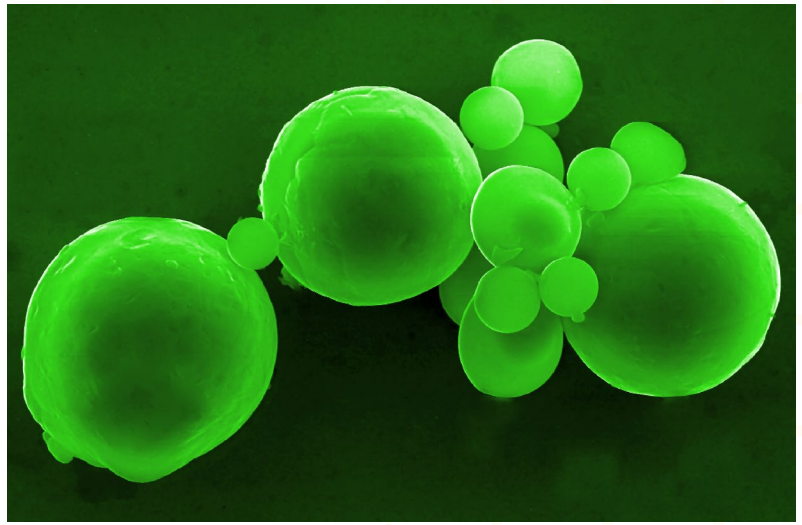
Using plants to extract catalysts from soil

Slide by Neil Goalby. Available from rsc.li/3JodgLL

Poly(ethene) is resistant to high temperatures and chemical corrosion. But this also means it is difficult to break down for recycling. Nickel can be used as a catalyst to break down poly(ethene), but extracting nickel from its ore emits greenhouse gases and damages the environment.

Scientists have managed to extract nickel nanoparticles from metal-contaminated soils using plants. The nanoparticles can then be used to make a catalyst that can break down poly(ethene) into hydrocarbons using microwaves.



Nickel nanoparticles extracted from soil are the key to this catalyst

Questions

1. What is the name of the process where plants are used to extract metals?
2. What is a catalyst?
3. Give two reasons why this process could benefit the environment.

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