

Recycling PVC with electrolysis

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

Poly(vinylchloride) or PVC, is usually separated from plastics recycling because melting PVC waste degrades the polymer and releases toxic and corrosive compounds.

A new recycling process turns the chlorine atoms in PVC into chlorinating reagents using electrolysis. It can add chlorine to organic molecules to make new, useful products. Normally adding chlorine to molecules requires hydrochloric acid, which is energy intensive to make, so this new method could also result in lower greenhouse emissions.



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Poly(vinylchloride) is a useful plastic that is durable and fire resistant

Questions

1. Why is PVC classed as a hazardous plastic?
2. Give one reason why the new process is useful.
3. The monomer to make PVC is $\text{CH}_2=\text{CHCl}$. Draw a repeating unit of PVC.