

Recyclable Material	Acceptable contamination level	Comments
 food waste	Contamination limit: 0.50%	Municipal source-separated food wastes going into Wet AD: 0% contamination level for sharps, glass, clinical waste, nappies hazardous/clinical waste as well as for hardcore, concrete, rocks, tiles, ceramics, stones etc. but have a maximum total contamination level of 0.5% covering materials such as paper, card, plastics (by weight), textiles and metals. Food waste should be collected and presented to the facility in an appropriate form as agreed with the facility e.g. bagged, debagged, loose. The End Users want their raw material collected separately from all other recyclables.
 garden waste	Contamination limit: 2% [of which max 0.5% plastics]	Garden and co-mingled garden and food wastes going to windrow composting, In-vessel composting and dry AD: 0% contamination level for sharps, glass, clinical waste, nappies or toxic/invasive plants, leaf litter, hazardous/clinical waste by end users; but have a maximum total contamination level of 2% covering materials such as paper, card, plastics (by weight), textiles and metals, as well as for hardcore, concrete, rocks, tiles, ceramics, stones etc. The level of non-compostable plastics should not exceed 0.5% by weight. The End Users want their input material collected separately from all other recyclables.

**General Notes for Paper for Recycling:**

It is important to note that "prohibited materials" represent a hazard to health, safety & the environment (i.e. medical waste, hazardous waste etc.) and are not permitted at all. "Non-paper components" include: metals, plastics, glass, textiles, wood etc. "Unwanted material" includes: non-paper products, paper & board detrimental to production, paper of another grade and paper products not suitable for de-inking. See the European material standard for Paper and Board for Recycling EN 643.

 newspapers & magazines	Contamination limit: Maximum 0.5% Non-paper components & 1% Non-paper components and other unwanted materials	News & PAMs: The main EN 643 Code for this grade is 1.09.00. The mixture must contain a minimum of 30% of newspapers and a minimum of 30% magazines with the precise percentages of newspapers and magazines above 30% being determined by agreement with the receiving mill.  EN 643 states a maximum level of 0.5% contamination limit for "non-paper components" (see definition above); and a maximum level of 1% for "non-paper components and other unwanted material combined" (see definition above). Additional criteria include a maximum moisture level tolerance of 10%.
 cardboard	Contamination limit: Maximum 1.5% Non-paper components & 2.5% to 3% Non-paper components and other unwanted materials	Cardboard: The main EN 643 Codes for these grades are 1.04.00 and 1.05.00. The raw material must contain a minimum percentage of corrugated board depending on the Grade being produced. UK manufacturers want less than 1% contamination as a norm.  EN643 states a maximum level of 1.5% contamination limit for "non paper components" (see definition above); and a maximum level of between 2.5% & 3% for "non-paper components and other unwanted material combined" (see definition above). Additional criteria include maximum tolerances on the content of non-corrugated paper and board materials being present (depending on the EN 643 Code) and a maximum moisture level tolerance of 10%.
 mixed paper & card	Contamination limit: Maximum 1.5% Non-paper components & 2.5% to 3% Non-paper components and other unwanted materials	Mixed Papers: The main EN 643 Code for this grade is 1.02.00. The raw material can only contain a maximum of 40% newspapers & magazines. UK manufacturers want as little as 0.5% contamination as a norm.  The EN 643 states a maximum level of 1.5% contamination limit for "non-paper components" (see definition above); and a maximum level of 2.5% for "non-paper components and other unwanted material combined" (see definition above). Additional criteria include a maximum moisture level tolerance of 10%. It should be noted that there are a number of Newsprint Paper Mills in the UK that buy Mixed Papers (or EN643 Code 1.01.00) and 'positively sort' from it material that they can recycle. This contains a 'mixture of various grades of paper & board'. It has an EN 643 maximum tolerance limit of 1.5% contamination limit covering the "non-paper components"; and a maximum of 3% for "non-paper components and unwanted material combined".
 mixed glass bottles & jars	Contamination limit: 0% to 1%	Glass for re-melt: End Users want bottles and jars as whole as possible. The 1% contamination level is for non-glass material. For Colour mixing re-processors want: 1.5% (colour) in Clear Cullet; <20% Clear & <10% Amber in Green Cullet; <10% Clear & Green in Amber Cullet. Unacceptable contaminants are: hazardous or toxic material, and laboratory glass, chemical containers, needles, syringes etc.  Critical contaminants such as ceramics, stone & porcelain, plus Pyrex, vision ware glass pans & microwave plates should be avoided & eliminated wherever possible. UK cullet re-processors downgrade or reject material that contains: general rubbish, foodstuffs, metal, organic material, paper and plastics. Contamination levels for the likes of ceramics are typically 500g to 1,500g/tonne of glass (or 0.15%).
 aluminium cans	Contamination limit: <5%	Aggregate: UK End Users do not want any clinical or special waste (such as needles and syringes) and no chemical waste or containers containing any liquid or solid hazardous or toxic material. They also do not want any non-container glass (such as monitors, automotive glass or fluorescent tubes).  The 5% contamination level by weight refers to non-glass material only (such as aluminium, plastics and steel containers), organics, general refuse and paper. Organics are seen as paper labels and corks. Clearly ceramics are not an issue for this market.
	Contamination limit: 3%	Aluminium: UK Manufacturers want zero contamination. As far as aluminium aerosols & foil are concerned the contamination level must be less than 2%. Additional criteria include a moisture level maximum tolerance of 4%. Overseas end users have tolerated slight contamination levels, but this is now tightening.

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 steel cans	Contamination limit: N/A	Steel Cans: Grade 6F - Clean Steel Cans - Loose. Steel from food, drinks and domestic aerosol cans, collected from the public e.g. by can banks and door-to-door ("kerbside") collection schemes. Cans should be free from excessive contamination by other materials.
 plastic bottles	Contamination limit: 0% to 6%	Plastic Bottles: Traditionally this material is 'sold as seen'. In mixed plastic bottles, Re-Processors are looking for a minimum 35% to 38% clear PET, a minimum 25% to 38% Natural/Coloured HDPE, with a maximum of 18% other plastic bottles. They want zero contamination, but will accept 1% residual food waste on packaging by weight, and < 6% PTT (of which < 20% is black Trays).  All contaminants must not exceed 6%, of which < 1% can be Plastic Bags; < 2% Steel Cans; < 3% News & PAMs; and < 5% Aluminium Cans. Food Waste must be < 1% by Weight). If End Users have a PRF, then they may be able to cope with more contamination (e.g. up to 20% PTT).
 plastic packaging	Contamination limit: 0% to 5%	Plastic Pots, Tubs & Trays: This is a very young market, so specifications are only just being developed. Markets are growing by polymer type at present, so (for example) the polypropylene and polyethylene PTT markets have a good demand, while others are still developing.  At the moment this material is 'sold as seen'. Again, re-processors want zero contamination of their raw material, but will tolerate 1% residual food waste on packaging by weight. The 5% contamination is the overall maximum level of contamination, of which up to < 1% can be Small WEEE & Plastic Bags; < 2% Steel Cans; < 3% News & PAMs; < 5% Aluminium Cans; and < 5% Plastic Bottles. Food Waste must not exceed 1% by Weight. Suppliers must speak to their re-processors directly to obtain their very latest specification.
 plastic bags	Contamination limit: 0% to 3%	Plastic Film/Bags: UK Re-Processors do not want any contamination. The majority of material currently recycled has been hand picked at a MRF. The contaminants are typically paper & cardboard, cans, food, glass, plastic bottles and plastic foil (e.g. crisp packets, biscuit wrappers etc.) that residents have put in a plastic bag. The re-processors with more sophisticated plants can accept up to 8% contamination, of which a maximum of 1% of fines such as glass or residual food.
 cartons	Contamination limit: 0% to 5%	Cartons: Prohibited materials include: Aluminium Foil (other than in the carton), pins, staples, rubber bands, polystyrene, metal cans, glass, textiles and all types of plastic etc. UK Manufacturers want < 2% Liquids (this refers to the liquids in the cartons themselves). They are also looking for < 5% of other fibre based products, such as cardboard or paper.
 textiles	Contamination limit: 0% to 5%	Textiles: UK Textile sorters, do NOT want any 'wet or soiled' material, because it contaminates loads and the affected material cannot be sold for 'reuse/re-wear'. So they want loads to be clean and dry, and not contaminated by commingling with other waste streams.  The 5% level covers unwanted textiles (i.e. duvets & pillows); other materials (such as coat hangers, bric-a-brac, etc.); and a small percentage of waste (< 0.5%). Typically they are looking for a minimum of 70% re-usable items in a load.
 small appliances	Contamination limit: 1% to 2%	Small Mixed WEEE: GN04 Evidence and National Protocols Guidance 2013 v3.1 expects that "6.08% from the tonnage of each delivered load will be non-WEEE and should not appear on the evidence note." This was based on trials done at the time. This includes 0.06% for the weight of batteries. The percentage range of 1% to 2% are given by UK Re-Processors of Small Mixed WEEE. The EA class Small Mixed WEEE as hazardous (because of batteries, asbestos, display equipment etc.), so it must be collected separately from other recyclables. [Most collectors use a dual code for this of: 20 01 35 and 20 01 36.]
 disposable nappies	Contamination limit: 0%	Disposable Nappies: End Users want 100% pure nappy waste and like to have their material kept separate from all other recyclables. Anything that is mixed with it needs to be completely removed before it can go through their process.
 wood & timber	Contamination limit: 0% to 1%	Wood/Furniture: All Council wood waste tends to be either a Grade B or C according to the industry standards. Re-Processors insist that their material is collected separately from other recyclables. Green Waste present in Wood Waste will be treated as a contaminant and cannot be recycled as a mixed stream. [Green Waste can also increase the chance of the material igniting.] Sorting Plants tend to analyse a load on the time it will take to clean: so any load that takes less than 10 minutes to clean is acceptable.  Unacceptable contaminants include: Cardboard; Felt/Tar/Rubber/Polythene; Plasterboard; Soil/Foliage/Twigs/Bricks/Glass; Plastic/Foam/Textiles; Railway Sleepers/Telegraph Poles. Panelboard re-processors who buy Grade C will class MDF (incl. Laminated Flooring, Hardboard) as unacceptable contaminants. The percentage weight figures in the Tolerated Contamination Level column refer to 0% MDF for panelboard re-processors and the 1% covers all other non-wood products (i.e. metals, glass etc.).
 batteries	Contamination limit: 1% to 5%	Mixed Batteries: UK Re-Processors want no contamination at all and insist that the Batteries are kept separate from all other materials. All batteries are completely discharged when disposed of, which means a small percentage contain some residual charge, which if the battery is allowed to "short out" (which is most likely if they are stored in steel or metal containers or the batteries are left with trailing wires attached to them) could lead to the battery overheating. The existence of any combustible material in the container increases the risk of fire if this happens.