

# Guidelines for Plastic Scrap: P-2013

## Baled Recycled Plastic Scrap Commercial Guidelines

### General Information

Commercial Guidelines for Baled Recycled Plastic Scrap were developed to provide industry-wide quality standards. These standards will facilitate commodity trading of these materials. They will also focus suppliers of such material on the quality requirements of their customers.

### Product

These guidelines are designed with the potential for dealing with all recycled plastic in bale form. Initial specifications refer only to bottles. The code framework allows for generation of guidelines for all types of plastic packaging materials (including rigids and flexibles) with room for expansion to other plastic products and resins including those which are used to produce durable goods. Guidelines for those products may be added at a later date.

### Bale Density

Bales shall be compressed to a minimum density of 10 pounds per cubic foot and a maximum density to be determined by individual contract between Buyer and Seller. Increased density may improve transportation efficiency, but over-compression may adversely affect the ability of a Buyer to separate, sort, and reprocess the material.

### Bale Tying Material

Bale wires, ties, or straps shall be made of non-rusting or corroding material.

### Bale Integrity

Bale integrity must be maintained through loading, shipping, handling, and storage. Distorted or broken bales are difficult to handle. They are unacceptable and may result in downgrading, rejection, or charge back.

### Allowable Contamination

Unspecified materials must not exceed 2% of total bale weight. Bales which contain over 2% will be subjected to reduction in the contracted price of the material as well as charges for disposal of the contaminants. The reduced percentage will vary depending upon the amount and type of contamination. Quality of the baled plastic is the primary factor which determines the value.

### Prohibited Material

Certain materials are understood to be specified as "prohibited." Such materials will render the bale "non-specification" and may cause some customers to reject the entire shipment. These may include plastic materials which have a deleterious effect on each other when reprocessed, and materials such as agricultural chemicals, hazardous materials, flammable liquids and/or their containers, and medical waste.

### Liquids

Plastic containers/materials should be empty and dry when baled. The bale should be free of any free flowing liquid of any type.

### General

Shipments should be essentially free of dirt, mud, stones, grease, glass, and paper. The plastic must not have been damaged by ultraviolet exposure. Every effort should be made to store the material above ground and under cover. A good faith effort on the part of the supplier will be made to include only rinsed bottles which have closures removed.

## Definitions for Plastic Materials

### Baled

Loose material that is compressed and bound together.

### Densified

Material that is compressed through mechanical means. Typically applies to foam (purged) and film (turned into "popcorn"). Densified material is typically sent on for additional processing.

### Durable Goods

Electrical and electronic equipment, appliances, automobiles (called "transportation equipment" in ISO 15270), construction products (included in ISO 15270) and industrial equipment (included in ISO 15270)

### Flake

A generic term that refers to size and shape. Typically consists of plastic bottles or plastic film typically ground into a chip.

### Mixed Load Plastic

Shredded plastic that contains various types of resins and requires mechanical sorting to reach final specification. Typically baled and not granulated. Types and grades included in the bale to be agreed to by buyer and seller.

### Plastic Bottle

A rigid container which is designed with a neck that is smaller than the body. Normally used to hold liquids and emptied by pouring.

### Plastic Film

A thin flexible sheet which does not hold a particular shape when unsupported.

### Postconsumer

Products generated by a business or consumer that have served their intended end use and have been separated or diverted from the solid waste stream for the purpose of recycling.

### Purge

Plastic that has been melted and has hardened. This material has no set shape or form.

**Recovered Plastic**

Plastic materials which have been recovered or diverted from the solid waste stream. Does not include materials generated from and commonly reused within an original manufacturing process.

**Recycled Plastic**

Plastics composed of either post-consumer or recovered material or both.

**Regrind**

A generic term that refers to hard rigid plastic typically ground into a chip. Typically consists of material that is the same grade, color and type. It can be used in extrusion or molding processes.

**Rigid Plastic Container**

A package (formed or molded container) which maintains its shape when empty and unsupported.

**Shred**

Size reduced material. The typical upper size can be between 3" to 12", although in some cases the upper size can be as small as about 1". Size range, characteristics should be agreed to between buyer and seller.

**Shredded Plastic**

Generic term. Material that contains a high plastic content. Typically contains 90% plastic content.

**Shredder Residue**

The remaining mixture after the majority of metals have been recovered from durable goods "shred." The mixture can contain plastics, rubber, wood, glass, rocks, dirt, paper, film, textiles, wires and other metals missed during the metal recovery process. The predominant single material is often plastic, which can vary from about 15% to about 90% depending on the type of durable goods and the steps taken in the metal separation process. Size range, characteristics should be agreed to between buyer and seller.

**Common issues for this category:**

The following list applies to all materials listed in this category.

- Caps, enclosures, and labels are acceptable.
- Product need not be washed, but preferred.

**PET Mixed Bottles**

Consists of mixed, postconsumer PET food and beverage bottles and jars from curbside collection programs. May include up to 30% green tinted bottles. Thermoform container content subject to agreement between buyer and seller.

**Product:** Bottles only

**Source:** Postconsumer material

**Contamination:** Total allowed—2% listed below  
 —Non-specified plastic or non-plastic material  
 —Injection grade (examples include buckets, drums, or crates)

**General:** Refer to the General Information section for more information.

**HDPE Mixed Color Bottles**

Consists of mixed colored, postconsumer #2 HDPE containers from household products typically collected in residential recycling programs. Examples include detergent, orange juice, and shampoo bottles. Should be free of wide-mouth containers such as margarine or whipped cream tubs. Motor oil and herbicide/insecticide bottles are not allowed.

**Product:** Bottles only

**Source:** Postconsumer material

**Contamination:** Total allowed—2% listed below  
 —Non-specified plastic or non-plastic material  
 —Injection grade (examples include butter tubs, buckets, drums, or crates)

**General:** Refer to the General Information section for more information.

**HDPE Natural Bottles**

Consists of uncolored, postconsumer #2 HDPE containers from household products typically collected in residential recycling programs. Examples include milk, vinegar, or ammonia bottles. Should be free of colored containers (including white) as well as any wide-mouth containers. Herbicide/insecticide bottles are not allowed.

**Product:** Bottles only

**Source:** Postconsumer material

**Contamination:** Total allowed—2% listed below  
 —Non-specified plastic or non-plastic material  
 —Injection grade (examples include Tupperware)  
 —Colored material

**General:** Refer to the General Information section for more information.

**Mixed Unsorted 1-7 Bottles and Containers**

This grade primarily consists of PET bottles and HDPE bottles from residential recycling programs in which no positive sorting of any bottles has occurred and only the Mixed Bulky Rigid Plastics have been removed. Acceptable materials include soda bottles, milk jugs, shampoo bottles, yogurt cups, and other food and beverage containers. Non-bottle containers may consist of items such as cups, trays, clamshells, and tubs. Glass bottles and tin or aluminum cans are not allowed in this grade.

**Product:** Mixed household items

**Source:** Postconsumer material

**Contamination:** Total allowed—2% listed below  
 —Bulky rigid plastics such as crates, buckets, pails, toys, furniture, etc.  
 —Non-specified plastic or non-plastic material

**General:** Refer to the General Information section for more information.

**Mixed Sorted 3-7 Bottles and Containers**

This grade primarily consists of mixed bottles and containers from residential recycling programs in which most of the PET bottles, HDPE bottles, and Mixed Bulky Rigid Plastics have been positively sorted out. This grade may include some PET and HDPE but primarily consists of all leftover plastics materials remaining after they have been picked out. Non-bottle containers may consist of items such as cups, trays, clamshells, and tubs. Glass bottles and tin or aluminum cans are not allowed.

**Product:** Mixed household items

**Source:** Postconsumer material

**Contamination:** Total allowed—2% listed below  
 —Bulky rigid plastic such as crates, buckets, pails, toys, furniture, etc.  
 —Non-specified plastic or non-plastic material

**General:** Refer to the General Information section for more information.

**Mixed Bulky Rigid Plastics**

This grade primarily consists of non-bottle PE and PP bulky rigid plastic items such as plastic drums, crates, buckets, baskets, toys, refuse totes, and lawn furniture typically collected in a residential recycling MRF. This grade should not contain any mixed 1-7 bottles and containers.

**Product:** Mixed household items

**Source:** Postconsumer material

**Contamination:** Total allowed—2% listed below  
 –Non-specified plastic or non-plastic material

**General:** Refer to the General Information section for more information.

**Mixed Color HDPE Buckets**

Shall consist of HDPE buckets and “pail-grade” 5-8 melt-injection-grade HDPE recovered from any residential, construction, or commercial application. Original product such as paint or food must be emptied from unit, but dry surface residue is allowed. Metal handles are acceptable. Standard bale will include white or other colored 5-gallon buckets.

**Product:** Buckets recovered from a sorting facility

**Source:** Residential and commercial materials

**Contamination:** Total allowed—5% listed below  
 –Other types of HDPE containers or bottles  
 –Large rigid plastics such as crates, drums, toys, lawn furniture, etc.  
 –Nonspecified plastic or nonplastic material such as metal, paper, or glass.

**General:** Refer to the General Information section for more information.

**Mixed Color HMW HDPE Drums**

Shall consist of high-molecular-weight HDPE drums or barrels recovered from any commercial application. Original product such as solvents or chemicals must be emptied from the unit, and the unit must be rinsed in accordance with federal and state regulations prior to baling. Plastic lids and spouts are acceptable. Standard bale will include blue, white, or other colored 55-gallon drums.

**Source:** Commercial materials

**Contamination:** Total allowed—2% listed below  
 –Other types of HDPE containers or bottles  
 –Large rigid plastics such as crates, buckets, pails, toys, lawn furniture, etc.  
 –Nonspecified plastic or nonplastic material such as metal, paper, or glass.  
 –Metal lids and spouts

**General:** Refer to the General Information section for more information.

**Bulky Rigids**

**Description:** Any large rigid #2 HDPE and/or #5 PP plastic bulky item, created through a positive-sort from curbside, drop-off, or other public or private recycling collection program. Examples include crates, buckets, baskets, totes, and lawn furniture. Buckets/pails with metal handles can be included. This bale should not contain mixed #1-7 bottles or containers, toys with metal, drums, jugs (either HMW or 55 gallons), or PVC/vinyl.

**Product:** Bulky rigid plastic.

**Source:** Postconsumer material created from a positive sort from a curbside, drop-off, or other public or private recycling collection program.

**Contamination:** Total allowed—10% by weight.  
 –Any plastic items or packaging including #1 PET, #3 PVC, #6 PS, #7 Other (4% maximum acceptable);  
 –Metal (2% maximum acceptable);  
 –Paper (2% maximum acceptable);  
 –Liquid/other residues (2% maximum acceptable).

The following items are not allowed: HMW drums or 55 gallon drums; metal on toys; pallets with metal; film and bags; wood; glass; or electronic scrap.

Refer to the “Prohibited Material” section for more information.

**General:** Refer to the General Information section for more information.

**Tubs and Lids Without Bulky**

**Description:** Any whole container with a #2 HDPE, #5 PP, and/or #4 LDPE resin code generated from a positive-sort curbside, drop off, or other public or private recycling collection program. Tubs are containers that have a neck or mouth similar in size to its base. Lids are caps for tubs that have a fastening feature other than threads. Examples include yogurt cups, margarine tubs, ice cream tubs, and cold drink cups (transparent, cold serve). Nursery pots are not acceptable.

Bulky rigid plastics are not allowed.

**Product:** Tubs and lids.

**Source:** Postconsumer material generated from a curbside, drop off, or other public or private recycling collection program.

**Contamination:** Total allowed—10% by weight.  
 –#1 PET bottles;  
 –#1 PET or #3 PVC thermoform packaging;  
 –#2 HDPE pails and buckets;  
 –#3 PVC (polyvinyl chloride);  
 –#6 PS (polystyrene);  
 –#7 Other;  
 –Paper;  
 –Liquids.

The following items are not allowed (0% allowed): Film and bags; metal handles; wood; glass; or electronic scrap.

Refer to the “Prohibited Material” section for more information.

**General:** Refer to the “General Information” section for more information.

**Tubs and Lids With Bulky**

**Description:** Any whole container, with a #2 HDPE, #5 PP, and/or #4 LDPE resin code generated from a positive-sort curbside, drop off, or other public or private recycling collection program. Tubs are containers that have a neck or mouth similar in size to its base. Lids are caps for tubs that have a fastening feature other than threads. Examples include yogurt cups, margarine tubs, ice cream tubs, and cold drink cups (transparent, cold serve). Nursery pots are not acceptable.

Bulky rigid plastics are allowed.

**Product:** Tubs and lids.

**Source:** Postconsumer material generated from a curbside, drop-off, or other public or private recycling collection program.

**Contamination:** Total allowed—10% by weight.  
 –#1 PET bottles;  
 –#1 PET or #3 PVC thermoform packaging;  
 –#2 HDPE pails and buckets;  
 –#3 PVC (polyvinyl chloride);  
 –#6 PS (polystyrene);  
 –#7 Other;  
 –Paper;  
 –Liquids.

The following items are not allowed: Film and bags; metal handles; wood; glass; or electronic scrap.

Refer to the “Prohibited Material” section for more information.

**General:** Refer to the “General Information” section for more information.