

## GCSE Chemistry - Carboxylic Acids

Carboxylic acids are a group of organic compounds that share the same functional group of  $\text{COOH}$ . They are named with the suffix "-anoic acid," for example, a carboxylic acid with three carbons is called propanoic acid. Methanoic acids are considered weak acids because they do not fully ionize, which means not all of their carboxylic acid molecules release their hydrogen ions.

## GCSE Chemistry - Esters

Esters have a pleasant smell and are commonly described as sweet or fruity. They are also volatile and evaporate easily. Esters can be found in perfumes and food flavorings. What sets esters apart is their functional group, the carbonyl group, located in the middle of the molecule.

## GCSE Chemistry - Condensation Polymers (Polyesters)

In today's discussion, we will be examining a type of condensation polymers known as polyesters which are made up of ester links. Making use of two different monomers, a dicarboxylic acid monomer, and a diol monomer with two alcohol groups, they combine to form a water molecule, making the process easier. On the whole, polyesters are biodegradable, which implies that microorganisms and bacteria can break down the ester links, making them decompose naturally. This is in sharp contrast to addition polymers that take ages to break down in the environment, such as plastic. So, in conclusion, polyesters are an eco-friendly alternative to plastics as they break down easier in the environment.

## GCSE Chemistry - Naturally Occurring Polymers - Polypeptides, DNA, and Carbohydrates

In today's discussion, we will be focusing on naturally occurring polymers. These are the types of polymers that exist in the environment without being artificially produced. As a quick reminder, polymers are long chains of smaller molecules known as monomers. The first naturally occurring polymer we will consider is composed of nucleotides and carbohydrates: nucleotides are molecules made up of four different bases combined in various ways, which our cells use to generate different codes known as genes. Meanwhile, carbohydrates refer to a group of various polymers and monomers that provide us with energy.

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