2 · Energetics, Group Chemistry, Halogenoalkanes and Alcohols

Pearson Edexcel · International A-Level · Chemistry · Vocabulary in context

Word	Example
enthalpy change /enˈθælpi tʃeɪndʒ/	The **enthalpy change** of this reaction is −50 kJ/mol. −50 kJ/mol
Hess's law /ˈhesɪz lɔː/	**Hess's law** says the enthalpy change is the same by any route.
mean bond enthalpy /miːn bɒnd enˈθælpi/	A **mean bond enthalpy** is an average taken over many molecules.
hydrogen bond /ˈhaɪdrədʒn bɒnd/	A **hydrogen bond** is a weak pull between molecules, such as between water molecules.
oxidation number /ˌɒksɪˈdeɪʃn ˈnʌmbə/	In H2O, oxygen has an **oxidation number** of −2. H2O −2
standard solution /ˈstændəd səˈluːʃn/	A **standard solution** has a known concentration.
disproportionation /ˌdɪsprəˈpɔːʃəneɪʃn/	In **disproportionation**, the same element is oxidised and reduced.
activation energy /ˌæktɪˈveɪʃn ˈenədʒi/	A match gives the **activation energy** to start the fire.
nucleophile /ˈnjuːklɪəfaɪl/	The hydroxide ion acts as a **nucleophile**.
exothermic /egzəˈθɜːmɪk/	An **exothermic** reaction gives out heat.

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Word	Example
endothermic /ˌendəʊˈθɜːmɪk/	An **endothermic** change takes in heat.
neutralisation /ˌnjuːtrəlaɪˈzeɪʃn/	**Neutralisation** of an acid with a base gives a salt and water.
atomisation /əˌtɒmaɪˈzeɪʃn/	**Atomisation** turns an element into one mole of gas atoms.
London forces /ˈlʌndn ˈfɔːsɪz/	**London forces** are weak forces between all molecules.
dipoles /ˈdaɪpəʊlz/	A water molecule has strong **dipoles** in its O–H bonds. O–H
polar molecules /ˈpəʊlə ˈmɒlɪkjuːlz/	Water and ammonia are **polar molecules**.
oxidising agent /ˈɒksɪdaɪzɪŋ ˈeɪdʒənt/	Oxygen is an **oxidising agent**.
reducing agent /rɪˈdjuːsɪŋ ˈeɪdʒənt/	Carbon is a **reducing agent** in a blast furnace.
half-equations /hɑːf ɪˈkweɪʒnz/	Write two **half-equations**: one for oxidation and one for reduction.
shielding /ˈʃiːldɪŋ/	Inner electrons give **shielding**: they block some of the pull of the nucleus.
precipitate /prɪˈsɪpɪteɪt/	A white **precipitate** forms when silver nitrate meets chloride ions.
aliquots /ˈælɪkwɒts/	Put the solution into three **aliquots**, one for each test.
volumetric flask /ˌvɒljuːˈmetrɪk flæsk/	Make up the solution to the mark in a **volumetric flask**.

Word	Example
concordant /kən'kɔ:dənt/	**Concordant** titres agree closely with one another.
Electronegativity /ɪˌlektrəʊŋgə'tɪvɪti/	**Electronegativity** is how strongly an atom pulls shared electrons.
Maxwell–Boltzmann /'mækswel 'bɒltsmən/	A **Maxwell–Boltzmann** curve shows how energy is spread among molecules.
catalyst /'kætəlɪst/	A **catalyst** speeds up a reaction without being used up.
Dynamic equilibrium /daɪ'næmɪk ˌi:kwɪ'lɪbrɪəm/	At **dynamic equilibrium**, the forward and backward reactions go at the same rate.
Heterolytic /ˌhetrə'lɪtɪk/	**Heterolytic** bond breaking gives both electrons to one atom.
hydrolysis /haɪ'drɒləsɪs/	**Hydrolysis** uses water to break a large molecule into smaller ones.
reflux /'ri:flʌks/	Heat under **reflux** so that nothing boils away.
Distillation /dɪstɪ'leɪʃn/	**Distillation** separates liquids by their boiling points.
aldehyde /'ældɪhaɪd/	Ethanal is an **aldehyde**.
anhydrous /æn'haɪdrəs/	**Anhydrous** copper sulfate is white.
molecular-ion peak /mə'lekjʊlə 'aɪɒn pi:k/	The **molecular-ion peak** gives the molecule's mass.
Fragment ions /'frægmənt 'aɪɒnz/	**Fragment ions** come from molecules breaking into pieces.

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