



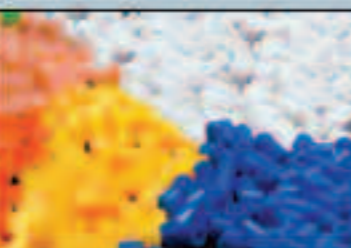



My friends and I would like to share "The History of Plastics" with you.

Where do Plastics come from?

Plastics today

Most plastics are derived from petrochemical feedstock, which in turn originates from oil, natural gas and coal. In South Africa the gas comes from coal.

Coal	Polyethylene and Polypropylene	Polymer [raw material]	Plastics to finished product
Sasol makes ethylene and propylene gas from the refining of coal at the factory at Sasolburg.	Sasol Polymers and Saffropol polymerises the ethylene and propylene into polymers called polyethylene and polypropylene. These polymers are then in a powder form.	In the granulation plant additives and fillers are added to the powder and the compound is then granulated and bagged – ready to be sold to converters, who in turn manufacture products for the packaging, building, agricultural, mining, automotive sectors, etc. This is known as virgin material.	The most common processes used in the plastics industry require specialised equipment which melts, compresses and cools the plastic granules during the forming process. Some of the processing techniques are: <ul style="list-style-type: none"> • blow moulding • extrusion • injection moulding • rotational moulding • thermoforming
			
<small>▲ Coal</small>	<small>▲ Typical Polymer Plant</small>	<small>▲ Polymer</small>	<small>▶ Film blowing</small>

RECYCLE your PLASTICS!



Let's support our National Environmental Days

1 – 5 June World Environment Week 	17 July Closing date for FANTASTIC PLASTICS COMPETITION 	14 – 19 September Clean-up South Africa + Coastal Clean-up 	12 – 16 October Marine Week 
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Plastics – Material of Choice for the 21st century

The word **PLASTIC** is derived from the word **PLAS-TI-CUS** – Latin for "capable of moulding" **PLAS-TI-KOS** – Greek for "to mould".





In 1856 Alexander Parkes developed Parkesine – the first thermoplastic. This organic material derived from cellulose that when heated could be moulded but retained its shape when cooled. This material, exhibited at the 1861 London International Exhibition, anticipated many of the modern synthetic and utility uses of plastic.



In 1907, chemist Leo Hendrik Baekeland, developed a formula for a new synthetic polymer originating from coal tar – he named it "Bakelite". Bakelite was the first plastic invented that held its shape after being heated. Radio, telephones and electrical insulators were made of Bakelite because of its properties of insulation and heat-resistance.



Plastics Identification

A special system of identifying plastics is used worldwide to identify packaging plastics. A polymer identification logo is put on the product – with bottles, this logo is usually on the base. The number in the triangle denotes the type of polymer used.

1	2	3	4	5	6	7
PET	PE-HD	PVC	PE-LD	PP	PS	OTHER
Polyethylene terephthalate	High density polyethylene	Polyvinyl chloride	Low density polyethylene	Polypropylene	Polystyrene	OTHER
Soft drink, preserved fruit, washing liquid and mineral water bottles.	Milk bottles, motor oil containers, buckets, crates and bags.	Clear trays for food and toiletries, clear bottles, pipes and gutters.	Frozen vegetable bags, garbage bags, building film and soft squeezable bottles.	Bottle caps, crates, margarine tubs, ice-cream containers, cups and plates.	Disposable plates and cups, yoghurt containers, take-away food tubs and toys.	In packaging it could be multi-layered material. For any "other" non-packaging plastics, only the acronym of the material is specified e.g. >ABS<

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