Polythene: Introduction

Polythene is a synthetic material, which is polymerised from ethene. It is thermoplastic, which means that it can be softened by heat and remoulded. There are a number of forms of polythene including high density (HDPE) and low density (LDPE) polythene. Low density polythene is used for things like polythene bags, whereas washing-up bowls are likely to be made of high density polythene.

Some background

Eric Fawcett and Reginald Gibson discovered the polymerisation of ethene by accident on 24th March 1933. This was a high pressure process, which was considered dangerous and was not repeated for two years. It is still the basis of making low density polythene. In the 1950s the German chemist, Karl Zeigler, developed catalysts that polymerised ethene at lower pressures and produced polythene with fewer branches than the high pressure process. This is called high density polythene and it is denser, stronger and harder to melt then low density polythene. Ziegler shared the 1963 Nobel Prize with the Italian Giuglio Natta who also worked on catalysts for polymerisation.

Did you know?

One of the first uses for polythene was to make candles.

During World War II, polythene was used in radar sets, and was placed on the secret list.

Polythene began to be used for household goods only in the late 1940s.

Zeigler patented his catalyst and became a millionaire.