Salt an ionic compound

Salt bridge a U-tube containing an electrolyte that connects the two compartments of a galvanic cell, allowing ion flow without extensive mixing of the different solutions

Saturated solution a solution that contains as much solute as can be dissolved in that solution

Scientific method a process of studying natural phenomena that involves making observations, forming laws and theories, and testing theories by experimentation

Scientific notation see *Exponential notation*

Scintillation counter an instrument that measures radioactive decay by sensing the flashes of light that the radiation produces in a detector

Secondary structure (of a protein) the three – dimensional structure of the protein chain (for example, α-helix, random coil, or pleated sheet)

SI units International System of units based on the metric system and on units derived from the metric system

Sigma (σ) bond a covalent bond in which the electron pair is shared in an area centered on a line running between the atoms

Significant figures the certain digits and the first uncertain digit of a measurement

Silica the fundamental silicon – oxygen compound, which has the empirical formula SiO_2 and forms the basis of quartz and certain types of sand

Silicates salts that contain metal cations and polyatomic silicon – oxygen anions that are usually polymeric

Single bond a bond in which two atoms share one pair of electrons

Solid one of the three states of matter; has a fixed shape and volume

Solubility the amount of a substance that dissolves in a given volume of solvent or solution at a given temperature

Solubility product the constant for the equilibrium expression representing the dissolving of an ionic solid in water

Solute a substance dissolved in a solvent to form a solution

Solution a homogeneous mixture

Solvent the dissolving medium in a solution

Somatic damage radioactive damage to an organism resulting in its sickness or death

Specific heat another name for specific heat capacity

Specific heat capacity the amount of energy required to raise the temperature of one gram of a substance by one Celsius degree

Spectator ions ions present in solution that do not participate directly in a reaction

Standard atmosphere a unit of measurement for pressure equal to 760 mm Hg or 101,325 Pa

Standard solution a solution the concentration of which is accurately known

Standard temperature and pressure (STP) the condition 0 ^{o}C and 1 atmosphere of pressure

State function a property that is independent of the pathway

States of matter the three different forms in which matter can exist; solid, liquid, and gas

Stoichiometric quantities quantities of reactants mixed in exactly the amounts that result in their being used up at the same time

Stoichiometry of a reaction the relative quantities of reactants and products involved in the reaction

Strong acid an acid that completely dissociates (ionizes) to produce H^+ ion and the conjugate base

Strong base a metal hydroxide compound that completely dissociates into its ions in water

Strong electrolyte a material that, when dissolved in water, dissociates (ionizes) completely and gives a solution that conducts an electric current very efficiently

Structural formula the representation of a molecule in which the relative positions of the atoms are shown and the bonds are indicated by lines

Subcritical reaction (nuclear) a reaction in which fewer than one of the neutrons from each fission event causes another fission event and the process dies out

Sublimation the process by which a substance goes directly from the solid state to the gaseous state without passing through the liquid state

Supercooling the process of cooling a liquid to a temperature below its freezing point without its changing to a solid

Supercritical reaction (nuclear) a reaction in which more than one of the neutrons from each fission event causes another fission event. The process rapidly escalates to a violent explosion

Superheating the process of heating a liquid to a temperature above its boiling point without its boiling

Surroundings everything in the universe surrounding a thermodynamic system

System (thermodynamic) the part of the universe on which attention is to be focused

Systematic error an error that always occurs in the same direction