

Hawley's

CONDENSED CHEMICAL DICTIONARY

Richard J. Lewis, Sr.

Thirteenth Edition

Hawley's
Condensed Chemical
Dictionary

THIRTEENTH EDITION

Revised by
Richard J. Lewis, Sr.



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comirin. Exact formula undetermined. An anti-fungal agent produced by *Bacterium antimyceticum* composed mostly of amino acids. A gray to white powder that resists heat and acids but decomposes in the presence of alkalis; soluble in organic acids and bases; slightly soluble in water. A fungicide in paints, textile products, plant growth.

comminution. Size reduction of materials by grinding, cutting, shredding, chopping, etc. Solids can be reduced to a particle size approaching 1 micron in special fine-grinding equipment. Comminution of coal by chemical means is possible via a low molecular weight compound such as sodium hydroxide or anhydrous ethanol, which penetrates the natural fault system of the coal, causing fragmentation without mechanical crushing. This permits removal of sulfur from coal without burning or grinding. Approximately 100 lbs of chemical are needed per ton of coal.

common-ion effect. The reversal of ionization when a compound is added to a solution of another compound with which it has a common ion, the volume being kept constant.

compatibility. The ability of two or more materials to exist in close and permanent association indefinitely. Liquids (solvents) are compatible if they are miscible and do not undergo phase separation on standing. Thus, water is compatible with alcohol but not with gasoline. Liquids and solids are compatible only if the solid is soluble in the liquid. Solids are compatible if they can exist in intimate contact for long periods with no adverse effect of one on the other.

"Compazine" [SmithKline]. TM for a brand of prochlorperazine, as the maleate or the edisylate.

complement. In immunochemistry, any of a number of blood proteins that act in conjunction with antibodies to cause disintegration of invading cells. They are an essential component of immune serum.

complex compound. See coordination compound.

complexing agent. See ligand; chelate; ethylenediaminetetraacetic acid.

complex ion. An ion that has a molecular structure consisting of a central atom bonded to other atoms by coordinate covalent bonds. See coordination compound.

component. One of the minimum sets of substances required to generate the composition of all phases of a system in the absence of chemical reaction of any substances in a mixture. See constituent.

composite. A mixture or mechanical combination on a macroscale of two or more materials that are solid in the finished state, are mutually insoluble, and differ in chemical nature. The major types are (1) Laminates of paper, fabric, or wood (veneer) and a thermosetting material (resin, rubber, or adhesive); examples are tire carcasses, plywood, and electrical insulating structures. (2) Reinforced plastics, principally of glass fiber and a thermosetting resin; other types of fibers such as boron, aluminum silicate, and silicon carbide may be used.

See whiskers. (3) Cermets, which are mixtures of ceramic and metal powders, heat treated and compressed. (4) Fabrics, e.g., woven combinations of wool or cotton and a synthetic fiber. (5) Filled composites in which a bonding material, i.e., linseed oil, resin, or asphalt, is loaded with a filler in the form of flakes or small particles; examples are linoleum, glass flake-plastic mixtures for battery cases, and asphalt-gravel road-surfacing mixtures.

composting. Aerobic bacterial decomposition of solid organic wastes, both agricultural and urban, including sewage sludge. As much as 500 tons a day can be handled in the larger installations, the waste degrading quickly without external heating. Decomposition is accelerated by adding ammonium bicarbonate. The product can be used as a soil conditioner and for landfill. The waste is piled and turned frequently to provide aeration and to maintain a high temperature in the pile to destroy pathogenic organisms. The volume of composted waste is from 20 to 60% of original volume.

compound. (1) A substance composed of atoms or ions of two or more elements in chemical combination. The constituents are united by bonds or valence forces. A compound is a homogeneous entity in which the elements have definite proportions by weight and are represented by a chemical formula. A compound has characteristic properties quite different from those of its constituent elements. It is decomposed by energy in the form of a chemical reaction, heat, or electric current. Example: water is a *liquid* formed by chemical combination of two *gases*; it can be separated into hydrogen and oxygen by an electric current (electrolysis); in certain reactions it is split into its constituent ions (H, OH) (hydrolysis); it is not chemically changed by heat or cold.

See mixture; homogeneous; chemical reaction.

(2) Loosely, a product formula (often proprietary) of various types, e.g., pharmaceuticals (a vegetable compound), rubber (a fast-curing compound), etc.

(3) Having two sets of lenses (compound microscope).

compound 1080. Use may be restricted. See sodium fluoroacetate.

compreg. A hardwood impregnated with a phenol-formaldehyde resin under heat and pressure.