

14 Alkanes – Part 1 — Answers

Answers

Work through these after trying the questions yourself.

14.1 C_nH_{2n+2} .

14.2 (a) carbon dioxide and water \ (b) carbon monoxide, soot (carbon) and water.

14.3 It is toxic — it binds to haemoglobin and stops it carrying oxygen.

14.4 Initiation, propagation, termination.

14.5 $Cl_2 \rightarrow 2 Cl\cdot$ (UV light).

14.6 The C–H and C–C bonds are strong and almost non-polar, so there is no $\delta+$ / $\delta-$ charge for a polar reagent to attack.

14.7 The chlorine radicals can keep substituting: once chloromethane forms, a further $Cl\cdot$ can replace another H to give CH_2Cl_2 , then $CHCl_3$, and so on. Radicals can also combine in different ways at termination, so a mixture of products results.