



Recycling Hazardous Waste

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Recycling hazardous waste

Recycling hazardous waste, rather than disposing of it, can significantly reduce your costs and regulatory and safety obligations. However, you must recycle wastes correctly to gain the most benefits and ensure you do not create new risks. This fact sheet discusses the range of hazardous waste recycling options in Minnesota and provides guidance on Minnesota Pollution Control Agency (MPCA) regulatory requirements.

Note: Minnesota has different and sometimes more stringent hazardous waste recycling requirements than Federal Regulations. If, after reviewing this fact sheet, you have questions regarding recycling hazardous waste, contact your regulatory agency (see *More information*).

Waste management hierarchy

To get the greatest benefit from recycling hazardous waste, use the waste-management hierarchy described in Minnesota state law. Waste management in order of preference:

1. Reduce

Minimizing or eliminating hazardous waste before it is generated is usually the most cost-effective and environmentally-protective. The Minnesota Technical Assistance Program (MnTAP) has resources and staff who can help you look for ways to reduce your waste using product or process substitution or other steps. For assistance or more information, contact MnTAP (see *More information*, page seven).

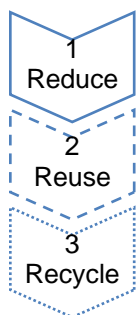
2. Reuse

Can you or another business reuse a 'waste' for its originally intended purpose instead of reclaiming it, using it for another purpose, or disposing of it? If so, you may be able to consider the material a *product*, which is exempt from most requirements. Reuse can help reduce input costs and liability.

3. Recycle

Recycling includes reclamation or the use of a waste for a different purpose than originally intended. Although often more costly and environmentally risky than reduction or reuse, recycling still may be cheaper and more environmentally protective than waste disposal.

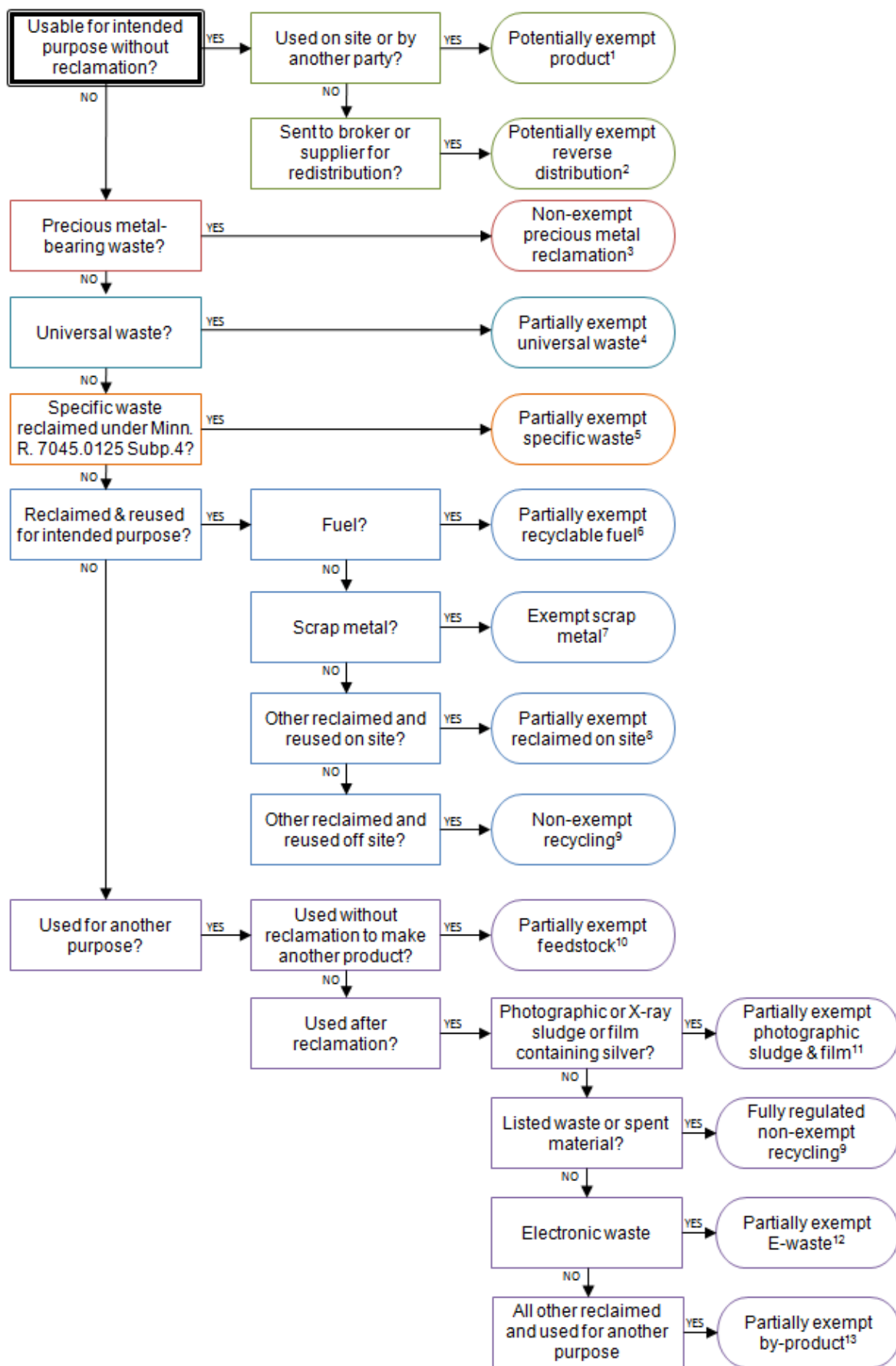
Figure 1: Waste management hierarchy



Recycled hazardous waste status

To determine how your proposed hazardous waste reuse or recycling is regulated, follow the recycled hazardous waste status flowchart in Figure 2. The superscripts reference an explanation of each waste's end status. See explanations starting on page three.

Figure 2: Recycled hazardous waste status



Explanation of superscripts

1. **Potentially exempt product** (also called *continued use*) – a material that can still and will be used for its originally intended purpose. The *intended purpose* is the primary use for which you obtained the product, even if it may have other possible uses. Products must not need any processing or reclamation before use or reuse. You must be able to demonstrate, through documentation or other method, that the used material you accumulate or send off site to another business for continued use:

- Is suitable for its originally intended use without any reclamation or other treatment
- Will be used for that purpose in amounts that are reasonable for the task
Note: Using excessive amounts or uses that do not add value to a product or process may be prohibited *sham recycling*.
- Will not be speculatively accumulated (See [Minn. Rules 7045.0020, Subp. 84b.](#))

Example of continued use: a solvent used first to degrease circuit boards and then to degrease industrial steel.

Do not report or count continued-use materials in your hazardous waste generation amounts.

MnTAP and some county governments operate materials exchanges where you may list usable materials for others to use and find materials that you can use. See the Minnesota Materials Exchange at: <http://www.mnexchange.org>.

2. **Potentially exempt reverse distribution** (also called *reverse logistics*) – a material that does not need any processing or reclamation before use or reuse. These materials must:

- Be able to be used for their originally intended purpose
- Be shipped back to the manufacturer or a third-party wholesaler or distributor for resale or redistribution

Example of reverse distribution: excess unused ingredient chemical from a manufacturing run is returned to the chemical wholesaler to be consolidated and resold.

Do not report or count reverse-distribution materials in your hazardous waste generation amounts.

For specific guidance on reverse distribution, see MPCA hazardous waste fact sheet #3.36a, *Reverse Distribution of General Merchandise* at <http://www.pca.state.mn.us/publications/w-hw3-36a.pdf>.

3. **Non-exempt precious metal reclamation** – unlike under the Federal Regulations, there is no exemption for hazardous wastes that contain precious metals (gold, silver, platinum, palladium, iridium, osmium, rhodium, ruthenium); management and reclamation of these wastes is regulated the same as most reclaimable hazardous wastes in Minnesota. If you generate a hazardous waste from which precious metals will be reclaimed, you must accumulate, ship off site with a hazardous waste manifest, report, and count the waste as you would any other hazardous waste. The actual reclamation of precious metals, like reclamation of most hazardous wastes, does not require a hazardous waste treatment permit.

Photographic waste containing silver may be eligible for reduced requirements. See explanation #11 on page six.

4. **Partially exempt universal waste** – commonly generated wastes that are not required to be recycled to be eligible to be managed as universal wastes (though most universal wastes are in fact recycled in some way).

Examples of federal universal wastes: mercury-containing lamps, such as fluorescent, sodium vapor, and mercury vapor; mercury-containing devices, such as thermometers, thermostats, and pressure gauges; batteries, including silver-containing 'button', Ni-Cad, lithium, and lead-acid; and pesticides to be collected by the Minnesota Department of Agriculture's Waste Pesticide Collection Program.

In Minnesota, recycled dental amalgam and pretreated dental wastewater may also be managed as if they were universal wastes.

If universal waste materials are generated outside the seven-county metropolitan area, do not report or count them in your hazardous waste generation amounts. If those wastes are generated within a metropolitan county, check with your county agency to determine whether you must count and report.

For more information on managing universal wastes, see MPCA hazardous waste fact sheet #4.62, *Managing Universal Waste* at <http://www.pca.state.mn.us/publications/w-hw4-62.pdf>.

5. **Partially exempt specific waste** – a specific recycled waste that is exempt from other hazardous waste regulation provided it meets the requirements in [Minn. R. 7045.0125, Subp. 4](#).

Examples of partially exempt wastes: reclaimed industrial ethyl alcohol, recycled coke manufacturing K-listed wastes, and pipeline interface materials.

Do not report or count partially exempt wastes in your hazardous waste generation amounts unless required by the specific exemption for that waste (see [Minn. R. 7045.0125, Subp. 4](#)).

6. **Partially exempt recyclable fuel** – a petroleum fuel that cannot or will not be used as fuel until it has been re-refined or otherwise treated, such as by fuel-water separation.

Example of recyclable fuel: degraded gasoline removed from marine outboard motors at a marina.

Do not report or count recyclable fuel in your hazardous waste generation amounts.

Note: You may accumulate up to 110 gallons of recyclable fuel for up to a year provided you manage it as a hazardous waste until it is shipped from your site for reclamation.

For specific guidance on recyclable fuels, see MPCA hazardous waste fact sheet #4.19, *Managing Recyclable Fuel Wastes* at <http://www.pca.state.mn.us/publications/w-hw4-19.pdf>.

7. **Exempt scrap metal** – solid metal parts that are hazardous waste or contaminated with hazardous waste and that will be smelted or reclaimed as metals.

Examples of hazardous waste scrap metal: lead wheel weights, lead battery cable terminals, and silver electrodes. Scrap metals do not include sludges, drosses, slags, or residues from plating, soldering, or smelting operations.

Do not report or count exempt scrap metal in your hazardous waste generation amounts.

For specific guidance on managing hazardous waste scrap metals, see MPCA hazardous waste fact sheet #4.27, *Managing Hazardous Waste Scrap Metal* on page <http://www.pca.state.mn.us/veiz8a8>.

8. **Partially exempt reclaimed on site** – a spent material that is reclaimed and reused for its intended purpose on the site where it is generated.

Example of partially exempt reclaimed on site: paint and thinner waste from an autobody shop that is distilled at the shop to reclaim usable thinner that will be used at the shop.

If you use a recycling parts washer (one with a built-in distillation unit), you must still report the amount reclaimed and reused on site – even though it was not accumulated in a separate container before reclamation. Hazardous wastes accumulated before being reclaimed and reused on site are subject to the normally applicable hazardous waste accumulation requirements.

For guidance on accumulating hazardous wastes on your site, see MPCA hazardous waste fact sheets #1.04 & 1.05, *Steps 4 & 5: Label and Store Hazardous Waste* at <http://www.pca.state.mn.us/publications/w-hw1-04-05.pdf>.

You must still report and partially count spent materials reclaimed and reused on site. For step-by-step instructions to calculate the counted volume of hazardous waste reclaimed and reused on site, see MPCA hazardous waste form #7.12, *Recycled Hazardous Waste Report Form* at <http://www.pca.state.mn.us/publications/w-hw7-12.pdf>.

- 9. Non-exempt recycling** – Because of risk, prior history of impact, or lack of prior history, some types of hazardous waste recycling are not eligible for full or even partial exemption from normal hazardous waste requirements.

Examples of non-exempt recycling: spent parts washer solvent shipped from your site for reclamation at another facility, any burning as fuel or blended with a fuel, and sham recycling.

You must report non-exempt recycled hazardous wastes and count them towards your hazardous waste generator size.

- 10. Potentially exempt feedstock** – wastes used as an ingredient in an industrial process without first being reclaimed or treated. A feedstock can:

- be used on or off site to make a product
- be used on or off site as an effective substitute for a virgin commercial product
- returned on site to the same process from which it was generated

To be classified as a feedstock, the hazardous waste portion or characteristic of the waste must legitimately contribute a benefit to the product being made or the process in which the feedstock is used.

Example of a feedstock: ferric chloride waste (hazardous for being corrosive) used in place of virgin ferric chloride by wastewater treatment plants as a precipitator and clarifier.

Examples of non-feedstocks: processes making materials ineligible for feedstock status include:

- reclamation of metal or other commodity from a waste material
- burning, including burning as a fuel or blended with fuel
- any use that results in final placement in or on the land
- speculatively accumulated wastes (see [Minn. Rules 7045.0020, Subp. 84b](#))

Accumulate and manage a feedstock material on site the same way you would handle a similar (valued) product. You must ensure that at least 75 percent of the volume you generate annually of this hazardous waste is actually used as a feedstock each year. When shipped off site, a feedstock does not need a hazardous waste manifest. However, if the feedstock qualifies as a hazardous material under the U.S. Department of Transportation (DOT) Hazardous Materials Regulations (HMR), you must use a HMR-compliant shipping paper.

If you generate feedstocks within the seven-county metropolitan area, check with your county office for requirements.

If you generate a feedstock outside the seven-county metropolitan area:

- Report hazardous wastes managed as feedstocks to the MPCA, but you need not count them towards your hazardous waste generator size.
- Ensure the MPCA has a current Recycled Hazardous Waste Management Plan for the feedstock on file when you apply for your annual hazardous waste generator license or submit a Plan with your application
- Submit Section B of the Recycled Hazardous Waste Report Form with your license application each year

To file a Recycled Hazardous Waste Management Plan, see MPCA hazardous waste form #7.16, *Recycled Hazardous Waste Management Plan* at <http://www.pca.state.mn.us/publications/w-hw7-16.pdf>.

For the required annual Recycled Hazardous Waste Report Form, see MPCA hazardous waste form #7.12, *Recycled Hazardous Waste Report Form* at <http://www.pca.state.mn.us/publications/w-hw7-12.pdf>.

- 11. Partially exempt photographic sludge & film** – sludge from on-site silver recovery units and photographic and X-ray films and negatives sent off site for silver reclamation.

If the waste is generated within the seven-county metropolitan area, check with your county office for requirements.

If the waste is generated outside the seven-county metropolitan area, do not report or count photographic and X-ray sludge and films and negatives sent off site for reclamation. Report and count photographic fixer and developer solutions that are not reclaimed on site.

For information about identifying and managing for photographic wastes, see MPCA hazardous waste fact sheet #4.46, *Managing Photographic and X-ray Waste* at <http://www.pca.state.mn.us/publications/w-hw4-46.pdf>.

12. Partially exempt electronic waste – electronic devices that will be processed for reclamation.

Electronic waste (E-waste) includes any discarded device with a circuit board, cathode-ray tube, or flat-panel display, irrespective of whether the E-waste is a 'covered electronic device' under [Minn. Stat. §115A.1310](#), Subd.7. Devices that will be used or repaired for use for their intended purpose are not considered E-wastes.

Do not report or count E-waste that is recycled in your hazardous waste generation amounts.

For information about identifying and managing E-wastes, see MPCA hazardous waste fact sheet #4.15, *Managing Electronic Wastes From Business Sources* at <http://www.pca.state.mn.us/publications/w-hw4-15.pdf>.

13. Partially exempt by-product – a [characteristic hazardous waste](#) that is not a primary product of a production process, is not produced solely or separately in the process and will be reclaimed on or off site before reuse.

Example of by-product: oxidized skimming from a solder bath, also known as solder dross, from which a commodity such as lead or tin will be reclaimed; sludge displaying only a hazardous characteristic.

Examples of non-by-products: processes and materials ineligible for by-product status include:

- Listed wastes
- Spent materials, such as spent parts washer solvent, that will be reclaimed
- Burning, including burning as a fuel or with fuel (not an eligible form of reclamation)
- Speculatively-accumulated wastes (see [Minn. Rules 7045.0020, Subp. 84b](#))

Accumulate and manage a by-product material on site the same way you would handle a similar (valued) product. You must ensure at least 75 percent of the volume you generate annually of this hazardous waste is actually used as a by-product each year. When shipped off site, a by-product does not need a hazardous waste manifest. However, if the by-product qualifies as a hazardous material under the HMR, you must use a HMR-compliant shipping paper.

If you generate by-products within the seven-county metropolitan area, check with your county office for requirements.

If you generate by-products outside the seven-county metropolitan area:

- Report hazardous wastes managed as by-products to the MPCA, but you need not count them towards your hazardous waste generator size.
- Ensure the MPCA has a current Recycled Hazardous Waste Management Plan for the by-product on file when you apply for your annual hazardous waste generator license or submit a Plan with your application
- Submit Section C of the Recycled Hazardous Waste Report Form with your license application each year

To file a Recycled Hazardous Waste Management Plan, see MPCA hazardous waste form #7.16, *Recycled Hazardous Waste Management Plan* at <http://www.pca.state.mn.us/publications/w-hw7-16.pdf>.

For the required annual Recycled Hazardous Waste Report Form, see MPCA hazardous waste form #7.12, *Recycled Hazardous Waste Report Form* at <http://www.pca.state.mn.us/publications/w-hw7-12.pdf>.

Sham recycling, use constituting disposal, and speculative accumulation

Whenever you intend to recycle a hazardous waste, you must ensure that the recycling will be legitimate and not actually improper hazardous waste disposal masquerading as recycling. Called *sham recycling*, it commonly includes situations where hazardous constituents of a waste will not actually be reused or reclaimed, but are just 'along for the ride'.

An example of sham recycling is hazardous waste parts washer solvent containing toxic heavy metals used as an ingredient in the manufacture of roofing products in the place of virgin solvents. The toxic heavy metals are not necessary to the manufacturing process, are not reclaimed or treated by it, and are simply carried along for the ride into the final manufactured products, where they provide no reasonable benefit. When these products degrade through use, the toxic heavy metals will be released to the environment, endangering end users and the public.

Sham recycling may also include use of a hazardous waste in a manufacturing process or to replace a virgin product in excess of the amount actually needed for that task or where the hazardous waste use is of negligible beneficial value to the product or process in which it will be used.

Related to sham recycling is *use constituting disposal*, which includes any use of a hazardous waste, or product made from a hazardous waste, in or on the land or water in a way that might result in the hazardous constituents of the original waste being released to the environment. If your waste will be managed by use constituting disposal, you must ensure that the use complies with all normally applicable hazardous waste disposal requirements.

Legitimately recycled hazardous wastes cannot be speculatively accumulated. Speculative accumulation occurs when less than 75% of the volume of a hazardous waste generated in a calendar year is actually reclaimed or reused in that year (see [Minn. Rules 7045.0020, Subp. 84b](#)).

Finally, with the exception of recyclable fuels, burning a hazardous waste, including when blended with fuels, is considered fully regulated disposal and *not* recycling. Many hazardous wastes generated in Minnesota are actually disposed of by blending with fuel (*fuel-blended*) and burned in cement kilns and hazardous waste incinerators. These wastes are properly disposed of, but *not* recycled.

Remember, you as the generator of a recyclable hazardous waste remain responsible to document that the recycling of your waste is legitimate and not sham recycling, use constituting disposal, or speculative accumulation.

More information

Your metropolitan county and the MPCA have staff available to answer waste management questions. For more information, contact your metropolitan county hazardous waste office or your nearest MPCA regional hazardous waste staff. For information about waste reduction, contact the Minnesota Technical Assistance Program.

Metro County Hazardous Waste Offices

Anoka	763-422-7093
Carver	952-361-1800
Dakota	952-891-7557
Hennepin	612-348-3777
Ramsey	651-266-1199
Scott.....	952-496-8475
Washington.....	651-430-6655
Websites	http://www.co.[county].mn.us

Minnesota Technical Assistance Program

Toll free	1-800-247-0015
Metro	612-624-1300
Web site	http://www.mntap.umn.edu

Minnesota Pollution Control Agency

Toll free (all offices)	1-800-657-3864
Brainerd.....	218-828-2492
Detroit Lakes.....	218-847-1519
Duluth	218-723-4660
Mankato	507-389-5977
Marshall	507-537-7146
Rochester.....	507-285-7343
St. Paul	651-296-6300
Willmar	320-214-3786
Web site	http://www.pca.state.mn.us