



Plastics Recycling Glossary

GENERAL COLLECTION AND RECYCLING

BAG IN BAG is a collection technique where plastic bags and wrap are bundled together inside another bag, and placed at curbside for MRF sorting.

BALE means a compacted and bound cube or block of recyclable material.

COLLECTOR means that party or parties that aggregate postconsumer, commercial, and/or post-industrial materials from the public and sell to reclaimers. Collectors can collect materials from the curbs of households or operate drop-off centers where the public can bring recyclables.

COMMERCIAL RECYCLING means the practice of collecting postconsumer waste from retail or commercial businesses, not including households or venue recycling, to be recycled. Typically, this means paper and beverage containers.

COMMINGLED CONTAINERS means the blended collection into one single container bin of the following material categories: aluminum cans, glass, plastic and steel cans.

CONSTRUCTION AND DEMOLITION (C & D) WASTE means waste from both homeowners' and contractors' construction or demolition projects. C&D waste includes concrete, bricks, lumber, masonry, road paving materials, rebar and plaster.

CONVERTER means those businesses that buy raw material and convert that to finished goods. In the case of plastics, the plastic pellets of specific polymers are melted and processed into items such as fibers, films, sheets, and rigid packaging along with semi-durable and durable goods.

CURBSIDE RECYCLING is the collection method by which householders place specified used items in special containers adjacent to containers of household waste for periodic collection by others. As household waste is often collected from containers placed at the curb, the collection of postconsumer recyclables from containers placed at the curb is so named.

DROP-OFF means that form of collection of household recyclables wherein the householders takes the items to a central aggregation location. This is also known as Bring collection.

DROP OFF RECYCLING SITE(S) means a facility, often serving rural areas, where the public can actively deliver recyclables into the recovery stream. Retail collection of plastic bags and wraps at stores is a common type of drop off recycling site.

DUAL STREAM means a recycling process in which cans, bottles, and containers are collected separately from paper products.

GAYLORD CONTAINER is the trade name for a large, reusable corrugated container used for shipping materials.

INDUSTRIAL RECYCLING is the practice of long standing of one company selling its useful waste materials to another company which uses those materials to make new items. A change of ownership is needed. The initial waste items had not been used for their intended purpose so could not be postconsumer items. Industrial recycling is not disposal of waste.

PLASTIC SCRAP means material that did not meet the quality requirements for fully acceptable product. The scrap can be pellets which did not meet specification of converted goods that failed to meet specification. The scrap can be ground to repro and used again or sold or disposed, depending on levels of contamination and degradation.

POSTCONSUMER means the status after an item has been used for its intended use. The intended user may be at another industrial site or as transportation packaging or by household consumers. Repro is not postconsumer material.

POSTINDUSTRIAL means, in the context of recycling, material that has been processed initially and failed to meet specifications or otherwise not sold as prime material and sold to another party for processing. Repro can be postindustrial material. Postindustrial material cannot be postconsumer material unless the manufactured item had been used for its intended use and was directed toward disposal.

PRECONSUMER means the same as postindustrial

RAW MATERIAL means the materials that are used to fabricate or manufacture items of commerce.



RECLAIMER means, in the context of plastics recycling, that commercial entity that accepts aggregated postconsumer and/or postindustrial materials and performs a series of operations to allow them to return to commerce as useful raw materials or be used by the reclaimer to convert the materials to new finished items of commerce.

RECOVERY means the successful diversion of recyclable materials out of landfill disposal to recycling collection and reuse systems. The European definition can include incineration with energy capture.

RECYCLABLES means those materials identified for collection, processing, recovery or reuse as part of a local government, business or other recycling collection program.

RECYCLING means separating, collecting, processing, marketing, and ultimately using a material that would have been thrown away.ⁱⁱⁱ

REPROCESS means converting used materials, like newspapers and plastic bottles, into new materials that can be reused. For example, plastic bottles can be reprocessed into pellets, which can then be manufactured into new plastic products. A reclaimer would reprocess a used plastic bottle.

RESIDENTIAL RECYCLING means the collection of recyclable, postconsumer items from the home either by curbside collection or drop-off collection

RESIN IDENTIFICATION CODE (RIC) means a coding system placed on plastics to identify the polymer.

- #1 - polyethylene terephthalate (PET)
- #2 - high density polyethylene (HDPE)
- #3 - polyvinyl chloride (PVC)
- #4 - low density polyethylene
- #5 - polypropylene (PP)
- #6 - polystyrene (PS)
- #7 - mixed plastic

ROLL CART means carts on wheels used to collect recyclables. The wheels facilitate transportation to the curbside or to the hauling truck.

SECTOR (OR CROSS-SECTOR) means one part of the recycling infrastructure, such as the industrial, commercial, or public sector.^{iv} Cross-sector means an activity affecting more than one sector or a partnership between more than one sector.

SINGLE STREAM means a municipal, commercial, or industrial recycling process in which materials are collected all together with no sorting required by the householder. Sorting will be done at a MRF.

SOURCE SEPARATED means the sorting of different recyclable materials such as glass, metals, paper and plastics at the point of generation prior to collection or disposal of those materials. Source separated materials may still be taken to a MRF for baling.

WASTE DIVERSION means the act of preventing waste from being disposed into landfills and incinerators.

WASTE STREAM means the flow of materials from generation to disposal.

PLASTIC PACKAGING AND ITEMS

BIODEGRADABLE PLASTICS are plastics that will degrade relatively rapidly by naturally occurring organisms in natural and specialized environments to carbon dioxide for aerobic composting or methane/natural gas for anaerobic biodegradation. Biodegradation in most landfills is not helpful and usually sought to be avoided. Most recycled plastics are used to create durable products. Adding materials to promote degradation affects the durability of products and harms the recycling system.

BIOPLASTICS are plastics either partially or fully created with plants. The source of the raw material, from plants or from non-plants, is not important to the recyclability of the plastic material.

FLEXIBLE PACKAGING means plastic bags and film such as snack food bags and pet food bags, also including new packaging technologies such as pouches and multi-layer films.

PLASTIC SODA, WATER & OTHER DRINK are soda, water, juice and other beverages – Commonly marked: PET (1), HDPE (2), PP (5), Other (7).^v

PLASTIC FOOD & HOUSEHOLD BOTTLES/JARS are screw top bottles/jars - For Example: Food: ketchup, peanut butter, mayonnaise, mustard, Household: laundry detergent, shampoo, and cleaning products – Commonly marked: PET (1), HDPE (2), LDPE (4), PP (5), Other (7).^v

PLASTIC TUBS are containers that have a neck or mouth similar in size to its base, such as: yogurt, margarine, ice cream tubs, and coffee containers - Commonly marked: HDPE (2), LDPE (4), PP (5).^v

PLASTIC TUBS & LIDS are tub containers and lids, which are caps for tubs that have a fastening feature other than threads, for items such as: yogurt, margarine, ice cream tubs, coffee containers – Commonly marked: HDPE (2), LDPE (4), PP (5).^v



PLASTIC PRODUCE, DELI & BAKERY CONTAINERS, CUPS, & TRAYS are take-out, deli, bakery, berries/produce containers, cookie trays, cake domes, party cups, clear egg cartons – Commonly marked: PET (1), PP (5), PS (6), Other (7).^v

PLASTIC NON-FOOD CONTAINERS & PACKAGING are containers and packaging for non-food items such as: flower pots, small storage containers like Tupperware, CD/DVD cases, clear formed plastic packaging around products like toys or hardware and electronics (paper components should be removed) – Commonly marked: PET(1), HDPE (2), LDPE (4), PP (5), PS (6), Other (7).^v

PLASTIC BULKY ITEMS are items as large as or larger than a 5 gallon bucket, such as: drums, large water bottles, crates, large storage bins, baskets, totes and lawn furniture – some may be marked: PET (1), HDPE (2), LDPE (4), PP (5), Other (7).^v

PLASTIC TOYS are plastic toys without metal or electronic components. For Example: Slides, play kitchen, sand bucket and shovel, flying disk, bat & ball.^v

PLASTIC BUCKETS are 5 gallon buckets, kitty litter buckets – Commonly marked: HDPE (2), PP (5).^v

PLASTIC FLOWER POTS are Rigid flower pots, 4 inches or larger – Commonly marked: HDPE (2), PP (5).^v

PLASTIC PET (1) BOTTLES & JARS are Screw top bottles/jars that are marked PET (1) - For Example: Beverage - soda, juice, water and other beverages, Food - ketchup, peanut butter, mayonnaise, mustard, Household - shampoo, cleaning products.^v

PLASTIC PET (1) CONTAINERS & LIDS are Take-out and other containers, lids, cake domes and trays used to package items such as fresh produce, baked goods, nuts, and deli items; and clear cups that are marked PET (1).^v

PLASTIC HDPE (2) BOTTLES & JARS are screw top bottles/jars that are marked HDPE (2) - For Example: Beverage/Food - milk, juice, and other beverages, mustard, Household - laundry detergent, supplements/vitamins, shampoo, cleaning products.^v

PLASTIC HDPE (2) CONTAINERS & LIDS are tub containers and lids for items such as yogurt, margarine, ice cream tubs, coffee and deli containers that are marked HDPE (2).^v

PLASTIC PP (5) BOTTLES are Screw-top bottles, For example: Beverage - tea, juice and other beverages, Food: Syrup, Household: storage bottles, that are marked PP (5).^v

PLASTIC PP (5) CONTAINERS & LIDS are tubs, take-out, small storage and other containers, lids, trays used to package items such as dairy, hot food, and deli items; and single use and reusable cups that are marked PP (5).^v

PLASTIC BAGS are grocery/Retail carry out bags – Commonly marked: HDPE (2) and LDPE (4).^v

PLASTIC BAGS, WRAPS, & FILM (BAG in BAG) are clean and dry plastic bags, wrap and film - For Example: Grocery/Retail store, newspaper, bread, and produce bags, dry cleaning film, the wrap around products (e.g., bathroom tissue, 24-pack of water), bubble wrap, air pillows, plastic only shipping envelopes – Commonly marked: HDPE (2) and LDPE (4).^v

FOAM FOOD SERVICE & OTHER CONTAINERS are foam cups, plates, bowls, take-out containers, egg cartons – marked PS (6).^v

FOAM BLOCKS & SHAPES are protective packing - often used to protect fragile products, such as electronics as well as other molded foam shapes, such as foam coolers - marked PS (6).^v

FACILITIES

LANDFILL means a specially engineered site for disposal of solid waste on land. It is generally spread in thin layers which are then covered with soil. A RCRA Title D sanitary landfill is intended to be a dry, airless, and cold entombment with little or no biological activity.

MATERIAL RECOVERY FACILITY (MRF) means a facility where recyclable materials are separated from each other and processed such as by baling for shipment and sale to various markets.

MIXED WASTE FACILITY means a Material Recovery Facility (MRF) that accepts refuse and recyclable materials mixed together. Separation of the materials occurs at the plant. After sorting and separation, recyclable materials are sent to reclaimers. Residual materials that are not suitable for reprocessing are disposed.

MUNICIPAL SOLID WASTE (MSW) means residential and commercial waste generated by a particular municipal area; however, it does not include medical or industrial or construction/demolition waste.



PLASTIC RECYCLING FACILITY (PRF) means an industrial location that sorts mixed plastic items into streams of discrete plastic resin types. A PRF may also conduct preliminary recycling operations such as size reduction to plastic flake. A PRF typically receives its raw material from a MRF as “unsorted plastic.”

TRANSFER STATION means a facility that receives and consolidates solid waste from collection trucks and other vehicles and loads the wastes onto tractor trailers, railcars or barges for long-haul transportation to a distant disposal facility.

WASTE TO ENERGY FACILITY/ MUNICIPAL WASTE COMBUSTER means a facility where recovered municipal solid waste is converted into a usable form of energy, usually via combustion.ⁱⁱⁱ

EQUIPMENT AND PROCESSES

COMPACTOR is a type of equipment that uses pressure to densify and contain recyclable material, forming bales. It can also be called a **BALER**.

ELUTRIATION is the process of wind sifting wherein a cross-current air stream blows away lightweight material from a falling stream of heavier material.

FLOAT-SINK is a process wherein materials are separated by floating and sinking in a media, typically water, when the density of one material is less than that of the media and the density of a second material is greater than that of the media.

GRINDER is the general term for devices that chop large items, such as a bottle, into flakes that are nominally fractional inches in dimension. **SHREDDERS** can do the same or produce strips of material. **GRANULATOR** is another term for grinder.

OPTICAL SORTER is a type of machinery used to automate the process of identifying and sorting recyclable materials into their different categories for baling. An optical sorter can be used to sort plastics by color and/or resin type, sort glass by color, or sort paper by color. The optical sorter works by first directing a light of known wavelength, typically visible or infrared, at materials on a moving conveyer belt. A detector captures the light reflected off the materials or transmitted through the materials and determines the spectral signature for the material. The signature is compared to a library of unique material signatures and the color and/or resin type is identified. The sorter component then uses the identification to direct air jets to blow the item into an appropriate chute. Optical sorters are precision

machines that can operate at high mass throughput per hour with high accuracy.

NEAR INFRARED SORTER is a type of optical sorting machinery wherein the light used is near infrared (NIR) light and the detection made is of a plastic type. NIR detection is efficient for all but black-colored plastic items.

RESIN SEGREGATED RIGID PLASTIC BALES

*Links connect to **APR Model Bale Specifications***

[*Click here to connect to the APR Plastic Recycling Market Information and Services Directory*](#)

PET BOTTLE BALES consist of PET Bottles and jars, defined with a screw-neck top.^v

PET THERMOFORM BALES consist of PET packages not including bottles or jars, includes but not limited to egg cartons, baskets, clamshell containers, cups, lids, cake domes, covers, blister pack without paperboard backing, tubs, deli containers, trays and folded PET sheet containers.^v

PET BOTTLES & THERMOFORMS BALES consist of PET Bottles & PET Thermoforms.^v

HDPE BOTTLES – NATURAL BALES consist of unpigmented and translucent HDPE Bottles, defined with a neck or mouth smaller than the base.^v

HDPE BOTTLES - COLORED BALES consist of Pigmented or opaque HDPE Bottles, defined with a neck or mouth smaller than the base.^v

HDPE BOTTLES & CONTAINERS –COLORED BALES consist of Pigmented or opaque HDPE Bottles & Containers (often from autosort).^v

HDPE BOTTLES & CONTAINERS – MIXED NATURAL & COLORED BALES consist of a mix of all HDPE Bottles - no pigment separation.^v

HDPE BOTTLES & CONTAINERS BALES consist of all HDPE Bottles & Containers includes natural bottles in with the colored bottles and containers.^v

HDPE INJECTION – BULKY BALES consist of HDPE Bulky rigid plastic (includes buckets, totes, crates, lawn furniture, carts, storage bins), may include some bulky PP and LDPE.^v

HDPE BOTTLES, CONTAINERS & BULKY BALES consist of HDPE bottles and containers; Bulky rigid plastic (includes buckets, totes, crates, lawn furniture, carts, storage bins).^v



PP BOTTLES BALES consist of PP Bottles.^v

PP BOTTLES & CONTAINERS BALES consist of PP Bottles & Containers (includes prescription bottles, yogurt cups, margarine tubs, ice cream tubs, cold drink cups, microwavable trays, tofu tubs, dishwasher safe storage containers, hangers, caps, battery cases).^v

PP BOTTLES, CONTAINERS & BULKY BALES consist of PP bottles and containers; Bulky rigid plastic (includes buckets, totes, crates, lawn furniture, carts, storage bins).^v

MIXED RESIN RIGID PLASTIC BALES

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PET & HDPE BOTTLE BALES consist of PET & HDPE Bottles.^v

COMMINGLED PLASTIC BOTTLE BALES consist of the market mix of bottles: Primarily PET and HDPE bottles with some other bottles.^v

TUBS & LIDS BALES consist of Non-bottle rigid household containers - primarily PP and PE, No bulky rigid plastic.^v

TUBS & LIDS: with BULKY BALES consist of Tubs and lids; Bulky rigid plastic (includes buckets, totes, crates, lawn furniture, carts, storage bins) - primarily PP and PE.^v

PE/PP BOTTLES, CONTAINERS & BULKY BALES consist of PE & PP bottles and containers; Bulky rigid plastic (includes buckets, totes, crates, lawn furniture, carts, storage bins).^v

MIXED CLAMSHELL BALES consist of a mixture of PET, PS, PVC, PLA thermoformed containers: trays, cups, clamshells, boxes.^v

BULKY RIGID PLASTIC BALES consist of Primarily PE and PP (includes buckets, totes, crates, lawn furniture, carts, storage bins and other large items).^v

PRE-PICKED RIGID PLASTIC: NO BULKY BALES consist of Bottles and containers with the PET & HDPE bottles removed: includes Non-PET and non-HDPE household bottles and all non bottle containers (thermoform packaging, cups, trays, clamshells, tubs and lids).^v

PRE-PICKED RIGID PLASTIC: WITH BULKY BALES consist of all rigid plastic with PET and HDPE bottles removed: includes non-PET and non-HDPE household bottles, all non bottle containers (thermoform packaging, cups, trays, clamshells,

tubs and lids), and Bulky rigid (includes buckets, totes, crates, lawn furniture, carts, storage bins and other large items).^v

ALL RIGID PLASTIC: NO BULKY BALES consist of All bottles and containers (includes thermoform packaging, cups, trays, clamshells, tubs and lids).^v

ALL RIGID PLASTIC: WITH BULKY BALES consist of All bottles and containers (includes thermoform packaging, cups, trays, clamshells, tubs and lids); Bulky rigid (includes buckets, totes, crates, lawn furniture, carts, storage bins and other large items).^v

FILM & FOAM BALES

[*Click here to connect to APR Model Bale Specifications*](#)

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MRF FILM BALES consist of Mixed PE film generated at a MRF.^v

MIXED RETAIL BAGS/WRAPPS FILM BALES consists of Mixed color including grocery bags.^v

EPS BLOCKS/SHAPES BALES consists of EPS Blocks/Shapes (e.g. protective packaging, foam coolers).^v

EPS Blocks/Shapes & Foam Food Service Bale consists of EPS Blocks/Shapes & Foam Food Service (e.g. cups, plates, clamshells).^v

REPROCESSED PLASTIC

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PCR means postconsumer resin available to be utilized for recycled content in a new application.

PLASTIC FLAKE means chopped, shredded, or ground plastic items, typically rigid packaging, with maximum dimension of less than 1 inch or 2.5 centimeters.

PLASTIC PELLET means a discrete particle of plastic that has been melted and usually extruded and cut. Pellets are typically small cylinders but can be different forms.

PLASTIC RESIN means a polymer of a specific chemical composition such as polyethylene or polypropylene.



PLASTIC REGRIND (REPRO) means ground useful industrial waste. The material can be used again by remelting and often for the same purpose as it was initially intended by the company which initially processed it. Repro can be sold to others for use.

RPET means recycled PET available to be utilized for postconsumer recycled content in a new application.

RECYCLING LEGISLATION

Click links for additional information

BOTTLE BILL OR CONTAINER DEPOSIT LAW means a law which requires a minimum refundable deposit on beer, soft drink or other beverage container to encourage the return of these containers for recycling.

PLASTIC BOTTLE BAN OR MANDATORY RECYCLING means a law requiring mandatory plastic bottle recycling or a plastic bottle ban to help increase the quantity of plastic being recycled rather than land filled or incinerated.

RIGID PLASTIC PACKAGING CONTAINER (RPPC) LAW was enacted in 1991 as part of an effort to reduce the amount of plastic waste disposed in California landfills and to increase the use of recycled postconsumer plastic. The law mandates that product manufacturers that sell products held in RPPCs meet one of the compliance options. Selling includes direct sales as well as products offered for sale in California (this includes retail sales, and remote sales through distributors, wholesalers, and the Internet).

INITIATIVES

EXTENDED PRODUCER RESPONSIBILITY means a strategy to impose accountability over the entire lifecycle of products and packaging introduced to the market; this may take the form of legislation that mandates private sector roles, responsibilities and outcomes for the funding and operating of systems designed to recover post-consumer packaging.

PAY-AS-YOU-THROW (PAYT) means a fee structure for solid waste collection and disposal that is based on the amount of solid waste generated. Under a PAYT system, residents are charged a variable rate depending on the amount of service they use. Most communities with PAYT charge residents a fee for each bag or can of waste they fill. In a few communities, residents are billed based on the weight of

solid waste.ⁱⁱ In many PAYT communities recyclables are collected at no charge.

PRODUCT STEWARDSHIP means an environmental management strategy in which all parties involved in the design, production, sale and use of a product, including manufacturers, retailers, users and disposers, share responsibility for reducing the product's environmental, health and social impacts throughout its life. Product stewardship can be either voluntary or required by law.ⁱⁱⁱ

SHARED PRODUCER RESPONSIBILITY means a form of materials management in which producers of consumer goods are responsible for the management of products at the end of their useful life.

SHARED RESPONSIBILITY means a form of materials management in which producers of consumer goods, retailers, those who use a product and those who dispose of a product are recognize they are jointly responsible for the management of products at the end of their useful life. The division of responsibility and actions taken will vary.

VOLUNTARY PRODUCER RESPONSIBILITY (VPR) means a range of voluntary approaches, financed by industry, to increase post-consumer material recovery. Approaches to VPR may include cross competitor industry collaboration, coalition building, and public-private partnerships to achieve goals. VPR does not necessarily include supporting legislation.

ZERO WASTE means the reduction of solid waste generation waste to zero, or as close to zero as possible by minimizing solid waste generation.

RESOURCES

ⁱ Adapted from definitions found at <http://www.sherbrooke-oem.com/optical-sorter> and http://www.eaglevision.com/optical_sorting.

ⁱⁱ Adapted from <http://www.epa.gov/solidwaste/consERVE/tools/payt/index.htm>.

ⁱⁱⁱ Adapted from definitions found at www.productstewardship.us and <http://www.epa.gov/epawaste/consERVE/tools/stewardship/index.htm>.

^{iv} Adapted from Oxford University Press.

^v Adapted from Plastics Recycling Outreach and Commodity Terms- a project managed by Moore Recycling and sponsored by The American Chemistry Council found at <http://www.recycleyourplastics.org/recycling-professionals/education/terms-tools-app/>