Stoichiometry

IGCSE Chemistry · Vocabulary in context

Word	Example
stoichiometry /ˌstəʊɪkɪˈɒmətri/	**Stoichiometry** tells us how many moles of each substance react.
formula /ˈfɔːmjʊlə/	The **formula** of water is H_2O. H_2O
atoms /ˈætəmz/	Everything is made of tiny **atoms**.
molecular formula /məˈlekjʊlə ˈfɔːmjʊlə/	The **molecular formula** of glucose is C6H12O6. C6H12O6
molecule /ˈmɒlɪkjuːl/	A water **molecule** has two hydrogen atoms and one oxygen atom.
empirical formula /emˈpɪrɪkl ˈfɔːmjʊlə/	The **empirical formula** of glucose is CH2O. CH2O
ratio /ˈreɪʃəʊ/	The **ratio** of hydrogen atoms to oxygen atoms in water is 2:1. 2:1
ions /ˈaɪɒnz/	Water molecules surround the **ions** as they dissolve.
compound /ˈkɒmpaʊnd/	Water is a **compound** of hydrogen and oxygen.
ionic compound /aɪˈɒnɪk ˈkɒmpaʊnd/	Sodium chloride is an **ionic compound**.
reactants /rɪˈæktənts/	Hydrogen and oxygen are the **reactants** that make water.
products /ˈprɒdʌkts/	Burning carbon gives one of the **products**: carbon dioxide.

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word equation /wɜːd ɪˈkweɪʒn/	“Magnesium + oxygen → magnesium oxide” is a **word equation**. “Magnesium + oxygen → magnesium oxide”
symbol equation /ˈsɪmbl ɪˈkweɪʒn/	$2Mg + O_2 \rightarrow 2MgO$ is a **symbol equation**. $2Mg + O_2 \rightarrow 2MgO$
balanced /ˈbælənst/	A **balanced** equation has the same atoms on both sides.
state symbols /steɪt ˈsɪmblz/	The **state symbols** (s), (l), (g) and (aq) show the state of each substance. (s)、(l)、(g)　(aq)
aqueous /ˈeɪkwɪəs/	Salt dissolved in water gives an **aqueous** solution.
ionic equation /aɪˈɒnɪk ɪˈkweɪʒn/	The **ionic equation** for neutralisation is H+ + OH− → H2O. H+ + OH− → H2O
spectator ions /spekˈteɪtə ˈaɪɒnz/	Na+ and Cl− are **spectator ions**: they do not change. Na+　Cl−
relative atomic mass /ˈrelətɪv əˈtɒmɪk mæs/	Chlorine has a **relative atomic mass** of 35.5. 35.5
element /ˈelɪmənt/	Each **element** of the array holds one value.
mass /mæs/	The **mass** of this bag of rice is 5 kg. 5 kg
relative molecular mass /ˈrelətɪv məˈlekjʊlə mæs/	Water has a **relative molecular mass** of 18. 18
relative formula mass /ˈrelətɪv ˈfɔːmjʊlə mæs/	Sodium chloride has a **relative formula mass** of 58.5. 58.5
mole /məʊl/	One **mole** of carbon has a mass of 12 g. 12 g

Word	Example
amount of substance /əˈmaʊnt ɒv ˈsʌbstəns/	The **amount of substance** is measured in moles.
particles /ˈpɑːtɪklz/	The **particles** in a gas move all the time.
Avogadro constant /ˌævəˈgædrəʊ ˈkɒnstənt/	The **Avogadro constant** is 6.02×10^{23} per mole. 6.02×10^{23}
molar mass /ˈməʊlə mæs/	The **molar mass** of water is 18 g/mol. 18 g/mol
volume /ˈvɒljuːm/	The **volume** of the box is $2\ \text{m} \times 1\ \text{m} \times 1\ \text{m} = 2\ \text{m}^3$. $2\ \text{m} \times 1\ \text{m} \times 1\ \text{m} = 2\ \text{m}^3$
molar gas volume /ˈməʊlə gæs ˈvɒljuːm/	The **molar gas volume** is 24 dm^3 at room temperature. 24 dm^3
concentration /ˌkɒnsənˈtreɪʃn/	The **concentration** of the acid is 2 mol/dm^3. 2 mol/dm^3
solution /səˈluːʃn/	Salt water is a **solution**.
limiting reactant /ˈlɪmɪtɪŋ rɪˈæktənt/	The **limiting reactant** runs out first.
titration /taɪˈtreɪʃn/	A **titration** finds the exact volume of acid needed.
solute /ˈsɒljuːt/	Salt is the **solute** in salt water.
percentage yield /pəˈsentɪdʒ jiːld/	We made 8 g out of a possible 10 g: an 80% **percentage yield**. 10 g 8 g 80%
percentage composition by mass /pəˈsentɪdʒ ˌkɒmpəˈzɪʃn baɪ mæs/	Use **percentage composition by mass** to find how much of a compound is oxygen.

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Word	Example
percentage purity /pəˈsentɪdʒ ˈpjʊərɪti/	The **percentage purity** shows how much of a sample is the wanted substance.