



A greener way of dyeing denim blue

Slide by Neil Goalby. Available from rsc.li/4agj6Kn

Denim is given its blue colour by dyeing it with synthetic indigo. Indigo is made in a polluting process, using alkaline conditions and harsh reducing agents.

Using indican, a compound like indigo, in the dyeing process may offer a greener alternative by eliminating the need for reducing agents.

However, indican is expensive, so scientists have developed a new method using engineered enzymes to produce indican at a lower cost. The challenge will be to scale this process up to an industrial level.



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How can indican change the denim industry's environmental impact?

Questions

1. What role does an enzyme have in the process?
2. Suggest what type of pollution is produced by making indigo.
3. Suggest why chemists play an important role in sustainable development.