling and Storage Practices – Fuel Tanks*, on page 42.)
- ✓ Determine if fuel is reusable or "waste fuel." (Waste fuel is fuel that has been mixed with water or other wastes, or is too old to be reused.)
- ✓ Store reusable fuel in a tank on site for use in facility or employee vehicles, or siphon fuel directly from dismantled vehicles into facility vehicles using an air-driven pump.
- ✓ Follow these steps when managing **waste** fuel:
 - Store waste fuel in closed containers such as drums or above-ground storage tanks. Place containers on a covered and curbed, impermeable surface with spill controls.
 - Mark waste fuel-storage containers "Waste Fuel – Hazardous Waste." (Please refer to the fact sheet *Steps 4&5: Mark and Store Hazardous Waste Correctly*, #1.04/05.)
 - Record the accumulation start date on all waste-fuel storage containers.
 - Inspect storage containers weekly; record inspection results. (Refer to the fact sheet *Documenting Container Inspections*, #2.41.)

An air-operated pump can siphon fuel directly into a storage container, eliminating spills that can occur when transferring fluids from one container to another.

- Dispose of waste fuel with a licensed hazardous waste hauler. (Please refer to the fact sheet *Basic Hazardous Waste Requirements for Businesses*(# 1.00) and *Step 6: Transport and Dispose of Hazardous Waste Correctly* (# 1.06) on the MPCA Web site.)
- Follow all hazardous waste transport and disposal requirements when disposing of waste fuel.
 - ✓ Store diesel fuel separate from gasoline.
 - ✓ Keep storage containers closed and remove funnels when not in use.

Inspect fuel storage containers regularly. Keep little leaks from becoming big spills.

STOP! - Environmental Hazards

- Do not store fuel tanks that still contain fuel.
- Do not mix fuel with other fluids.



RESOURCES



Minnesota Pollution Control Agency

Northeast Region (Duluth) (218) 723-4660

North Central Region (Brainerd) (218) 828-2492

Northwest Region (Detroit Lakes) (218) 847-

Southwest Region (Marshall) (507) 537-7146

Southeast Region (Rochester) (507) 285-7343

Customer Assistance Center

(651) 297-2274 or toll free at 1-800-646-6247

Public Information Office

520 Lafayette Road North

St. Paul, Minnesota 55155-4194

(651) 296-6300

Toll free at 1-800-657-3864

TTY— (651) 282-5332

Automotive Recyclers of Minnesota

26 East Exchange Street, Suite 500

St. Paul, Minnesota 55101

(651) 290-6262

Minnesota Technical Assistance Program

200 Oak Street, Suite 350

Minneapolis, Minnesota 55455-2008

(612) 624-1300

For further information, please refer to the following fact sheets on the MPCA Web site

<http://www.pca.state.mn.us/waste/pubs/business.html> :

Basic Hazardous Waste Requirements for Businesses (#1.00)

Steps 4 & 5: Mark and Store Waste Correctly (#1.04/05)

Step 6: Transport and Dispose of Waste Correctly (#1.06)

Step 7: Manifest Shipments of Hazardous Waste

Document Container Inspections (#2.41)

Also, refer to the following section in this manual:

Draining, Dismantling and Storage Practices –
Fuel Tanks

Page 42

Refrigerant (CFCs)

Refrigerant (Chlorofluorocarbons or CFCs) refers to various gases used in air conditioning units. Refrigerant is a pollution concern because it contributes to ozone depletion and is easily dispersed into the air during air-conditioning unit servicing or dismantling. Motor vehicle salvage facilities are required by the U.S. Environmental Protection Agency (EPA) to recover all refrigerant from vehicles that enter their facilities. Refrigerant is processed using the following methods:

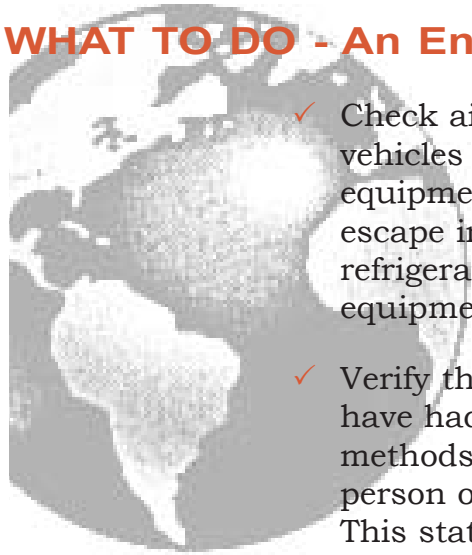
Recovery - Removing refrigerant from air conditioning units and storing it in a container without testing or processing it.

Reclaiming - Processing refrigerant, usually by distillation, until it meets resale specifications. This requires a chemical analysis to see whether specifications have been met. (Please refer to the Air Quality fact sheets listed under *Motor Vehicle Air Conditioner Disposal* at the MPCA Web site:
<http://www.pca.state.mn.us/air/cfc-mvairdis.html>

Where a power supply is readily available, air conditioning refrigerant can be removed in the shop with a hand-cart recovery unit.

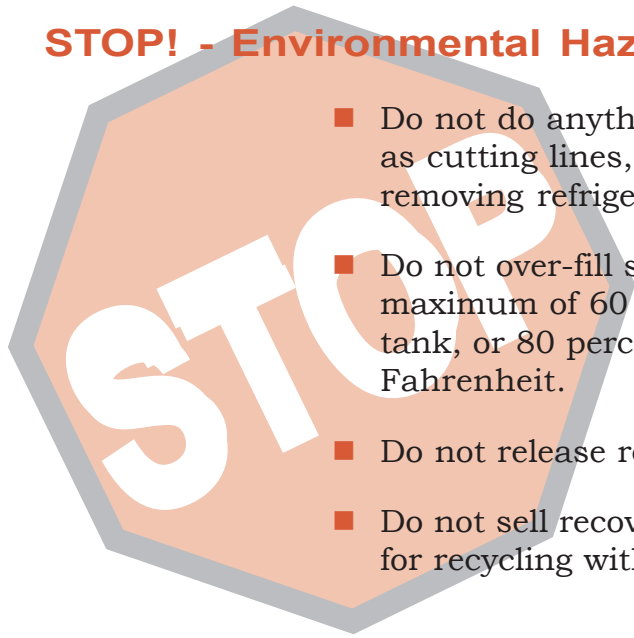
A similar unit, placed in a van or car and equipped with its own generator, works well to remove refrigerant from cars already on the lot.

WHAT TO DO - An Environmental Checklist



- ✓ Check air conditioning units and remove refrigerant from all vehicles that enter the facility, using approved recovery equipment. Because a pressure gauge allows refrigerant to escape into the environment, assume that all units contain refrigerant and then remove it using approved recovery equipment.
- ✓ Verify that all vehicles entering the facility without refrigerant have had the refrigerant removed using approved recovery methods. Verification consists of a signed statement by the person or organization from whom the vehicles were received. This statement should include the name and address of the person who removed the refrigerant and the date it was removed. If refrigerant is not present because the air-conditioning unit was damaged or because of a vehicle's age or lack of use, verification must include a statement to that effect. Keep records for three years.
- ✓ Seal all air-conditioning unit openings and hoses after recovering oil to prevent any leftover oil from leaking out of the unit and contaminating components that may be reused.
- ✓ Store refrigerant in a tank that meets federal Department of Transportation (DOT) or Underwriters Laboratories (UL) standards.
- ✓ Sell refrigerant only to certified reclaiming facilities or CFC collectors who will reclaim it to its original purity specifications.
- ✓ Perform air conditioning repair work only if it is done by a certified motor vehicle air conditioning repair technician. Use approved recycling equipment and reuse refrigerant only in automobile air conditioning units owned by your facility.
- ✓ Supply documentation to scrap metal facilities that crush hulks, stating that the refrigerant was removed from vehicles using approved methods.

STOP! - Environmental Hazards



- Do not do anything that will release refrigerant into the air, such as cutting lines, disconnecting hoses or flattening vehicles before removing refrigerant.
- Do not over-fill storage tanks. Storage tanks should be filled to a maximum of 60 percent of the Gross Weight Rating listed on the tank, or 80 percent of the tank's rated volume at 70 degrees Fahrenheit.
- Do not release refrigerant from storage tanks.
- Do not sell recovered refrigerant to body shops or service stations for recycling without first having the refrigerant reclaimed.

RESOURCES



Minnesota Pollution Control Agency

Northeast Region (Duluth) (218) 723-4660

North Central Region (Brainerd) (218) 828-2492

Northwest Region (Detroit Lakes) (218) 847-1519

Southwest Region (Marshall) (507) 537-7146

Southeast Region (Rochester) (507) 285-7343

Customer Assistance Center

(651) 297-2274 or toll free at 1-800-646-6247

Public Information Office

520 Lafayette Road North

St. Paul, Minnesota 55155-4194

(651) 296-6300

Toll free at 1-800-657-3864

TTY— (651) 282-5332

Automotive Recyclers of Minnesota

26 East Exchange Street, Suite 500

St. Paul, Minnesota 55101

(651) 290-6262

Minnesota Technical Assistance Program

200 Oak Street, Suite 350

Minneapolis, Minnesota 55455-2008

(612) 624-1300

**For further information, please refer to the MPCA Web site
<http://www.pca.state.mn.us/air/cfc-mvairdis.html>**

Lead-Acid Batteries

Used lead-acid batteries, which contain lead and corrosive chemicals, pose very real pollution risks and special handling problems at salvage yards. Improperly managed and stored batteries are not only a safety hazard, but can pollute the environment if they crack and leak, particularly when stored outdoors and when subjected to freezing temperatures.

WHAT TO DO - An Environmental Checklist



- ✓ Test batteries to determine usability or resale quality.
- ✓ Remove reusable batteries for resale. Also, remove lead cable ends from reusable batteries and store the lead parts in a covered container that is strong enough to hold the excessive weight of the lead. Please refer to the section *Waste Handling, Storage and Disposal Practices - Lead Parts*, on page 72.)
- ✓ Leave lead battery cable ends attached to scrap batteries for recycling.
- ✓ Immediately place cracked or leaking batteries in a closed, leak-proof storage container or on a curbed, impermeable **asphalt*** surface with spill controls, including drip-pans and lime.

***Note:** Unlike the storage of other wastes, sealed asphalt surfaces are best for battery storage because battery acid can degrade concrete. Asphalt should not be used as secondary containment for any other waste storage since other wastes, particularly antifreeze and petroleum products, can degrade asphalt.

Leave battery cable ends on batteries that cannot be resold. This saves time during dismantling and also assures that cable ends are recycled.


- ✓ Store batteries indoors. They must be stored in either a closed, leak-proof container or on a curbed, impermeable, asphalt surface with spill controls, including drip-pans and lime.
- ✓ If stored outdoors, the storage area should be covered to keep rainwater from collecting and to prevent contaminated run-off from occurring with rain and melting snow. (Please refer to the fact sheet *Managing Spent Lead-Acid Batteries - for Generators*, #4.06.)
- ✓ Store batteries on a “non-reactive” surface. This kind of surface may include the following:
 - Fiberglass or plastic “battery boxes” made specifically for battery storage. These can be purchased from local suppliers. (Contact your local trade association for suppliers in your area.);
 - A curbed, impermeable asphalt surface coated with acid resistant epoxy;
 - A covered wooden frame lined with heavy polypropylene plastic. Polypropylene is the least expensive plastic available. However, any heavy sheet plastic may be used (make sure there are no rips or tears);
 - A curbed, concrete surface coated with acid-resistant epoxy, fiberglass or plastic or lined with heavy polypropylene plastic;
 - Polypropylene cement-mixing tubs. These tubs, usually sold at lumber yards, are rectangular (2 feet by 3 feet) and can hold approximately 30 batteries; and

Keep batteries in one area of the facility.

Storing and charging batteries in one area decreases the chance of spills and leaks throughout the yard and helps you control inventory.

- Sealed five-gallon polypropylene plastic pails can be used to temporarily store leaking or cracked batteries.
- ✓ Store batteries in an upright position to prevent leaks from vent holes. Position batteries so that side post terminals do not contact each other.
- ✓ Stack batteries no more than five high. Batteries stacked higher may become unstable. Some facilities use wood between each layer of batteries to provide stability and to prevent terminal posts from puncturing the battery above.
- ✓ Spread an absorbent neutralizing material, such as lime or baking soda, in the bottom of battery boxes or battery storage bins to absorb and neutralize spilled battery acid. Dispose of used absorbent material as a hazardous waste.
- ✓ Inspect all batteries, storage containers and cover materials regularly for leaks, cracks or tears. Storage containers or materials that have been exposed to freezing temperatures should be checked more often.
- ✓ Manage all spilled materials and absorbents as a hazardous waste. (Please refer to the section *General Operating Procedures – Spill Control – Prevention and Clean Up*, on page 8.)
- ✓ Recycle at least 75 percent of all accumulated batteries each year with a licensed recycler. Facilities that do not recycle 75 percent of their batteries each year must meet additional storage requirements. (Please refer to the fact sheet *Managing Spent Lead-Acid Batteries – for Generators*, #4.06.)
- ✓ Transport used batteries for recycling using one of the following methods:
 - Transport by a used-battery hauler (Please refer to the fact sheet *Managing Spent Lead-Acid Batteries – for Transporters*, #4.08.);
 - Transport by a battery supplier; or
 - Transport by the salvage facility
- ✓ Keep records to show that your facility is recycling used batteries. Include receipts with the license number of the recycling facility.

STOP! - Environmental Hazards

- 
- Do not store batteries indoors or outdoors without proper spill protection. Batteries stored outdoors must be covered.
 - Do not store batteries in vehicles; they can corrode and leak more easily.
 - Do not over-fill storage containers. Batteries on the bottom may be crushed and the storage containers may become difficult to move.
 - Do not accumulate batteries for a long period of time – recycle regularly!
 - Do not drain fluids from batteries.

Randomly piling batteries can become an environmental hazard!

Battery cases crack easily, especially when thrown into a pile. Cracked cases can leak lead into the soil. Rather, stack batteries neatly on an impermeable surface or in a container designed for that purpose.

RESOURCES



Minnesota Pollution Control Agency

Northeast Region (Duluth) (218) 723-4660

North Central Region (Brainerd) (218) 828-2492

Northwest Region (Detroit Lakes) (218) 847-1519

Southwest Region (Marshall) (507) 537-7146

Southeast Region (Rochester) (507) 285-7343

Customer Assistance Center

(651) 297-2274 or toll free at 1-800-646-6247

Public Information Office

520 Lafayette Road North

St. Paul, Minnesota 55155-4194

(651) 296-6300

Toll free at 1-800-657-3864

TTY— (651) 282-5332

Automotive Recyclers of Minnesota

26 East Exchange Street, Suite 500

St. Paul, Minnesota 55101

(651) 290-6262

Minnesota Technical Assistance Program

200 Oak Street, Suite 350

Minneapolis, Minnesota 55455-2008

(612) 624-1300

For further information, please refer to the following fact sheets on the MPCA Web site

<http://www.pca.state.mn.us/waste/pubs/business.html#specific>

Managing Spent Lead Acid Batteries – for Generators

Managing Spent Lead Acid Batteries – for Transporters

Also, refer to the following sections in this manual:

Waste Handling, Storage and Disposal Practices –
Lead Parts

Page 72


General Operating Procedures –
Spill Control – Prevention and Clean Up

Page 8

Lead Parts


Lead is a well-known toxic substance and potential pollutant. Even though the phasing-out of leaded gasoline has reduced the levels of lead in the air and soil, other sources remain. Lead parts, such as battery cable ends, soldered tubing joints and tire weights, are often a forgotten source of lead pollution. The amount of lead found in a single BB or shotgun pellet is enough to contaminate an entire truckload of vehicle shredding "fluff," making it hazardous waste and requiring costly disposal methods.


WHAT TO DO - An Environmental Checklist

- 
- ✓ Remove lead tire weights and battery cable ends before crushing vehicles. Battery cable ends may be left on unusable batteries and recycled along with the batteries.
 - ✓ Remove other known sources of lead from vehicles. Lead can be found in radiators, heater cores, steering columns and in any soldered parts such as circuit boards and in electronic components.
 - ✓ Store lead parts in a covered container that is capable of handling the excessive weight of the lead. Some facilities store lead tire weights with batteries in battery boxes. If you use this method, make sure weights are not placed under batteries or allowed to roll around in the box. (This practice makes stacks unstable and increases the possibility of puncturing the batteries.)
 - ✓ Recycle lead parts with a metals or battery recycler.

Lead, found in battery-cable ends, tire weights and soldered parts, is one of the most common pollutants found in soil at salvage yards and in auto "fluff" after vehicle shredding. Salvage facility operators must be thorough in removing all known lead sources from vehicles before crushing.

STOP! - Environmental Hazards

- 
- Do not leave lead parts in vehicles. Make sure all lead parts are removed before crushing.
 - Do not store lead parts on the ground.
 - Do not store lead parts in uncovered containers.
 - Do not dispose of lead parts in the regular trash.



Make sure your lead-part storage containers are capable of handling the excessive weight of lead. A metal bucket in good condition makes a good storage container.

RESOURCES



Minnesota Pollution Control Agency

Northeast Region (Duluth) (218) 723-4660

North Central Region (Brainerd) (218) 828-2492

Northwest Region (Detroit Lakes) (218) 847-

Southwest Region (Marshall) (507) 537-7146

Southeast Region (Rochester) (507) 285-7343

Customer Assistance Center

(651) 297-2274 or toll free at 1-800-646-6247

Public Information Office

520 Lafayette Road North

St. Paul, Minnesota 55155-4194

(651) 296-6300

Toll free at 1-800-657-3864

TTY— (651) 282-5332

Automotive Recyclers of Minnesota

26 East Exchange Street, Suite 500

St. Paul, Minnesota 55101

(651) 290-6262

Minnesota Technical Assistance Program

200 Oak Street, Suite 350

Minneapolis, Minnesota 55455-2008

(612) 624-1300

For further information, please refer to the following fact sheets on the MPCA Web site:

Managing Spent Lead-Acid Batteries – for Generators (#4.06) and

Managing Spent Lead-Acid Batteries – for Transporters (#4.08)

located at <http://www.pca.state.mn.us/waste/pubs/business.html#specific>

Managing Scrap Metal, Catalytic Converters and Wheel Weights

located at <http://www.pca.state.mn.us/industry/ts-links.html#scrap>

Mercury Switches

Mercury, a highly toxic metal, is often found in hood or trunk light switches. Liquid mercury and mercury vapor are hazardous to both humans and the environment. Once released into the environment, mercury cannot be eliminated — it will stay in the environment forever. Just one-half pound of mercury, the amount found in approximately 450 trunk or hood lights, has the potential to contaminate one-half million northern pike. Already, ninety-four percent of Minnesota lakes have mercury contamination at a level that limits human fish consumption. Removal of mercury switches from vehicles before crushing is an important part of managing your hazardous wastes.

WHAT TO DO- An Environmental Checklist



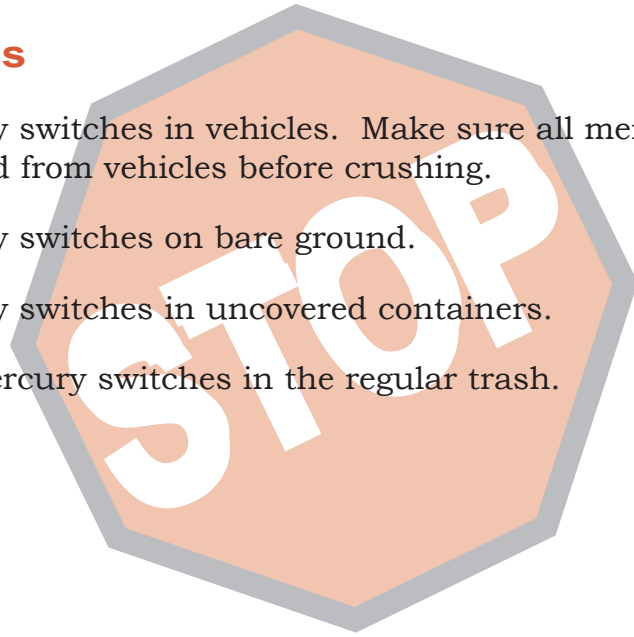
- ✓ Remove all mercury switches from vehicles as soon as possible after they enter the facility.
- ✓ Be careful not to break or puncture the mercury capsule during removal.
- ✓ Store mercury switches in a leak-proof, closed container. The most important storage precaution is to store mercury switches in a way that prevents the capsule from breaking.
- ✓ Recycle mercury switches with a licensed metals recycler that reclaims mercury.
(Contact your licensed metals recycler or call the MPCA for information on recycling mercury switches.)

Mercury-containing light switches have been found in vehicles built in the 1970s and 1980s, as well as in new cars. To be safe, remove all light switches from vehicles before they are crushed.

Be careful when handling trunk and hood switches to keep the small glass or metal capsules that hold the liquid mercury from breaking and releasing mercury into the environment.

STOP! - Environmental Hazards

- Do not leave mercury switches in vehicles. Make sure all mercury switches are removed from vehicles before crushing.
- Do not store mercury switches on bare ground.
- Do not store mercury switches in uncovered containers.
- Do not dispose of mercury switches in the regular trash.



RESOURCES



Minnesota Pollution Control Agency

Northeast Region (Duluth) (218) 723-4660

North Central Region (Brainerd) (218) 828-2492

Northwest Region (Detroit Lakes) (218) 847-1519

Southwest Region (Marshall) (507) 537-7146

Southeast Region (Rochester) (507) 285-7343

Customer Assistance Center

(651) 297-2274 or toll free at 1-800-646-6247

Public Information Office

520 Lafayette Road North

St. Paul, Minnesota 55155-4194

(651) 296-6300

Toll free at 1-800-657-3864

TTY— (651) 282-5332

Automotive Recyclers of Minnesota

26 East Exchange Street, Suite 500

St. Paul, Minnesota 55101

(651) 290-6262

Minnesota Technical Assistance Program

200 Oak Street, Suite 350

Minneapolis, Minnesota 55455-2008

(612) 624-1300

For further information, please refer to the MPCA Web site:

<http://www.pca.state.mn.us/industry/ts-links.html#mercury>

Waste Tires

Waste tires present two unique pollution and public-safety concerns: the potential for fires, and the possibility of providing a breeding ground for disease-carrying mosquitoes. Although waste tires do not ignite easily, once on fire, they burn very hot and are difficult to extinguish. Extinguishing methods are costly and can produce an oily run-off that can pollute soil and nearby surface and ground water. If improperly stored, tires may collect rainwater which can create an ideal breeding ground for mosquitoes.

The State of Minnesota addressed these issues in 1984 by developing a waste-tire management program to ensure the proper collection, transportation, disposal and processing of waste tires. Salvage facilities are required under these rules to manage tires in an environmentally safe manner.


WHAT TO DO - An Environmental Checklist



- ✓ Store waste tires in a sunny area. (Sunlight speeds evaporation of standing water and kills heat-intolerant mosquito larvae.)
- ✓ Store waste tires in a covered trailer, roll-off box or cage to prevent rainwater and melting snow from collecting. Water may also add weight and increase disposal costs.
- ✓ Store only small quantities of waste tires. Transport them regularly to a permitted waste-tire processor.
- ✓ Store no more than 500 waste tires on site at one time. If you plan on storing more than 500 tires, apply to the MPCA for a storage permit.


Many used tires can be resold. Recycle waste tires regularly to avoid storage problems. Store waste tires in roll-off boxes like the one pictured, which can prevent rainwater and melting snow from collecting in the tires.


- ✓ Facilities storing **less** than 500 used tires must follow these management practices:
 - Hire a transporter with a Minnesota Pollution Control Agency ID number to take your tires or take them directly to an MPCA-permitted processing facility; and
 - Keep waste-tire disposal records for at least three years.
- ✓ Facilities storing **more** than 500 used tires **must obtain a permit from the MPCA** and follow these management practices:
 - Limit individual stockpiles to 10,000 feet square by 20 feet high;
 - Establish fire lanes at least 50 feet wide between stockpiles;
 - Prohibit smoking and lighting of flames around stockpile area;
 - Work with local fire and police departments to develop an emergency response plan in case of fire;
 - Hire a transporter with a Minnesota Pollution Control Agency ID number to take your waste tires or take used tires directly to an MPCA-permitted processing facility; and
 - Keep waste-tire collection and disposal records for at least three years.



Clean and maintain tire processing equipment regularly. Dirty, poorly maintained equipment poses a pollution risk from greasy rainwater run-off or dripping oil.

STOP! - Environmental Hazards

- 
- Do not store more than 500 waste tires at your facility without an MPCA storage permit.
 - Do not store tires in shaded areas.
 - Do not accumulate large quantities of waste tires. Transport them regularly to a permitted processor.



Waste tire piles are a fire hazard and make an ideal breeding area for disease-carrying mosquitoes. Manage tires carefully to prevent problems and the cost and liability that goes with them.

RESOURCES



Minnesota Pollution Control Agency

Northeast Region (Duluth) (218) 723-4660

North Central Region (Brainerd) (218) 828-2492

Northwest Region (Detroit Lakes) (218) 847-1519

Southwest Region (Marshall) (507) 537-7146

Southeast Region (Rochester) (507) 285-7343

Customer Assistance Center

(651) 297-2274 or toll free at 1-800-646-6247

Public Information Office

520 Lafayette Road North

St. Paul, Minnesota 55155-4194

(651) 296-6300

Toll free at 1-800-657-3864

TTY— (651) 282-5332

Automotive Recyclers of Minnesota

26 East Exchange Street, Suite 500

St. Paul, Minnesota 55101

(651) 290-6262

Minnesota Technical Assistance Program

200 Oak Street, Suite 350

Minneapolis, Minnesota 55455-2008

(612) 624-1300

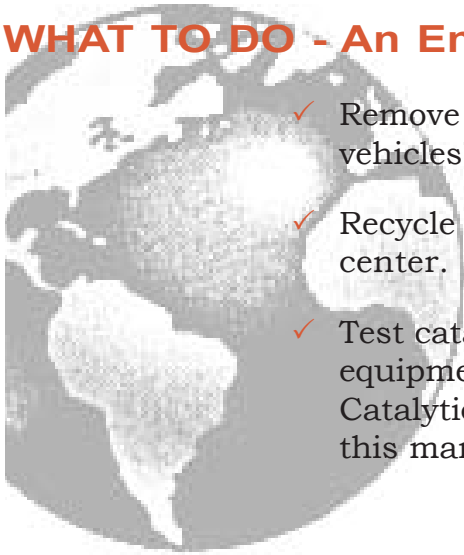
For further information, please refer to the MPCA Web site:

<http://www.pca.state.mn.us/industry/ts-links.html#tires>

Catalytic Converters

Catalytic converters – which contain platinum, a valuable, recyclable metal – are seldom resold as parts by salvage facilities. Before they can be resold, catalytic converters must be tested using expensive equipment. Instead, most facilities recycle catalytic converters by selling them to core buyers or scrap recyclers.

WHAT TO DO - An Environmental Checklist



- ✓ Remove catalytic converters from vehicles as soon as possible after vehicles enter the facility.
- ✓ Recycle catalytic converters with a catalytic converter collection center.
- ✓ Test catalytic converters with federally-approved testing equipment if the converters are to be resold at the facility. Catalytic converters that have not been tested and approved in this manner cannot be sold to the public.

STOP! - Environmental Hazards

- Do not resell catalytic converters that have not been tested and approved. Catalytic converter are an important pollution prevention device designed for use with specific makes and models of cars. If untested and unapproved catalytic converters are installed on cars, they may not protect the environment from air pollution.



RESOURCES



Minnesota Pollution Control Agency

Northeast Region (Duluth) (218) 723-4660

North Central Region (Brainerd) (218) 828-2492

Northwest Region (Detroit Lakes) (218) 847-1519

Southwest Region (Marshall) (507) 537-7146

Southeast Region (Rochester) (507) 285-7343

Customer Assistance Center

(651) 297-2274 or toll free at 1-800-646-6247

Public Information Office

520 Lafayette Road North

St. Paul, Minnesota 55155-4194

(651) 296-6300

Toll free at 1-800-657-3864

TTY— (651) 282-5332

Automotive Recyclers of Minnesota

26 East Exchange Street, Suite 500

St. Paul, Minnesota 55101

(651) 290-6262

Minnesota Technical Assistance Program

200 Oak Street, Suite 350

Minneapolis, Minnesota 55455-2008

(612) 624-1300

For further information, please refer to MPCA Web site:

<http://www.pca.state.mn.us/industry/ts-links.html#scrap>

Window-Washing Fluid

Although window-washing fluid is mainly alcohol, water and detergent, it does contain small amounts of antifreeze and may mix with other wastes if not properly drained. Window-washing fluid should be carefully drained, stored and recycled to prevent pollution from spills.

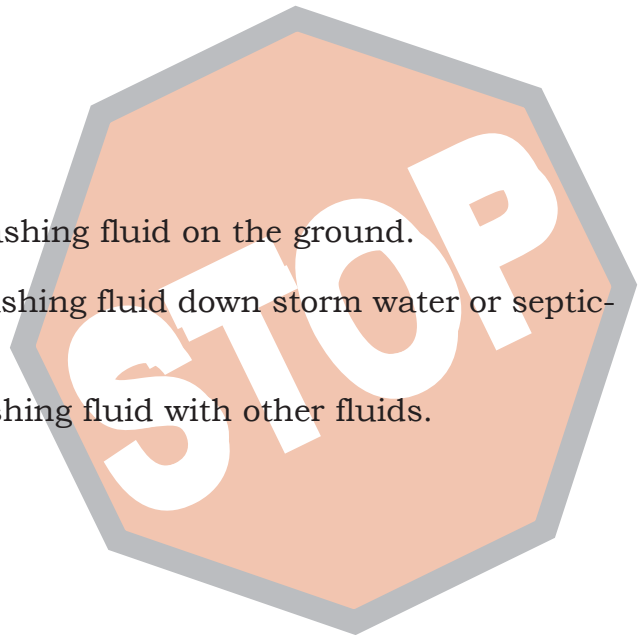


WHAT TO DO - An Environmental Checklist

- Drain window-washing fluid from vehicles as soon as possible after they enter the facility.
- Reuse window-washing fluid in salvage facility or employee vehicles.
- Sell or give away re-claimed window-washing fluid to customers.
- Store window-washing fluid in covered containers on a curbed, impermeable, concrete surface with spill controls.

STOP! - Environmental Hazards

- Do not pour window-washing fluid on the ground.
- Do not pour window-washing fluid down storm water or septic-system drains.
- Do not mix window-washing fluid with other fluids.



RESOURCES



Minnesota Pollution Control Agency

Northeast Region (Duluth) (218) 723-4660

North Central Region (Brainerd) (218) 828-2492

Northwest Region (Detroit Lakes) (218) 847-1519

Southwest Region (Marshall) (507) 537-7146

Southeast Region (Rochester) (507) 285-7343

Customer Assistance Center

(651) 297-2274 or toll free at 1-800-646-6247

Public Information Office

520 Lafayette Road North

St. Paul, Minnesota 55155-4194

(651) 296-6300

Toll free at 1-800-657-3864

TTY— (651) 282-5332

Automotive Recyclers of Minnesota

26 East Exchange Street, Suite 500

St. Paul, Minnesota 55101

(651) 290-6262

Minnesota Technical Assistance Program

200 Oak Street, Suite 350

Minneapolis, Minnesota 55455-2008

(612) 624-1300

Appliances

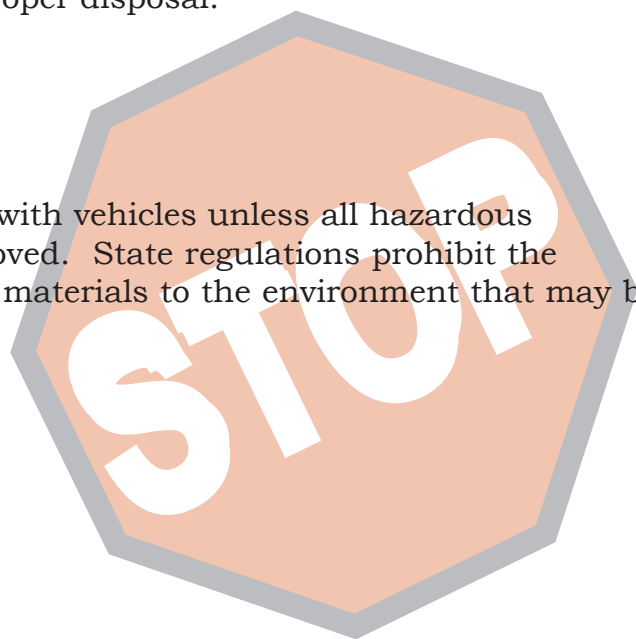
Major appliances, which are also known as "white goods," include clothes washers and dryers, dishwashers, hot-water heaters, garbage disposals, trash compactors, conventional and microwave ovens, ranges and stoves, air conditioners, refrigerators and freezers, residential furnaces and dehumidifiers. These appliances may contain hazardous or environmentally harmful materials such as polychlorinated biphenols (PCBs), chlorofluorocarbons (CFCs), mercury and other metals.

WHAT TO DO - An Environmental Checklist

- ✓ Contact your county solid waste coordinator or city recycling coordinator to find out how to reuse or recycle appliances in your area.
- ✓ Collection, storage or processing of appliances requires notification to the MPCA and the county solid waste or recycling coordinator.
- ✓ Removing CFCs from appliances must be done by a certified technician. This certification is different than that required for CFC removal from automobiles.
- ✓ The equipment used to remove CFCs must also be certified.
- ✓ If you process appliances, you are required to remove CFCs, mercury switches and PCB capacitors. You must keep detailed records of removal and proper disposal.

STOP! - Environmental Hazards

- Do not crush appliances with vehicles unless all hazardous materials have been removed. State regulations prohibit the release of any hazardous materials to the environment that may be present in appliances.



RESOURCES



Minnesota Pollution Control Agency

Northeast Region (Duluth) (218) 723-4660

North Central Region (Brainerd) (218) 828-2492

Northwest Region (Detroit Lakes) (218) 847-1519

Southwest Region (Marshall) (507) 537-7146

Southeast Region (Rochester) (507) 285-7343

Customer Assistance Center

(651) 297-2274 or toll free at 1-800-646-6247

Public Information Office

520 Lafayette Road North

St. Paul, Minnesota 55155-4194

(651) 296-6300

Toll free at 1-800-657-3864

TTY— (651) 282-5332

Automotive Recyclers of Minnesota

26 East Exchange Street, Suite 500

St. Paul, Minnesota 55101

(651) 290-6262

Minnesota Technical Assistance Program

200 Oak Street, Suite 350

Minneapolis, Minnesota 55455-2008

(612) 624-1300

For further information, please refer to MPCA Web site:

<http://www.pca.state.mn.us/air/cfc-apservice.html>

A Quick Guide to Managing Wastes at Your Salvage Yard

Type of Waste	Is It Hazardous?	What Type of Storage		Special Handling
		Primary	Secondary	
Used Oil	No	Yes	Yes	Used oils can be recycled, reclaimed or reused. Used oils become a hazardous waste if improperly handled or disposed of. Contaminated oil is a hazardous waste. Used oils cannot be landspread or landfilled.
Used Oil Filters	No	No	Yes	The oil filter itself is considered primary storage. Secondary storage, such as a covered, leak-proof container, is required. Oil filters cannot be landfilled.
Used Oil Absorbents	No	Yes	Yes	Used-oil absorbents may be managed as used oil and burned on site in approved burners. Used-oil absorbents that contain hazardous wastes must be managed accordingly. Secondary storage is required only if the absorbents contain hazardous waste.
Antifreeze	Maybe	Yes	Yes	Used antifreeze is classified as a "special waste." It can be recycled, reclaimed or reused. Contaminated and old antifreeze may be a hazardous waste and, if so, must be managed accordingly.
Refrigerant	Yes	Yes	No	Refrigerant must be stored in federally-approved Department of Transportation (DOT)- or United Laboratories (UL)-approved storage containers. Secondary storage is not required.
Fuel	Yes	Yes	Yes	Fuel can be reused in facility vehicles or equipment. Contaminated or old fuel is a hazardous waste and must be managed accordingly.
Lead-Acid Batteries	Yes	No	Yes	A battery itself is considered primary storage. Secondary storage is needed to collect acid from cracked or leaking batteries.
Lead Parts	Yes	Yes	Yes	Lead parts must be stored in closed containers and recycled with batteries.
Solvent Rags	Yes	Yes	Yes	Reusable solvent rags must be cleaned by an industrial laundry service. Disposable solvent rags that contain only flammable solvents and are wrung dry may be disposed of at a solid waste treatment facility that will accept them. Disposable solvent rags that contain other hazardous solvents or contaminants must be disposed of as hazardous waste.

A Quick Guide to Managing Wastes at Your Salvage Yard

Primary storage

For solid waste:

- ✓ A leak-proof, covered container, such as a battery box.
- ✓ A wooden box, lined with leak-proof material, such as heavy polypropylene plastic (10 mil. thick or heavier).
- ✓ A tub or bucket with a tight cover.

For fluid waste:

- ✓ A covered, metal drum or storage tank.
- ✓ Any storage container that is leak-proof, covered and suitable for the type of waste being stored.

For refrigerants:

- ✓ A federally-approved Department of Transportation (DOT)-or United Laboratories (UL)-approved storage tank.

Hazardous waste generators must:

- ✓ Determine if a waste is hazardous using MPCA guidelines or by testing the waste.
- ✓ Have a Hazardous Waste Generator identification number.
- ✓ Have a Minnesota Hazardous Waste License.
- ✓ Store hazardous waste in a marked, leak-proof container.
- ✓ Store hazardous waste in a covered area, on a curbed, impermeable surface.
- ✓ Mark storage containers with the words, “Hazardous Waste,” a description of the waste and the date waste was initially placed in the container.
- ✓ Complete and document weekly inspections of containers and storage areas. Look for leaks and deterioration.
- ✓ Dispose of hazardous waste using a transporter that meets MPCA requirements.
- ✓ Supply a hazardous waste manifest with every waste shipment.
- ✓ Train personnel on hazardous waste handling.
- ✓ Keep records for five years concerning all hazardous waste permits, procedures and transactions.

Secondary storage

- ✓ Secondary containment must be designed to hold all the waste in the primary storage containers should they leak.
- ✓ The best method of secondary storage is an indoor, curbed, impermeable surface. If outdoors, the surface must also be under a roof to provide shading for ignitable wastes and to prevent rainwater from collecting.
- ✓ Other methods may be used, such as a four-sided wooden containment area, lined with heavy polypropylene plastic.

