

The sustainable alternative

Reuse with stainless steels



Introduction

According to the Zero Waste International Association (zwia.org), Zero Waste is the conservation of all resources by means of responsible production, consumption, reuse, and recovery of products, packaging, and materials without burning, and with no discharges to land, water, or air that threaten the environment or human health.

Choosing stainless steels for an application ensures that it will be produced in a responsible way, with an extremely low life-cycle inventory, have low, or close to zero, maintenance costs during its long life, and that it will be reused indefinitely because it is easy to recycle without any loss of quality nor material integrity.

Choose your sustainable options here

Bottles

Take your drink in a stainless steel bottle or drink it from a stainless steel cup! Stainless steel does not influence the flavour of your beverage, it is hygienic and very safe to use. Another benefit is that it can keep your beverages hot or cold longer. Stainless steel is environmentally friendly, you can use it time and time again and at the end of its long life, it can be recycled without a loss of quality nor material integrity.

More information:

- [food safety of stainless steels](#)
- [stainless steel bottles](#)



Stainless Steel Bottle

- costs **30 Euro** and will last at least 670 uses
- **543g CO₂** emitted to produce 1 bottle



Plastic single-use bottle

- costs 0.25 Euro each → $0.25 \times 670 =$ **167.50 Euro**
- 80g CO₂ emitted to produce 1 plastic water bottle → $80 \times 670 =$ **53600g of CO₂**

| Source: [worldstainless independent research](#)

Cups

When you learn to love tap water, you will need a hygienic and easy non-breakable cup for drinking it... a stainless steel cup offers the perfect resilient solution. Stainless steel does not influence the flavour of the water and it is very safe to use. Stainless steel is also environmentally friendly, you can use it time and time again and at the end of its long life, it can be recycled without the loss of quality nor material integrity. (more information on the food safety of stainless steel)

The GUT Zertifizierungsgesellschaft für Managementsysteme mbH has in 2020 calculated that for one liter of tap water 0.35g of CO₂ is emitted, for one liter of bottled water 202.74g of CO₂ is emitted.

Tumblers

Globally, we use an estimated 16 million disposable coffee cups each year. The single-use cups (along with lids, sleeves and stir sticks) are often made with hard-to-recycle materials like Styrofoam, polyethylene or polypropylene that are sent straight to the landfill.

Travelling with a stainless steel tumbler, not only makes sure you don't contribute to more landfill, but the stainless steel of which your tumbler is made does not

influence the flavour of your beverage, it is hygienic and very safe to use. Another benefit is that it can keep your beverages hot or cold longer. Stainless steel is environmentally friendly, you can use it time and time again and at the end of its long life, it can be recycled without a loss of quality nor material integrity.

More information on [food safety of stainless steels](#).



| Source: foodprint.org

Straws

You like sipping your drink with a straw? Think about investing in stainless steel ones as an addition to your cutlery set. Stainless steel straws are environmentally friendly, reusable, dishwasher safe, easy to clean, safe to use and easy to take along.

[More information on the use of stainless steel applications](#)



Dispensers

Refilling your bottles with bulk soap, shampoo or conditioner means fewer bottles end up in landfill. Stainless steels are the ideal choice for this type of bottle: the bottles will not break and they will last a long time. Stainless steels are environmentally friendly, since you can use them time and time again and at the end of their long life, they can be recycled without the loss of quality nor material integrity.

The CO₂ footprint for one 500 ml stainless steel bottle would be 550g. Using an equivalent plastic single-use bottle, the CO₂ footprint would be 80g. After 7 refills, the CO₂ footprint of the stainless steel bottle still remains 550g; the 7 plastic single-use bottles would be at 560g, increasing with 80g for every bottle you buy...

| Source: [worldstainless independent research](#)



Lunch boxes

Go the ecological way and bring your lunch or snack to work in an attractive stainless steel box. The stainless steel will not influence the flavour of your food, is hygienic and safe to use. Stainless steel is environmentally friendly. You can use it time and time again and at the end of its long life, it can be recycled without the loss of quality nor material integrity.

[More information on the food safety of stainless steel](#)



Takeaway containers



Retournzy is a social economy cooperative that offers a turnkey service for the rental, collection and washing of returnable containers for restaurants in Quebec.

Retournzy coop's mission is to reduce waste at the source in the catering, event, corporate and institutional sectors in order to revolutionize the way people consume take-out meals or meals normally served in individual single-use containers, by offering an ecological and sustainable alternative to the use of these containers, thanks to a turnkey service of distribution, collection, washing and sanitation of shared reusable containers. Retournzy informs and educates food service professionals and consumers on the issue of single use and the benefits of reusable containers in the face of these challenges.

The material of choice for the returnable

containers is stainless steel. Stainless steel containers were chosen because the material is hygienic and very safe to use again and again without risk of chemical migration to food. And because it can be recycled easily in Quebec without a loss of quality.

For more information about the concept, [click here](#). Text and pictures courtesy of Retournzy Coop.



Airtight containers

In the market before stainless steel products came out, glass and plastic containers were used. However, glass is fragile and plastic has an environmental hormonal issue, and there is a need for a product that can compensate for this.

Stainless steel containers are very hygienic because they are easy to clean thoroughly and are not an environment

that supports the growth of bacteria. They do not transfer stench, which is a common complaint about plastic containers. Stainless steel products are unbreakable and have been tested for harmful substances. In addition, they can be dissolved in scrap at the time of disposal, so it has excellent advantages for environmental protection.



| Text and pictures courtesy of POSCO and CNTKOREA Co., Ltd.

Stainless steel containers in the microwave

Stainless steel containers are available in many different forms and shapes. Stainless steel food containers provide the premier choice for many users because stainless steel, unlike alternative materials, does not influence the flavour of the food, is completely hygienic and safe to use. You can use stainless steel containers time and time again and at the end of their long life, the containers can be recycled without the loss of quality or material integrity.



Traditionally, metal food containers have been prohibited from being used in microwave ovens due to electrical arcing inside the ovens. Today it is easy to find microwave-safe stainless steel food containers in a variety of selling outlets, including popular online selling platforms. You can find stainless steel containers in various capacities ranging from 300ml to 1100ml with the most popular products offering around 900ml of capacity.

Most stainless steel food containers are made of 304 grade (18/8 stainless), and new microwave-safe containers have had their corners specially designed so they do not cause problems when used in a microwave oven. These products have

been used safely since 2020. Microwave-safe stainless steel food containers are now being sold in Asia, the United States, and Europe. If you've been hesitant about using stainless steel containers for reheating cold food, don't worry!

You can now safely use the new stainless steel containers for reheating your lunch or takeaway foods instead of single use food containers made from less resilient materials. However, please note that not all stainless steel containers in existence can be used in a microwave ovens, so be sure to check the manufacturer's instructions before use.

[Click here for more information.](#)



Razors

Stainless steel zero waste razors are double edged safety razors with a timeless design, save you money over time and make it easy to ditch plastics in your shaving routine.

According to recent estimates, we may be dumping 2 billion razors into landfills each year, equating to around 454 tonnes of plastic waste. Plastic razors are known for having a significantly shorter lifespan than safety razors. Plastic razors, in general, contribute to a disposable, throwaway society. According to experts, the average disposable razor cartridge should only be used 6-9 times before being discarded.

This means that every disposable razor purchased will be on its way to the landfill in about 2-3 weeks, while your stainless steel safety razor lasts you a lifetime.

| Source: earthfirst.org.uk



Ice packs

The stainless steel ice pack is perfect for sore backs, headaches, bruises, bumps, ... you name it! It is also perfect for keeping your lunch fresh. It freezes solid in about 2 hours, and will keep your lunch cool for 4-6 hours, depending on your containers and your lunch bag.



Ice trays

Stainless steel ice trays are easy to use, sturdy and freeze quicker than plastic ones. The tray will not crack, bend or break. As an added extra they are 100% recyclable and reusable!



Food trays

Stainless steel food trays are great to use for camping and small children as they do not break, are easy washable and hygienic.



Strainers

For brewing fine loose-leaf teas a tea strainer is essential. Stainless steel ones are easy to use, sturdy and do not leave any taste so your tea leaves impart their full flavour.

Canadian researchers found that tea bags can release billions of micro-plastics in your drink. Many tea bags contain plastic (polypropylene), especially those used by premium brands in pyramid shaped bags. However, even regular paper tea bags can use polypropylene

to seal the bag. Tea bags generate a lot of waste. They come into individual packaging, are not recyclable and most of them not compostable (if they contain polypropylene).

Loose tea is zero-waste (just bring your jar and refill it with tea in your bulk shop). You can also buy loose tea in any shop, with packaging but still less than individual bags. When you finished your cup of tea, you can just put the tea in the compost, and wash your strainer.

| Source: [easyecotips.com](https://www.easyecotips.com)

| Picture by [koko rahmadie](#) from Pexels



Coffee capsules

200 million coffee capsules are being thrown into waste every day. Stainless steel reusable coffee capsules avoid throwing away hundreds of capsules into landfill every year. Additionally they are safe to use, corrosion resistant, heat resistant and extremely durable. And, you can even use whatever granulated coffee blend you wish!

If you drink 2 cups of coffee every day and use a reusable coffee capsule instead of a single use one, you will save 730 capsules from being thrown into landfill each year, representing 7 kilos of waste.

| Pictures and text courtesy of myreusable.co.uk.



Swabs

Widely used in doctor's offices stainless steel ear swabs are a practical and easy way to remove excess ear wax. It is a safe and hygienic tool to use and can be reused endlessly, just clean and reuse.



Chopsticks

At the moment, most chopsticks are made from wood or bamboo. They are disposed of after use. Wood and bamboo must be treated before they can be used. Bleach, sulfur dioxide, fungicides and preservatives often remain in the disposable chopsticks. These are very unhealthy chemicals for people to be consuming.

Stainless steel chopsticks are hygienic, chic, easy to clean, durable, reusable and recyclable. They should be part of everyone's regular cutlery set!



Ice cubes

Stainless steel cubes can be used to chill alcoholic and alcohol-free beverages. The cubes can make drinks colder without diluting them and bring an air of sophistication to impress your guests. Since they are stainless steel, they will have no impact on the taste of your drink whatsoever. After an hour or two in the freezer they will be completely frozen and ready to use.



Skewers

Using stainless steel skewers for your barbecue meat does not only mean you have less waste, it also a safer option from a food safety perspective.

First and foremost when the meat is stored prior to and after the barbecue, bacteria multiplication on the stainless steel skewers is significantly lower than all alternative material options. But above all, the risk of carcinogenic substances (PAHs) forming on stainless steel skewers is zero, even for types of meat that require a longer cooking time! An additional benefit that will please the chef is that on a stainless steel skewer the meat heats up more evenly from the inside out.

| Source: The safe added value of stainless steel skewers



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About worldstainless

worldstainless is a not-for-profit research and development association which was founded in 1996 as the International Stainless Steel Forum.

Its primary roles are to undertake stainless steel industry beneficial tasks that are better coordinated centrally in the fields of

- Promoting industry and material sustainability benefits
- Conserving resources and promoting the circular economy
- Providing economic and industry-leading statistics
- Support industry health & safety needs and developments
- Outlining market development and expansion opportunities
- Maintaining brand reputational positioning
- Materials education

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