

A new catalyst to make liquid fuels from renewable resources

Read the full article at rsc.li/2AGdhHA

Chemists are now one step closer to producing fuels for trucks and airplanes from renewable resources. It is possible to take waste organic matter – wood, waste from food production etc – and make syngas, a mixture of carbon monoxide and hydrogen gas. Syngas can be reacted to make longer chain hydrocarbons. However the process is currently expensive and uses a lot of energy because the liquid hydrocarbons have to be separated from shorter and longer chain molecules.



Chemists recently invented a new type of catalyst using cobalt nanoparticles and zeolite which means they can produce liquid hydrocarbons of the correct chain length so they are suitable for use in diesel engines or for aviation fuel: production of these fuels from renewable resources is now more economically feasible.

A new catalyst to make liquid fuels from renewable resources

Read the full article at rsc.li/2AGdhHA

Chemists are now one step closer to producing fuels for trucks and airplanes from renewable resources. It is possible to take waste organic matter – wood, waste from food production etc – and make syngas, a mixture of carbon monoxide and hydrogen gas. Syngas can be reacted to make longer chain hydrocarbons. However the process is currently expensive and uses a lot of energy because the liquid hydrocarbons have to be separated from shorter and longer chain molecules.



Chemists recently invented a new type of catalyst using cobalt nanoparticles and zeolite which means they can produce liquid hydrocarbons of the correct chain length so they are suitable for use in diesel engines or for aviation fuel: production of these fuels from renewable resources is now more economically feasible.

1. What is a hydrocarbon?
2. Methane, hexane and octadecane are all hydrocarbons, in what state are they at room temperature? *Extension:* Why are they different?
3. Where do we currently get petrol and diesel fuel from? And how?
4. *Extension:* Why are biomass-derived fuels sometimes considered carbon-neutral?