

MARYLAND DEPARTMENT OF THE ENVIRONMENT

Land Management Administration • Solid Waste Program
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Fact Sheet: Statutes, Regulations, and Guidance Concerning the Regulation of Composting in Maryland Updated 2/3/2012

Composting of organic material can be a useful way to recycle materials that would otherwise end up in a landfill. "Backyard" composting of yard waste, garden residuals and food scraps is generally not regulated (although some counties may have local zoning or health department requirements – check with your local officials).

However, larger-scale commercial, governmental, or cooperative composting activities can potentially have negative environmental impacts such as water pollution, the risk of fire, and the development of significant health nuisances such as odor and the attraction of disease vectors such as rats and flies. Therefore, these activities may be regulated by one or more State agencies, depending on what type of materials are being composted, where and how they are being composted, and what is being done with the finished compost. The various requirements generally include a permit or other approval, and often involve both the submission of an application and supporting documents, as well as specific requirements for the preparation, design, and operation of the composting facility itself. The following is a description of the State's regulatory system, and the types of approvals that may be required.

1. Maryland Department of Agriculture (MDA) Regulations Governing Compost Quality. If the compost is sold or distributed in Maryland (including given away for free or used in public places by other than governmental entities – see the regulation at COMAR 15.18.04.02A(3) for a list of exemptions), then the Maryland Department of Agriculture's (MDA) compost regulations at COMAR 15.18.04 are applicable (available in the list of other Office of the State Chemist regulations at http://www.dsd.state.md.us/comar/SubtitleSearch.aspx?search=15.18.*). These regulations require registering of the product with MDA, and regulate the quality of the compost being produced. MDA also has regulations governing fertilizers and soil amendments which may be applicable. Please see MDA's Office of the State Chemist's webpage at http://www.mda.state.md.us/sc/plants-pests/state_chemist2.php regarding application forms and links to the MDA regulations. This applies to most types of compost, including manure, food waste, and yard waste compost. The Office of the State Chemist can also be reached by telephone at 410-841-2721, or by facsimile at 410-841-2740.

2. Maryland Department of the Environment (MDE) Regulations Governing Composting Facilities. The location where the composting takes place may or may not need a permit from MDE's Land Management Administration depending on what is being composted and what is done with the resulting compost:

A. Solid Waste: Composting of solid waste such as household refuse, industrial residuals, and other materials is likely to require a Refuse Disposal Permit for a processing facility. See COMAR 26.04.07.23 at <http://www.dsd.state.md.us/comar/comarhtml/26/26.04.07.23.htm>. These regulations generally require that the activities take place in a building, and on an impermeable floor. The solid waste regulations also include some requirements governing compost quality that are applicable whether or not MDA's compost regulations are applicable. For more information, contact the Solid Waste Program, Solid Waste Operations Division at (410) 537-3318. Note that there are some exceptions - see paragraph D below.

B. Natural Wood Waste (NWW): Maryland law has established a specific and detailed regulatory program for natural wood waste composting (see §§9-1701, 9-1708, and 9-1721 through 1724 of the Environment Article, Annotated Code of Maryland for the statutes pertaining to natural wood waste and other waste composting. Composting of ground up logs, limbs, branches, stumps, and other natural wood waste requires a natural wood waste recycling permit under COMAR 26.04.09. (Disposal by landfilling of these same materials requires a Refuse Disposal Permit for a landclearing debris landfill – see COMAR 26.04.07.04). This can be done outside, and does not require an impermeable surface, but the activity is limited to natural wood only, and there are specific requirements for permitting, operation, monitoring, and reporting - see the regulations at http://www.dsd.state.md.us/comar/SubtitleSearch.aspx?search=26.04.09.*. Both a general permit and individual site permits (which allow greater flexibility for site-specific activities than the general permit) are available. A permit is required before operations can commence; however, if the material being composted only derives from one site (e.g., a construction site), and is going to be used on that site (e.g., for interim stabilization of disturbed areas), then a permit may not be required. Also, governmental entities are exempt from the NWW permit requirement. For more information, contact the Solid Waste Program, Solid Waste Operations Division at (410) 537-3318.

C. Sewage Sludge: Composting of sewage sludge, and anything containing sewage sludge, requires a Sewage Sludge Utilization Permit under the sewage sludge regulations. A permit is required before construction or operation can commence. See statutes in Subtitle 9-2, Part III of the Environment Article, Annotated Code of Maryland, and regulations under COMAR 26.04.06 at http://www.dsd.state.md.us/comar/SubtitleSearch.aspx?search=26.04.06.*. For information concerning sewage sludge utilization permits, contact the Waste Diversion and Utilization Program, Nutrient Resources Division at (410) 537-3375.

D. Recycling or Solid Waste? Whether a Refuse Disposal Permit is required or not is in part dependent on what is done with the compost. The definition of solid waste under Maryland law include materials that may be composted, but excludes finished compost (see §§9-101(j) of the Environment Article, Annotated Code of Maryland). Therefore, if the compost can all be successfully distributed, and there is not any significant amount of solid waste residuals that have to be disposed of, then the composting activity is regarded as a recycling operation and not a refuse disposal facility. Composting of food waste that does not contain uncompostable packaging materials or other wastes is an example of a composting activity that may fit this category. However, if the raw materials contain an unacceptable amount of uncompostable elements, e.g. plastic or metal, or the attempts to compost are being done in a way that results in off-spec product that isn't marketable (e.g., it doesn't meet MDA's or MDE's compost quality standards such as pathogen reduction or objectionable material content; or it doesn't break down well; or isn't acceptable to buyers because of odor, texture, or other objectionable characteristics, rendering it unmarketable) then a Refuse Disposal Permit is required. Maryland law requires that a Refuse Disposal Permit be obtained in advance of construction or operation of the facility (see §9-204 of the Environment Article, Annotated Code of Maryland). So, it is recommended that prospective compost operators research this area thoroughly, and do market research as well, to insure that a market exists for the material, and whether a Refuse Disposal Permit will be required.

Materials that likely do not need a Refuse Disposal Permit if they are composted properly include manure, yard waste (grass, leaves and yard clippings etc. – see the complete definition at §9-1701(q) of the Environment Article, Annotated Code of Maryland), and food waste if it is uncontaminated by non-compostable materials such as packaging, pallets, plastic plates, drink containers, and silverware. These materials can routinely be composted to produce products that are completely marketable. However, if the material contains non-compostable materials or the composting process is not done properly, then some of the material may have to be disposed of as solid waste, and the facility may be required to obtain a Refuse Disposal Permit for a processing facility. Please contact MDE's Solid Waste Program for more information prior to engaging in activities that may require a Refuse Disposal Permit.

E. Stormwater and Wastewater Discharge Permits. MDE has specific permit requirements for food composting operations because such operations use materials that contain soluble constituents that, when released to ground or surface waters, have a high potential to pollute waters of the State. A Discharge Permit may be required for this activity - see the attached document "MDE/ WMA Permitting Requirements for Food Composting Operations".

For other forms of composting that do not include food waste, such as natural wood waste and or leafy materials, if a composter will sell or barter the composted product, then this is considered a compost manufacturing operation. A discharge permit is required for such "manufacturing" types of operation. Typically the Department authorizes this discharge under the general permit for discharges of storm water from industrial activities (SW); however, certain instances require an individual discharge permit. The key provision of the general permit is the development and implementation of a pollution prevention plan (SWPPP) for storm water runoff that may come in contact with compostable materials. Below is a link with some basic information on this permit. <http://www.mde.state.md.us/assets/document/permit/2008PermitGuide/WMA/3.03.pdf>

If the compost operation is large enough to require a 'Wind-Row' type of composting operation or if the wastewater from the operation is disposed of by spray irrigation or other land application systems, then a groundwater discharge permit may be required. This type of permit may include such measures as the installation of monitoring wells for the purpose of monitoring groundwater quality. A plan to manage storm water runoff is also required to manage nutrients and other contaminants and prevent ground or surface water pollution. In addition, the operator may be required to have an operating plan to control offsite migration of odors.

If a composter brings in source materials such as natural wood waste or leaf materials from offsite, and uses the composted product solely in their own onsite farming or gardening activities, then regulations do not require a discharge permit. This is considered equivalent to other farming tasks, such as plowing, fertilizing, or weeding. Similarly, a discharge permit is not required for composting operations in which composting materials are created and used on the same property, unless such composting operations are conducted in a manner that could contaminate ground or surface waters.

Regardless of whether a discharge permit is required, for protection of waters of the State it is recommended that a composting operation be containerized or operated in a manner to prevent ground or surface water contamination. Conducting composting operations on an impervious ground surface, and with a cover from the rain, will minimize the potential that runoff will contaminate ground or surface waters.

F. Other MDE Permits. Other MDE permits may also be required. In particular, the Air and Radiation Management Administration (ARMA) may require permits for waste shredders and possibly other activities such as bioreactors.

For more information concerning other MDE permits and their requirements, see the WMA fact sheet that follows entitled "Requirements at Food Composting Operations to Protect Waters of the State" and MDE's Permitting Guide and other information on MDE's website, at <http://www.mde.state.md.us/programs/Permits/Pages/permits/index.aspx>.

Attachment Follows:

"Requirements at Food Composting Operations to Protect Waters of the State"



Maryland Department of the
Environment

FACTS ABOUT:

Water Quality Protection for Food Composting

Requirements at Food Composting Operations to Protect Waters of the State

The purpose of this document is to define the expectations, site design parameters, and regulatory requirements of food composting operations in order to prevent or minimize exposure of compostable materials to storm water and to prevent untreated discharges of leachate. Food composting operations include food waste source materials, its byproducts, storage and staging areas, active compost areas, and finished product storage areas. Leachate, for the purposes of this document, is defined as any liquid that is a component of the composting material or that comes into contact with such material.

Food composting facilities are subject to State and federal water pollution control laws. Facilities manufacturing compost from outside materials for sale or trade are engaged in industrial activity and must have a National Pollutant Discharge Elimination System (“NPDES”) permit for storm water discharges if any potential pollutants are exposed to storm water. Storm water discharges may be permitted under the General Permit for Storm Water Discharges Associated with Industrial Activity, or the Department may, at its discretion, require an individual discharge permit for the facility. A facility that has no exposure of potential pollutants to storm water (for example, all composting operations are conducted in a building) may file a No Exposure Certification with the Department. In addition, a state discharge permit is required for discharges of pollutants or wastewater from composting operations to surface or groundwater. MDE’s experience has shown that large scale composting operations, especially food composting operations, generate leachate with the potential to contaminate ground and surface waters.

The following guidance requires food composters to control for leachate and minimize or prevent exposure of materials associated with food waste to storm water. This will typically be accomplished via covered stockpiles and windrows, impervious surfaces for compostable materials, the development of a site specific storm water pollution prevention plan, and leachate collection and treatment or hauling. If the facility chooses to treat and discharge its leachate, a site specific discharge permit is required, with limits protective of the specific receiving stream and offsets for discharges of nutrients to prevent any net increase in nutrient loadings to the watershed. Land application of treated leachate and discharge via an on-site disposal system are other alternatives that may be authorized under a site specific State groundwater discharge permit.

I. Minimum Requirements for Design and Operation of Food Composting Facilities

Design requirements for food composting operations include setbacks, impervious surfaces for all compostable materials associated with food waste, collection of all resulting leachate and contaminated storm water, and development of a site specific storm water pollution prevention plan which considers implementation of covered stock piles and windrows as part of the facility’s best management practices.

The minimum design requirements for a food composting facility to protect surface and ground waters of the State are as follows:

1. The facility shall maintain a setback of at least 100' from waters of the State, including field ditches, other conduits, intermittent streams, and drinking water wells; or an approved alternative may be substituted for the 100' setback. An example of an approved alternative is a 35-foot vegetative buffer strip established consistent with NRCS Practice Standards 390, 391 and 393, or systems as approved by MDE in coordination with the Maryland Department of Agriculture and the University of Maryland Extension Service. In addition, the facility shall not be located:
 - a. Within 25 feet of public roads;
 - b. Within 50 feet of a property line, unless the owner of the adjacent property has provided a written waiver consenting to the facility being closer than 50 feet; or
 - c. Within 200 feet measured from an occupied off-site dwelling, unless the owner of the dwelling has provided a written waiver consenting to the facility being closer than 200 feet.
2. Any access roads to the facility shall be compacted and maintained in order to control dust and to prevent or minimize the tracking of mud onsite or offsite. Leachate shall not be applied to the roads for dust control.
3. Prior to beginning construction of the facility, the operator must obtain all the necessary storm water management permits. Storm water runoff shall be managed in accordance with federal, State, and local regulations, including State discharge permits for storm water associated with industrial activity, and for construction activity if construction affecting one acre or more will occur. The facility shall develop and implement a storm water pollution prevention plan addressing best management practices (BMPs) for all storm water exposures, including but not limited to BMPs to divert storm water away from composting operations and to minimize or prevent exposure of compost materials to storm water.
4. All food waste processing, including staging areas, windrows, and any areas where food waste is co-mingled with other compost (including but not limited to yard waste) shall be placed on a surface (pad) with a permeability rating of no more than 1×10^{-7} centimeters per second. This could be achieved with plastic lining under an earthen or asphalt pad, or concrete. The Department is not aware of other alternatives that would reliably produce the 1×10^{-7} centimeters per second permeability rating, but would consider other alternatives if it can be demonstrated that they would meet the permeability rating. The pad shall be constructed a minimum of two (2) feet above the seasonal high groundwater table. The pad shall be capable of maintaining structural integrity under normal operating conditions, collection of all liquids and solids generated by the composting or staging process, and capable of supporting vehicular traffic on the pad (if vehicles are driven onto the pad).
5. All leachate and all runoff from food compost materials exposed to storm water shall be collected and stored in a tank, container or lined impoundment prior to reuse on-site (with no discharge), discharge to a sanitary sewer system, hauling off-site for treatment and/or disposal, or treatment by an on-site wastewater treatment facility prior to discharge under a site-specific state discharge permit (see Section II of this guidance for permit requirements). All necessary permits for the management of storm water, leachate and wastewater must be obtained prior to beginning composting operations.
6. Applicants must contact MDE's Land Management Administration for approval of any food composting operation prior to operation. Materials which are not to be used in the food composting operation, or any materials generated which are determined to be "waste" shall be managed appropriately. A Refuse Disposal Permit may be required. Maryland law specifies that if a Refuse

Disposal Permit is required, the permit must be obtained prior to construction or operation of the facility. Please contact the Solid Waste Program at (410) 537-3318 for more information about the refuse disposal permit application process.

7. All materials at the facility shall be stored and processed in a manner that prevents harborage or breeding of vectors or creation of odor, litter and other nuisances that may be harmful to public health or the environment.

8. All incoming materials associated with food waste must be incorporated into the composting processes within 72 hours.

9. Pre-consumer and post-consumer food residuals, food processing waste and manure are the only waste streams that may be accepted at the facility in liquid form. The liquid food waste and manure may be added during composting to achieve the appropriate moisture content and should not be used to the extent that these liquids will discharge from the bottom of the compost pile. Properly constructed tankage must be available to store all liquid compost inputs.

10. The operator of the facility must develop and maintain a standard operating procedure for the routine management of composting operations and alternative management of materials during periods when the facility is not in operation.

11. The composting operation must also meet all requirements of COMAR 15.18.04 (as stated above in the section 'Maryland Department of Agriculture (MDA) Regulations Governing Compost Quality', including but not limited to the requirement that composting operations be supervised by a Certified Compost Operator.

II. Discharge Permit Requirements for Onsite Treatment and Discharge of Food Composting Operation Wastewater.

Food composting operations with storm water discharges directed to surface waters (either directly or via a storm sewer systems) are subject to NPDES permitting requirements for exposure to storm water, which may be fulfilled either through registration under a storm water general discharge permit, or at the Department's discretion, issuance of an individual discharge permit.

If the facility chooses to treat and discharge its leachate to surface or ground waters of the State, submission of an application for a site specific discharge permit is required. Permit application forms are available online at www.mde.state.md.us.

Subject to the Department's notice of final determination on any permit application, the required discharge permit will establish as a minimum the following terms and conditions, in addition to the requirements listed in Part I of this guidance, depending on whether the applicant is proposing a discharge to groundwater or surface water:

1. For food composting operations proposing to discharge wastewater to surface water, numeric limits will be applicable for the following characteristics: Biochemical Oxygen Demand (BOD5), Total Suspended Solids (TSS), nutrients (Nitrogen and Phosphorus), Ammonia (as N), pH and bacteria. A narrative limit will apply for oil and grease and color. Meeting the numeric and narrative limits is most commonly achieved by installation and operation of a package treatment plant.

2. For food composting operations proposing to discharge wastewater to groundwater via a land treatment system, numeric limits will be applicable for the following characteristics: BOD, Total Suspended Solids (TSS), Total Nitrogen (TKN plus nitrite-nitrate), Total Dissolved Solids (TDS), Chlorides, and bacteria. Limits will be imposed based on site specific conditions such as soil conditions, scale of operation, results of monitoring well samples, and the overall wastewater quality. Meeting numeric limits may be appropriately achieved by an advanced on site disposal system, constructed wetlands, or a spray irrigation system.
3. If the facility intends to land apply storm water and leachate, the permit application must include plans for a containment structure sufficient to hold sixty (60) days of storm water and leachate. A Nutrient Management Plan (NMP) and proposed best management practices shall also be part of the permit application. Operations and Maintenance (O&M) requirements, and Monitoring Well (MW) requirements may also be required in the permit depending on discharge volume and other site specific conditions.
4. For all proposed discharges, regardless of whether to surface or to ground waters, offsets for nutrients to prevent any net increase in nutrient loadings to the watershed will be required. Further information regarding nutrient caps and offsets is available online at www.mde.state.md.us by searching for "Policy for Nutrient Cap Management and Trading."
5. The permit's storm water pollution prevention plan requirements may include more specific best management practices depending on site conditions and operations.
6. The required impermeable pad shall be inspected for uniformity, damage and imperfections during construction, installation and operation. This inspection shall be accomplished by a professional engineer or surveyor.
7. Permit applications for food composting operations shall also include the following information as a minimum:
 - a. proposed procedures for inspecting incoming materials and segregating or rejecting non-compostable materials;
 - b. proposed procedures for maintaining aerobic composting conditions;
 - c. proposed procedures for monitoring temperature and oxygen in the piles and ensuring that the compost product meets MDA composting standards; and
 - d. proposed wastewater treatment system.
8. Once a permit application is received, the Department's procedure is to visit the facility and then evaluate the specific requirements (those described above) that are applicable. A permit will be drafted, and made available for the general public for their review and comment. A public hearing, if requested, will be conducted. If no adverse comments are received, the permit will be issued. If adverse comments are received, the Department issues its final determination (with response and potential modification to the draft permit).
9. MDE's published turnaround time for surface water discharges from permit application to publication of a proposed permit is 12 months, and for groundwater discharges, 18 months.
10. Each permit approval lasts a maximum of five (5) years, and each renewal application must be submitted 180 days prior to the expiration date.

11. For surface water applications, application fees range from \$50 - 20,000 depending on the volume of discharge and how the water is used; annual permit fees range from \$100 - 5,000 depending on the volume of discharge.

III. Exceptions

Exceptions to the applicability of requirements listed in this guidance include:

1. The composting operation occurs within an aggregate area not greater than five thousand square feet; the operator has developed best management practices to minimize the potential for any groundwater and surface water pollution; and the operator has obtained coverage under the Department's storm water general permit for industrial discharges, with the approved registration including both the ground and surface water best management practices.
2. Composting facilities that compost food waste generated from animal or crop production operations, provided that the owner of the composting facility is the same as the owner of the animal or crop production operation where the food waste is generated; the composting facility is located on property owned by the animal or crop production operation; the composting facility is operated in such a manner that noise, dust, and odors do not constitute a nuisance or health hazard and does not cause or contribute to surface or ground water pollution; and all compost produced is utilized exclusively at the animal or crop production operation. If the site is an animal feeding operation that falls under Maryland's Animal Feeding Operations (CAFO/MAFO) regulations, then the requirements of those regulations and any applicable permit issued under the CAFO/MAFO regulations will apply to the composting activity as well. See MDE's website at http://www.mde.state.md.us/programs/Land/SolidWaste/CAFOMAFO/Pages/Programs/LandPrograms/Solid_Waste/cafo/index.aspx for more information about CAFO/MAFOs.
3. Any person composting food waste within an aggregate area not greater than four hundred square feet on any premises in a manner that noise, dust, and odors do not constitute a nuisance or health hazard and does not cause or contribute to surface or ground water pollution; however, if the primary activity of the operator is Standard Industrial Code 2875 (composting and mixing fertilizers), the operator is still required to register under the Department's storm water general permit for industrial activity.

IV. Contact Information

For stormwater and other discharges to surface waters, contact the Industrial and General Permits Division at 410-537-3323. For stormwater discharges from construction sites, contact the WMA Compliance Program at 410-537-3510. For discharges to ground waters, contact the Groundwater Permits Division at 410-537-3778. Also, see MDE's website for more information concerning discharge permits:

<http://www.mde.state.md.us/PROGRAMS/PERMITS/WATERMANAGEMENTPERMITS/Pages/Permits/WaterManagementPermits/index.aspx>

For activities that may require a Refuse Disposal Permit, please contact the Solid Waste Program at (410) 537-3318. For general information concerning other types of composting, see

www.mde.state.md.us/programs/Land/SolidWaste/Pages/Programs/LandPrograms/Solid_Waste/index.aspx and other information at

www.mde.maryland.gov/programs/land/recyclingandoperationsprogram/educationandoutreach/pages/programs/landprograms/recycling/education/compostinfo.aspx.