

THE STORY OF PLASTIC

Plastics were first invented by Alexander Parkes in 1860, and have only been used widely in the past few decades. Plastics production worldwide now exceeds 80 million tonnes a year. Australia produces about 1 million tonnes of plastic products and packaging each year.

Making Plastic

Plastics are made from oil, gas and coal. According to the Plastics and Chemicals Industry Association "much of the raw material for plastics comes from waste in petroleum refining - some of which would otherwise be flared off (burnt) and wasted".

Plastics are polymers - long chains of molecules made up of smaller molecules called monomers. The polymers are made in large vessels under special conditions of temperature and pressure, using special catalysts. At this stage the polymers are in the form of resin pellets or powder.

There are about 40 different plastics or polymers used today. Each has a different chemical composition, a different strength and durability and is suitable for different uses. Refer to the chart of the 7 common plastics on the back of this page.

There are three main ways plastics are formed into products from resin beads or powder form.

1. **Injection moulding** - for specially shaped objects such as cups, toys, plumbing pipes, wheelie bins.
2. **Extrusion moulding** - for plastic sheets, straight pipes and tubes.
3. **Blow moulding** - for bottles and drums.

Other techniques are used for margarine tubs, styrofoam and biscuit trays, fibres used in fabric and insulation, and pens, scissor handles, cassette covers etc.

To help identify the different plastics, manufacturers stamp a plastics identification code on their products. This code is a number inside the triangular arrows, like this.



It doesn't automatically mean the plastic is recyclable, it just tells you what 'family' of plastics it is made from.

Most plastics can be recycled but due to the complex process of collecting, sorting and cleaning that must happen before they can be made into resin and re-moulded, **only certain types are currently recycled.**

At present it is only economically viable to recycle PET and HDPE plastic bottles from domestic sources.

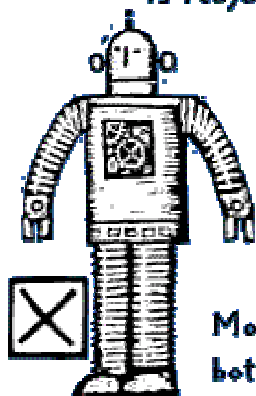
These are coded 1 and 2 - including softdrink and milk bottles, some juice, detergent, shampoo and other packaging bottles. We cannot recycle any other plastic objects at this stage. Remember it is **BOTTLES** only, and they must be marked with a number 1 or 2 so they can be sorted at the recycling plant.

Recycling Plastic

Plastics collected for recycling are sorted, packed into bales and sent to different factories for reprocessing. They are shredded, chopped or ground into small pieces, washed to remove labels and leftover juice, milk or whatever was contained in them, dried and melted into resin, stretched into strands and cut into beads or ground into powder.

Then it's melted and moulded into shape just as new plastic is. Recycled plastic products include wheelie bins, guide-posts and fence pickets, detergent bottles, irrigation pipes and insulation.

Not everything made of plastic
is recyclable...



Most kerbside recyclers only accept
bottles stamped with 1 & 2 symbols.