HAZARDOUS SECONDARY MATERIAL

Guidance

INTRODUCTION

Large volumes of hazardous secondary material (HSM) are generated across a wide variety of business, manufacturing, and institutional sectors. On January 13, 2015, the federal “Definition of Solid Waste” regulation was promulgated. The regulation revises several recycling-related provisions associated with the definition of waste used to determine hazardous waste regulation. The purpose of these revisions is to ensure that the HSM recycling regulations, as implemented, encourage reclamation in a way that does not result in increased risk to human health and the environment from discarded HSM.

Michigan has incorporated these provisions into the administrative rules promulgated pursuant to Part 111, Hazardous Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, effective April 5, 2017. This publication provides guidance on the management of HSM and should not be considered a substitute for the applicable Part 111 rules.

What is a Hazardous Secondary Material (HSM) and When is it Eligible for Exclusion?

An 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 the Part 111 rules.

The following HSMs are eligible for conditional exclusion under R 299.9204(1)(aa)-(cc):

- HSM that is generated and legitimately reclaimed within the United States (U.S.) or its territories and under the control of the generator.
- HSM that is generated and then transferred to a verified reclamation facility for the purpose of reclamation.
- HSM that is generated and then transferred to another person for the purpose of remanufacturing.

The aforementioned HSM are not required to be included in the generator status calculation.

In order for an HSM to be a hazardous waste, the material must first be a waste. Under the provisions of R 299.9202(6)(d)-(f), the Director of the Materials Management Division (MMD) of the Michigan Department of Environment, Great Lakes, and Energy (EGLE) may determine, on a case-by-case basis, that the following HSMs are not wastes and, therefore, are not hazardous wastes:

- Those reclaimed in a continuous industrial process.
- Those indistinguishable in all relevant aspects from a product or intermediate.
- Those transferred for reclamation under R 299.9204(1)(aa) and managed at a verified reclamation facility or an intermediate facility where the management of the HSM is not addressed under an operating license or the interim status facility standards under the Part 111 rules.

While not specifically excluded under R 299.9204(1)(aa)-(cc), if the EGLE MMD Director determines that these HSMs are not wastes, they are not required to be included in the generator status calculations.

HSM that is not excluded or is determined to be a waste under the Part 111 rules must be managed as a hazardous waste and included in the generator status calculation.
Key Definitions

Before addressing exclusion conditions and associated responsibilities, it is important to define some key terms.

- As it relates to HSM that are legitimately recycled under R 299.9232, contained means held in a unit, including a land-based unit, which meets all of the following criteria:
  - The unit is in good condition, with no leaks or other continuing or intermittent unpermitted HSM releases to the environment, and is designed, as appropriate for materials, to prevent releases of the materials to the environment. Unpermitted releases are releases that are not covered by a permit, such as a permit to discharge to water or air, and may include releases through surface transport by precipitation runoff, releases to the soil and groundwater, wind-blown dust, fugitive air emissions, and catastrophic failures.
  - The unit is properly labeled or otherwise has a system, such as a log, to immediately identify the HSM in the unit.
  - The unit holds HSMs that are compatible with other HSM placed in the unit and with the materials used to construct the unit and addresses any potential risks of fires or explosions.

HSM in units that meet the applicable requirements of Part 6 of the Part 111 rules are presumptively contained.

- An HSM generator is a person whose act or process produces HSM at the generating facility.
- A generating facility includes all contiguous property owned, leased, or otherwise controlled by the HSM generator.
- An intermediate facility is any facility that stores HSM for more than 10 days, other than generator or reclaimer of such material.
- Remanufacturing is the processing of higher-value secondary material in order to manufacture a product that serves a similar functional purpose as the original commercial-grade material. An HSM is considered higher-value if it was generated from the use of a commercial-grade material in a manufacturing process and can be remanufactured into a similar commercial-grade material.
- A tolling contractor is a person who arranges for the production of a product or intermediate made from specified unused materials through a written contract with a toll manufacturer.
- A toll manufacturer is a person who produces a product or intermediate made from specified unused materials pursuant to a written contract with a tolling contractor.
- A verified reclamation facility is a facility that has been granted a variance under Title 40 of the Code of Federal Regulations (C.F.R.) §260.31(d), or a reclamation facility where the management of the HSM is addressed under an operating license or the interim status facility standards under the Part 111 rules.
- An analogous raw material is a raw material for which an HSM is a substitute and serves the same function and has similar physical and chemical properties as the HSM.

Concept of Legitimacy

The recycling of an HSM for the purpose of exclusion or exemption from the regulation as hazardous waste must be legitimate. In order to be considered legitimate, all of the following requirements must be met:

- The recycling involves an HSM that provides a useful contribution to the recycling process or to a product or intermediate of the recycling process. An HSM provides a useful contribution if it meets one of the following requirements:
  - It contributes a valuable ingredient to a product or intermediate.
• It replaces a catalyst or carrier in the recycling process.
• It is the source of a valuable constituent recovered in the recycling process.
• It is recovered or regenerated by the recycling process.
• It is used as an effective substitute for a commercial product.

• The recycling process produces a valuable product or intermediate. A product or intermediate is valuable if it meets one of the following requirements:
  o It is sold to a third party.
  o It is used by the recycler or the generator as an effective substitute for a commercial product or as an ingredient or intermediate in an industrial process.

• The generator and the recycler manage the HSM as a valuable commodity when it is under their control. If there is an analogous raw material, the HSM must be managed, at a minimum, in a manner consistent with the management of the raw material or in an equally protective manner. If there is no analogous raw material, the HSM must be contained.

• The product of the recycling process is comparable to a legitimate product or intermediate. The product of the recycling process is considered comparable to a legitimate product or intermediate if it meets one of the following requirements:
  o If there is an analogous product or intermediate, the product of the recycling process is comparable to a legitimate product or intermediate if both of the following requirements are met:
    ▪ The product of the recycling process does not exhibit a hazardous characteristic as defined in R 299.9212 that analogous products do not exhibit.
    ▪ The concentrations of any hazardous constituents found in 40 C.F.R. Part 261, Appendix VIII, that are in the product or intermediate are at levels that are comparable to, or lower than, those found in analogous products or at levels that meet widely recognized commodity standards and specifications, in the case where the commodity standards and specifications include levels that specifically address those hazardous constituents.
  o If there is no analogous product, the product of the recycling process is comparable to a legitimate product or intermediate if one of the following requirements is met:
    ▪ The product of the recycling process is a commodity that meets widely recognized commodity standards and specifications.
    ▪ The HSM being recycled is returned to the original process or processes from which it was generated to be reused.
  o If 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 under R 299.9232(1)(d)(i) or (ii), the recycling still may be shown to be legitimate if the following requirements are met:
    ▪ The person performing the recycling conducts the necessary assessment showing why the recycling is, in fact, still legitimate.
    ▪ The recycling can be shown to be legitimate based on lack of exposure from toxics in the product, lack of the bioavailability of the toxics in the product, or other relevant considerations which show that the recycled product does not contain levels of hazardous constituents that pose a significant human health or environmental risk.
    ▪ The person performing the recycling prepares documentation demonstrating why the recycling is, in fact, still legitimate. The documentation must include a certification statement that the recycling is legitimate and must be maintained on-site for three years after the recycling operation has ceased. The person performing the recycling shall notify the Director, MMD, EGLE of this activity using Michigan site identification form EQP5150.
Exclusion Conditions and Associated Responsibilities

Even if the material is determined to be an HSM conditionally excluded from the definition of waste, the generator and subsequent handlers still have certain regulatory responsibilities. Each of the three exclusions has its own set of conditions and associated responsibilities.

1. HSM that is generated and legitimately reclaimed within the U.S. or its territories and under the control of the generator is not a waste if all of the following conditions are met:

   - The HSM is generated and legitimately reclaimed in accordance with any of the following:
     - At the generating facility.
     - At a different facility which is controlled by the generator and the generator provides the certification required under R 299.9204(1)(aa)(i)(B) to EGLE’s MMD Director.
     - At a different facility and both the generating facility and the reclaiming facility are controlled by the same person, and the generator provides the certification required under R 299.9204(1)(aa)(i)(C) to EGLE’s MMD Director. Control means the power to direct the policies of the facility, whether by the ownership of stock, voting rights, or otherwise, except that contractors who operate facilities on behalf of a different person shall not be deemed to "control" such facilities. Both the generator and the reclaimer maintain at their facilities, for not less than three years, records of the HSM sent or received under this exclusion. In both cases, the records shall contain:
       - The name of the transporter.
       - The date of the HSM shipment.
       - The type and quantity of HSM shipped or received under this exclusion.
     - The HSM is contained.
     - The HSM is not speculatively accumulated.
     - A notification is provided to EGLE’s MMD Director in accordance with 40 C.F.R. §260.42.
     - The HSM is not otherwise subject to material-specific management conditions under R 299.9204(1) when reclaimed, and it is not a spent lead-acid battery.
     - The HSM recycler maintains the required documentation of their legitimacy determination on-site, for not less than three years, after the recycling operation has ceased.

These requirements may be satisfied by routine business records such as financial records, bills of lading, copies of U.S. Department of Transportation (DOT) shipping papers, or electronic confirmations of receipt.
The HSM is managed in accordance with R 299.9234, which references 40 C.F.R. Part 261, Subpart M.

2. HSM that is generated and then transferred to a verified reclamation facility for the purpose of reclamation is not a waste if all of the following conditions are met:

- The HSM is not speculatively accumulated.
- The HSM is not handled by any person or facility other than the HSM generator, the transporter, an intermediate facility, or a reclaimer.
- While in transport, the HSM is not stored for more than 10 days at a transfer facility and is packaged in accordance with applicable U.S. DOT regulations in 49 C.F.R. Parts 173, 178, and 179.
- The HSM is not otherwise subject to material-specific management conditions under R 299.9204(1) when reclaimed, and it is not a spent lead-acid battery.
- The reclamation of the HSM is legitimate as outlined in R 299.9232.
- The HSM generator meets all of the following conditions:
  - The HSM is contained.
  - The HSM generator arranges for transport of the HSM to a verified reclamation facility or facilities in the U.S.
  - If the HSM will be passing through an intermediate facility, the intermediate facility has been granted a variance under 40 C.F.R. §260.31(d) or the management of the HSM is addressed under an operating license or the interim status standards under the Part 111 rules, and the HSM generator makes contractual arrangements with the intermediate facility to ensure that the material is sent to the reclamation facility identified by the generator.
  - The HSM generator maintains at the generating facility, for not less than three years, records of all off-site shipments of HSM. For each shipment, the records shall, at a minimum, include:
    - The name of the transporter.
    - The date of the HSM shipment.
    - The name and address of each reclaimer.
    - The name and address of each intermediate facility to which the HSM was sent.
    - The type and quantity of HSM in the shipment.
  - The HSM generator maintains, for not less than three years, confirmations of receipt from each reclaimer and, if applicable, each intermediate facility for all off-site shipments of HSM. Confirmation of receipt shall include:
    - The name and address of the reclaimer.
    - The name and address of the intermediate facility.
    - The type and quantity of the HSM received.
    - The date the HSM was received.

This requirement may be satisfied with routine business records such as financial records, bills of lading, copies of U.S. DOT shipping papers, or electronic confirmations of receipt.

- Reclaimers of HSM excluded from regulation under this exclusion and intermediate facilities meet all of the following conditions:
  - The reclaimer and intermediate facility maintain at their facilities, for not less than three years, records of all shipments of HSM received and, if applicable, for all shipments of HSM received and subsequently sent off-site from the facility for further reclamation. For each shipment, these records shall, at a minimum, include:
The name of the transporter.

The date of the HSM shipment.

The name and address of the HSM generator.

The name and address of the reclaimer or intermediate facility from which the HSM was received.

The type and quantity of HSM in the shipment.

For HSM received by the reclaimer or intermediate facility and subsequently transferred off-site for further reclamation:

- The name and address of the subsequent reclaimer.
- The name and address of each intermediate facility to which the HSM was sent.

- The intermediate facility sends the HSM to the reclaimer(s) designated by the HSM generator.

- The reclaimer and intermediate facility send the HSM generator confirmations of receipt for all off-site shipments of HSM. Confirmations of receipt shall include:
  - The name and address of the reclaimer.
  - The name and address of the intermediate facility.
  - The type and quantity of HSM received.
  - The date the HSM was received.

This requirement may be satisfied by routine business records such as financial records, bills of lading, copies of U.S. DOT shipping papers, or electronic confirmations of receipt.

- The reclaimer and intermediate facility manage the HSM in a manner that is at least as protective as that employed for analogous raw material and is contained.

- Any residuals that are generated from reclamation processes are managed in a manner that is protective of human health and the environment. If any residuals exhibit a hazardous characteristic according to the Part 111 rules, or they themselves are specifically listed in the Part 111 rules, the residuals are hazardous waste and are managed in accordance with the Part 111 rules.

- The reclaimer and intermediate facility have financial assurance as required under the Part 111 rules.

- The reclaimer and intermediate facility have been granted a variance under 40 C.F.R. §260.31(d) or the HSM is addressed under an operating license or the interim status standards under the Part 111 rules.

- All persons claiming the exclusion under R 299.9204(1)(bb) shall provide notification to the Director, MMD, EGLE as required under 40 C.F.R. §260.42.

- The HSM is managed in accordance with R 299.9234, which references 40 C.F.R. Part 261, Subpart M.

3. HSM that is generated and then transferred to another person for the purpose of remanufacturing is not a waste if all of the following conditions are met:

- The HSM consists of one or more of the following spent solvents:

  Toluene  Cyclohexane  Methyl isobutyl ketone
  Xylenes    Methyl tert-butyl ether  NN-dimethylformamide
  Ethylbenzene  Acetonitrile  Tetrahydrofuran
  1,2,4-trimethylbenzene  Chloroform  n-butyl alcohol
  Chlorobenzene  Chloromethane  Ethanol
  n-hexane  Dichloromethane  Methanol
• The HSM originated from using one or more of the solvents listed above in a commercial grade for reacting, extracting, purifying, or blending chemicals, or for rinsing out the process lines associated with these functions, in one or more of the following sectors:
  o Pharmaceutical manufacturing (NAICS 325412)
  o Basic organic chemical manufacturing (NAICS 325199)
  o Plastics and resins manufacturing (NAICS 325211)
  o Paints and coatings manufacturing (NAICS 325510)

• The HSM generator sends the HSM spent solvents listed above to a remanufacturer in one or more of the following sectors:
  o Pharmaceutical manufacturing (NAICS 325412)
  o Basic organic chemical manufacturing (NAICS 325199)
  o Plastics and resins manufacturing (NAICS 325211)
  o Paints and coatings manufacturing (NAICS 325510)

• After manufacturing one or more of the solvents listed above, the use of the remanufactured solvent is limited to reacting, extracting, purifying, or blending chemicals, or for rinsing out the process lines associated with these functions, or to using them as ingredients in a product, in one or more of the following sectors:
  o Pharmaceutical manufacturing (NAICS 325412)
  o Basic organic chemical manufacturing (NAICS 325199)
  o Plastics and resins manufacturing (NAICS 325211)
  o Paints and coatings manufacturing (NAICS 325510)

These allowed uses correspond to chemical functional uses enumerated under the chemical data reporting rule of the Toxic Substances Control Act, 40 C.F.R. Parts 704, 710, and 711, including industrial function codes U015 (solvents consumed in a reaction to produce other chemicals and U030 (solvents become part of mixture).

• After remanufacturing one or more of the solvents listed above, the use of the remanufactured solvent does not involve cleaning or degreasing oil, grease, or similar material from textiles, glassware, metal surfaces, or other articles. These disallowed continuing uses correspond to chemical functional uses in industrial function code U029 under the chemical data reporting rule of the Toxic Substances Control Act.

• Both the HSM generator and the remanufacturer do all of the following:
  o Provide notification to the Director of the MMD and update the notification every two years pursuant to 40 C.F.R. §260.42.
  o Develop and maintain an up-to-date remanufacturing plan which identifies all of the following:
    ▪ The name, address, and site identification number of the generator and remanufacturer.
    ▪ The types and estimated annual volumes of spent solvents to be remanufactured.
    ▪ The processes and industry sectors that generate the spent solvents.
    ▪ The specific uses and industry sectors for the remanufactured solvents.
    ▪ A certification statement from the remanufacturer stating:
"On behalf of [insert remanufacturer facility name], I certify that this facility is a remanufacturer under [insert appropriate code(s) pharmaceutical manufacturing (NAICS 325412), basic organic chemical manufacturing (NAICS 325199), plastics and resins manufacturing (NAICS 325211), or paints and coatings manufacturing (NAICS 325510)] sectors, and will accept the spent solvents for the sole purpose of remanufacturing into commercial-grade solvents that will be used for reacting, extracting, purifying, or blending chemicals, or for rinsing out the process lines associated with these functions, or for use as a product ingredient. I also certify that the remanufacturing equipment, vents, and tanks are equipped with and are operating air emission controls in compliance with the appropriate Clean Air Act regulations under 40 C.F.R. Parts 60, 61, or 63, or, absent such Clean Air Act standards for the particular operation or piece of equipment covered by the remanufacturing exclusion, are in compliance with the appropriate standards in 40 C.F.R. Part 261, Subparts AA to CC."

- Maintain records of shipments and confirmations of receipts for a period of three years from the dates of the shipments.
- Prior to remanufacturing, store the hazardous spent solvents in containers or tanks that meet the technical standards specified in R 299.9233(1) and (2), respectively, with the containers and tanks being labeled or otherwise having immediately available record of the material being stored.
- During storage of the HSM prior to remanufacturing and during remanufacturing, the remanufacturer certifies the remanufacturing equipment, vents, and tanks are equipped with, and are operating air emission controls in compliance with, the appropriate Clean Air Act regulations under 40 C.F.R. Parts 60, 61, or 63, or, absent such standards for the particular operation or piece of equipment covered by the remanufacturing exclusion, are in compliance with the appropriate standards in 40 C.F.R. Part 261, Subparts AA to CC.
- Meet the requirements prohibiting speculative accumulation pursuant to R 299.9107.

**Variances**

As noted above and in R 299.9202(6)(f) and (7), reclamation facilities and intermediate facilities may have to obtain a variance under 40 C.F.R. §260.31(d). Variance requests shall be submitted to the MMD Director and include all of the following:

- A demonstration that the reclamation process for the HSM is legitimate.
- A demonstration that the facility satisfies the finance assurance condition in R 299.9204(1)(aa) or (bb).
- A demonstration that the facility has not been subject to a formal enforcement action in the previous three years and is not classified as a significant non-complier under the Part 111 program, or provides credible evidence that the facility will manage the HSM properly.
- A demonstration that the facility has the equipment and trained personnel needed to safely manage the HSM.
- A demonstration that the facility meets the emergency preparedness and response requirements of R 299.9234.
• If residuals are generated from the reclamation of excluded HSM, a demonstration that the facility has the permits required, if any, to manage the residuals or has a contract with an appropriately permitted facility to dispose of the residuals, or presentation of credible evidence the residuals will be managed in a manner that is protective of human health and the environment.

• Information regarding the potential for risk to proximate populations from unpermitted releases of the HSM to the environment, which may include, but are not limited to, potential releases through surface transport by precipitation runoff, releases to soil and groundwater, wind-blown dust, fugitive air emissions, and catastrophic unit failures, and consideration of potential cumulative risks from other nearby potential stressors.

Helpful Resources
The following resources may be helpful when managing HSM:

Definition of Solid Waste, 80 Federal Register 1964, January 13, 2015
Part 111 Rules
Michigan site identification form E0P5150 and instructions
EGLE Hazardous Waste Program
PO Box 30241
Lansing, Michigan 48909-7741
517-284-6562

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