

All StARs: What Counts as MRA or non-MRA Material?

You may use these definitions and guidelines to help you determine if a certain recyclable material is considered an MRA or non-MRA material (or neither). The list of MRA materials is not all-inclusive; it is continuously evolving. If you have a question about a material not listed here, please contact MDE.

Aluminum road signs: Aluminum from road signs does NOT count towards the MRA rate and should be included in the “Scrap Metal” section of the non-MRA table.

Aluminum from water treatment plants: Aluminum recovered from water treatment plants does NOT count towards the MRA rate and should be included in the “Scrap Metal” section in the non-MRA table.

Aluminum Foil and Food Tray Containers: Aluminum foil and aluminum food tray containers count towards the MRA rate and should be included in the “Other” section of the “Metals” category in the MRA table.

Animal Carcasses: The recycling of animal carcasses counts towards the MRA rate and should be included in the “Other” section of the “Other Materials” category in the MRA table.

Animal Fats (liquid): Liquid animal fats do NOT count towards the MRA rate. They should be included in the “Other” section of the non-MRA table.

Asphalt: See “C & D Debris.”

Back-End Scrap Metal: Ferrous and non-ferrous metal pulled post incineration. Back-end scrap counts towards the MRA rate and should be included in the “Other” section of the “Metals” category in the MRA table. See also “Front-End Scrap Metal,” “Metal (MRA),” and “Scrap Metal (Material).”

Bark: Scrap bark from a manufacturing process that is composted or mulched counts towards the MRA rate and should be included in the “Wood Materials” section of the “Organics” category in the MRA table. Scrap bark that is manufactured into a new product (*e.g.*, charcoal) counts towards the MRA rate and should be included in the “Other” section of the “Other Materials” category in the MRA table.

Batteries: Lead-acid (auto) batteries count towards the MRA rate and should be included in the “Lead Acid (Auto) Batteries” section of the “Other Materials” category in the MRA table; other types of batteries do NOT count towards the MRA rate and should be included in the “Other” category of the non-MRA table.

Books: Unsold returned books from bookstores to manufacturer count towards the MRA rate and should be included in the “Other” section of the “Paper” category in the MRA table.

Brass and copper: Brass and copper materials do NOT count towards the MRA rate and should be included in the “Scrap Metal” category of the non-MRA table.

C&D Debris (Code of Maryland Regulations 26.04.07.13): Non-MRA materials.

Construction and Demolition Debris: Construction debris is structural building material including cement, concrete, bricks (excluding refractory type), lumber, plaster and plasterboard, insulation, shingles, floor, wall and ceiling tile, pipes, glass, wires, carpet, wallpaper, roofing, felt, or other structural fabrics.

Demolition debris is debris associated with the razing of buildings, roads, bridges, and other structures includes structural steel, concrete, bricks (excluding refractory type), lumber, plaster and plasterboard, insulation, cement, shingles and roofing material, floor and wall tile, asphalt, pipes, wires, and other items physically attached to the structure, including appliances if they have been or will be compacted to their smallest practical volume.

Canes: Wooden canes that are composted or mulched count towards the MRA rate and should be included in the “Other” section of the “Other Materials” category in the MRA table. Metal canes that are recycled count towards the MRA rate and should be included in the “Other” section of the “Metals” category in the MRA table. Refurbished and reused canes do NOT count towards the MRA rate and should be included in the “Other” section in non-MRA table.

Cardboard: Corrugated cardboard that is recycled counts towards the MRA rate; however, cardboard that is reused intact does NOT count towards the MRA rate.

Carpet Remnants: Carpet remnants returned to the manufacturer to be used in the manufacturing process count towards the MRA rate and should be included in the “Other” section of the “Other Materials” category in the MRA table. Carpet remnants given to other organizations for reuse do NOT count towards the MRA rate.

Cast Metal: Cast metal does NOT count towards the MRA rate and should be included in the “Scrap Metal” category of the non-MRA table.

Catalogues: Unsold catalogues picked up by the distributor and recycled count towards the MRA rate and should be included in the “Other” section of the “Paper” category in the MRA table.

Christmas Trees: Christmas trees that are composted or mulched count towards the MRA rate and should be included in the “Other” section of the “Organics” category in the MRA table. Christmas trees used as sediment control devices (approved and documented by the Maryland Department of Natural Resources) count towards the MRA rate and should be included in the “Other” section of the “Other Materials” category in the MRA table.

Cloth: Cloth material processed into rags, etc., (not reused as clothing without processing) counts towards the MRA rate and should be included in the “Other” section of the “Other Materials” category in the MRA table.

Commingled Containers: Containers of different materials collected together (*i.e.*, plastic/glass/metal or plastic/metal or glass/metal or plastic/glass).

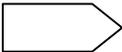
Compost/Mulch: See “Organics.”

Computers and computer equipment: See “Electronics and Computer Equipment.”

Construction & Demolition Debris: See “C&D Debris.”

Corn Ensilage (silage): Corn silage that is composted counts towards the MRA rate and should be included in the “Other” section of the “Organics” category of the MRA table. If the corn silage is sold to an animal feed producer, it counts towards the MRA rate and should be included in the “Other” section of the “Other Materials” category in the MRA table.

Crutches: Wooden crutches that are composted or mulched count towards the MRA rate and should be included in the “Wood Materials” section of the “Organics” category in the MRA table. Metal crutches that are recycled count towards the MRA rate and should be included in the “Other” section of the “Metals” category in the MRA table. Refurbished and reused crutches do NOT count towards the MRA rate and should be included in the “Other” section in the non-MRA table.

 **Electronics and Computer Equipment:** Electronic equipment (such as cell phones, stereos, televisions) and computer equipment (such as CPUs, keyboards, monitors) that is recycled or donated for reuse counts towards the MRA rate and should be included in the “Electronics/Computer Equipment” section of the “Other Materials” category of the MRA table.

Firewood: Cords of firewood returned to the marketplace count towards the MRA rate and should be included in the “Other” section of the “Other Materials” category in the MRA table.

Fly Ash: Fly ash from public utilities does NOT count towards the MRA rate and should be included in the “Other” section in the non-MRA table.

Foundry Waste: Foundry waste used in asphalt counts towards the MRA rate and should be included in the “Other” section of the “Other Materials” category in the MRA table.

Freon: Freon does NOT count towards the MRA rate and should be included in the “Other” section in non-MRA table.

Front-End Scrap Metal: Ferrous or non-ferrous materials pulled from the waste stream in a refuse disposal system. Front-end scrap counts towards the MRA rate and should be included in the “Other” section of the “Metals” category in the MRA table. See also “Back-End Scrap Metal”, “Metal (MRA)”, and “Scrap Metal (Material)”.

Furniture: Furniture that is processed into other materials counts towards the MRA rate and should be included in the “Other” section of the “Other Materials” category in the MRA table. Furniture that is donated or sold for reuse does NOT count towards the MRA rate.

Glass (Appliance, Drinking, Furniture, Industrial Process): Glass from appliances, drinking containers, furniture, or pre-consumer from industrial processes counts towards the MRA rate and should be included in the “Other” section of the “Other Materials” category in the MRA table.

Glass (C&D, Transportation): Glass from transportation equipment (*e.g.*, cars, etc.) and from C&D activities (*e.g.*, windows, etc.) does NOT count towards the MRA rate and should be included in the “Other” section in the non-MRA table.

Goodwill Clothing Items: Clothing items that are not sold and are subsequently sold to a rag dealer count towards the MRA rate and should be included in the “Other” section of the “Other Materials” category in the MRA table.

Grain Waste: Grain waste that is composted counts towards the MRA rate and should be included in the “Other” section of the “Organics” category in the MRA table. If the grain waste is sold to an animal feed producer it counts towards the MRA rate and should be included in the “Other” section of the “Other Materials” category in the MRA table.

Hatchery Waste: Hatchery waste that is composted counts towards the MRA rate and should be included in the “Other” section of the “Organics” category in the MRA table. If the hatchery waste is processed into a protein supplement, it counts towards the MRA rate and should be included in the “Other” section of the “Other Materials” category in the MRA table.

Hospital Appliances: See specific appliance for information.

Hospital Waste: See “Infectious Waste.”

Household Hazardous Waste (Annotated Code of Maryland, Environment Article § 9-1801): Household Hazardous Waste (HHW) is any waste material, including garbage or trash, derived from a household that would be listed as hazardous waste under the Resource Conservation and Recovery Act but for the fact that the waste is derived from a household. Household hazardous waste may include:

- Agricultural chemicals;
- Cleaning agents and solvents;
- Paint;
- Pesticides; and
- Preservatives.

HHW is a MRA waste. HHW that is recycled counts towards the MRA rate and should be included in the “Other” section of the “Other Materials” category in the MRA table. **Note:** For the MRA Tonnage Report, Antifreeze and Oil DO NOT count towards the MRA rate should be included in the non-MRA table.

Infectious Waste (Annotated Code of Maryland, Environment Article § 9-227): Any waste that comes from a hospital, laboratory, or other health care facility as defined in § 19-114 of the Health-General Article and that is known or suspected to be contaminated with organisms capable of producing disease or infection in humans. “Infectious waste” includes:

- Contaminated disposable equipment, instruments, and utensils;
- Contaminated needles, scalpels, and razor blades;
- Human tissues and organs that result from surgery, obstetrics, or autopsy;
- Feces, urine, vomitus, and suctionings;
- Live vaccines for human use;
- Blood and blood products; and
- Laboratory specimens, such as tissues, blood elements, excreta, and secretions.

Infectious waste does NOT count towards the MRA rate and should be included in the “Other” section in the non-MRA table.

Landclearing Debris (Code of Maryland Regulations 26.04.07.11): “Earthen material such as clays, sands, gravels, and silts, topsoil, tree stumps, root mats, brush and branches, logs, vegetation, and rock” from land clearing operations that, if not recycled, are discarded in landclearing debris, rubble, or C&D landfills. See “Organics.”

Landscaping Debris: Grass, leaves, brush and branches, and mixed yard waste generated from landscaping (Webster’s II – New Riverside University Dictionary, 1984. *def.*, to adorn or improve a section of ground) operations. See “Organics.”

Leaves: In addition to compost/mulched leaves, non-decomposed or mulch leaf mixture may count (when used as a soil amendment) towards the MRA rate and should be included in the “Grass, Leaves, and Mixed Yard Trimmings” section of the “Organics” category in the MRA table. The tonnage of material incorporated into the soil may be counted as long as the activities have been approved by the Maryland Department of Agriculture.

License plates: Metal license plates do NOT count towards the MRA rate and should be included in the “scrap metal” category of the non-MRA table.

Litho-plates: Litho-plates used in x-ray machines count towards the MRA rate and should be included in the “Other” section of the “Metals” category in the MRA table.

Manure: See “Stall Waste.”

Mattresses: Mattresses that are processed and remanufactured count towards the MRA rate and should be included in the “Other” section of the “Other Materials” category in the MRA table.

Metal (MRA): Acceptable MRA metals are limited to specific types of material, other than scrap material, that would ordinarily be disposed in a refuse disposal system. Only the following metals count towards the MRA rate and should be included in the “Metals” category in the MRA table:

1. Aluminum beverage and food containers;
2. Aluminum foil and food tray containers;
3. Bi-metal, tin, and steel food or beverage containers;
4. White goods (*e.g.*, refrigerators, stoves, washing machines, air conditioners, etc.);
5. Ferrous or non-ferrous materials pulled from the waste stream at a municipal solid waste disposal facility via front-end recycling;

6. Ferrous and non-ferrous metal pulled post incineration; and
7. Any other metals deemed acceptable by the Department.

See also “Back-End Scrap Metal”, “Front-End Scrap Metal”, and “Scrap Metal (Material).”

Mixed Yard Waste (Annotated Code of Maryland, Environment Article § 9-1701(n)(1)(2)):

“Organic plant waste derived from gardening, landscaping, and tree trimming activities. Yard Waste includes leaves, garden waste, lawn cuttings, weeds, and pruning material” that is composted or mulched and marketed.

Motor Oil: Motor oil that is recycled does NOT count towards the MRA rate and should be included in the “Motor Oil” section in the non-MRA table.

Motor Oil Filters: Used motor oil filters count towards the MRA rate and should be included in the “Other” section of the “Metals” category in the MRA table.

MRA Recyclables: Materials that meet the definition of “Recyclable Material” AND are not excluded under the definition of the “MRA Waste” from being an MRA material.

MRA Waste: See “Solid Waste Stream.”

Organics: Organic materials that are composted or mulched count towards the MRA rate and should be included in the appropriate section of the “Organics” category of the MRA table. Acceptable MRA organics include grass, leaves, brush, branches, mixed yard trimmings and other wood materials. *Landscaping* debris counts towards the MRA rate and should be included in the “Organics” category of the MRA table; *landclearing* debris does NOT count toward the MRA rate and should be included in the “Landclearing Debris” section of the non-MRA table.

Oxygen Tank Carts: Metal oxygen tank carts that are recycled count towards the MRA rate and should be included in the “Other” section of the “Metals” category in the MRA table. Refurbished and reused carts do NOT count towards the MRA rate and should be included in the “Other” section in the non-MRA table.

Paper (shredded): Shredded paper counts towards the MRA rate and should be included in the “Mixed Paper” section of the “Paper” category.

Paper Waste: Paper waste from print shops that is recycled off-site counts towards the MRA rate and should be included in the “Other” section of the “Paper” category in the MRA table.

Paint: Recycled paint counts towards the MRA rate and should be included in the “Other” section of the “Other Materials” category in the MRA table.

Pallets: Wood pallets that are composted count towards the MRA rate and should be included in the “Other” section of the “Organics” category in the MRA table. Wood pallets that are refurbished count towards the MRA rate and should be included in the “Other” section of the “Other Materials” category in the MRA table.

Pozzolan (Annotated Code of Maryland, Environment Article § 15-407): “The finely divided residue which results from combustion of ground or powdered coal and is released by combustion gasses, as defined by the test methods published by the American Society for Testing Methods.” Pozzolan does NOT count toward the MRA rate and should be included in the “Other” section in the non-MRA table.

Recyclable Materials (Annotated Code of Maryland, Environment Article § 9-1701(h)): Those materials that would otherwise become solid waste for disposal in a refuse disposal system and may be collected, separated, or processed and returned to the market-place in the form of raw materials or products. SEE “MRA Recyclables”, also.

Renderings: Fat that has been converted or melted down by heating. Renderings count toward the MRA recycling rate and should be included in the “Other” section of the “Other Materials” category in the MRA table.

Resource Recovery Facility (Annotated Code of Maryland, Environment Article § 9-1701(k)): A facility in existence as of January 1, 1988 that:

1. Processes solid waste to produce valuable resources, including steam, electricity, metals, or refuse-derived fuel; and
2. Achieves a volume reduction of at least 50 percent of its solid waste stream.

Roofing Shingles: Roofing shingles from the manufacturing process can be counted towards the MRA rate and should be included in the “Other” section of the “Other Materials” category in the MRA table. Roofing shingles from a construction job do NOT count towards the MRA rate and should be included in the “C&D Debris” section in the non-MRA table.

Rubble: Wastes acceptable for disposal in a permitted rubble landfill or cell including: demolition debris, construction debris, asbestos, and landclearing debris. Rubble does NOT count towards the MRA rate and should be included in the “C&D” section in the non-MRA table.

Sawdust: Sawdust from an industrial process that is composted/mulched counts towards the MRA rate and should be included in the “Other” section of the “Organics” category in the MRA table.

Scrap Metal (Material): "Home scrap" and any scrap metal or other scrap materials that are not normally disposed of at a refuse disposal site. Scrap material includes scrap metal that has historically been processed through a scrap yard for recycling such as automobiles, plumbing materials, etc. Scrap material **does not** include:

1. Aluminum beverage and food containers;
2. Aluminum foil and food tray containers;
3. Bi-metal, tin, and steel food or beverage containers;
4. White goods (*e.g.*, refrigerators, stoves, washing machines, air conditioners, etc.);
5. Lead Acid Batteries (*e.g.*, automobile batteries)
6. Ferrous or non-ferrous materials pulled from the waste stream at a municipal solid waste disposal facility via front-end recycling;

7. Ferrous and non-ferrous metal pulled post incineration; and
8. Any other metals deemed acceptable by the Department.

Scrap metal does NOT count towards the MRA rate and should be included in the “Scrap Metal” section in the non-MRA table. See also “Back-End Scrap Metal”, “Front-End Scrap Metal”, and “Metal (MRA).”

Sewage Sludge (Annotated Code of Maryland, Environment Article § 9-201(l)): Any thickened liquid, suspension, settled solid, or dried residue that a sewage treatment plant extracts from sewage.

Solid Waste Stream (Annotated Code of Maryland, Environment Article § 9-1701(l)): Garbage or refuse that would, unless recycled, be disposed of in a refuse disposal system located in this State. “Solid Waste Stream” does not include hospital waste, rubble, scrap material, landclearing debris, sewage sludge, and waste generated by a single individual or business and disposed of in a facility dedicated solely for that entity’s waste.

Stall Waste: Animal stall waste that is composted counts towards the MRA rate and should be included in the “Other” section of the “Organics” category in the MRA table.

Textiles: Textile material processed into other materials counts towards the MRA rate and should be included in the “Other” section of the “Other Materials” category in the MRA table.

Tires: Recycled tires, retread tires, and tires burned in cement kilns (12% of the total weight of tires used in cement kilns) count towards the MRA rate and should be included in the “Tires” section of the “Other Materials” category in the MRA table. Tires burned for fuel do NOT count towards the MRA rate and should be included in the “Other” section in the non-MRA table.

Toner Cartridges: Recycled toner cartridges (laser, inkjet, copier) count towards the MRA rate and should be included in the “Laser Toner Cartridges” section of the “Other Materials” category in the MRA table.

Vegetable Waste: Vegetable waste that is composted counts towards the MRA rate and should be included in the “Other” section of the “Organics” category in the MRA table. Vegetable waste from a processor sent to a farmer as a substitute for other feed counts towards the MRA rate and should be included in the “Other” section of the “Other Materials” category in the MRA table.

Waste Oil: See “Motor Oil”.

Walkers: Metal walkers that are recycled count towards the MRA rate and should be included in the “Other” section of the “Metals” category in the MRA table. Refurbished and reused walkers do NOT count towards the MRA rate and should be included in the “Other” section in the non-MRA table.

Wheelchairs: Metal wheelchairs that are recycled count towards the MRA rate and should be included in the “Other” section of the “Metals” category in the MRA table. Refurbished and

reused wheelchairs do NOT count towards the MRA rate and should be included in the “Other” section in the non-MRA table.

White Goods: White goods include refrigerators, stoves, washing machines, dryers, water heaters, and air conditioners.

Wood Materials: Wood products, pallets, crates, barrels, and wood found in furniture that are not part of an industrial process that are composted or mulched and marketed.

Wood Shavings: Wood shavings from an industrial process that are composted/mulched count towards the MRA rate and should be included in the “Other” section of the “Organics” category in the MRA table.

Volume to Weight Conversion Table

Material	Volume	Weight	Material	Volume	Weight
Aluminum cans-whole	1yd ³	63 lbs.	Lead acid batteries	1 battery	9.5-53 lbs.**
Antifreeze*	1 gallon	9.8 lbs.	Metal license tags*	1 tag	0.31 lbs.
Asphalt*	1yd ³	1,380 lbs.	Mixed wood	1yd ³	372 lbs.
Automobiles	1 car	2,052 lbs.	Motor oil*	1 gallon	7 lbs.
Cardboard-compacted	1yd ³	400 lbs.	Motor oil filters	1 filter	1 lb.
Cardboard-uncompacted	1yd ³	50-150 lbs.^	Newspaper-uncompacted	1yd ³	433 lbs.
Cardboard-baled	1yd ³	900 lbs.	Office paper-computer	1yd ³	655 lbs.
Commingled containers	1yd ³	248 lbs.	Office paper-mixed	1yd ³	435 lbs.
Computer CPU	1 CPU	35 lbs.	Paint	1 gallon	10 lbs.
Computer keyboard	1 keyboard	2.5 lbs.	Pallets	1 pallet	40 lbs.
Computer monitor	1 monitor	41 lbs.	Plastic bottles-whole	1yd ³	32 lbs.
Concrete	1yd ³	4,000 lbs.	Scrap tires-car/truck	1 tire	21/70 lbs.
Fluorescent light tubes	1 tube	0.83 lbs.	Telephone directories	1 book	4.5 lbs.
Food Waste	55 gal. drum	412 lbs.	Tin/steel cans-whole/flattened	1yd ³	150/850 lbs.
Frying grease	55 gal. drum	405 lbs.	White goods (large)	1 item	143 lbs.
Glass	1yd ³	600-1,400 lbs.+	Yard waste-compacted	1yd ³	700 lbs.
Industrial Fluids*	1 gallon	8.5 lbs.	Yard waste-uncompacted	1yd ³	470 lbs.
Laser toner cartridges	1 cartridge	3 lbs.			

^ Loose, unflattened cardboard weighs 50 lbs./yd³, crushed cardboard weighs closer to 150 lbs./yd³.

* Should be included as a **Non-MRA Material**.

+ 600 lbs. for whole glass, 1,400 lbs. for manually broken glass.

** 9.5 lbs. for a motorcycle battery, 39 lbs. for a car battery, 53 lbs. for a truck battery.

Other helpful hints to determine recycling weights:

Aluminum cans: flattened 1yd³ weighs 340 lbs., uncompacted 1 full grocery bag weighs 1.5 lbs., uncompacted 1 case of 24 cans weighs 0.75 lbs., 32 cans weigh 1 lb.

Glass: 1 case of 24-8 oz. glass containers weigh 12 lbs., 24-12 oz. glass containers weigh 14 lbs., manually broken bottles in a 55-gallon drum weigh 300 lbs.

Gaylord box: approx. 1 yd³ (3'x3'x3')