



HDPE BOTTLE RECYCLATE FEEDSTOCK SPECIFICATIONS

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1. Purpose

There is a need for strong cooperation between manufacturers and recyclers in order to maximise the recycling rates of post- consumer HDPE containers. These specifications identify the levels of contamination in HDPE recycling.

The aim of these specifications is to provide buyers and suppliers with information regarding opaque HDPE, translucent HDPE, and coloured HDPE produced that are accepted by Australian recyclers. These specifications apply to all HDPE containers, including trays and bottles. Companies are advised to work with their suppliers to rectify excessive levels of contamination. If the contamination level of the material cannot be reduced, the HDPE resin is deemed unacceptable.

This specification document is a benchmark for buyers and suppliers within the Australian recycling industry. ACOR welcomes feedback on all specifications at any time to ensure they reflect the current industry best practice. Individual buyers and sellers can use it as a workbook or a reference for trading and negotiation. It is not compulsory for buyers and sellers to comply with the standards. However, buyers and sellers are strongly encouraged to work together and reach an agreement regarding terms and conditions.

2. Definitions

Out throws: materials that can be tolerated or removed during the recycling process.

Prohibited materials: materials that are difficult to or cannot be removed during the recycling process.

Opaque: pigmented.

‘Natural’ or translucent: non- pigmented.

3. Plastic Identification Code for Polymers

The plastic identification code is a series of symbols that assist product designers, manufacturing and recycling industries, government agencies and consumers to identify the types of polymers used in the manufacture of the product or packaging. The symbols are normally embossed on the bottom of the plastic containers and bottles, or at the back of packages.

The voluntary Plastic Code ('the Code') was created by the Plastics and Chemicals Industry Association (PACIA) in 1990. The coding system consists of seven symbols (see table below). ACOR supports the use of the Code, however one issue with the current code and its artwork is that consumers may confuse the use of the code as disposal instructions.

The identification coding symbol for HDPE is number "2" inserted in a triangle and clearly embossed on the bottle or container base.

Industry Coding for Polymers	Symbol	Polymer	Applications
		Polyethylene Terephthalate (PET)	Beverage bottles, food containers, sheeting applications (e.g. cake and sandwich trays), textile fabrics and garment fibres, etc.
		High Density Polyethylene (HDPE)	Bottle caps, 'singlet' shopping bags, freezer bags, household chemical bottles or containers, milk jags, etc.
		Plasticized (PPVC) or Unplasticised (UPVC) Polyvinyl Chloride	Plumbing pipes, garden hoses, blister packs, label, seals, etc.
		Low Density Polyethylene (LDPE)	Garbage bags and bins, recycling bins, bottle closure, bottle labels, etc.
		Polypropylene (PP)	Drinking straws, microwave ovenware, plastic hinged lunch boxes, bottle closures, household chemical containers, labels, etc.
		Polystyrene or Expanded Polystyrene (PS)	Yoghurt containers, plastic cutlery, foam hot drink cups, etc.
		---	All other resins and multi-blended plastic materials that are not listed from the above.

4. Contaminants

In order to avoid and minimise the colour content in the HDPE resins, it is important that coloured HDPE containers and bottles should be separated from the 'natural' or translucent HDPE stream prior to granulation.

Contaminants in HDPE recycling are classified into:

- Prohibited materials, and
- Out throws

4.1. Prohibited materials

Contaminant	Allowable percentage per contaminant (%)
Food particles	< 0.01
Steel or Aluminium cans	< 0.15
Hypodermic syringes	Nil
Dirt, e.g. grit, mud and stones	< 0.02
Liquid paper board, Paper & Cardboard	< 0.01
PVC labels & tamper proof seals	< 0.01
Non- soluble, pressure sensitive labels	Nil
Carbon barriers, e.g. long life milk bottles	< 0.01
Aluminium tamper proof seals	< 0.01
Plastic bags & films	< 0.01

4.2. Out throws

Contaminant	Allowable percentage per contaminant (%)
PET bottles and film	< 1.50
Glass and its particles	<0.05
Coloured HDPE bottle	< 1.50

5. Substandard Quality

These specifications apply to all HDPE containers, including bottles. Recyclers are strongly encouraged to work with sellers to reach an agreement in terms of bale quality and the level of contamination. Therefore, when the level of contamination is higher than agreed or cannot be reduced, the HDPE bale is deemed unacceptable.