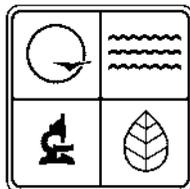


Preventing Pollution at Hot Mix Asphalt Plants



A Guide to Environmental Compliance and Pollution Prevention for Asphalt Plants in Missouri



Missouri Department of Natural Resources
Environmental Assistance Office
1-800-361-4827

December 2004

The information in this publication is intended as general guidance only. For specific requirements, the reader should consult the appropriate federal and state laws and rules.

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Missouri Department of Natural Resources
"Integrity and excellence in all we do"

Preventing Pollution at Hot Mix Asphalt Plants

As environmental protection becomes more and more important, industries of every type are faced with some big questions.

- What environmental regulations apply to my facility and me?
- How do I comply with those regulations?
- Are there things I can do to reduce the number of regulations I must meet?
- How can I protect myself from fines and liability?
- How do I protect my workers and myself from environmental hazards at work?

This publication can help hot mix asphalt plants in Missouri answer some of those questions. The guides provide basic information about regulatory requirements and suggestions for protecting yourself, your workers and the environment through pollution prevention.

Each guide sheet deals with a separate issue that you may face at your asphalt plant. The guides will not answer every question you have. After reviewing them, you should be able to decide if you need more information or help on a particular issue. The topics are listed on the back of this page.

The Missouri Department of Natural Resources has an Environmental Assistance Office (EAO) to help you comply with environmental regulations and find ways to prevent pollution. If you need help, call EAO at 1-800-361-4827.

Guide Sheets for Hot Mix Asphalt Plants

Pollution Prevention
404 Permits, 401 Certifications
Air Quality Construction Permits
Air Quality Issues
Air Quality New Source Performance Standards
Air Quality Operating Permits
Air Quality and Portable Equipment
Air Quality, Submission of Emission Data
Antifreeze
Backflow Prevention
Endangered Species
EPCRA and Form R Reporting
EPCRA and Tier II Reporting
Hazardous Waste
Hazardous Waste Management
Lead-Acid Batteries
Missouri Department of Transportation
Petroleum Storage Tanks
Spills
Storm Water and Wastewater Permits
Used Oil Disposal and Recycling
Used Oil Storage
Using Waste in Asphalt
Waste Tires

If you have comments or ideas for ways to improve these guide sheets, please let us know by calling EAO at 1-800-361-4827.

For More Information

Missouri Department of Natural Resources
Environmental Assistance Office
P.O. Box 176
Jefferson City, MO 65102-0176
1-800-361-4827 or (573) 526-6627
www.dnr.mo.gov/oac/env_assistance.htm



Pollution Prevention

Asphalt plants deal with many things that can affect the environment. If not managed properly, materials such as airborne dust, contaminated storm water and used oil can harm people and the environment. State and federal environmental regulations explain what legally can and cannot be done with these materials. The regulations describe how pollution or waste should be controlled, stored, treated or disposed. A better solution is to prevent the waste or pollution.

What is Pollution Prevention?

Pollution prevention is simply not making the waste or pollutant in the first place. It means doing what we can to reduce the amount and toxicity of the pollution we generate.

Preventing pollution may be something as simple as using a catch basin to prevent spills or something as complex as redesigning your operation to increase efficiency and reduce waste. Simple things like choosing nonhazardous solvents can protect the environment and reduce the number of environmental regulations that apply to your company. Pollution prevention means thinking about the environmental impact of your actions and trying to limit that impact.

Why Prevent Pollution?

When we generate waste or pollution, we must safely and legally manage that waste or pollution. Whether it is household trash or waste from a business, managing wastes costs money. Usually the things we discard are items we bought. A good example is paper towels. We buy them, use them once and then pay again to have them disposed.

Reducing the amount of waste generated saves money. Reducing costs is a major reason to prevent pollution. Here are a few others:

- Improved work environment and worker safety.
- Reduced liability.
- Increased efficiency.
- Reduced regulatory requirements.
- Improved environmental protection.
- Enhanced marketing and public relations opportunities.

What can be done at hot mix asphalt plants?

There are many ways to prevent pollution at asphalt plants. Each of these guide sheets has suggestions on ways to prevent pollution. Here are a few general tips:

- Make a list of your wastes. Try to find a way to eliminate each of them. For example, if you throw away paper towels, consider using washable shop towels.
- Include the cost of disposal when you make purchasing decisions. What looks like the least expensive option may cost more because of disposal or other management costs.

- Do not buy more than you need. The leftovers may become waste.
- Purchase the largest practical container; containers usually end up as waste. However, do not purchase more than you need.
- Purchase the least toxic or hazardous product available. Check the material safety data sheets for products you purchase. If the product is toxic or hazardous, ask your supplier for alternatives.
- Use the oldest items first (first-in, first-out).
- If you do have excess or unneeded materials, see if your supplier can take them back.
- Use drip pans and splash guards where spills frequently occur.
- Fix leaks immediately.
- Keep work areas clean and well organized to help prevent accidents.
- Store materials in a way that keeps them from being damaged.
- Inspect storage areas regularly for leaks.
- Make sure all items are clearly labeled. Store products in original containers.
- Store wastes separately and be sure they are properly labeled to make it easier to reuse or recycle them.
- Store items that could leak in a place where leaks will be contained and easily seen.

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404 Permits 401 Certifications

Section 404(a) of the Clean Water Act, requires you to get a Federal 404 Permit from the U.S. Army Corps of Engineers (Corps) before excavating in or putting materials or fill into jurisdictional waters of the United States. Missouri requires a 401 Certification for any project that needs a Federal 404 permit.

"Waters of the United States" are:

- Lakes
- Rivers
- Streams (including dry streams)
- Abandoned quarry pits
- Wetlands (including dry wetlands)

Indications that a wetland exists in a seemingly dry area include:

- Standing water early in the year for a week or more
- Black, stained leaves on the ground
- Trees with swollen trunks at ground level
- Area contains water loving plants

The following are **not** generally considered "waters of the United States:"

- Non-tidal drainage and irrigation ditches.
- Artificially irrigated areas
- Artificial lakes or ponds
- Artificial reflecting or swimming pools
- Water-filled depressions

Missouri is split into different U.S. Army Corps of Engineers Districts. Use the map located at www.dnr.mo.gov/wpscd/wpcp/401/corps-map3.gif to find district coverage areas. Contact the Corps to determine if your project will require a 404 permit. Contact the Missouri Department of Natural Resources Water Pollution Control Branch to obtain a 401 Certification if your project requires a 404 permit.

Remember

- If you plan to excavate or fill in waters of the United States, contact the U.S. Army Corps of Engineers and get any necessary Federal 404 Permits **before** you begin.
- If your project requires a Federal 404 Permit, contact the department and get the required 401 Certification

Additional Resources:

See the Web page “401 Water Quality Certification” located at
www.dnr.mo.gov/wpscd/wpcp/401/wpcp-401.htm

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Air Quality Construction Permits

If you want to set up or change an asphaltic concrete (hot mix asphalt) plant, you probably need an air construction permit from the Missouri Department of Natural Resources or local air pollution control agency office. If so, you must have this permit **before** you begin construction, set up or modification of your asphalt plant.

The most common air pollutants from hot mix asphalt plants are particulate matter (PM₁₀), sulfur dioxide (SO₂), nitrogen oxides (NO_x), volatile organic compounds (VOCs), carbon monoxide (CO) and hazardous air pollutants (HAPs). PM₁₀ is particulate matter with a diameter of no more than 10 microns. National Ambient Air Quality Standards (NAAQS) limit the concentrations of PM₁₀, SO₂, NO_x, and CO in the air to protect public health.

The construction permit rule applies to any asphalt plants set up, constructed or modified after May 13, 1982, that have potential emissions of any pollutant exceeding the de minimis level. Potential emissions are calculated assuming the plant operates at maximum capacity 24 hours per day, 365 days per year. For PM₁₀ the de minimis emissions rate is 15 tons per year. For NO_x, SO₂ and VOCs it is 40 tons per year. For CO it is 100 tons per year. And for HAPs it is 10 tons per year for any individual HAP and 25 tons per year for the combination of all HAPs released from the installation. To get this permit, you need to complete air construction permit application forms and submit the forms to the Department of Natural Resources' Air Pollution Control Program (APCP) or your local air pollution control agency, listed below.

Application forms in the Application for Authority to Construct include Emissions Unit Information forms and worksheets for storage piles, haul roads, fuel tanks and heaters. Applications must also include the location of the plant and a drawing or map of the site layout with the length and position of haul roads, storage piles and plant equipment. You will need to list the process equipment that will be used, the date it was manufactured, the serial number and the maximum rated design performance of each piece of process equipment. If you haven't purchased the equipment, describe the plant you intend to set up with detailed equipment specifications. You will also be asked the expected daily and annual asphalt production and fuel use. The application fee is \$100, and technical review time is charged at \$50 per hour.

New portable plants are permitted using the same procedure, except that portable plants may have multiple sites permitted in their original construction permit by including information on each proposed plant site with the application. A plant with a portable construction permit may operate indefinitely at the first permitted site, but upon moving the equipment to a new site, it may not operate more than two years without applying to convert to a stationary plant. Relocation of permitted portable plants requires a Portable Source Relocation Request to the APCP or the local agency. If the site was approved in the initial permit, the relocation request is processed in seven days. If it is a new site, the request may take up to 21 days to process and ambient impact analysis is required. A \$200 review fee is also required.

When the APCP or the local air pollution control agency receives a permit application, the staff reviews it for completeness. This is called the administrative review. Administrative review will take no more than 30 days. However, if the application is incomplete, the total time from your

original submittal to final approval may be longer. If the application is found to be incomplete, you will receive a request for more information. When that information is received, the administrative review may take up to an additional 30 days. Once the agency determines that the application is complete, the staff will conduct a technical review.

There are different types of permits and levels of permit review depending on the type of operation being permitted. The length of time needed for technical review of your permit application will depend on the type of permit. Construction permit applications for a typical asphalt plant can take up to 90 days to process, although most take less time. Again, the 90-day clock stops each time the permit is returned to you for corrections or revisions.

Air Pollution Control Agencies

City of St. Louis:

Division of Air Pollution Control
(314) 613-7300

St. Louis County:

St. Louis County Department of Health
(314) 615-8983

City of Springfield:

Air Pollution Control Authority
(417) 864-1000

Kansas City:

Kansas City Health Department
Air Quality Section
(816) 513-6314

Elsewhere in Missouri:

Department of Natural Resources
Air Pollution Control Program
(573) 751-4817

Remember

- An air construction permit is probably needed before setting up, constructing or modifying a hot mix asphalt plant. It can take several months to get this permit.

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Air Quality Issues

The most common air pollutants from hot mix asphalt plants are particulate matter with a diameter of no more than 10 microns (PM_{10}), sulfur dioxide (SO_2), nitrogen oxides (NO_x), volatile organic compounds (VOCs), carbon monoxide (CO) and hazardous air pollutants (HAPs).

To protect public health and the environment, all asphalt plants are required to take steps to protect air quality. There are several ways this is done. The major issues affecting asphalt plants are:

- National Ambient Air Quality Standards (NAAQS)
- New Source Performance Standards (NSPS)
- Emissions Inventory Questionnaires (EIQs)
- Construction Permits
- Operating Permits
- Portable Equipment Permitting

It is important that you understand and follow the requirements that apply to your installation. Getting the required permits can take time. Remember to plan ahead when bidding out a job that will require a permit.

National Ambient Air Quality Standards (NAAQS)

These standards, set by the U.S. Environmental Protection Agency to protect public health, limit the concentration of pollutants in the air. The standards apply to PM_{10} , SO_2 , NO_x and CO, as well as to some other pollutants. The impact of emissions from each installation on ambient air quality is estimated during the construction permit review. Installations that have the potential to exceed the NAAQS will have additional requirements.

New Source Performance Standard (NSPS)

Subpart I, *Standards of Performance for Hot Mix Asphalt Facilities*

Subpart I of the New Source Performance Standards applies to all hot mix asphalt plants that began construction or modification after June 11, 1973. This standard limits the particulate emissions and opacity from your plant. To show that the asphalt plant meets the emission limits, you will need a performance test, commonly called a stack test, at your plant. Generally, the test must be done within six months after the plant gets its construction permit. A qualified federal or state observer must witness the performance test. This means that the testing date and time must be coordinated with the qualified observer well in advance. Emissions from hot mix asphalt plants may not exceed 0.04 grains per dry standard cubic foot (0.04 gr./dscf), or the metric equivalent 90 mg/dscm (milligrams/dry standard cubic meter). The opacity from the plant may not exceed 20 percent. See the *New Source Performance Standard* guide sheet in this publication for more information.

Emissions Inventory Questionnaire (EIQ)

If you are required to have either a construction or operating permit, you must submit an Emission Inventory Questionnaire and pay an emission fee for your asphalt plant by April 1 of each year. The EIQ and the emission fee are submitted to the Department of Natural Resources' Air Pollution Control Program (APCP) or your local air pollution control agency. The EIQ includes process information, emission data and fee calculations. See the *Emissions Inventory* guide sheet in this publication for more information.

Construction Permits

If you want to set up a new plant, relocate or change your existing hot mix asphalt plant, you may need an air construction permit from the Air Pollution Control Program or the local air pollution control agency office. See the *Air Quality Construction Permits* guide sheet in this publication for more information.

Operating Permits

A hot mix asphalt plant may need an operating permit from the Air Pollution Control Program or the local air pollution control agency office. The *Air Quality Operating Permits* guide sheet in this publication has more information on when an operating permit is required.

Relocation Requests for Portable Equipment

Some plants are intended to move from job to job. The APCP has a portable plant permit for this situation. The original permit application may cover multiple sites. You will need approval before moving permitted portable equipment to a new site. If the new site has been previously approved, you must notify the department seven days prior to relocating the equipment (see the *Portable Equipment* guide sheet in this publication for more information). A site that was not on the original application will require 21 days notice before moving. Permitted portable plants that meet certain emissions criteria are not required to obtain an operating permit.

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Remember

- Before you begin construction learn what air quality requirements you must meet.
- Initial performance testing is required for hot mix asphalt plants constructed after June 11, 1973.
- You may need a construction permit if you wish to build or change your asphalt plant.
- If you are required to have a permit, you must complete and submit an EIQ and emission fee every year.
- A hot mix asphalt plant may need an operating permit.
- If you use portable equipment, you may need a construction permit. If you are required to have a construction permit, you will also need to notify the APCP or local agency before you move the permitted equipment.
- Getting permits takes time. Consider the permitting timeframes when you bid on or contract for jobs.

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Air Quality New Source Performance Standards

Subpart I of the New Source Performance Standard (NSPS) titled *Standards of Performance for Hot Mix Asphalt Facilities*, applies to all hot mix asphalt plants that commenced construction or modification after June 11, 1973. This standard limits the particulate emissions to a rate not to exceed 0.04 grains per dry standard cubic foot (0.04 gr./dscf), equivalent to 90 milligrams per dry standard cubic meter (mg/dscm). The stack gas opacity from the plant is not to exceed 20 percent.

The operation of an asphalt plant causes the emission of many different pollutants. The most common pollutants emitted from hot mix asphalt plants are particulate matter (PM₁₀), sulfur dioxide (SO₂), nitrogen oxides (NO_x), volatile organic compounds (VOCs), carbon monoxide (CO) and hazardous air pollutants (HAPs). PM₁₀ is particulate matter that has a diameter of no more than 10 microns. Subpart I places limits only on the particulate matter emissions from the plant and the opacity of the stack gasses emitted from the plant.

In order to demonstrate that the asphalt plant will comply with these emissions limitations, a performance test (stack test) must be done no later than six months after the plant begins operation (see the *Air Quality Construction Permit* guide sheet in this publication). A qualified federal or state observer must witness the performance test. Conducting a valid stack test will require you to coordinate the date and time with the observer – and probably a consultant – well in advance. Note: You will need to send a test plan to the enforcement section of the Air Pollution Control Program at least 30 days prior to the proposed test date.

"Commenced" means, in this regulation, that an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification. Construction means fabrication, erection or installation of an affected facility.

Remember

If you are subject to this standard:

- The emissions of particulate matter may not exceed a rate of 0.04 gr./dscf (90 mg/dscm).
- The opacity of the stack gasses emitted from the plant may not exceed 20 percent.
- Stack testing is required.

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Air Quality Operating Permits

Any asphaltic concrete plant that has a portable source construction permit is not required to obtain an operating permit. Asphaltic concrete (hot mix asphalt) plants that do not have a portable source construction permit are required to have an operating permit if the potential emissions of any pollutant from the installation exceed the de minimis emission rate.

The most common pollutants from hot mix asphalt plants are particulate matter (PM_{10}), sulfur dioxide (SO_2), nitrogen oxides (NO_x), volatile organic compounds (VOCs) carbon monoxide (CO) and hazardous air pollutants (HAP's). PM_{10} is particulate matter with a diameter of 10 microns or less.

The operating permit regulation has three application levels or classifications:

- Basic Sources
- Intermediate Sources
- Part 70 Sources

The classification system is based on potential emissions, or the amount of emissions that would be generated if a facility operated at 100 percent of its rated capacity 24 hours a day for 365 days a year, along with all of its pollution control measures. This is often called the potential to emit or PTE, which is used to decide what type of operating permit a plant must obtain.

The U.S. Environmental Protection Agency has set certain emission levels, called major source thresholds, above which a facility must obtain either a Part 70 or intermediate operating permit. The major source threshold for PM_{10} , SO_2 , NO_x , VOCs and CO is 100 tons per year. The major source threshold for HAP's is the emission of 10 tons of any individual HAP, or the emission of 25 tons of all the HAPs combined from the installation.

A **basic source** has potential air emissions that exceed the regulatory floor, called the de minimis emission rate, but that are below the major source threshold level. For PM_{10} the de minimis emissions rate is 15 tons per year; for NO_x , SO_2 and VOCs it is 40 tons per year, and for CO it is 100 tons per year. For HAP's it is 10 tons per year for any individual HAP and 25 tons per year for the combination of all HAPs released from the installation.

An **intermediate source** has potential air emissions above the major source threshold levels, but the actual emissions are below these levels because of permit conditions placed in the operating permit by the plant owner or operator. If your plant has potential emissions of 100 tons per year or more of any air pollutant, but it will never emit that much, you may choose to apply for an intermediate operating permit. If you choose to apply for an intermediate operating permit, you must propose conditions within that permit which will insure that the emissions from the asphalt plant will never exceed the major source threshold levels. You must also keep records to demonstrate not only that the plant complies with all applicable rules and regulations, but that the annual emissions from the plant do not exceed the major source threshold levels.

A **Part 70 source**, sometimes called a major source, has potential emissions that are above the major source threshold levels. If your plant could potentially emit 100 tons or more per year of any of the pollutants listed, and you do not wish to restrict its emissions to below these levels (obtaining an intermediate operating permit) it will be permitted as a Part 70 source. A Part 70 operating permit allows you to emit pollutants at rates in excess of the major source thresholds. The tradeoff is that you must

keep detailed records to demonstrate that the plant complies with all applicable rules and regulations. Remember, though, that if you will actually emit less than that, you can apply as an intermediate source.

If your potential emissions are less than 100 tons per year of the listed pollutants (but greater than de minimis) you can choose to apply for either a basic permit or a Part 70 permit. If your potential emissions are over 100 tons per year, you can choose to apply for either an intermediate permit, or a Part 70 permit.

If your plant was set up, constructed or changed after June 11, 1973, you are subject to Subpart I of the new source performance standards (NSPS) *Standards of Performance for Hot Mix Asphalt Facilities*. If so, you must obtain an operating permit regardless of potential emissions. The U.S. Environmental Protection Agency has the authority to require sources subject to NSPS to obtain a Part 70 permit, but that requirement is currently deferred for asphaltic concrete plants. For more information on NSPS, see the *New Source Performance Standard* guide sheet in this publication. Check with the department or your local agency to see if the deferral is still in effect.

If you are applying for a basic or intermediate permit for a new plant, the application is due no later than 30 days after the plant begins operating. Applications for new Part 70 permits are due within 12 months after the plant begins operating.

If you have an asphalt plant that is not permitted as a portable and you have not submitted an application for an operating permit, you need to do so as soon as possible. The Environmental Assistance Office (EAO) can help you decide what rules apply to you for air permitting. For help, contact EAO at 1-800-361-4827 or another environmental professional.

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Elsewhere in Missouri:

Department of Natural Resources
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(573) 751-4817

Remember

- Asphalt plants may need an operating permit.
- Asphalt plants that have been permitted as a portable source do not need an operating permit.
- If your PTE is less than 100 tons per year of the listed pollutants, you can choose to apply as a basic or Part 70 source. If your PTE is 100 tons per year or more, you can choose to apply as an intermediate (if your actual emissions will be less than the major source levels) or Part 70 source.
- If your plant is subject to new source performance standards (if it was set up, constructed or changed after June 11, 1973) and you apply as a basic or intermediate source now, you may need to upgrade your permit to Part 70 in the future. Contact the department or your local air agency before applying.

For More Information

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Air Quality and Portable Equipment

The Missouri Department of Natural Resources Air Pollution Control Program (APCP) and the local air pollution control agencies require permitted portable facilities to use a Portable Source Relocation Request before moving their equipment. Be sure that you understand when a construction permit is required and when the relocation request is needed.

You must apply for and receive an air construction permit before constructing or modifying a portable asphalt plant, if potential emissions of any pollutant exceed the de minimis emissions level. The *Air Quality Construction Permits* guide sheet in this publication has information on this subject. Permitted portable plants that meet certain air emission criteria do not require an operating permit. For more information see the *Air Quality Operating Permits* guide sheet in this publication.

The construction permit allows for construction of specified equipment at a specific site. You must not add equipment or move the equipment to a different site until you have the proper permits to do so. If you want to add equipment, you will need to apply for and receive a construction permit.

If you want to move your asphalt plant, you need approval from APCP or your local air pollution control agency listed in this guide sheet. If your equipment has been permitted for more than one site, you need to submit a Portable Source Relocation Request at least seven days before you plan to move the equipment to the new site. Send the form to APCP or to your local air pollution control agency. Note: If your equipment has previously been permitted at a site, and if circumstances at the site have changed (i.e. new equipment has been added or another plant is now operating at the site), then the site has become an unpermitted site.

If you wish to move equipment from a permitted site to an unpermitted site, you must submit a Portable Source Relocation Request along with a construction permit amendment application, a haul road and storage pile worksheet and a map of the plant layout. This map should be drawn to scale and clearly show the property boundaries and the proposed location of your equipment and any other plant operating there. The request also should include maps of the new area. Send these forms to APCP or the local air pollution control agency at least 21 days before you plan to move the equipment along with the \$200 fee.

The relocation request is reviewed and, if appropriate, approved no later than 21 days after receipt of the completed request. There may be times when the agency needs more information and review time will stop. If that happens, you need to provide the requested information. The agency will then restart the review time.

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Remember

- Before you set up a portable asphalt plant or add equipment, you will probably need a construction permit.
- Submit a Portable Source Relocation Request Form at least seven days before moving equipment to a permitted site.
- If you want to move equipment to a site that is not included on your permit, submit a construction permit application form and a Portable Source Relocation Request Form at least 21 days before you want to move the equipment.
- Check to see if there have been significant changes at a previously permitted site (i.e. new equipment has been added or another plant is now operating at the site). If so, you will need to submit a Portable Source Relocation Request Form at least 21 days in advance.

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Air Quality, Submission of Emission Data

The operation of a hot mix asphalt plant causes the emission of many different pollutants. The most common pollutants emitted from hot mix asphalt plants are particulate matter (PM₁₀), sulfur dioxide (SO₂), nitrogen oxides (NO_x), volatile organic compounds (VOCs) carbon monoxide (CO) and hazardous air pollutants (HAPs). PM₁₀ is particulate matter that has a diameter of no more than 10 microns.

The Missouri Department of Natural Resources requires any facility required to have a construction or operating permit to submit emission data, emission fees and process information to the department or a local air pollution control agency on an annual basis. This data must be submitted on the Emission Inventory Questionnaire (EIQ) forms. Who you need to submit a completed EIQ to depends on the location of the plant. If the plant is located within St. Louis County, or within the city limits of Kansas City, Springfield or St. Louis, contact the local air pollution control agency listed on this guide sheet. Otherwise, submit completed EIQ forms to the Department of Natural Resources, Air Pollution Control Program (APCP). The completed EIQ forms for the year are due by April 1 of the following year. For more information on when a permit is required, see the *Air Quality Construction Permits* and *Air Quality Operating Permits* guide sheets in this publication.

The APCP now has an on-line data entry program available for filling out and submitting EIQs electronically, although two paper forms are still required. This program is known as the Missouri Emissions Inventory System (MoEIS). MoEIS can replace most of the paper EIQ forms. After the initial facility setup, a business can enter throughputs and worksheet information and have the emissions calculated by the program. Workshops have been offered in the use of this program. If you are interested in using the Internet to do your EIQ, contact the Environmental Assistance Office at 1-800-361-4827 to find out more about using MoEIS.

Air Pollution Control Agencies

City of St. Louis:

Division of Air Pollution Control
(314) 613-7300

St. Louis County:

St. Louis County Department of Health
(314) 615-8983

City of Springfield:

Air Pollution Control Authority
(417) 864-1000

Kansas City:

Kansas City Health Department
Air Quality Section
(816) 513-6314

Elsewhere in Missouri:

Department of Natural Resources
Air Pollution Control Program
(573) 751-4817

Remember

- Most asphalt plants are required to submit an EIQ and pay emissions fees by April 1 of each year.
- Asphalt plants which are not required to obtain either a construction permit or an operating permit are not required to submit an EIQ and pay emissions fees.

Pollution Prevention Options

Preventing pollution instead of treating or disposing of it can save money, protect the environment and reduce risk to people. Here are some suggestions:

- ✓ Use water sprays or chemical dust suppressants to keep materials and roads wet, but use only enough water to dampen the material. Avoid having runoff.
- ✓ Maintain air pollution control equipment in full working order.

For More Information

Missouri Department of Natural Resources
Environmental Assistance Office
P.O. Box 176
Jefferson City, MO 65102-0176
1-800-361-4827 or (573) 526-6627
www.dnr.mo.gov/oac/env_assistance.htm



Antifreeze

Antifreeze is usually made of ethylene glycol, corrosion inhibitors and foam controllers. Ethylene glycol is toxic if ingested. It is particularly dangerous because animals and children are attracted to its sweet flavor. If they drink the ethylene glycol, it may cause coma or death. Some antifreeze is made of propylene glycol. This material is less hazardous to humans and animals than ethylene glycol.

The used antifreeze from a vehicle can hold contaminants that it picks up from the vehicle engine. For example, used antifreeze may contain lead because the antifreeze has dissolved some of the lead solder in the radiator.

Waste antifreeze is not currently a listed hazardous waste under the federal hazardous waste regulations. However, it may be a hazardous waste because of contaminants it has picked up. The test to determine if used antifreeze is a hazardous waste is called the toxicity characteristic leaching procedure (TCLP). See the *Hazardous Wastes* guide sheet, for more information.

Recent studies have shown that used antifreeze from automobiles manufactured after 1995 is not hazardous waste. This is primarily because less lead is used in radiator construction. Used antifreeze is more likely to be hazardous if it was used in heavy equipment such as bulldozers and buses.

This means that antifreeze from late-model cars and trucks that has not been mixed with other antifreeze or with other hazardous wastes does not need to be tested. In this case, you may assume that it is not hazardous. However, used antifreeze from heavy equipment or industrial sources will need to be tested to see if it is hazardous waste unless you have some other way of knowing that it is or is not hazardous.

If you wish, you can assume the antifreeze from your heavy equipment is hazardous without testing it. You would then need to dispose of it as hazardous waste.

There are several ways to safely and legally manage used antifreeze:

- Recycle the antifreeze at your facility (on-site recycling).
- Send the antifreeze to someone else to either recycle or dispose of it (off-site recycling or disposal).
- Discharge to public wastewater treatment plant if the plant has approved the discharge.

Recycling

The Missouri Department of Natural Resources strongly encourages antifreeze recycling. You can purchase or lease several types of antifreeze recycling equipment.

If you want to recycle your hazardous waste antifreeze on-site, you must notify the department of your recycling activities. If you recycle 2,200 pounds or more in a month, you need a resource recovery certification. For more information, contact the department at 1-800-361-4827.

If you recycle antifreeze only from late-model cars and trucks, you do not need a resource recovery certification. Your recycling unit will create waste such as distillation residues or used filters. You must determine if these wastes are hazardous before disposal. See the *Hazardous Waste* guide sheet for more information. If the residue is nonhazardous and is not a liquid, it can be sent to the landfill with your regular trash. Liquid wastes cannot go to the landfill.

There may be businesses that will bring equipment to your facility and recycle your antifreeze on-site. Again, if the antifreeze is from late model cars and trucks, these companies do not need resource recovery certification. If it is from heavy equipment or older vehicles, these companies will need resource recovery certification to recycle your antifreeze.

Off-site Recycling or Disposal

There are companies that pick up used antifreeze for off-site recycling or disposal. If your used antifreeze is a hazardous waste, the transporter must have a Missouri license to transport hazardous waste, and the waste must have a hazardous waste manifest with it. Make sure the facility you send it to has a resource recovery certification or a hazardous waste treatment, storage and disposal permit.

Discharge to wastewater treatment plant (pouring it down the drain).

If the drains at your facility go to a wastewater treatment plant, not a septic system, you may be able to pour antifreeze down the drain if you have permission from the plant. Pouring wastes down the drain is called a discharge.

Some wastewater plants will not allow discharges of used antifreeze. Large quantities can harm the treatment plant. The wastewater treatment plant may not be able to remove all the contaminants from the used antifreeze. The contaminants then enter lakes, streams and rivers.

Remember

- Antifreeze from heavy equipment may be hazardous waste.
- Do not discharge antifreeze to a wastewater plant without permission.
- Do not discharge any hazardous waste, including antifreeze, to a septic system.
- Do not dispose of antifreeze on the ground, down storm drains or into streams or lakes.

For More Information

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Backflow Prevention

It is important to prevent contamination of your business's water supply, whether it is provided by a public water supply or by your own private water well. A "cross-connection" is a physical link connecting a source of pollution or contamination with a potable water supply. "Backflow" is the unwanted reversal of flow in a water distribution system. Backflow through a cross-connection can contaminate the potable water supply in your building, on your block, or throughout the entire water system. Cross connections are generally unintentional. They can occur anywhere there are pipes supplying water. Backflow does not always occur in every cross connection. But where cross connections exist, there is always the possibility of backflow and water supply contamination.

Backflow prevention devices protect the water supply from backpressure and backsiphonage hazards. Backpressure backflow results when contaminated water pressure exceeds the potable water pressure. Backsiphonage backflow results from negative pressure (i.e. water line breaks). Backflow devices are placed on water lines at the point where they enter the building and at points where the water system is connected to a potential source of contamination.

Backflow prevention devices include:

- Airgaps
- Reduced pressure principle backflow prevention assemblies
- Double check valves
- Vacuum breakers
- Barometric loops

The device needed at a particular site depends on the degree of hazard involved, location accessibility, and whether the potential backflow is due to backpressure or backsiphonage. If your business is connected to a public water supply, local regulations may require that you install a backflow prevention device to protect the public water supply from backflow hazards within your premises. The backflow prevention assembly must be installed on your water service line. It is a good idea to put additional backflow prevention devices at any location in your business where contamination could occur. Contact your local public water supply to determine if they have backflow prevention requirements.

If your business is connected to your own private water supply, you should install backflow prevention devices to protect you, your employees and your customers from the risk of contaminated drinking water.

The Missouri Department of Natural Resources maintains a list of approved backflow prevention assemblies. To obtain a copy, call the Environmental Assistance Office at 1-800-361-4827.

Remember

- If possible, eliminate cross-connections from your water system.
- If you are connected to a public water supply system, you may be required to have backflow prevention assemblies or devices.
 - Obtain a copy of your water utility's backflow prevention ordinance and regulations.
 - Install the required backflow prevention devices.
 - Inspect and test backflow prevention devices annually.
- Preventing backflow into your water supply protects you, your employees and your customers.

Additional Information:

"Cross-Connection Control Manual", EPA 816-R-03-002, February 2003, found at www.epa.gov/safewater/crossconnection.html.

"Tech Brief – Cross Connection and Backflow Prevention", National Drinking Water Clearinghouse, found at www.nesc.wvu.edu/ndwc/articles/OT/WI04/TB_WI04.html.

Missouri Code of State Regulations 10 CSR 60-11.010 Prevention of Backflow found at www.sos.mo.gov/adrules/csr/current/10csr/10c60-11.pdf.

For More Information

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Endangered Species

Endangered species are plant and animal species whose prospect for survival is in immediate jeopardy. There are laws to protect these species and, in some cases, their habitat. This means that some activities may not be allowed in areas where endangered species live. This may affect plans to expand operations or move to a new site.

The Missouri Department of Conservation (MDC) is responsible for collecting and managing information on the location and status of endangered species in the state. There are currently 62 species of plants and animals that are listed as state endangered. The federal list includes 25 threatened or endangered species found in Missouri.

The restrictions, which could affect your project, depend on whether the species is a plant or animal, whether the land is private property and whether your project receives any federal funds. Contact MDC's policy coordination section at (573) 751-4115 for general information.

The MDC Web page, *Endangered Species in Missouri*, is located at www.mdc.mo.gov/nathis/endangered/. Links to articles, publications, databases and other sources of endangered species information are provided at this site. There is also a link to the *Missouri Species of Conservation Concern Checklist* (Endangered Species Checklist), a reference work listing all of the current plants and animals of concern, giving both the federal and Missouri status. This list is updated annually.

When you are developing permit applications for a new or expanded site, you may be required to determine if there are endangered species on the property. To get an environmental review of a piece of property, mail a written request to MDC. If there are no endangered species associated with the property, MDC will issue a letter stating so. If you are planning to purchase property, you may want to have an environmental review for endangered species, even if you are not required to do so.

It is important to clearly identify the location of the property in your written request to MDC. Include as much as possible of the following information: county, topographic quadrangle map designation (if known), legal description (section, township, range), acreage and permanent landmarks such as rivers and roads. Include a copy of a map (of suitable scale) with the location of the property drawn in and labeled. Send the request to:

Policy Coordination Section Chief
Missouri Department of Conservation
P.O. Box 180
Jefferson City, MO 65102-0180

Remember

- It is illegal to harm federally listed endangered species or their habitat.
- It is illegal to harm species that are listed in Section 4.111 of Missouri's Wildlife Code.
- Contact the Missouri Department of Conservation for information on endangered species in Missouri.

Pollution Prevention Options

Preventing pollution instead of treating or disposing of it can help to protect habitats. Here are some suggestions:

- ✓ Learn more about rare and endangered species in your area of the state. Find out how you can improve habitat for them.
- ✓ Properly design, construct and maintain detention basins to capture sediment. Sediment is a major pollutant of aquatic environments.
- ✓ Re-vegetate disturbed areas as soon as possible and in accordance with your permit. Use native plants from a reputable source that provide food and cover for wildlife.
- ✓ Avoid spilling oil, grease and gasoline during vehicle and equipment maintenance activities.
- ✓ Maintain appropriate spill containment equipment and train employees on proper usage.

The state regulation dealing with endangered species is 3 CSR 10-4.111 of the *Missouri Code of Regulations* located on the Web at www.sos.mo.gov/adrules/csr/current/3csr/3c10-4.pdf.

For More Information

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EPCRA and Form R Reporting

Most hot mix asphalt plants use chemicals that can pose a serious risk to human health and the environment, particularly in the event of a fire, flood or other emergency.

In 1986, the federal government passed the Emergency Planning and Community Right-to-Know Act (EPCRA), sometimes called SARA Title III. Missouri also has its own Community Right-to-Know Law. These laws require states, communities and businesses to work together on emergency plans for accidental chemical releases, emergency notification procedures, toxic emissions reporting and compiling an inventory of hazardous chemicals for planning and public review.

Under EPCRA, some asphalt plants may need to complete a form called a Form R for certain chemicals they use over given thresholds. This form is part of the Toxics Release Inventory (TRI) which is a way for businesses to share information with the public about the chemicals they use and release into the environment. Many businesses have found that completing a Form R has helped them find ways to be more efficient and reduce waste.

In October of 1999, EPA issued a ruling that lowered the reporting thresholds for certain chemicals known as PBTs. These are chemicals that are persistent (P) in the environment, that bioaccumulate (B) in body tissues and are highly toxic (T). The threshold quantities for PBTs range between 10 and 100 pounds. One exception is for dioxin and dioxin-like compounds which is 0.1 grams. Other TRI chemicals are regulated at thresholds of 25,000 pounds for manufacturing and processing, or 10,000 pounds for otherwise use. PBTs are regulated at the lower thresholds regardless of use.

As a hot mix asphalt plant (SIC code 2951), you need to complete a Form R if you have 10 or more full time employees (or full time equivalents) and:

- You manufacture or process more than 25,000 pounds per year of a TRI chemical, or
- You use (in some other way) more than 10,000 pounds per year of a TRI chemical, or
- You manufacture, process or otherwise use a PBT chemical over the 10 or 100 pound threshold or over 0.1 grams for dioxins or dioxin-like compounds.

One of the main concerns for asphalt plants are polycyclic aromatic compounds (PACs) which are regulated as a PBT category and have a reporting threshold of 100 pounds. Asphalt is made up of a variety of PACs. Under TRI 21, compounds comprise the PAC category. A guidance book published by the U.S. Environmental Protection Agency (EPA) (pub# EPA 260-B-01-03) can help you determine if you need to report for this category. It is available on the Internet at: www.epa.gov/tri/guide_docs/2001/pacs2001.pdf or from the EPCRA call center at 1-800-424-9346.

To get a copy of the list of the other TRI chemicals contact the departments' Environmental Assistance Office (EAO) at 1-800-361-4827. The table on the back of this page lists some of the TRI chemicals commonly reported by asphalt plants. Remember, this is just part of the list. If

you use chemicals in large amounts that are not listed here, check with your supplier or check the entire list to find out if they are subject to TRI reporting.

On the Form R, you will need to report the quantity of each TRI chemical you release to the environment or send off-site for energy recovery, recycling, treatment or disposal. The form must be completed each year by July 1, for the previous reporting year.

If you find that you should have been completing Form R's in the past, you will need to complete a form for each year that you should have filed and submit it as soon as possible. EPA does have a self-disclosure policy. If you meet the reporting criteria, penalties may be mitigated. To file under this policy, contact Becky Dolph at EPA, Region 7, at (913) 551-7281.

If you need a Form R booklet and instructions, contact EAO at 1-800-361-4827. If you need help deciding whether you must complete a Form R or if you need help completing the form, contact EAO or another environmental professional.

TRI Chemicals Commonly Reported by Asphalt Plants

1,2,4-trimethylbenzene
Anthracene
Benzo(g,h,i)perylene
Dibenzofuran
Ethylbenzene
Hydrochloric Acid
Naphthalene
Phenanthrene
Polycyclic Aromatic Compounds
Sodium Hydroxide (solution)
Toluene
Xylene (mixed Isomers)

*This is not a complete list of regulated chemicals. Contact EAO for more information.

Remember

- You need to complete a Form R if you have 10 or more full time equivalent employees **AND** you process, manufacture or otherwise use a TRI-listed chemical over the specified threshold in one calendar year.
- If you did not submit a Form R and learn that you should have, you need to submit it as soon as possible. (PBT chemicals and thresholds reporting started in the 2000 calendar year.)

Pollution Prevention Options

Preventing pollution instead of treating or disposing of it can save money, protect the environment and reduce risk to people. Many companies have found that completing a Form R has led to increased efficiency and better operations. You can use the Form R to:

- ✓ Find out how much of your purchased material is becoming waste.
- ✓ Identify priorities for pollution prevention projects.
- ✓ Measure progress toward reducing releases.

For More Information

Missouri Department of Natural Resources
Environmental Assistance Office
P.O. Box 176
Jefferson City, MO 65102-0176
1-800-361-4827 or (573) 526-6627
www.dnr.mo.gov/oac/env_assistance.htm



EPCRA and Tier II Reporting

Most asphalt plants use chemicals that can pose a serious risk to human health and the environment in the event of a fire, flood or other emergency. Emergency responders are at particular risk if they respond to an emergency where hazardous materials are stored.

In 1986, the federal government passed the Emergency Planning and Community Right-to-Know Act (EPCRA), sometimes called SARA Title III. Missouri also has its own Community Right-to-Know Law. These laws require states, communities and businesses to work together on emergency plans for accidental chemical releases, emergency notification procedures, toxic emissions reporting and compiling an inventory of hazardous chemicals for planning and public review.

Missouri's law requires markings on buildings, rooms and containers where hazardous chemicals are present. Markings are to conform with National Fire Protection Association (NFPA) 704 standard.

In Missouri, EPCRA is administered by both the Missouri Department of Natural Resources and the Missouri Emergency Response Commission (MERC).

To comply with EPCRA you need to find out if you have a regulated material in a regulated quantity. You can contact either the department or MERC to get a list of materials regulated under EPCRA. Depending on the type and quantity of material, you may need to:

- Complete a Tier II Form.
- Designate a facility coordinator to work with the Local Emergency Planning Committee (LEPC).
- Notify the department and the National Response Center if you have a release (spill).
- File a Form R.

Tier II Forms

To get a list of substances that require a Tier II form and the threshold planning quantities, or to get a Tier II form and instructions, contact MERC at 1-800-780-1014.

You need to complete a Tier II if you have:

- An extremely hazardous substance over the threshold planning quantity (TPQ) or over 500 pounds, whichever is lower, or
- More than 10,000 pounds of a hazardous chemical for which an MSDS is required under OSHA's hazard communication standard.

If you need to submit a Tier II, you also must pay a fee. The fee is \$100 for the first three chemicals and then \$20 for each reported chemical over three. Most of this money is used to support local efforts to prevent and prepare for chemical hazards and for hazardous materials training.

The Tier II form with the fee is submitted yearly on March 1 to MERC. You also must send copies of the Tier II form to your LEPC and the appropriate local fire department.

Facility Coordinator

If you have an extremely hazardous substance in amounts over the threshold planning quantity (TPQ) you must choose a person at your facility to work with your LEPC. This person will be the first emergency contact listed in the Tier II form.

Spill Notification

If you have a spill (release) of an extremely hazardous substance or hazardous substance in excess of the reportable quantity, you must call the department at (573) 634-2436 and call 911 (or the appropriate emergency response number). You also must follow up with a written report to MERC and LEPC discussing the response measures taken and any health impact information.

Form R

See the guide sheet on *EPCRA and Form R Reporting*, for more information on this. You need to complete a Form R if your facility:

- Has an SIC (Standard Industrial Classification) code that begins with 20-39, or other covered codes (Asphalt plants are SIC 2951.)
- Has more than 10 employees, and
- Manufactures, processes or otherwise uses certain toxic chemicals in excess of threshold quantities (25,000 or 10,000 pounds). Thresholds for any type of use of persistent, bioaccumulative and toxic (PBT) chemicals are as low as 10 pounds for some chemicals and only 0.1 grams for dioxins. Again, see the guide sheet on Form R reporting for more information.

Remember

- If you have 10,000 pounds of a chemical requiring an MSDS under OSHA hazardous communication standard or if you have over 500 pounds (or the threshold planning quantity) of an extremely hazardous substance you must submit a completed Tier II form to the fire department, LEPC and MERC.
- Even if you are not required to file an emergency plan, you should have an emergency plan at your facility and discuss it with you local emergency responders.

For More Information

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Hazardous Waste

Some activities at your asphalt plant may generate hazardous waste. It is very important that you find out whether your wastes are hazardous and that you follow the law when managing the wastes.

What is a Hazardous Waste?

A waste is a material that you no longer use and will discard. It can be a solid, liquid or gas. A waste is hazardous if it has properties that could be dangerous to human health and the environment.

It is **your** responsibility to find out whether your waste is hazardous. A waste is hazardous if:

- It is listed as a hazardous waste in the federal regulations;
- It exhibits a hazardous characteristic;
- It is a hazardous waste by Missouri law; or
- It is a mixture of a listed hazardous waste and any other waste.

Listed Hazardous Waste

The federal government publishes lists of hazardous wastes. There are four different lists: the F list, the K list, the P list and the U list. P-list wastes are called "acutely hazardous" and are regulated more strictly than the other types.

Characteristic Hazardous Waste

Some wastes that are not on the lists may still be regulated hazardous wastes because they have characteristics that make them hazardous. There are four characteristics:

- **Ignitable** - A waste with a flashpoint of less than 140 F, or solids that catch fire easily and burn so rapidly they create a hazard. Some solvents are ignitable.
- **Corrosive** - A waste with a pH less than or equal to 2.0 or greater than or equal to 12.5. (Strong acids and bases)
- **Reactive** - Wastes that are normally unstable, react violently with water, can explode or release poisonous gases.
- **Toxic** - Wastes with high concentrations of certain organic chemicals, heavy metals or pesticides when tested by the toxicity characteristic leaching procedure (TCLP). Federal regulations contain a list of toxic chemicals.

Missouri-specific Hazardous Waste

An individual state can regulate wastes as hazardous even if they are not on the federal list. For example, in Missouri certain dioxin wastes are regulated at smaller quantities than in the federal rules.

Mixed Waste

If you mix any waste with a waste that is on the F, P, K, or U list, all of it is hazardous, even if there is only a very small amount of listed hazardous waste in the mixture. For example, if you put a cup of waste toluene in with 55 gallons of water, you will have a little over 55 gallons of hazardous waste.

Is Your Waste Hazardous?

To find out if your waste is hazardous, check to see if it is on the lists of hazardous wastes (federal or state). If it is not, you need to find out if it exhibits one or more of the hazardous characteristics. Check the material safety data sheet (MSDS) or contact your supplier for information. The

manufacturer of your raw material may be able to tell you whether the used material is hazardous waste. If you can not find the information another way, you will need to test your waste.

If you are unsure if your waste is hazardous, you will need to have it tested in a laboratory. The test used is called the toxicity characteristic leaching procedure (TCLP). Many laboratories can do this test. Check your phone directory or ask your trade association for suggestions. Contact the Department of Natural Resources at 1-800-361-4827 for help with this.

Managing Hazardous Wastes

There are very specific requirements for managing hazardous waste from your business. The requirements you must meet depend on what and how much waste you generate. You need to know how much acutely hazardous waste (P-listed) and non-acute hazardous waste you generate each month. You also need to know how much of each of these types of waste you accumulate at any one time.

Use the following information to determine your generator status. See the *Hazardous Waste Management* guide sheet for more information on how to label, store and dispose of your hazardous waste.

What Type of Generator Are You?

There are three types of generators: large quantity generator (LQG), small quantity generator (SQG) and conditionally exempt small quantity generator (CESQG). Here are some general guidelines to help you decide what type of generator you are:

If you generate in one month or accumulate at any one time . . .

- More than 1 kg (2.2 pounds) of acutely hazardous waste, you are an LQG.
- 1,000 kg (2,200 pounds) or more of non-acute hazardous waste, you are an LQG.
- More than 100 kg (about 220 pounds), but less than 1,000 kg (2,200 pounds) of non-acute hazardous waste AND less than 1 kg of acutely hazardous waste, you are an SQG.
- No more than 100 kg (220 pounds) of non-acute hazardous waste AND less than 1 kg of acutely hazardous waste you are a CESQG.

In Missouri, anyone generating one gram or more of dioxin waste (2,3,7,8-tetrachlorodibenzo-p-dioxin) is an LQG.

If you are a SQG or LQG, you must register with the department and get a generator identification number. You also must follow regulations on storage, transport, record-keeping and reporting. Call the department for more information.

Note: The federal requirements for hazardous waste can be found in the *Code of Federal Regulations*, Title 40, Part 260 through Part 280 (40 CFR 260-280). The Missouri Hazardous Waste Law is in the *Revised Statutes of Missouri* (RSMo), Sections 260.350-260.552. The hazardous waste rules are in the *Code of State Regulations*, Title 10, Division 25 (10 CSR 25). To get information on the regulations, call the Missouri Department of Natural Resources at 1-800-361-4827 or the federal government's Superfund/RCRA Hotline at 1-800-424-9346.

Remember

- You are responsible for determining if your waste is hazardous.
- You will need to register as a generator if you are a SQG or a LQG.

For More Information

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Hazardous Waste Management

If you generate hazardous waste, and many asphalt plants do, there are requirements for how you manage that waste. The rules you must follow depend on how much waste you generate. This guide describes the main requirements. For information on how to decide if your waste is hazardous, see the *Hazardous Waste* guide sheet.

This list does not include every requirement for every generator. It is general guidance for large quantity generators (LQG) AND small quantity generators (SQG).

Containers

- Hazardous waste containers must be in good condition. If a container leaks, transfer waste to a new container.
- Do not let rainwater accumulate on top of the container.
- Keep containers closed and use self-closing funnels when adding waste.
- Use containers that are compatible with the waste. For example, use HDPE (high-density polyethylene) plastic containers for corrosive wastes.
- Never place incompatible wastes, such as wastes that react with each other (acids and bases) in the same container.

Storage

- Keep aisle space between container rows to allow inspection for leaks and damage.
- Store ignitable and reactive wastes at least 50 feet from property boundaries.
- Store containers of incompatible wastes in separate areas.
- There may be limits on how long you store your waste.

Labels

- Label every container with the type of waste and whether it is hazardous or non-hazardous.
- Include EPA hazardous waste numbers or Missouri waste code numbers.
- Include the date waste was first placed in the container. Change the date to the first date in storage.
- Include your business's name and address.
- Use the following words on labels for hazardous wastes:

HAZARDOUS WASTE
FEDERAL LAW PROHIBITS IMPROPER DISPOSAL
If found, please contact the nearest police or public safety authority or the U.S. EPA
(Your business's name and address and manifest document number)

Transport and Disposal

- Make sure your hazardous waste transporter has an EPA identification number and a Missouri Hazardous Waste Transporter License.
- Make sure the place receiving your waste has EPA identification numbers and the necessary state permits.
- Use manifests for hazardous wastes shipped off-site.

Inspections and Record keeping

- Inspect containers at least once a week and keep a written log of inspections.
- Keep training and inspection records, manifests, shipping receipts and records of lab tests for three years.
- Keep land disposal restriction forms for five years.

Training

- Train all employees to identify, reduce and properly handle wastes.
- Train new employees before they handle hazardous waste.

Notify Department of Natural Resources

- If your business is a small or large quantity generator, register as a generator with the Missouri Department of Natural Resources to get an EPA and Missouri generator identification number.

Emergency Preparedness

- Notify police departments, fire departments and local hospitals. They need to know what hazardous wastes are on your property.
- Designate an emergency coordinator. This person must know what to do in case of a fire, spill or other emergency and must be on the premises or on call 24 hours a day.

Contingency Plans

Large quantity generators must have a written plan for handling emergencies that includes the following. Even if you are not a large quantity generator, having a written plan is a good idea.

- Response arrangements with police, fire departments, hospitals and emergency response contractors.
- Emergency coordinator's address and phone number(s).
- On-site emergency equipment descriptions and locations.
- Evacuation plan and routes, including a site diagram.

Post Emergency Information

Post the following information near every telephone:

- Fire department phone number.
- Emergency coordinator's name and phone number.
- Fire alarm and extinguisher locations.
- Locations of spill control materials.

Remember

- You must decide whether your waste is hazardous and manage it correctly.
- Find ways to eliminate or reduce hazardous wastes. This will reduce the number of requirements you must meet.

For More Information

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Lead-Acid Batteries

Lead-acid batteries from motor vehicles and equipment contain materials that pose a risk to people and the environment. These batteries contain sulfuric acid, lead and other materials that can be hazardous.

Used batteries are banned from sanitary landfills in Missouri. Do not put them in your trash or dumpster. Non-leaking batteries need to be handled in one of three ways.

1) Recycling Program for Lead-Acid Batteries

The current recycling program for batteries is extremely successful and the requirements are less stringent, so the waste batteries will probably be handled under this program. This program requires battery wholesalers and retailers to accept used batteries from their customers in quantities at least equal to the number of new batteries sold.

2) Universal Waste

Used batteries can be handled as universal waste. This option has more stringent requirements than the recycling option listed above. You must send the batteries to a recycling facility, a resource recovery facility or a permitted lead smelter. See the technical bulletin *Universal Waste* for additional information. It can be found at: www.dnr.mo.gov/oac/pub2058.pdf. If you do not have access to the Web, please contact the Environmental Assistance Office to request the document.

3) Hazardous Waste

Used batteries can be handled as hazardous waste. Cracked or leaking batteries must be handled as hazardous waste. This option is normally the most costly and has the most stringent requirements. See the guide sheet *Hazardous Waste* if you handle your used batteries as hazardous waste.

Storage of used batteries

If you store batteries, it must be in a way that protects human health and the environment. The safe storage of batteries begins with a suitable location. Batteries should be stored indoors or under cover to keep them dry and to prevent damage to the casings caused by freezing and thawing. The storage location should not be where the batteries can be hit or run over. Batteries should not be stored near combustibles, such as gasoline, and the storage area needs to be well ventilated. Precautions should be taken to contain spills. One way is to store batteries on or above a sealed concrete floor with a curb. Storage of batteries outdoors may require a storm water permit from the department.

If you are storing batteries, you should have written procedures for handling spills or leaking or cracked batteries. Spills should be neutralized with a material such as agricultural lime, baking soda or a commercial spill kit, and be cleaned up immediately. Cracked or leaking batteries should be placed in a container impervious to acid, such as a five-gallon plastic bucket. Anyone handling the batteries or spilled material should wear protective clothing, gloves and eyewear.

An eye wash sink or eye flush kit should be available. (Cracked or leaking batteries need to be handled as hazardous waste.)

Transporting Used Batteries

All used batteries need to meet Department of Transportation (DOT) requirements for transporting hazardous materials. Hazardous waste batteries must be transported using hazardous waste haulers.

Remember

- Do not put batteries in the trash. They cannot go to a landfill.
- Handle and store lead-acid batteries properly.
- Cracked or leaking batteries are hazardous waste.

Pollution Prevention Options

Preventing pollution instead of treating or disposing of it can save money, protect the environment and reduce risk to people. Here are some suggestions:

- ✓ Store batteries where they will not be damaged or frozen.
- ✓ Store batteries so that leaks will be caught and contained.
- ✓ Anchor batteries when transporting.
- ✓ Use long-life batteries.
- ✓ Inspect stored batteries regularly for cracks or leaks before they become a problem.

For More Information

Missouri Department of Natural Resources
Environmental Assistance Office
P.O. Box 176
Jefferson City, MO 65102-0176
1-800-361-4827 or (573) 526-6627
www.dnr.mo.gov/oac/env_assistance.htm



Missouri Department of Natural Resources
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Missouri Department of Transportation

The Missouri Department of Transportation (MoDOT) uses hot mix asphalt in many highway and maintenance projects throughout the state. If you plan to do asphalt work with MoDOT, you need to coordinate the times when MoDOT awards contracts for projects with applying and receiving environmental permits for your asphalt plant.

Bid openings for road construction projects occur 12 times a year. MoDOT posts a notice of these bid openings on its Web site located at www.modot.mo.gov. On that page, you will need to select "Business" in the left-hand column and then select from the dropdown list shown.

When you order a set of plans and /or a bid proposal, you can ask to receive specifications for the materials needed to construct the project, including the quality and quantity of asphaltic hot mix needed.

The Notice of Bid Opening for Proposed State Road Work is posted five weeks before each bid opening. MoDOT also advertises the bid opening in a newspaper in the county where the work will occur.

After the bid opening, all bids are carefully reviewed and checked for accuracy. The bids are then submitted to the Missouri Highway and Transportation Commission at the next regularly scheduled commission meeting. The commission will award or reject the bids. Once the commission awards a bid, a Notice to Proceed letter is prepared and sent to the successful low bidder. The anticipated beginning date for work is listed in the letter. This is normally 30 to 60 days after award of the contract.

In many cases, the prime contractor subcontracts the hot mix asphalt portion of the project. Projects with a large amount of asphalt are generally let in the late fall or early winter season. This allows time for the hot mix asphalt plant operator to make arrangements to have the necessary aggregate produced during the winter months. Smaller projects are generally bid in the spring and summer.

For more information call 1-888-ASK-MoDOT or write to:
State Design Engineer
Missouri Department of Transportation
P.O. Box 270
Jefferson City, MO 65102

Remember

- When you bid on a project with MoDOT, keep in mind the timeframes needed to get the necessary environmental permits.
- All asphalt plants must have a construction permit before construction, set up or modification. See the guide sheet on *Air Quality Construction Permits* for information on how long this may take.

- All portable asphalt plants must have a construction permit for the equipment and site(s).
- Before you move the equipment to a different location, you must notify the department or your local air protection agency. The guide sheet *Air Quality and Portable Equipment* has information on what must be submitted and how far in advance you must send the information.

For More Information

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Environmental Assistance Office
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Petroleum Storage Tanks

Hot mix asphalt plants often have storage tanks containing oil or fuel. These tanks have the potential for leaking and spilling oil or fuel, causing harm to the environment. Storage tanks, depending on size, usage or type, are regulated by several agencies.

Aboveground Storage Tanks (ASTs)

Federal law requires a spill prevention control and countermeasure (SPCC) plan if an oil, used oil or petroleum storage tank is located where a spill could contaminate water, for example on or near a stream, lake or river. An SPCC plan is needed if there is:

- total aboveground storage capacity (of containers 55 gallons or greater) over 1,320 gallons, or
- total underground storage capacity over 42,000 gallons that is not regulated by UST standards.

The basic requirements of an SPCC plan include what is being done to prevent spills, how any spills will be contained and how spilled oil or fuel will be removed and disposed of. Also, the storage tanks must have some form of secondary containment.

Aboveground petroleum storage tanks at a service station or a bulk terminal are regulated by the Missouri Department of Agriculture. Businesses that include these operations can contact the Department of Agriculture at:

Missouri Department of Agriculture
Division of Weights and Measures
P.O. Box 630
Jefferson City, MO 65102
(573) 751-4278

Underground Storage Tanks (USTs)

Those with underground storage tanks (UST) larger than 110 gallons must register those tanks with the Missouri Department of Natural Resources whether or not the tanks are in use, unless they were taken out of service before Jan. 1, 1974. There are requirements in Missouri for the way new tanks are to be constructed and installed. Existing tanks were required to meet upgrade requirements or be properly closed by Dec. 22, 1998. Those planning to install a new UST must notify the department at least 30 days before beginning installation. All regulated USTs must have approved methods of release detection for both the tank and piping, along with corrosion protection and spill and overflow protection. Tanks used to store heating oil for heating purposes only and residential and farm tanks less than 1,100 gallons are exempt from these regulations.

The department must be notified by calling (573) 634-2436 as soon as possible within 24 hours of a suspected release from a UST or for spills greater than 25 gallons. Spills and overfills must be immediately contained and cleaned up.

Those planning to take a UST out of service temporarily or permanently, or wanting to use it for something besides petroleum products, should contact the department for information on what needs to be done.

Owners and operators of petroleum USTs must demonstrate financial responsibility for releases of products from the tanks. Several options are available for demonstrating financial responsibility. Missouri has a Petroleum Storage Tank Insurance Fund (PSTIF), which provides for cleanup of contamination from both AST and UST releases. PSTIF can be contacted at 1-800-765-2765

Remember

- An underground storage tank larger than 110 gallons must be registered with the department even if it is not being used.
- Those who store large quantities of petroleum products (i.e., oil, gasoline) or waste oil need a spill prevention control and countermeasure (SPCC) plan.
- Spills or releases must be reported to the department as soon as possible within 24 hours.

Pollution Prevention Options

Preventing pollution instead of treating or disposing of it can save money, protect the environment and reduce risk to people. Here are some suggestions:

- ✓ Prevent overfilling and spilling.
- ✓ Label tank contents to prevent mixing.
- ✓ Properly maintain tanks to prevent corrosion.
- ✓ Place tanks where leaks can be easily contained without entering the environment.
- ✓ Inspect tanks daily for leaks and spills.
- ✓ Maintain appropriate spill containment equipment and train employees on proper usage.
- ✓ Clean up spills as soon as possible.
- ✓ Close out unused or out-of-service USTs in accordance with department regulations.

For More Information

Missouri Department of Natural Resources
Environmental Assistance Office
P.O. Box 176
Jefferson City, MO 65102-0176
1-800-361-4827 or (573) 526-6627
www.dnr.mo.gov/oac/env_assistance.htm



Spills

Spills can hurt you and your employees. They can also cause environmental damage at your facility. Many spills are caused through improper storage and management of fluids. Spilled materials can pollute soils, groundwater, surface water and wetlands; affect air quality, and harm people and wildlife.

Prevent spills

1. Store all materials in closed and labeled containers to prevent spills, evaporation and mismanagement from lack of identification.
2. Check container content level before filling.
3. Check container for leakage. Use only containers in good condition.
4. Use containers that are compatible with the contents.
5. Store containers so that they are not in contact with accumulated liquids.
6. Use storm drain covers to keep spilled material from entering storm water drains.
7. Train staff in safe drum and material handling equipment use.
8. Do not stack drums or other waste-fluid containers.
9. The Environmental Protection Agency (EPA) has additional requirements for petroleum products that are in aboveground storage greater than 1,320 gallons or completely buried storage, not defined as an underground storage tank, with a capacity greater than 42,000 gallons.

Before a spill occurs

You should know what to do before it happens. We suggest you do the following before a spill occurs:

1. Have a procedure for handling spills:
 - Train your employees how to respond quickly and properly to different kinds of spills using the proper emergency equipment and absorbent.
2. Have spill equipment on hand. Make sure it has been tested and maintained.
 - Personal protection equipment such as gloves.
 - Absorbent material for soaking up oils and solvents: Industrial spill clean-up products such as pads, booms and absorbents such as oil dry, absorbent blankets, kitty litter, etc.
 - Containers to hold spilled waste: drip-pans, pails and drums.
 - Shovels and scoops to clean-up absorbents for disposal into drums.
3. Practice emergency scenarios.

In case of a spill

1. Clean up spills right away.
2. Place absorbent materials on the spill. Containerize used absorbent materials and dispose of properly.
3. Use fire extinguisher as required.
4. Materials such as sand, dirt, and booms can be used to divert and contain spills on your property.
5. Place recaptured and containerized liquids in some type of secondary containment such as drums, livestock water troughs, or children's pools. Until the liquids can be better containerized, cover to avoid further loss by the wind or rainwater.
6. Do not use water to dilute spills or wash spills into storm or sanitary sewers or septic systems. Spills of any kind need to be kept out of the waters of the state. These waters include ditches, wetlands, creeks (including "dry" creeks), groundwater and surface water.
7. Spills of hazardous waste need to be handled as hazardous waste. Gasoline and diesel fuel may be considered hazardous waste. The cleanup of used oil spills is tied to the amount that needs to be cleaned up.

Report it

Any **petroleum product** releases greater than 50 gallons (or 25 gallons for underground storage tank spills) must be reported to the Missouri Department of Natural Resources, (573) 634-2436, and the National Response Center, 1-800-424-8802, at the earliest practical moment after discovery. If the amount spilled is unknown you need to assume more than the reportable quantity was spilled and the spill needs to be reported.

Remember

- Use good work practices to prevent spills.
- Prepare for spills.
- Cleanup spills.
- Report spills as needed.

Pollution Prevention Options

Preventing pollution instead of treating or disposing of it can save money, protect the environment and reduce risk to people.

- ✓ Use good work practices to prevent spills.
- ✓ Determine the best way to handle a spill, minimizing the amount of waste generated.
- ✓ Identify where floor drains discharge.
- ✓ Plug floor drains connected to the storm or sanitary sewer if they are located in an area subject to spills of hazardous chemical. If necessary install a sump that is pumped regularly.

For More Information

Missouri Department of Natural Resources
Environmental Assistance Office
P.O. Box 176
Jefferson City, MO 65102-0176
1-800-361-4827 or (573) 526-6627
www.dnr.mo.gov/oac/env_assistance.htm



Storm Water and Wastewater Permits

Rainwater that falls in and around hot mix asphalt plant operations and aggregate storage piles can become contaminated with sediments, oil, grease and other materials. Runoff from product piles may be caustic. Process wastewater can contain contaminants. If not properly managed, this contaminated water can harm the environment, pollute creeks and lakes and even contaminate drinking water.

The federal Clean Water Act requires hot mix asphalt plants to have a discharge permit for storm water, process wastewater and domestic wastewater discharges.

Storm Water / Process Wastewater

General permit MO-G49 is available for hot mix asphalt plant storm water and process wastewater discharges. Process wastewater includes vehicle and equipment washwater (without added detergents, acids, caustics, solvents or other additives). It *does not* authorize the use of soap or detergents in vehicle washing. This general permit has discharge monitoring and reporting requirements. To apply for the general permit MO-G49, complete an application Form E and submit it along with a location map and required fee to your department regional office.

Facility owners may obtain a site-specific permit instead of a general permit, if they so desire. The department *may require* your hot mix asphalt plant to obtain a site-specific discharge permit if they determine that one is needed to better protect water quality. A site-specific permit takes into account the individual characteristics of the site, storm water runoff, process wastewater and domestic wastewater discharges.

Domestic Wastewater

Domestic wastewater is wastewater from restrooms, and kitchen facilities. Domestic wastewater can be discharged to public sewers, to a facility owned wastewater treatment system permitted by the department or to an on-site wastewater system that discharges to a soil absorption system (e.g. septic tank and drainfield). The Department of Health and Senior Services (DHSS) regulates on-site wastewater systems. Process wastewater **cannot** be discharged to an on-site wastewater system. **Do not** send process wastewater to a septic system; doing so could contaminate the groundwater.

Construction Projects

If your construction project includes grading, excavating or the removal of vegetation in an area one acre or larger, you will need a storm water land disturbance permit. Land disturbance permits require the use of "best management practices" (BMPs) to minimize soil erosion from the site. Land disturbance BMPs include maintaining existing vegetation, temporary re-vegetation, silt fences, straw bales and sediment basins.

Remember

- Obtain required permits for storm water and process wastewater discharges.
- Obtain required land disturbance permits for construction projects.
- Discharge domestic wastewater to public sewers, to a department permitted treatment system, or to an approved DHSS on-site system.

Pollution Prevention Options

Preventing pollution instead of treating or disposing of it can save money, protect the environment and reduce risk to people. Your permit may require certain pollution prevention practices or even a pollution prevention plan. Here are some suggestions:

- ✓ Prevent spills of oil, grease and gasoline in vehicle and equipment maintenance activities.
- ✓ Maintain appropriate spill containment equipment and train employees how to use it.
- ✓ Design, construct and maintain detention basins to capture sediment.
- ✓ Use interceptor dikes, swales or berms to direct storm water away from areas that are prone to erosion or to convey runoff to the detention basin.
- ✓ Inspect and maintain the erosion prevention and sediment control structures to ensure their effectiveness.
- ✓ Re-vegetate disturbed areas as soon as possible.
- ✓ Use mulches, geotextiles and other measures to prevent erosion.

For More Information

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P.O. Box 176
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Used Oil Disposal and Recycling

Improper disposal of used oil can cause damage to the environment and result in costly clean up. In Missouri, there are certain things you must do and certain things you cannot do when managing used oil from your business.

You cannot dispose of used oil at a landfill or with your regular trash. You cannot dispose of your used oil into the environment or create a public nuisance. You cannot use used oil for dust suppression or killing weeds on gravel roads, parking lots or elsewhere.

Used oil is regulated under the federal and state hazardous waste laws and regulations. If you recycle your used oil, it is regulated under special used oil regulations. Recycled used oil includes oil that is re-refined, reclaimed, reprocessed or burned for energy recovery. If you do not recycle your used oil, it is regulated as a hazardous waste. The waste code for used oil in Missouri is DO98. See the guide sheet on *Hazardous Waste* for more information.

Off-site Shipments of Used Oil

Used oil must only be hauled by transporters who have EPA identification numbers and Missouri hazardous waste transporter licenses. Contact the department for a list of transporters with Missouri hazardous waste transporter licenses.

You can transport your own used oil if:

- you transport 55 gallons or less at any time,
- it is your own used oil or used oil accepted from do-it-yourselfers or exempt farmers,
- you take the oil to an used oil collection center or used oil aggregation point, and
- you use your own vehicle or an employee's vehicle.

Mixing other wastes with used oil

Be very careful what you mix with used oil. You can mix certain ignitable hazardous wastes with used oil if the mixture you end up with is not ignitable. If you are a small or large quantity generator of hazardous waste and the hazardous waste is something other than ignitable (for example if it is a listed hazardous waste), mixing it with your used oil will make your used oil a hazardous waste. For example, mixing your listed hazardous waste spent solvent with used oil will cause all of the oil mixture to be hazardous waste. See the guide sheet on *Hazardous Waste* for more information.

On-site Space Heater

In your shop you may burn your own used oil, oil from do-it-yourselfers and oil from farmers who generate fewer than 25 gallons per month in specially-designed used oil space heaters. The used oil space heater must have a capacity of 500,000 BTU per hour or less and be vented outside. You do not need to notify the department if you are burning used oil, but you must notify the department if you are collecting used oil from do-it-yourselfers or farmers.

If you are a small quantity or large quantity hazardous waste generator, you cannot burn any mixture of used oil with hazardous waste in a used oil space heater. If you are a conditionally exempt hazardous waste generator of ignitable hazardous waste, you may mix it with your used oil for burning. However, this can damage the space heater and release hazardous emissions into the environment. Before adding anything to your used oil, check with your used oil transporter or used oil space heater manufacturer to make sure that practice is acceptable.

Remember

- You cannot send used oil to the landfill or pour it out onto the ground.
- If you are not recycling your used oil, it is a hazardous waste.
- If someone else is hauling your used oil, they must have an EPA identification number and be registered with the department.
- You may burn your own used oil in a used-oil burner smaller than 500,000 BTU/hour that is properly vented.
- You may collect and burn used oil from do-it-yourselfers (DIY) or exempt farmers, but you must first notify the department that you are a DIY used oil collection center.

Pollution Prevention Options

Preventing pollution instead of treating or disposing of it can save money, protect the environment and reduce risk to people. Here are some suggestions:

- ✓ Keep used oil separate from other wastes.
- ✓ If you remove oil-laden parts, place them on a drip pan rather than the floor.
- ✓ Do not use the oil drip pan to collect antifreeze or solvent.

For More Information

Missouri Department of Natural Resources
Environmental Assistance Office
P.O. Box 176
Jefferson City, MO 65102-0176
1-800-361-4827 or (573) 526-6627
www.dnr.mo.gov/oac/env_assistance.htm



Used Oil Storage

Improper storage of used oil can increase the risk of spills and leaks that could harm the environment and prove costly to clean up. In Missouri, there are some legal requirements for storing used oil from your business.

If you store used oil, you must:

- label the storage container(s) with the words "Used Oil,"
- keep containers in good condition,
- not store used oil collected from do-it-yourselfers longer than 12 months,
- keep containers closed if they are exposed to rain or snow (except when removing or adding used oil),
- inspect storage areas regularly for leaks or spills (clean up as required), and
- if a container is leaking, fix it immediately or move the oil to another container.

To help prevent spills, you may wish to put your used oil containers in a "secondary containment" structure. Secondary containment is the name used to describe a structure or container that holds the storage tank and can hold the liquid if the storage tank leaks. The secondary containment should have a volume at least as large as the largest container OR 10% of the total volume of all the containers, whichever is greater.

If you are storing a large amount of petroleum products and used oil (over 1320 gallons in aboveground tanks), you are required to have spill prevention measures. See the *Petroleum Storage Tanks* guide sheet for more information.

Your community or county may have specific requirements for storing oil. Check with local authorities, particularly your fire department.

The department recommends not storing used oil in underground tanks.

Storing containers on an impervious surface (like sealed or treated concrete) helps contain spills and makes clean up easier. Some shops store their used oil containers on pallets or slightly elevated in some way to make it easier to spot spills or leaks.

Clean up any spills immediately. Spills of more than 25 gallons of used oil or other petroleum products from underground storage tanks must be reported to the department. Petroleum spills from any other source must be reported if the spill is more than 50 gallons. If the petroleum spills into a waterway such as a creek, lake, river or stream, or into a ditch that drains to a waterway, it must be reported to the department no matter how small the spill.

Remember

- Label storage containers and keep them in good condition.
- Inspect storage areas regularly. Fix leaks immediately or move the oil to another container.
- If containers are exposed to rain, keep them closed except when adding or removing used oil.
- Check with local authorities to learn if there are local requirements.
- Report oil spills, as required, to the department.

Pollution Prevention Options

Preventing pollution instead of treating or disposing of it can save money, protect the environment and reduce risk to people. Here are some suggestions:

- ✓ Keep used oil separate from other wastes.
- ✓ Have separate storage containers for antifreeze, solvents or other fluids that could accidentally be mixed with used oil.
- ✓ Use large drum funnels or fill tubes when filling used oil drums. Store funnels on a drip pan to collect dripping oil.
- ✓ Clean spills with a rag or mop that can be wrung-out and reused. A biodegradable soap and water solution may be used to clean up oil sheens.

For More Information

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Using Waste in Asphalt

Sometimes operators of hot mix asphalt plants want to use a variety of waste materials in the hot mix as aggregate or another component. The Missouri Department of Natural Resources encourages recycling. However, there are many potential environmental, regulatory and human health concerns associated with the use of inappropriate waste materials in hot mix asphalt.

In Missouri, clean fill can be used in your asphalt or as fill material. Clean fill includes uncontaminated soil, rock, sand, gravel, concrete, asphaltic concrete, cinderblocks and brick. If you want to use contaminated materials such as mine tailings or other waste, such as glass, you should contact the department to discuss whether the material is appropriate to use in your asphalt. Also, if you want to use waste oil, waste solvent or any other waste in the asphalt, contact the department before you accept the waste for use.

If the waste material involved is defined as hazardous waste in Missouri, you may need a Resource Recovery Certification from the department before accepting the waste. Contact the department for more information on this requirement.

Remember

- Before you accept any waste, other than clean fill, check with the department to find out if you can legally accept it for use in your asphalt.

Pollution Prevention Options

Preventing pollution instead of treating or disposing of it can save money, protect the environment and reduce risk to people.

For More Information

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Waste Tires

Tires that are too damaged or worn for use as vehicle tires are waste tires. Since 1990, the storage, hauling and disposal of waste tires have been regulated under Missouri's Solid Waste Management Law.

Storage

Waste tires must be stored in a way that does not cause pollution, health or nuisance problems. Since tires can collect water and create breeding grounds for mosquitoes, you should protect your storage area from rainwater or provide some other way to control mosquitoes. Tires may also pose a fire hazard, so they should always be stored away from ignition sources.

Tires intended for resale or retreading are not waste tires. Store them separately from waste tires. Anyone storing 25 to 499 tires is regulated as a waste tire collection center and must meet certain requirements. Anyone who stores 500 or more tires must have a waste tire site permit from the Missouri Department of Natural Resources.

Hauling

If you pay someone to haul your waste tires, that person needs a permit. However, you or other employees from your business do not need a permit to haul tires generated from your business. Whole tires may be hauled to a waste tire processor, a permitted waste tire site, a waste tire collection center or a waste tire end-user such as a tire recycler. Tires may be hauled to a landfill if they are cut, chipped or shredded.

A tire hauler's permit is good for one year and only applies to the person or business to whom it is issued. Check the expiration date and name on the permit to be sure it is valid. To get the list of permitted waste tire haulers or check the permit status of a hauler who picks up tires at your shop, contact the department's Solid Waste Management Program.

Record keeping

You should keep a record of how many tires are removed from your business each month. Include the name of the hauler and the date the tires were removed. You may contact the department's Solid Waste Management Program to get a recordkeeping form.

Beneficial Reuse

Sometimes a person wants a few waste tires for a home project. If someone wants to use over 100 tires, they need approval from the department's Solid Waste Management Program. Individuals can haul their own waste tires for their own use, but your business still needs to keep a record of who takes your tires, when they take them and how many they take.

Processing

If you process tires for a fee, you need a waste tire processing permit from the department if you have more than 25 tires on site at any one time. Processing includes shredding, cutting,

chipping or otherwise altering the tires. You do not need a permit if you or other employees from your business process only tires generated by your business.

Disposal

Never burn tires in Missouri. Even in areas where home waste burning is allowed, burning tires is prohibited. Never bury tires, even on your own property. You cannot dispose of tires in a landfill unless the tire is cut up in three pieces or in half circumferentially (forming two circles). Special equipment is usually needed to cut tires for disposal. There are places to legally take your waste tires in Missouri. They usually charge a fee per tire and can accept whole tires. Contact the department for a list of sites.

Uses for waste tires

There are options for using waste tires rather than disposing of them. Waste tire chips can be used for many things such as mulch on playgrounds or as fuel in electric power plants or cement kilns. Contact the department for information on reuse and recycling options.

The legal requirements for waste tires can be found in §260.270-278, Revised Statutes of Missouri (RSMo) and in 10 CSR 80, Chapter 8 of the Code of State Regulations.

Remember

- Do not burn waste tires.
- Waste tires cannot go to the landfill unless they are cut into three or more pieces or in half circumferentially (in two circles).
- If you wish to store 25 to 499 waste tires, you must follow requirements for waste tire collection centers.
- Anyone paid to haul waste tires needs a permit from the department's Solid Waste Management Program.

Pollution Prevention Options

Preventing pollution instead of treating or disposing of it can save money, protect the environment and reduce risk to people. Here are some suggestions:

- ✓ Educate drivers on how to extend the life of tires.
 - Avoid fast starts and stops;
 - Properly inflate tires;
 - Properly balance and align your wheels.
- ✓ Buy retreaded tires.

For More Information

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Environmental Assistance Office
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UPDATE SERVICE FOR HOT MIX ASPHALT GUIDE

Please complete this form and send it to the address below to receive FREE UPDATES to "Preventing Pollution at Hot Mix Asphalt Plants." You will receive new and revised pages as they are developed. Please print clearly or type.

Name: _____

Facility: _____

Mailing Address: _____

City/State/Zip: _____

Please help us improve our service by answering these questions.

1. How did you learn of this document?

- It came in the mail
- Read about it in a departmental newsletter
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2. What topics would you like for us to add to the guide? _____

3. Did you know about the Environmental Assistance Office (EAO) before receiving this document? Yes No

4. Have you ever used EAO's environmental information or guidance services? Yes No

5. If yes, were you satisfied with the service provided? Yes No (please explain)

**Mail to: Missouri Department of Natural Resources
Environmental Assistance Office
P.O. Box 176
Jefferson City MO 65102-0176**

or fax to: (573) 526-5808

Questions about this guide or other services may be directed to EAO at 1-800-361-4827.

