Making clean fuel from metal leftovers

Slide by Neil Goalby. Available from rsc.li/3x7dOSO

Producing hydrogen fuel using electrolysis of water will be fundamental for meeting our future energy needs. However, the environmental impact of mining new metals for electrodes is unsustainable.

Researchers have now found a way to convert waste metal from manufacturing into catalytic electrodes to be used in electrolysis. Waste metal turnings produced from machining metals have a nanotextured surface, in which atoms of catalytic metals such as platinum can fit. This makes them very effective electrodes for water splitting.

Metal scraps can be turned into electrodes for making hydrogen fuel

Questions

1. What part of the periodic table are catalytic metals found?
2. Explain how electrolysis of water can produce hydrogen.
3. Suggest an advantage of making electrodes from waste metal.

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