Experimental techniques and chemical analysis

IGCSE Chemistry · Vocabulary in context

Word	Example
stop-watch /stɒp wɒtʃ/	Use a **stop-watch** to time the reaction.
thermometer /θɜ:'mɒmɪtə/	Put the **thermometer** in the water.
balance /'bæləns/	Weigh the solid on a **balance**.
burette /bjʊə'ret/	A **burette** delivers measured volumes during a titration.
titration /taɪ'treɪʃn/	A **titration** finds the exact volume of acid needed.
volumetric pipette /ˌvɒlju:'metrɪk pɪ'pet/	A **volumetric pipette** measures exactly 25.0 cm^3. 25.0 cm^3
measuring cylinder /'meʒərɪŋ 'sɪlɪndə/	A **measuring cylinder** measures a rough volume of liquid.
gas syringe /gæs sɪ'rɪndʒ/	The **gas syringe** collects the gas and shows its volume.
solvent /'sɒlvənt/	Water is the **solvent** in salt water.
solute /'sɒlju:t/	Salt is the **solute** in salt water.
solution /sə'lu:ʃn/	Salt water is a **solution**.
saturated solution /'sætʃəreɪtɪd sə'lu:ʃn/	A **saturated solution** cannot dissolve any more solid.

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residue /'resɪdju:/	The sand left on the filter paper is the **residue**.
filtrate /'fɪltreɪt/	The **filtrate** is the clear liquid that passes through the filter paper.
indicator /'ɪndɪkeɪtə/	The **indicator** changes colour at the end point.
end-point /end pɔɪnt/	At the **end-point**, the indicator changes colour.
methyl orange /'mi:θaɪl 'ɒrɪndʒ/	**Methyl orange** is red in acid and yellow in alkali.
thymolphthalein /'θaɪməlfθæli:n/	**Thymolphthalein** turns blue in alkali.
titre /'tɪtə/	The **titre** is the volume of acid added from the burette.
paper chromatography /'peɪpə krəʊmə'tɒgrəfi/	**Paper chromatography** separates the colours in ink.
locating agent /ləʊ'keɪtɪŋ 'eɪdʒənt/	A **locating agent** makes colourless spots visible.
chromatogram /krəʊ'mætəgræm/	The **chromatogram** shows three spots, so the ink has three dyes.
filtration /fɪl'treɪʃn/	Use **filtration** to remove sand from water.
crystallisation /ˌkrɪstəlaɪ'zeɪʃn/	**Crystallisation** gives pure salt crystals from a solution.
simple distillation /'sɪmpl dɪstɪ'leɪʃn/	**Simple distillation** gets pure water from salty water.
fractional distillation /'frækʃənl dɪstɪ'leɪʃn/	**Fractional distillation** separates crude oil into fractions.

Word	Example
melting point /ˈmeltɪŋ pɔɪnt/	The **melting point** of ice is 0 °C. 0 °C
boiling point /ˈbɔɪlɪŋ pɔɪnt/	The **boiling point** of water is 100 °C. 100 °C
anion /ˈænaɪən/	Chlorine gains one electron to form an **anion**.
carbonate /ˈkɑːbəneɪt/	A **carbonate** fizzes when you add acid.
carbon dioxide /ˈkɑːbən daɪˈɒksaɪd/	We breathe out **carbon dioxide**.
chloride /ˈklɔːraɪd/	A **chloride** gives a white solid with silver nitrate.
nitric acid /ˈnaɪtrɪk ˈæsɪd/	Add **nitric acid** before the silver nitrate test.
silver nitrate /ˈsɪlvə ˈnaɪtreɪt/	**Silver nitrate** gives a white precipitate with chloride ions.
bromide /ˈbrəʊmaɪd/	A **bromide** gives a cream solid with silver nitrate.
iodide /ˈaɪədaɪd/	An **iodide** gives a yellow solid with silver nitrate.
nitrate /ˈnaɪtreɪt/	A **nitrate** gives off ammonia when warmed with aluminium and alkali.
aluminium /ˌæljʊˈmɪnɪəm/	**Aluminium** is light and does not rust.
sodium hydroxide /ˈsəʊdɪəm haɪˈdrɒksaɪd/	**Sodium hydroxide** is a strong alkali.
ammonia /əˈməʊnɪə/	**Ammonia** gas has a strong, sharp smell.
sulfate /ˈsʌlfeɪt/	A **sulfate** gives a white solid with barium nitrate.

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barium nitrate /ˈbeərɪəm ˈnaɪtreɪt/	**Barium nitrate** is used to test for sulfate ions.
sulfite /ˈsʌlfaɪt/	A **sulfite** gives off sulfur dioxide with acid.
potassium manganate(VII) /pəˈtæsɪəm ˈmæŋgəneɪt/	Purple **potassium manganate(VII)** loses its colour when it reacts.
cation /ˈkætaɪən/	Sodium loses one electron to form a **cation**.
precipitate /prɪˈsɪpɪteɪt/	A white **precipitate** forms when silver nitrate meets chloride ions.
ammonium /əˈməʊnɪəm/	**Ammonium** ions give off ammonia gas when warmed with alkali.
calcium /ˈkælsɪəm/	**Calcium** reacts with water to give hydrogen gas.
chromium /ˈkrəʊmɪəm/	**Chromium** makes steel shiny and stops it rusting.
copper /ˈkɒpə/	Pure **copper** forms on the cathode.
iron /ˈaɪən/	**Iron** rusts when it meets water and oxygen.
zinc /zɪŋk/	**Zinc** is used to coat iron so it does not rust.
litmus /ˈlɪtməs/	Acid turns blue **litmus** red.
limewater /ˈlaɪmwɔːtə/	Carbon dioxide turns **limewater** cloudy.
chlorine /ˈklɔːriːn/	**Chlorine** gas bleaches damp litmus paper.
hydrogen /ˈhaɪdrədʒn/	**Hydrogen** gas burns with a squeaky pop.

Word	Example
oxygen /ˈɒksɪdʒn/	Things burn faster in pure **oxygen**.
flame test /fleɪm test/	In a **flame test**, sodium gives a yellow flame.
lithium /ˈlɪθɪəm/	**Lithium** floats on water and fizzes slowly.
sodium /ˈsəʊdɪəm/	**Sodium** melts into a ball when it reacts with water.
potassium /pəˈtæsɪəm/	**Potassium** reacts with water and burns with a lilac flame.
barium /ˈbeərɪəm/	**Barium** sulfate is a white solid.

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