

SILLY PUTTY

Some polymers have silicon or phosphorous backbones instead of carbon. These are known as **inorganic polymers**. One of the most famous silicon-based polymers is Silly Putty™. It can bounce at least 25% higher than a normal rubber ball; it does not retain a shape for long; it can stretch many times its length without tearing and can also copy the image of printed material. Exciting modern day technology?

No, in 1949 it was selling faster than any other toy in history!

Silly Putty is a pretty unique polymer. It stretches without breaking, yet it can be "snapped off" cleanly. If you slam it with a hammer, it keeps its shape, yet if you push with light, even pressure, it will flatten with ease. Furthermore, gravity has a slow, yet devastating effect on Silly Putty creations.

Silly Putty is non-toxic and non-irritating to the skin. It was first prepared by James Wright in 1943, an engineer working for General Electric trying to develop a synthetic rubber substitute. It is the most popular toy ever to be sold in the USA. When promoted in 1950 a quarter of a million Silly Putty eggs were ordered in three days! Since then, more than 4 500 tons of Silly Putty have been sold.

Silly Putty is a **dilatant** compound, which means it reacts differently to hard, fast pressure than it does to slow, even pressure. When pressure is applied quickly, Silly Putty acts like a solid and holds its shape. When pressure is applied slowly, it acts more like a liquid and can be moulded easily.

Roll a piece of Silly Putty into a ball and place it on a sturdy surface. Offer a student a rubber mallet and safety glasses and ask him or her to try and flatten the Silly Putty by hitting it. No matter how hard they smack the Silly Putty with the object, it won't flatten.

After they've tried (unsuccessfully), press slowly on the Silly Putty ball with your finger. It will flatten with ease!

Similar to the squashability of Silly Putty® is its stretchability. Depending on how it's pulled, Silly Putty reacts in very different ways. If pulled slowly, Silly Putty acts more like a liquid and will stretch without breaking. If tugged hard and quickly, it acts more like a solid and snaps off cleanly.

(Information from: www.sillyputty.com)

