



PETA KONSEP CONCEPT MAP

Polimer Polymers

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Makna polimer:
Molekul berantai panjang
Meaning of polymers:
Long-chain molecules

Pengelasan polimer
berdasarkan ...
Classification of polymers
based on ...

Sumber Source

Semula jadi
Natural

Buatan manusia
Man-made

Pempolimeran **penambahan**
Addition polymerisation

Melibatkan monomer yang mempunyai minimum satu **ikatan ganda dua** antara atom karbon.
Involves monomers that contain minimum one **double bond** between carbon atoms.

Proses pempolimeran Polymerisation process

Pempolimeran **kondensasi**
Condensation polymerisation

Melibatkan dua monomer yang berbeza dengan setiap monomer mempunyai **dua kumpulan berfungsi**. Terdapat **penyingkiran molekul kecil**.
Involves at least two different monomers each having **two functional groups**. Leads to **removal of small molecules**.

Monomer: **isoprena**
Monomer: **isoprene**

Penggumpalan lateks
Latex coagulation

Ciri-ciri polimer Characteristics of polymers

Tindakan asid dan bakteria: **lateks menggumpal**
Action of acid and bacteria: **latex coagulates**

Tambah alkali: **lateks tidak menggumpal**
Add alkali: **Latex does not coagulate**

Polimer termoplastik: **Boleh dipanaskan dan diacu** berulang kali. Boleh **dikitar semula**
Thermoplastic polymer: **Can be repeatedly heated and remoulded**. Recyclable

Polimer termoset: **Terurai** semasa pemanasan
Thermosetting polymer: **Disintegrates** upon heating

Elastomer:
Bersifat **kenyal**
Elastomer: **Elastic**

Getah asli Natural rubber

Pemvulkanan getah
Vulcanisation of rubber

Rangkaian silang sulfur di antara molekul getah
Sulphur cross-links between rubber molecules

Getah sintetik Synthetic rubber

Polimer sintetik yang bersifat **kenyal**
Synthetic polymer which is **elastic**

Contoh:
Example:
Neoprena
Neoprene
Getah nitril
Nitrile rubber
Getah silikon
Silicone rubber
Getah stirena-butadiena
Styrene-butadiene rubber
Tiokol
Thiokol

Masalah **pencemaran** alam sekitar
Environmental **pollution** problems