Heterogeneous catalysts

Where the reactants/chemicals are in a different state/phase to the catalyst.

Tend to be present as solids, while the reactants may be gases or liquids

Their catalytic action occurs on the solid surface
Today the most widely used catalyst for this process is a mixture of Copper, zinc oxide and aluminium oxide.

Methanol is an important industrial chemical, used mainly as a starting material for the production of plastics such as Perspex.
Autocatalysis

Reaction in which one of the products acts as a catalyst.

These reactions start slowly at the uncatalysed rate. As the concentration of one of the products (also the catalyst) builds up, reaction speeds to the catalysed rate. From then on it behaves like a normal reaction gradually slowing down as the reactants are used up.