

Plastic recycling



Waste Sorted

INTRODUCTION

The word plastic originally meant “pliable and easily shaped”.¹ It now commonly refers to a category of synthetic materials. Plastics began industrial production with “Bakelite” in 1907 and have become widespread in the last 40 years.²

The versatility and variety of plastics mean they have become widespread as packaging products, but they can cause environmental harm if they end up in the litter stream. Recycling plastic saves energy and valuable resources, and helps protect our environment.



HOW IS PLASTIC MADE?

There are many different types of plastic. Plastics are synthetic (man-made) materials. Most plastics are made from oil or gas with small amounts of other products such as carbon black (for UV stabilisation) and fire retardants.

Plastic polymers are made into resin pellets or powders that are heated to soften them before being moulded to form a range of containers, bottles and other products. A Plastics Identification Code may be stamped on the final product to indicate what type of plastic (sometimes called resin) the product is made from.³ The code is displayed as a number inside a triangle of chasing arrows.



Plastic recycling



THE PROBLEM

LITTER, LITTER EVERYWHERE...

Plastics can take twenty to thousands of years to break down in the environment.⁴ Plastics are the most common items found on Clean Up Australia Day.⁵ They make up 30 % of all rubbish collected over the past 10 years.⁶

Waste plastic in the litter stream chokes waterways, injures wildlife and can breakdown into microplastics, which can carry harmful chemicals into the food chain. More than 8 million tonnes of plastic enters the ocean globally each year. By 2050 it is estimated that there will be more plastic rubbish in the ocean than fish.⁷ Marine life and birds can mistake plastic for food or become entangled in it, which causes injuries, starvation and death.

MICROPLASTICS

Plastic breaks up into tiny pieces in the environment (becoming “microplastics”). These microplastics absorb organic pollutants that can harm humans and wildlife. Marine species have been shown to absorb these microplastics either via ingestion or filtration, thereby introducing pollutants to the base of the food chain.

RUNNING OUT

The majority of plastics are made from non-renewable resources that, once depleted, cannot be replaced.⁷ Australians send 1.7 million tonnes of plastic to landfill each year.⁸

THE SOLUTION

AVOID, REDUCE, REUSE AND RECYCLE

You can help reduce plastic waste by avoiding single use plastic products, buying products made from recycled plastics and reusing and recycling plastic products when you can.



AVOID: Start small and build up. Say no to plastic bags, plastic straws, plastic cutlery and products with excess packaging.



REDUCE: Boutique plastic bags sold by ACT supermarkets need to be used 4-5 times to reduce their impact on the environment below that of single use bags.⁸ Don't buy more, reuse the ones you have!



RECYCLE: Don't put plastic bags in your recycling bin at home. Soft (film) plastics, including plastic bags, can be recycled at some supermarkets but not in the ACT kerbside system.

Most rigid plastic containers can be recycled at home in the ACT – recycle plastics with the following codes:



REFERENCES

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9. <https://www.kathmandu.com.au/corporate-responsibility/responsible-materials/repreve-recycled-polyester>

DID YOU KNOW?

- Using recycled plastic to make new products saves 70% of the energy needed to make virgin plastic from fossil fuels.
- The energy saved from recycling one plastic bottle is enough to power a computer for 25 minutes.
- Plastic shopping bags can be returned to your supermarket for recycling.
- Recycling contained in plastic bags goes straight to landfill. Don't waste your sorting effort, place recycling unbagged into your recycling bin.
- Plastic does not biodegrade, it “photodegrades”, which means it breaks down in light.
- Approximately 20 two-litre plastic bottles are recycled in the production of one adult fleece jacket.⁹
- Polystyrene is not recyclable in the ACT e.g. foam meat trays, polystyrene cups. Anything with Plastic Identification Code 6 is polystyrene. Dispose of it in the rubbish bin.

EXPERIMENT AT HOME

Make your own plastic:

<https://sciencebob.com/make-plastic-milk/>

Test and identify plastic products yourself using density:

http://www.wakegov.com/recycling/rotate/ftb/Documents/Lesson%20Plans/Plastics_Identification_Rev.pdf

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