

Recycling guide



Practical tips for responsible waste collection _____

What is waste management?

An average consumer in the European Union generates 4.8 tonnes of waste a year*.

In 2015 the European Commission decided on the circular economy principle as the sustainable economic model for the European Union, which is based on the repeating cycles of nature. The goal (in addition to prevent waste generation as far as possible) is to use the generated waste as resource elsewhere. In the permanent circulation of materials nothing gets lost, only transformed and reused. This helps us protect the natural resources of our planet. This is only possible by not only reducing the amount of waste, but making use of what remains and facilitate the (re)usability of available products and materials as many times as possible.

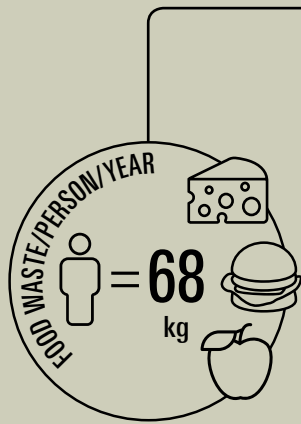
Packaging materials

The greatest challenge for waste management is plastics, because they are the most difficult to recirculate into economy. The greatest amount of plastics are produced in China, followed by Europe and the NAFTA countries.**
The majority of plastic waste is generated in households and the food industry, primarily in the form of packaging. Therefore, the ambition of the EU is to have 65% of all packaging waste recycled by 2025 and at least 25% of plastic bottles made of recycled input materials.



* Source: Eurostat
** Source: PlasticsEurope 2018

Why does the food industry need packaging materials?



*** Source: National Food Chain Safety Office (Nébih)
**** Source: Zero Waste Europe
***** The amount of CO2 emissions that plastics prevent by preventing food waste may be 5 times the amount needed to produce the plastics themselves. Source: The impact of plastics on life cycle energy consumption and greenhouse gas emissions in Europe. Denkstatt 2010.

We often tend to think that using plastic packaging materials could always be easily avoided. Although they could be indeed done without in many cases, it is also true that plastic foils and multilayer packaging of combined materials (e.g. Tetra Pak®) significantly extend the shelf life of products with an extensive supply chain such as cocoa and coffee.
For instance, when our grandparents were young fresh milk lasted for a few days only, but now, thanks to the development of processing and packaging technology, milk stays fresh for weeks.
As discarded food degrades, it also generates and releases a significant amount of greenhouse gases (e.g. methane) to the environment.
Packaging may be crucial in reducing food waste, because products with longer shelf lives are more probable to be consumed.

Unfortunately, the rate of food waste in Europe is increasing at the same time; households produce 68 kg of food waste per capita in a year in Hungary,*** half of which is unnecessarily purchased or forgotten food way past their shelf lives.
Food waste is influenced by numerous factors from consumer attitude through the type and amount of packaging to sales practices.****
Food industry producers are responsible for permanently improving their products and packaging to reduce our carbon footprint. This also means that although the production of plastic packaging during the food production process has one of the lowest CO2 emission of all types of packaging,***** areas where packaging is critical for food safety reasons require solutions that enable reuse or recycling.

How can we reduce waste?

Reduce

There are several ways to reduce the amount of waste. The most efficient way is to use these in combination in our daily lives

The key to zero waste is to **prevent and reduce the generation of waste**. In the course of environmentally conscious product design (ecodesign) responsible manufacturers consider the environmental impacts throughout the product life cycle to reduce the environmental footprint of the products as much as possible. Whenever you buy food or beverages, you should consider the whole life of a product – from the production of raw materials to the recycling of the product – to assess its actual environmental impact or so-called environmental footprint, and consequently make the appropriate decision. Buy only what you really need and do not throw away old, but still usable items.

Reuse

Reusing of products may be an efficient method of extending their life as an increasing number of products and packages are designed and produced with a view to making them reusable again and again. A way of reusing packaging is to collect them from consumers; for example, returning coloured glass bottles for a deposit. Naturally, filling used and washed jars with homemade jam also counts towards reuse.

Recycle

Recycling is recovering and reusing the waste material as such. In this procedure waste materials are separated and processed as secondary raw materials and converted into new products of the same or completely different functionality. The raw materials and technologies available are to be discussed in more detail (see page 12-13).

This is —————>
what recycled plastic
granules look like.



Recycling process of selectively collected PET bottles: plastics are crushed and shredded, then the granules produced are used for making new PET bottles.

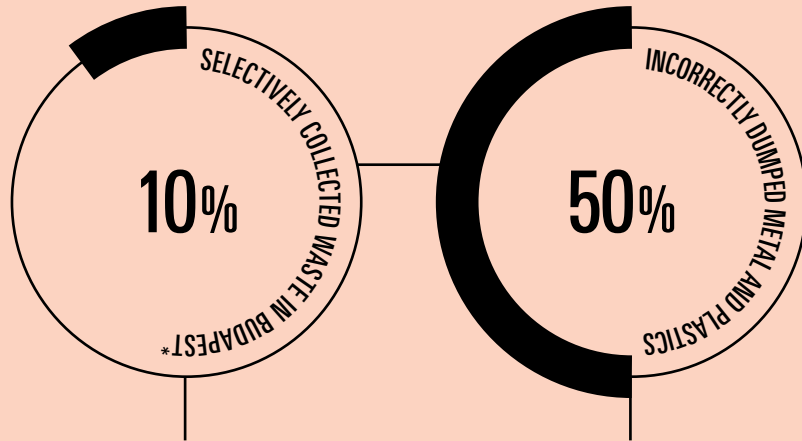
Recycling extends the life of plastics, and since using secondary raw materials requires less primary raw materials, less waste is generated.

High quality PET bottles can be turned into new bottles, foil, planter boxes, or polyester thread for clothes and carpets. Packaging or products that get in contact with food (so-called food contact materials) can only be made from waste with the appropriate quality properties. The majority of recycled PET products are still used in the textile industry.



Did you know?

Selective waste collection



An efficiently operating selective waste collection system is the primary precondition to recycling. In order for waste to be recycled, different materials must be collected separately, this includes metal, glass, plastic, paper, organic and hazardous waste, but also junk, textile, electric and electronic waste. While in certain European countries, e.g. in Germany over 60% of total waste is recycled and composted, the same rate is only 35% in Hungary.**

Based on the data from FKF Nonprofit Zrt. only some 10% of the total waste collected in Budapest in the scope of public service is collected separately. About 50% of waste landing in plastic and metal collection bins of all separately collected waste in the public service scheme is either household or other non-recyclable waste, which should not be disposed as they were. Paper, glass and green garden waste contain only a minimum amount of foreign not correctly dumped.

* For waste collected in the scope of public service, according to FKF Nonprofit Zrt. data.
** Source: Eurostat

Not dumped together!

Perhaps the most frequent misconception about selective collection is that waste management companies ultimately dump all waste together. However, waste management companies do NOT dump separately collected waste together; it is not in their interest, because they generate their income from recyclable materials. In most places garbage trucks with split containers are used for waste removal. Where this is not an option, materials of different kinds are collected in bags and they always undergo subsequent separation.

Rinsing is worth it!

Empty metal and plastic packaging, bottles and jars (ketchup, refreshments, yoghurt, etc.) only need some rinsing in dishwater. Quick rinsing does not waste water: much more water is used for producing these packaging materials in the first place. Rinsing is primarily needed for hygiene reasons, and to improve the efficiency of collection and sorting.



Metal and glass are the most easily and efficiently recyclable, because they can be simply melted and recycled again and again without any quality deterioration. PET bottles, iron, aluminium cans and glass are separated in the sorting process.

Multilayer drink cartons of combined materials (e.g. milk, fruit juice, Tetra Pak®) are also separated and soaked to separate paper, aluminium and plastic for recycling.

The rest that cannot be recycled is disposed in a landfill or incinerated. Waste incineration is not the most environment friendly solution, however, in certain cases waste burned in the incinerator also generates heat and energy that can be recirculated in the system.

Do I have to wash detergent poaches and soap bottles before disposing them in the waste bin?

Yes. Not only food contaminated packaging and containers must be rinsed before you dispose them in the waste bin, but all boxes, bottles, etc. used for storing some material in them. This is required for hygiene reasons and to avoid the contamination of other recyclable materials (e.g. paper).

What is the case with multilayer milk and fruit juice boxes (e.g. Tetra Pak®) of combined materials that have plastic caps?

In Budapest, you should put them in the paper container and dispose the caps with the plastic waste. In other parts of Hungary, however, they need to be collected with plastic waste, so you should inquire with the local waste management provider.



Did you know?

What is with foils with metal inner layers (e.g. some chocolate wrappers)? Why can't they be recycled?
They are so-called composite packaging materials, which means that diverse constituent materials are combined in their production. Their subsequent separation is economically and technologically not viable, therefore, they cannot be recycled as plastic or metal, and consequently must be disposed with mixed (communal) waste.

Why do I need to remove the caps before disposing the bottles, if the caps are also plastic? What happens to them?
In most cases caps are made of different plastics than bottles, therefore a different technology is used to process them (and are turned into crates and buckets).



What goes in what bin?*

* Certain types of waste (e.g. sheet glass, Styrofoam) must be taken to waste collection yards (see page 16). You should inquire with the local public service provider.

Paper waste

Newspapers, magazines, books, clean wrapping paper, folded paper and cardboard boxes, note books, corrugated paper, office paper waste, directories, leaflets, advertising publications. **In Budapest, drink cartons (e.g. milk and fruit juice) are also collected here.** The plastic spouts need not be removed, you should only put the cap among the plastic waste.

Plastic and metal waste

Plastic: mineral water, refreshment, etc. PET bottles rinsed and crushed, removed caps of these, rinsed sour cream and yoghurt pots, uncontaminated plastic bags (e.g. punched pockets), foils, bubble wrap, washed out plastic bottles (e.g. shampoo, washing liquid), plastics with PET, HDPE, LDPE, PP marking (see page 10-11). **Metal:** washed out and crushed cans (e.g. pet food), refreshment and beer metal and aluminium cans, tinfoil, metal lids and caps (e.g. baby food, canned products), cutlery, paper clips, stapler pins.**

Coloured glass waste

Coloured hollow glass: wine bottles, champagne bottles, beer bottles, liquor bottles.

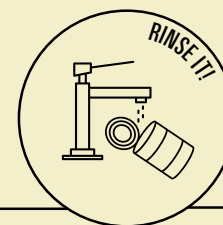
White glass waste

Transparent hollow glass: conserve jar, baby food jars, bottles (wine, liquor, etc.).

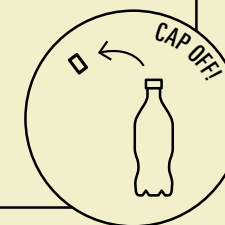
** Where grey and yellow bins are installed, plastic and metal are collected separately. If there is only a yellow bin, the two materials are collected together.

Watch what you do...

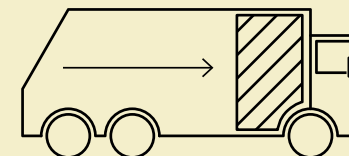
Always rinse selectively collected waste.



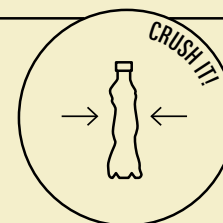
Always put them in the selective container **without the cap or lid.**



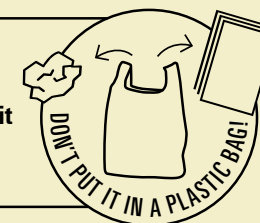
Up to 75% of the body of garbage trucks could be freed, if everybody disposed of their bottles crushed or folded.



Dispose of cardboard boxes and plastic bottles **crushed.**



Don't put paper you want to discard in a **plastic bag** or tie it with a plastic or other string.



What cannot be collected in the selective bins?



Greasy or contaminated paper, paper with food waste (e.g. pizza box), thermal paper (bill, receipt), transport tickets, queue number slips, carbon paper, fax paper, used sanitary paper (tissue paper, napkin, sanitary pad), nappies, plastic covers and other compound materials, or plastic coated paper packaging such as takeaway coffee cups.



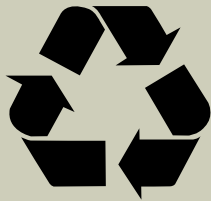
Cassettes, tapes, CD, plastic toys, toothbrush, metal coated foils (e.g. crisps bags, chocolate foils), foam trays, Styrofoam, unrinsed plastic and metal cans contaminated with food waste or chemicals, drug blister packs. So-called degradable plastics must not be collected with other plastics.



Sheet glass (window panes, mirrors), lightbulbs, glasses, neon tubes, heat resistant glassware, chinaware, ceramics and bottles containing hazardous materials.

How does packaging help in collecting waste separately?

The symbols on the packaging help you understand the environmental footprint of the product and help us identify how different types of packaging can be recycled.



The triangle of three arrows looping back on themselves known as the **Mobius Loop** simply means that the product can be recycled. This does NOT mean at all that the product was made of recyclable material or that recycling will definitely take place as the latter requires having the appropriate recycling and selective waste collection system in place and in use. If you see a percentage value and a material mark in the loop, it indicates how many percent of the product is made of recycled raw material and which part of the packaging this applies to.

The **Green Dot** mark is the trademark of the European Extended Producer Responsibility focusing on waste collection, sorting and recycling solutions, and is used on the packaging of producers who made a financial contribution to waste recovery and recycling. This is not an environmental label or statement by itself.

The **Tidyman** mark draws attention to avoid littering, putting your waste in the appropriate containers. It can only be used on packaging that is not recyclable. It cannot be used together with the Mobius Loop.

How much of the “100% degradable” claims on packaging is true?

When it comes to degradable packaging, the label must indicate the part and percentage of the packaging that breaks down within the time and under the conditions specified in international standards. “100% degradable” claims, therefore, are always suspicious as it is very unlikely that all parts of packaging fully breaks down considering the length of time and conditions provided.

What should I do if a packaging is made of diverse raw materials or consist of parts with different levels of recyclability?

If packaging is made of two or more types of plastics, it is sometimes – but not always – indicated on the packaging. For example, if the plastic packaging of wet wipes displays PIC 7, while the dispensing lid on these wipes display PIC 5, the packaging must be taken apart: the recyclable part should be put in the selective container and the non-recyclable part in the municipal waste bin. If you cannot take it apart, then the packaging unfortunately qualifies as mixed waste and must be disposed of in the municipal waste bin.



Did you know?

Recycling statements and claims on packaging:

These are possibly the most important for consumers as they clarify how to treat packaging. These statements declare which part(s) of the packaging is recyclable (and whether it must be separated from other parts of the packaging). These statements are printed on the packaging if selective collection and recycling is available for the relevant materials. They may feature together with the Mobius Loop. E.g. this way:



With text: “This packaging is made of recyclable paper.”



Similarly, if a product is made of recycled raw materials, the percentage of such materials must always be indicated on the packaging. This information, however, does not indicate which waste collection bin you should put the used packaging in.

Which plastics are recyclable?

The type of plastic used in the packaging determines whether it can be recycled. Not all types of plastics have their dedicated recycling technology developed, or maybe the infrastructure for collecting and subsequent sorting a specific type of waste is not established, but it may also happen that processing is not profitable or not viable due to the properties of the material. The numbers in the arrowed triangle on the packaging solely indicate the type of plastic resin used for the product or the packaging. This is the so-called PIC (Packaging Identification Code) that classifies seven types of plastics.

Be careful, because only the ones marked in green are recyclable, the others are not!

Packages are often labelled with an additional C/certain material remark. This indicates that the packaging is made of a different type of material.



1 – PET – polyethylene terephthalate

2 – HDPE/PE-HD – high density polyethylene

3 – PVC – polyvinyl chloride

4 – LDPE/PE-LD – low density polyethylene

5 – PP – polypropylene

6 – PS – polystyrene

7 – OTHER

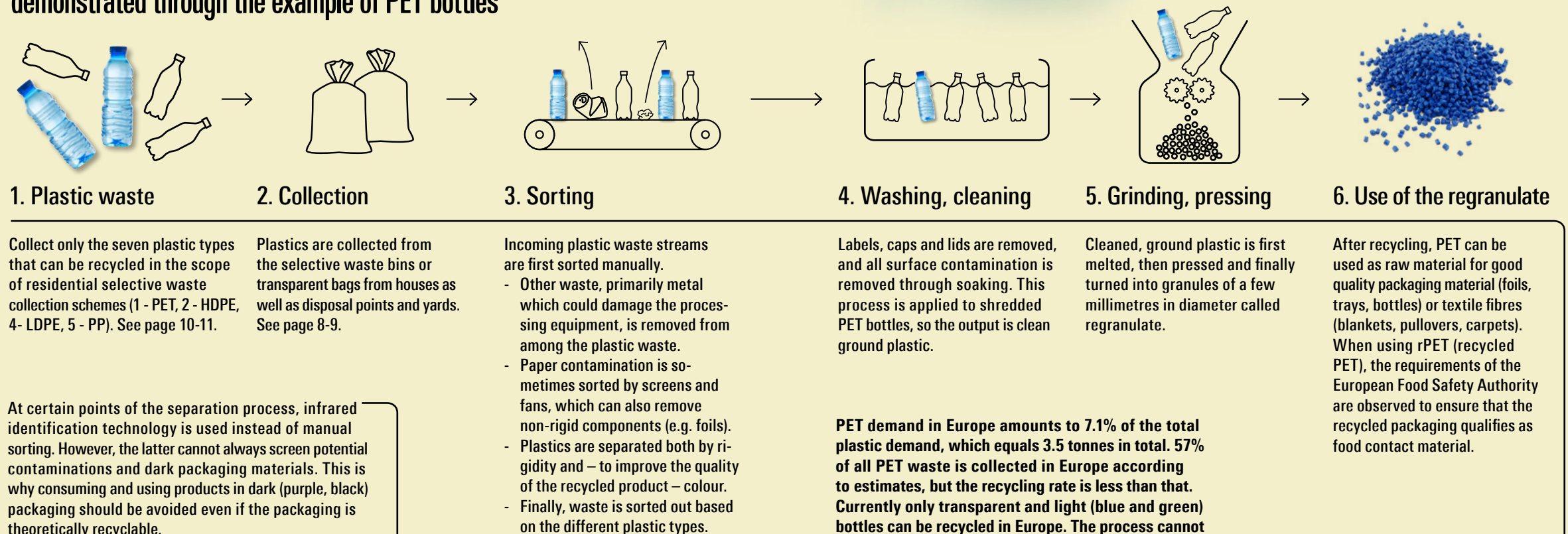
Plastics marked 3, 6 and 7 must be put in the municipal waste bin.

How are plastics recycled?

Recycled plastics are used to produce an increasing amount of products, therefore buying them may also indirectly contribute to an efficiently functioning circular economy. When plastics are recycled, they are primarily turned into packaging materials (foils, trays, lids and bottles), but they may also be converted into other plastic articles of lesser quality (e.g. garden furniture, outdoor cover, traffic signs).

The most frequent method of recycling is the so-called mechanical recycling. This means cleaning, (re)-melting and upgrading plastic waste, and includes automated processes like grinding, rinsing and washing, sorting, drying, regranulation and forming.

The mechanical recycling process is best demonstrated through the example of PET bottles



At certain points of the separation process, infrared identification technology is used instead of manual sorting. However, the latter cannot always screen potential contaminations and dark packaging materials. This is why consuming and using products in dark (purple, black) packaging should be avoided even if the packaging is theoretically recyclable.



Did you know?



10-15% regranulate is used on average for producing a new PET bottle in Hungary, that is the bottle contains this percentage of recycled materials. In line with the ambitions of the European Union, the goal is to constantly increase this rate, not only in the production of PET bottles, but all plastic packaging.

Carbon emissions generated during mechanical recycling are less than 20% of the total carbon emissions during the production of completely new plastics. This way the production of 100% rPET bottles significantly contributes to the reduction of CO2 emission.

Of all European markets Nestlé introduced a bottle made of 100% recycled PET in Belgium in the summer of 2019. This rPET bottle is also 100% recyclable.

PET demand in Europe amounts to 7.1% of the total plastic demand, which equals 3.5 tonnes in total. 57% of all PET waste is collected in Europe according to estimates, but the recycling rate is less than that. Currently only transparent and light (blue and green) bottles can be recycled in Europe. The process cannot be applied to non-transparent and thermoform bottles.*

*Source: Mechanical Recycling of Polymers for Dummies

Questions & Answers



Do I really have to remove the labels from PET and other plastic bottles before putting them in the selective bin?

Not necessarily, because labels will be removed from packaging materials during processing. However, it is important to put bottles in the collection bins crushed.

What about foil coated paper? If multilayer paper drink cartons can be separated, why cannot soup pouches?

Tetra Pak® packaging has such a market value that it is worth building a recycling system for it. Nevertheless, only the paper fraction can be recycled, metal and plastic are removed for energy recovery, that is incineration.

How should I dispose of old CDs and DVDs?

99% of CDs and DVDs are made of polycarbonate (PC), still they cannot be thrown into the plastic selective bin. The main reason is that they cannot be recycled in Hungary, because there is no technology available here to process the reflective aluminium layer applied to the polycarbonate disc (vapour metallising) and scratch protection lacquer coating made during production. CDs and DVDs are made of aluminium coated polycarbonate and are not qualified as hazardous waste. Currently only one company deals with recycling discs in Hungary. For further information, please, see: hwdrecycling.hu

Where should I put old makeup tools (e.g. mascara)?

In the municipal waste bin.

Why isn't all plastic packaging made of recyclable material?

The primary action would be to reduce disposable, single use plastic products. Whether a certain material can be recycled always depends on the prevailing economic, technological and infrastructural background. If producing a specific plastic is much cheaper, manufacturers often opt for that for the purpose of cost efficiency, however, this may be inconsistent with the capabilities of the waste management system.

How can I make sure to have washed the grease from the yoghurt cup by simple rinsing? How much water should I use? How thoroughly should I rinse?

Do your best to dispose of washed and rinsed waste in the selective collection bins. The optimum solution for rinsing is if you use the dishwasher, so you don't waste additional water. Rinsing is important to prevent smells and for the sorting personnel's hygiene, therefore, you don't have to clean it spotless. The point is that it should not drip or smell.

What about meat and cheese trays which are typically made of two types of plastics?

In most cases the exact type of plastic they are made of is not specified, consequently their recycling is not solved, either. If you are not sure that they are recyclable or not, you should nevertheless put them in the selective container, so they can be removed during processing if they are not recyclable.

Packaging made entirely of recycled PET already exists. Nestlé produces the 1.5 litre bottles of the Belgian mineral water VALVERT entirely of recycled PET, which is also 100% recyclable after reuse.



NESQUIK All Natural cocoa powder in recyclable packaging is produced in Szerencs, Hungary.



Did you know?

What should I store the waste in when I dispose of it in the selective bins? Should I use plastic waste bags or degradable bags?

When stored appropriately, rinsed and dry, selective waste does not need to be stored in dedicated bags, you can dump them from one bin to the other without a bag.

What is the best method for managing organic waste?

The majority of household waste is organic, degradable material, which are worth composting instead of putting them in the municipal waste bin. Composting at home is easy, but there are several institutions that offer composting services, so you should check with the municipalities. There are some composting points in Budapest, and Humusz Szövetség holds regular training sessions to provide people with appropriate knowledge and tools to begin household composting. You can even compost inside your home (e.g. worm composting). For further information go to: komposztalj.hu

What are collection points and waste yards?

Doorstep selective waste collection providers in Budapest remove metal, paper and plastic waste in bins with blue and yellow lids. In some places, they are collected separately in transparent waste bags. Selective waste collection points are yellow, blue, grey, white and green containers installed in public areas, which are located under the agreements with municipalities so that all citizens (of Budapest) can reach them. You can dispose of not only metal, paper and plastic waste, but also coloured and white glass in these containers. Waste yards are closed waste disposal areas operated by qualified personnel where you can leave the waste collected selectively in your

household free of charge within Budapest. You can only dispose of waste that require special treatment and hazardous waste at these yards.

Why can't I put drug blister packs and vials together with selective waste? What should I do with them then?

If there is still medicine left in the blister pack, you should return it to the pharmacy as it qualifies hazardous waste. Drug blister packs are complex packaging (metal layer fixed on plastic), their recycling is not solved, therefore, they are considered mixed (municipal) waste. Homogeneous paper and plastic packaging can be collected selectively.

How do I know of a product is recycled? How can I make sure that the product I buy is made of recycled material?

Ideally the packaging provides information on what percentage of a product or packaging is made of recycled raw materials. The brownish tint of recycled paper makes it easy to recognise. Also, recycled plastic looks less homogeneous due to processing.

What is the purpose of waste yards?

What can we take there?

Waste yards are provided to collect large quantities of plastic, paper, metal and glass waste. At the same time certain types of waste must only be unloaded in waste yards. You may leave the following types of waste in every waste yard in Budapest:

- Styrofoam (clean, granular structure polystyrol packaging)
- Hazardous waste and waste requiring special treatment:
 - Electric machinery of all sizes (washing machine, refrigerator, drill, hair dryer, etc.) and electronic waste (PC, TV, Hi-Fi set, phone, etc.)
 - Used cooking oil and bottle, spent oil and bottle
 - Fluorescent tubes and lightbulbs
 - Dry batteries and small portable accumulators, car batteries

The following types of waste may only be deposited in the designated waste yards in Budapest. Their list is available at www.fkf.hu. Regarding their treatment outside of Budapest, please ask your local public service provider.

- Oil filters, brake fluid, antifreeze fluid, insecticides and dangerous cleaning agents must be tightly closed and bundled
- Construction and demolition waste (debris without hazardous waste)
- Junk (bulky waste not containing hazardous waste)
- Green waste (fallen leaves, grass clippings)
- Waste tyres (only passenger cars)
- Paint waste and packaging

What do we do?

Like many other food companies, **Nestlé also set the ambition to make all of its packaging recyclable or reusable by 2025.** However, we are aware that 100% recycling is not enough to solve the problem of plastic waste. In addition to developing alternative packaging solutions, we are also working on ensuring a zero waste future for next generations, as well as raising awareness for the importance of this issue with the wider public, jointly with our partners and communities.

We announced the creation the Nestlé Institute of Packaging Science in Switzerland that primarily focuses on researching and implementing recyclable, biodegradable or compostable polymers, functional paper and plastic solutions and new packaging concepts and technologies that improve the recyclability of plastic packaging materials.

This booklet was printed on 100% recycled paper. If you don't use it any more, please give it to your friends or put it in the paper bin.

This publication was produced on behalf of Nestlé Hungária Kft. and was proofed by the waste management experts of Humusz Szövetség.

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