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Statement of participation

Waleed Akbar

has completed the free course including any mandatory tests for:

Introduction to polymers

This 20-hour free course gave an overview of polymers. It showed how they are produced and how their molecular structure determines their properties.

Issue date: 14 December 2024

www.open.edu/openlearn

This statement does not imply the award of credit points nor the conferment of a University Qualification.
This statement confirms that this free course and all mandatory tests were passed by the learner.

Please go to the course on OpenLearn for full details:
https://www.open.edu/openlearn/science-maths-technology/chemistry/introduction-polymers/content-section-0

COURSE CODE: **T838_1**

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Introduction to polymers

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Course summary

This free course, Introduction to polymers, examines the use of polymers and demonstrates how their properties are controlled by their molecular structure. You will learn how this structure determines which polymer to use for a particular product. You will also explore the manufacturing techniques used and the how the use of polymerisation can be used to control the structure of polymers.

Learning outcomes

By completing this course, the learner should be able to:

- isolate the key design features of a product which relate directly to the material(s) used in its construction
- indicate how the properties of polymeric materials can be exploited by a product designer
- describe the role of rubber-toughening in improving the mechanical properties of polymers
- identify the repeat units of particular polymers and specify the isomeric structures which can exist for those repeat units
- estimate the number- and weight-average molecular masses of polymer samples given the degree of polymerisation and mass fraction of chains present.

Completed study

The learner has completed the following:

Section 1

Polymer materials

Section 2

Molecular engineering

Section 3

Manufacture of monomers

Section 4

Polymerization

Section 5

Physical properties of polymers

Section 6

Design in polymers