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Specifications for baled rigid high density polyethylene (HDPE) natural food grade

These generic specifications are for separating natural HDPE food grade packaging for the purpose of making recycled HDPE (rHDPE) flake or pellets to US and EU food grade standards in Australia.

These specifications are voluntary and have been prepared to assist Australian primary sorters, such as Material Recovery Facilities (MRFs), by providing recommendations for sorting, storage and transport.

It is acknowledged that some MRFs and sorters will be able to meet these various specifications and send high quality bales (with low contamination) direct to plastics reprocessors, and others will need to send their baled plastics to other sites for further sorting. Companies sending baled plastics for further sorting may be able to send substantially more mixed plastics than included in these specifications. All MRFs and other sorters should seek details from their customers on specific requirements. It is possible international export requirements will become more stringent for single polymer batches and testing/certification.

These specifications have been developed in consultation with experts in the sector based on national and international trends on markets, price, quality, equipment and processes. We acknowledge Plastics Recyclers Europe for the generic template, specifications from The Netherlands, and the contribution of MRF operators, plastics processors and other industry experts in helping prepare this generic specification.

Rigid HDPE natural and colour

HDPE is best separated into two streams:

1. Natural food grade drink bottles (milk, cream, juice and water).
2. All other colours and formats (including natural non-food grade bottles).

Only natural HDPE drink bottles can be reprocessed back into high value food grade HDPE. Coloured HDPE and natural non-drink bottle HDPE cannot be reprocessed for food applications and are generally processed to make pipe and similar robust products. Sorters and processors are encouraged to keep the two streams separate to achieve higher quality and value.

These specifications are for food grade natural HDPE bottles. Use the other HDPE specifications within this series for [coloured and mixed HDPE](https://anzpacplasticspact.org.au/wp-content/uploads/2021/06/Specifications-for-baled-rigid-HDPE-all-colours.docx).

HDPE packaging design

For HDPE packaging design, the following resources are available:

* [Quickstart Guide to Designing for Recyclability: Rigid HDPE Packaging](https://documents.packagingcovenant.org.au/public-documents/Quickstart%20Guide%20-%20Designing%20for%20Recyclability;%20HDPE%20Packaging)
* [Action Plan for Problematic and Unnecessary Single-Use Plastic Packaging](https://documents.packagingcovenant.org.au/public-documents/Action%20Plan%20for%20Problematic%20and%20Unnecessary%20Single-Use%20Plastic%20Packaging)
* [Sustainable Packaging Guidelines](https://documents.packagingcovenant.org.au/public-documents/Sustainable%20Packaging%20Guidelines%20(SPGs))

Specifications for baled rigid high density polyethylene (HDPE) natural (unpigmented) food grade

Instruction: Enter responses into the middle column as appropriate to your operations, outputs and customers. Strike out any characteristics and descriptions that are not relevant.

|  |  |
| --- | --- |
| Supplier information | |
| Company name |  |
| Company address |  |
| Additional sorting information |  |
| Date |  |

|  |  |  |
| --- | --- | --- |
| Specifications for baled rigid high density polyethylene (HDPE) natural (unpigmented) food grade | | |
|  | Enter data in this column | Good practice / description of options for responses |
| Characteristics | |  |
| Resin type |  | HDPE |
| Product |  | 99% food grade HDPE - used, completely empty, rigid bottles <5L (milk, cream, juice and drinking water only). |
| Suitable applications for treated material |  | Food grade packaging and products. |
| Original source of the materials |  | Post-consumer kerbside.  Post industrial.  Pre-consumer industrial. |
| Colour |  | 100% natural. Incidental colour from caps and labels only. No coloured bottles. |
| Impurities | |  |
| Total impurities content  (max %) |  | If sending direct to a plastics reprocessor/compounder aim for 98% HDPE.  For other sorters aim for >90% bottle HDPE with **<10%** contamination. Unless otherwise specified, the % limits listed below apply to bales being sent to other sorters. |
| Metals  (max %) |  | Metallic and mineral impurities with an item weight of >100g and cartridges for sealants are not permitted.  Other metal articles <0.5% by weight. |
| Paper/Cardboard (max %) |  | < 0.5% by weight if sending to compounders.  < 1% by weight if sending to other sorters. |
| PVC  (max %) |  | < 0.5% by weight if sending to compounders.  < 1% by weight if sending to other sorters. |
| Plastic films |  | <1% by weight. |
| PP  (max %) |  | Dimensionally stable PP articles up to 10% of weight. |
| Other plastics  (max %) |  | <5% (incl PET). |
| Moisture sources (max %) |  | <5% (Residue food, liquids, soil, other). |
| Prohibited impurities |  | Organics, rubber, wood, hazardous waste, medical waste, glass, compostable, plastics, food contamination, silicones, foams, PUR, textiles, EPS, XPS. |
| Transport | |  |
| Transport/contract documents |  | The documents will be provided with the delivered bales. |
| Tracking |  | Delivery docket stating source, sorting plant, production date. |
| Truck load (min, tonne) |  | Tarpaulin truck 17-22 tonne load. Compacted consistent weight/size bales per delivery, ideally sized for pallets, double stacked across truck tray. |
| Bale characteristics | |  |
| Bale size/weight |  | Compacted to 350 kg - 650 kg. Bottles perforated or lids removed.  Stable and stackable bales for greater compaction and stability for transport and handling. |
| Storage |  | Dry storage on concrete hardstand (no gravel included in bales).  Other, please describe. |
| Strapping |  | 4 - 10 straps and not cross-bound or broken. |

Disclaimer

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