

Legitimate Recycling and Speculative Accumulation of Hazardous Wastes

Guidance on Hazardous Waste Requirements



Introduction

The proper reuse, recycling and reclamation of hazardous wastes can minimize environmental hazards and provide economic benefit to industries generating these wastes. Federal regulations, commonly referred to as “Definition of Solid Waste” regulations, were developed between 2008 and 2018 to encourage reclamation and recycling of materials in a way that does not result in increased risk to human health and the environment.

Hazardous waste regulations are found in chapters [NR 660-679](#) of the Wisconsin Administrative Code.

Wisconsin adopted these regulations, including regulations for managing hazardous secondary materials, the criteria (factors) that need to be met to determine if the recycling is legitimate, and requirements that outline when a material is speculatively accumulated. This means that certain materials that would otherwise be considered hazardous waste may be eligible for exemptions and exclusions from full hazardous waste regulation when reuse or recovery activities are deemed legitimate.

This document provides guidance on the criteria for legitimate recycling and speculative accumulation under the Wisconsin DSW rules. This guidance should not be considered a substitute for the applicable portions of chs. NR 660 and NR 661, Wis. Adm. Code.

Legitimate Recycling

Recycling of hazardous waste materials, or hazardous secondary materials, is considered legitimate recycling when the three factors found in s. NR 660.43(1) Wis. Adm. Code, are met and the fourth factor in s. NR 660.43(2) Wis. Adm. Code, has been considered, as outlined below.

Factor 1 – Useful contribution

The hazardous waste or hazardous secondary material must provide a useful contribution to the recycling process, or to a product or intermediate of the recycling process. The material provides a useful contribution if it meets any of the following conditions:

- Contributes valuable ingredients to a product or intermediate.
- Replaces a catalyst or carrier in the recycling process.
- Is the source of a valuable constituent recovered in the recycling process.
- Is recovered or regenerated by the recycling process.
- Is used as an effective substitute for a commercial product.

Factor 2 – Valuable product or intermediate

The recycling process must produce a valuable product or intermediate. The product or intermediate is considered valuable if it meets one of the following:

- The material is sold to a third party.
- The recycler or the generator uses the material as an effective substitute for a commercial product or as an ingredient or intermediate in an industrial process.

Factor 3 – Valuable commodity

The generator and the recycler must manage the hazardous waste or hazardous secondary material as a valuable commodity when it is under their control.

- Where there is an analogous raw material, the material must be managed, at a minimum, in a manner consistent with the management of the raw material or in an equally protective manner.
- Where there is no analogous raw material, the material must be contained.

Materials that are released to the environment and are not recovered immediately are considered discarded and are managed as a waste.

Factor 4 – Comparison to Analogous Products

This factor must be considered in determining the overall legitimacy of a specific recycling activity. In evaluating the extent to which this factor is met, and in determining whether a process that does not meet this factor is still legitimate, consider the potential for exposure from toxics in the product, the bioavailability of the toxics in the product and other relevant considerations.

In evaluating for this factor, a facility should consider whether these products:

- Contain significant concentrations of any hazardous constituents found in appendix VIII of ch. NR 661, Wis. Adm. Code, that are not found in analogous products; or
- Contain concentrations of hazardous constituents found in appendix VIII of ch. NR 661, Wis. Adm. Code, at levels that are significantly elevated from those found in analogous products, or
- Exhibit a hazardous characteristic (as defined in subch. C of ch. NR 661, Wis. Adm. Code) that analogous products do not exhibit.

A facility will be required to justify their conclusions based on this consideration. It is recommended that documentation be maintained to show how the facility considered Factor 4.

Speculative Accumulation

A material is accumulated speculatively if it has no viable market or if the person accumulating the material cannot demonstrate that 75% or more of the material is recycled in a calendar year, commencing on Jan. 1. Conversely, a material is **not** accumulated speculatively if the person accumulating it can show the material meets the following:

Speculative accumulation requirements are found in s. NR 661.0001(3)(h), Wis. Adm. Code

- The material has a feasible means of being recycled.
- At least 75% (by weight or volume) of the total amount of the material on site is recycled or transported off site for recycling during the calendar year. The 75% requirement must be applied to each material of the same type, such as slags from a single smelting process, that are recycled in the same way.
- Materials are placed in a storage unit with a label indicating the first date that the material began to be accumulated. If placing a label on the storage unit is not practicable, the accumulation period must be documented through an inventory log or other appropriate method.

Compliance

When **all conditions** of the HSM exclusion are met, then the HSM that are *legitimately* reclaimed are not solid waste and therefore **not a hazardous waste**.

If **any** of the conditions of the exclusion are **not met**, then the HSM is considered a solid waste and thus a hazardous waste, and the waste would be subject to full subtitle C regulation under the Resource and Conservation Recovery Act, including all applicable requirements of chs. NR 660 to 679, Wis. Adm. Code.

A hazardous secondary material (HSM) is a secondary material such as a spent material, by-product, or sludge that, when discarded, would be identified as a hazardous waste under s. NR 660.10(52), Wis. Adm. Code.

Documentation

Documentation of Legitimate Recycling

Persons performing the recycling of HSM under the generator-controlled exclusion of s. NR 661.0004(1)(w), Wis. Adm. Code, and/or the transfer-based exclusion of s. NR 661.0004(1)(x), Wis. Adm. Code, must maintain documentation of their legitimacy determination on-site.

Documentation must include:

- a written description of how the recycling meets all three factors in s. NR 660.43(1), Wis. Adm. Code and how the requirements of s. NR 660.43(2), Wis. Adm. Code, were considered.
- maintained for three years after the recycling operation has ceased.

The outline below is a suggested format for documenting legitimate recycling. A facility may choose to create its own format for documentation, so long as the document addresses the three legitimacy factors in s. NR 660.43(1), Wis. Adm. Code, and describes how the requirements of s. NR 660.43(2) Wis. Adm. Code, were considered.

Suggested outline

Provide a brief narrative description describing how the hazardous secondary material (HSM) is recycled by the generator.

Example: Spent solvents are reclaimed in an on-site distillation system in order to remove the contaminant and return the solvent back to commercial grade.

For each of the factors below, select the explanation that most appropriately describes how the recycling meets the factor. Then add a brief narrative description explaining how the recycling meets the factor.

Factor 1:

Explain how the HSM provides a useful contribution:

- Contributes valuable ingredients to a product or intermediate.
- Replaces a catalyst or carrier in the recycling process.
- Is the source of a valuable constituent recovered in the recycling process.
- Is recovered or regenerated by the recycling process.
- Is used as an effective substitute for a commercial product.

Example: If spent solvents reclaimed on site are “recovered or regenerated by the recycling process.” Check the fourth line.

Provide a written description of how the hazardous secondary material provides a useful contribution to the recycling process or to a product or intermediate of the recycling process:

Example, the facility could identify what spent solvents are being regenerated in the recycling process.

Factor 2:

Describe how the product or intermediate made from the HSM is valuable:

- Sold to a 3rd party.
- Used by the recycler or generator as an effective substitute for a commercial product.
- Used by the recycler or generator as an ingredient or intermediate in an industrial process.

Example: Spent solvents reclaimed on site and then used by the generator are “used as an effective substitute for a commercial product.” Check the second line.

Provide a written description of how the product or intermediate is valuable.

Example, the facility could identify the commercial product for which their reclaimed solvents are substituting.

Factor 3:

Describe how the HSM is managed as a valuable commodity:

- There is an analogous raw material and the HSM is managed, at a minimum, in a manner consistent with the raw material, or in an equally protective manner.
- There is no analogous raw material and the HSM is contained.

Example: There are analogous raw materials to the spent solvents. Check the first line.

Provide a written description of how the hazardous secondary material is managed prior to being recycled.

Example, the facility should include a brief description of how the spent solvents are stored and managed prior to reclamation. The facility must manage their spent solvents before they are reclaimed in the same manner (or equally protective manner) as the original commercial solvents.

Factor 4:

The requirements of s. NR 660.43(2), Wis. Adm. Code, must be considered when determining the overall legitimacy of a specific recycling activity. Describe how the product of the recycling process does not:

- Contain significant concentrations of any hazardous constituents found in appendix VIII of ch. NR 661, Wis. Adm. Code, that are not found in analogous products; or
- Contain concentrations of hazardous constituents found in appendix VIII of ch. NR 661, Wis. Adm. Code, at levels that are significantly elevated from those found in analogous products, or

- ___ Exhibit a hazardous characteristic (as defined in subchapter C of ch. NR 661, Wis. Adm. Code) that analogous products do not exhibit.
- ___ The product of the recycling process has levels of hazardous constituents that are not comparable to, or are unable to be compared to, a legitimate product or intermediate as outlined above but the recycling is still legitimate.

Provide a written description of how the product made with HSM is comparable to a legitimate product or intermediate.

In determining that a HSM is legitimately recycled, persons must evaluate all the above-listed factors and broadly consider legitimacy. If, after careful evaluation, it is determined that Factor 4 is not satisfied, this may be an indication that the material is not legitimately recycled, and further consideration should be given to exposure from toxics in the product, the bioavailability of the toxics in the product and other relevant data or information regarding the product.

Resources and Contact Information

For more information including [publications, inspection forms, and administrative codes and statutes](#), go to dnr.wi.gov and search “hazardous waste resources.” Use the *Additional Resources* menu to navigate to specific topics. For staff contact information, go to the [staff directory](#) and enter “hazardous waste requirements” in the subject field and choose the appropriate county contact.

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Mailing address: DNR Waste and Materials Management Program, PO Box 7921 Madison, WI 53707

Email: DNRWasteMaterials@Wisconsin.gov

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