



## Plastic Recycling

Plastics are the most common rubbish item found on Clean Up Australia Day, representing over 30% of all rubbish collected over the past 10 years<sup>7</sup>. This includes drink containers, confectionary packets and water bottles, all of which pose a huge threat to wildlife and our environment. Recycling plastic saves energy, valuable resources and helps to protect our environment.

### The problem with plastics

Plastics are polymers, chains of molecules produced by smaller molecules called monomers. There are many different types of plastics depending on their molecular make up and shape.



To help identify the different plastics, a Plastics Identification Code is stamped on the final product to indicate what type of resin it contains<sup>1</sup>. The code is displayed as a number inside a triangle of chasing arrows.



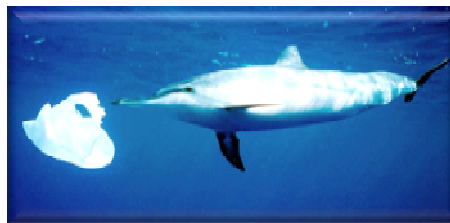
#### Impact on the environment

**Greenhouse Gases:** Fossil fuels such as natural gas, oil and coal are used in production process of plastic, emitting dangerous greenhouse gases and toxic chemicals. As plastic decomposes gases are produced, particularly methane. Methane is 20 times stronger than carbon dioxide and represents up to 4% of emissions from landfill<sup>2</sup>.

**Natural Resources:** Plastics are made from non-renewable resources that, once depleted, cannot be replaced<sup>3</sup>.

**Persistence in the Environment:** Most plastic is not biodegradable and will survive in the environment for hundreds of years. Rather than biodegrading, plastic photodegrades, breaking down into smaller and smaller pieces. Plastic is also lightweight and moisture resistant, meaning it can float easily in air and water, and travel long distances.

**Landfill Space:** Australians use 1.3 million tonnes of plastic each year. We are great recyclers, with 46% of waste recycled each year<sup>4</sup>, however, this means that over half of our waste still ends up in landfill causing serious problems for the environment.



**Threat to Marine Life:** Every year more than 6 million tonnes of rubbish is dumped into the world's oceans. 80% of this waste is plastic, with an estimated 46,000 pieces of plastic per square mile of ocean<sup>5</sup>. Plastic waste including plastic bags, food packaging, and abandoned fishing nets can be deadly to marine life.

Turtles, whales, and sea birds mistake rubbish for food or get entangled in it causing painful injuries or even death. It is estimated that marine rubbish, mostly plastic, is killing more than a million seabirds and 100,000 mammals every year.<sup>5</sup>

#### Did you know?

- The energy saved by recycling one plastic drink bottle will power a computer for 25 minutes.<sup>8</sup>
- Recycling plastic saves twice as much energy as burning it in an incinerator.<sup>8</sup>
- Plastic shopping bags can be returned to your supermarket for recycling.<sup>9&10</sup>
- When you put materials into your recycling bin, you shouldn't put them in a plastic bag. For safety reasons, staff at recycling centres won't open plastic bags, so your recycling will end up in landfill.
- The rings from bottle necks and six-pack holders need to be cut when you dispose of them to reduce harm to animals.
- Tie the tops of plastic bags up when disposing of them to prevent them blowing away.
- It takes 25 two litre plastic bottles to make an adult fleece jacket.<sup>11</sup>



# Avoid, Reduce, Reuse, and Recycle

## The Solution








The best way to limit the plastic waste that you create and to prevent rubbish from going to landfill is to **avoid, reduce, reuse and recycle**.

Plastics are increasingly used in our every day life, thus recycling is more important than ever to reduce waste. Identifying the type of plastic is essential because each type of plastic is recycled differently.

### Identifying plastics:

The Plastics Identification Code is stamped on all plastic products to identify the type of resin used.

Here are some common products you will find for each type of plastic:

-  PET (Polyethylene terephthalate) - soft drink and fruit juice bottles
-  HDPE (High-density polyethylene) - milk bottles or shampoo containers
-  PVC (Polyvinyl chloride or plasticised polyvinyl chloride) - cordial, juice or squeeze bottles
-  LDPE (Low density polyethylene) – garbage bags and bins
-  PP (Polypropylene) – ice cream containers, take-away food containers and lunch boxes
-  PS (Polystyrene) – yoghurt containers, plastic cutlery, foam hot drink cups
-  Other – all other plastics, including acrylic and nylon<sup>1</sup>

### What kind of plastic is recyclable?

Not all plastics are the same and your local council may only be able to recycle certain types through your kerbside recycling program. In most areas, plastics labelled 1, 2, and 3 can be recycled, although many councils are now extending their recycling programs to include those labelled 4 through 7. Check with your council for details.

Contamination of recyclables is a problem because it raises the costs for collectors, recyclers and the community.

Make sure you are aware about what plastics can be recycled and only put these in your recycling bins. **To prepare plastics for recycling, rinse residue from bottles and containers, remove lids,**



### What is not recyclable?

Plastic bags, bin liners, and cling wrap are not recyclable. These plastics can get stuck in the sorting equipment in recycling facilities causing it to stop or break. Often bottle tops and lids cannot be recycled with the bottle as they may be made of a different type of plastic.

Polystyrene foam is generally not recyclable. This includes the spongy black foam trays that meat is often packaged in at supermarkets. It also includes some takeaway containers and hot drink cups.

Other items that cannot be recycled in the normal recycling bins from your council are disposable nappies, and syringes<sup>2</sup>.

**Remember, if you are unsure about what is recyclable check with your local council.**

### References:

- 1) Sustainability Victoria: [www.sustainability.vic.gov.au](http://www.sustainability.vic.gov.au)
- 2) Science Daily: [www.sciencedaily.com](http://www.sciencedaily.com)
- 3) Zero Waste, South Australia: [www.zerowaste.sa.gov.au/About.mvc/RecyclingTips](http://www.zerowaste.sa.gov.au/About.mvc/RecyclingTips)
- 4) Nova, Magazine of the Australian Academy of Science. [www.science.org.au/nova](http://www.science.org.au/nova)
- 5) UNEP, Marine Litter: A Global Challenge (2009) [www.unep.org/publications/search/pub\\_details\\_s.asp?ID=4021](http://www.unep.org/publications/search/pub_details_s.asp?ID=4021)
- 6) Department of Environment, Water, Heritage and the Arts. [www.environment.gov.au](http://www.environment.gov.au)
- 7) Clean Up Australia, Rubbish Report. [www.cleanup.com.au](http://www.cleanup.com.au)
- 8) Total Environment Centre, [www.tec.org.au/index.php](http://www.tec.org.au/index.php)
- 9) Coles Supermarket, [www.coles.com.au/about/environment/recycling.asp](http://www.coles.com.au/about/environment/recycling.asp)
- 10) Marine Parks WA, [www.marineparks.wa.gov.au/marine-park-protectors/marine-litter-facts.html](http://www.marineparks.wa.gov.au/marine-park-protectors/marine-litter-facts.html)
- 11) Recycle now, [www.recyclenow.com/why\\_recycling\\_matters/everything\\_goes\\_to\\_landfill](http://www.recyclenow.com/why_recycling_matters/everything_goes_to_landfill)

