Halogen compounds

A-Level Chemistry · Vocabulary in context

Word	Example
halogenoarene /ˈheɪləʊdʒnɔːren/	Chlorobenzene is a **halogenoarene**.
aryl halide /ˈɑːrɪl ˈhælaɪd/	Chlorobenzene is an **aryl halide**.
arene /ˈæren/	Benzene is an **arene**.
catalyst /ˈkætəlɪst/	A **catalyst** speeds up a reaction without being used up.
electrophilic substitution /ɪˌlektrəʊˈfɪlɪk ˌsʌbstɪˈtjuːʃn/	Benzene reacts by **electrophilic substitution**.
benzene ring /ˈbenziːn rɪŋ/	Phenol has a **benzene ring**.
methylbenzene	**Methylbenzene** has a CH_3 group on a benzene ring. CH_3
methyl group	A **methyl group** is $–CH_3$. $–CH_3$
directs	The methyl group **directs** chlorine to positions 2 and 4. 2 4
electrophile /ɪˌlektrəʊˈfaɪl/	Bromine acts as an **electrophile** when it attacks a double bond.
halogenoalkane /ˈheɪləʊdʒnəʊlkeɪn/	Bromoethane is a **halogenoalkane**.
nucleophilic substitution /ˌnjuːkliəˈfɪlɪk ˌsʌbstɪˈtjuːʃn/	A halogenoalkane reacts with hydroxide ions by **nucleophilic substitution**.
polar /ˈpəʊlə/	The C–Cl bond is **polar** because chlorine is more electronegative. C–Cl

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unreactive /ʌnrɪˈæktɪv/	Chlorobenzene is **unreactive** towards hydroxide ions.
lone pair /ləʊn peə/	Water has two **lone pair**s of electrons on its oxygen atom.
overlaps sideways	A lone pair on Cl **overlaps sideways** with the ring's π electrons. Cl π
delocalised /dɪˈlɒkəlaɪzd/	Benzene's electrons are **delocalised** around the ring.
≈ **partial double-bond character**	**Partial double-bond character** makes the C–Cl bond stronger. C–Cl
electron-rich	The **electron-rich** ring repels nucleophiles.
repels	The ring **repels** an approaching OH^- ion. OH^-
nucleophile /ˈnjuːklɪəfaɪl/	The hydroxide ion acts as a **nucleophile**.
hydrolysis /haɪˈdrɒləsɪs/	**Hydrolysis** uses water to break a large molecule into smaller ones.
side chain /saɪd tʃeɪn/	A chlorine on a **side chain** reacts like a halogenoalkane.
ultraviolet light /ˌʊltrəˈvaɪəlɪt laɪt/	**Ultraviolet light** starts the reaction between methane and chlorine.

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