

Waste Determination

Properly managing waste materials requires knowing the classification of the waste. In most cases, the types of waste materials that Mn/DOT must manage do not vary greatly over time, so Office of Environmental Services (OES) or District staffs are likely to know the correct classification of the wastes that the department deals with without performing any sample analyses. However, the need for waste analysis does come up occasionally, especially for unknown abandoned materials or changes in product chemical formulations. The following procedure should be used to determine waste classification:

1. The District Waste Management Coordinator (WMC) is familiar with most waste materials generated by department operations. Therefore, any questions on waste classification should first be directed to the WMC. Contact OES if the WMC is not able to classify the waste.
2. The characteristics of hazardous wastes are provided in the next section only to provide general awareness for Mn/DOT employees in recognizing potential hazardous waste. The OES shall make the final determination if waste should be classified as hazardous. Contact OES personnel for assistance in hazardous waste determinations and handling requirements.
3. The OES shall coordinate sampling and laboratory analysis of waste as needed.

Characteristics of Hazardous Waste

A waste is hazardous if it exhibits any one of the following six characteristics or if the waste is designated as a listed waste by the Minnesota Pollution Control Agency. This information is provided for general information only. Consult OES personnel for assistance in determining if a waste material is hazardous.

Ignitibility

A waste is ignitable if it exhibits either of the following characteristics:

1. It has a flash point less than 140 degrees Fahrenheit.
2. It spontaneously combusts and burns so vigorously and persistently that it creates a hazard. For example, some paint filters spontaneously combust.

Potential Mn/DOT ignitable wastes include:

- Gasoline
- Liquid paint: alkyd paint, chlorinated rubber paint, enamel paint, oil paint
- Solvent: acetone, mineral spirits, stoddard solvent (parts washer solvent), toluene

Oxidizer

A waste is an oxidizer if it readily supplies oxygen to support a chemical reaction or fire in the absence of air.

Mn/DOT does not typically generate any oxidizer waste.

Corrosivity

A waste is corrosive if it exhibits either of the following characteristics:

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1. It has a pH less than or equal to 2.0 or a pH greater than or equal to 12.5.
2. It corrodes steel at a rate greater than ¼ inch per year.

Potential Mn/DOT corrosive wastes include:

- Some boiler chemicals
- Carburetor cleaner (example: solvent used in dip tank for cleaning)
- Caustic soda
- Lead-acid batteries

Reactivity

A waste is reactive if it exhibits any of the following characteristics:

1. It is unstable or explosive.
2. When mixed with water, it reacts violently, is potentially explosive, or generates toxic gases.
3. It is a cyanide or sulfide bearing waste, which may, under certain circumstances, generate toxic gases.

Potential Mn/DOT reactive wastes include calcium carbide.

Lethality

A waste is lethal if it is fatal at low concentrations.

Potential Mn/DOT lethal wastes include antifreeze (ethylene glycol).

Listed Waste

The MPCA maintains several [lists of chemicals](#) that are regarded as hazardous. Additionally, any material that comes in contact with these chemicals, such as a rag, must also be managed as a hazardous waste.

Potential Mn/DOT listed wastes include:

- Carburetor cleaners
- Toluene
- 1,1,1-trichloroethane
- Trichloroethene
- Aerosols
- Rags contaminated with listed waste (some exceptions may apply)
- Solvent blends containing more than 10 percent by volume of listed waste must be managed as a hazardous waste.

Toxicity

A waste is toxic if it produces a poisonous effect at a low concentration.

Potential Mn/DOT toxic wastes include:

- Benzene - antifreeze (not all), gasoline
- Cadmium - dry cell batteries
- Chromium – Refractory brick in boilers

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- Lead - fluorescent and HID lamps, parts washer solvents, Easisolve, lead acid batteries, antifreeze, paint blasting residue, oil burner ash, computers, various paints purchased before May 1994
- Mercury - batteries, fluorescent & HID lamps
- Trichloroethylene - solvent