

**CHEMISTRY AS 90932**  
**Demonstrate understanding of aspects of carbon chemistry**  
**Level 1, 4 Credits**

This achievement standard involves demonstrating understanding of the structure, properties, production, uses, importance and effects of carbon and its chemistry.

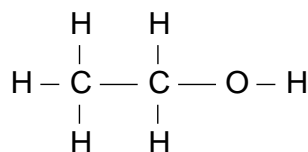
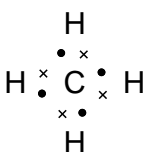
Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of aspects of carbon chemistry.	Demonstrate in-depth understanding of aspects of carbon chemistry.	Demonstrate comprehensive understanding of aspects of carbon chemistry.

Structure

- names of carbon compounds using systematic nomenclature
  - alkanes: straight chain alkanes which contain no more than eight carbon atoms
  - alkenes: ethane and propene
  - alcohols: methanol and ethanol

structural formulae

covalent bonding between atoms



Properties

- solubility in water
- trends in melting and/or boiling points
- complete and incomplete combustion reactions
  - effects of combustion products on human health and the environment.
- polymerisation reactions
  - ethene
  - propene

Production

- fractional distillation of crude oil
- cracking of fractions
- fermentation
- methanol from natural gas

Uses and importance

- fuels
- polymers from ethene and propene