

HACKH'S CHEMICAL DICTIONARY

[*American and British Usage*]

*Containing the Words Generally Used in Chemistry,
and Many of the Terms Used in the Related
Sciences of Physics, Astrophysics, Mineralogy,
Pharmacy, Agriculture, Biology,
Medicine, Engineering, etc.*

Based on Recent Chemical Literature

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recovered on evaporation, the solvent by
n. Cf. *chemical s.* **physiological-** Iso-
saturated- A s. that normally contains
imum amount of substance able to be
solid- See *solid solution, sosoloid*.
A s. that contains a definite amount of
e dissolved; as, a molar. **standardized-**
isted to a known concentration. **super-**
- A s. that contains a greater quantity of
n can normally be dissolved at a given
ure; on slow cooling, the excess precipitates
table conditions. **test-** T.S. A reagent s.
tic- V.S. A standard analytical s., usually
g 1, $\frac{1}{2}$, or $\frac{1}{10}$ mole of a substance dissolved
of water.

ing. Winning soluble salts (as potassium
by pumping water into the formation and
the resulting solution. Cf. *Frasch*
s. pressure. The tendency of atoms or
s to mix with a liquid, or to dissolve in it;
l by the osmotic pressure. **s. tension.**
ency of atoms or molecules to dissolve in
with ionization; measured by the electro-
orce. See *Nernst's theory*. **s. theory.** See
theory, Arrhenius' theory.

molecular or ionic complex of molecules
solvent with those of solute; as $\text{Cl}(\text{H}_2\text{O})_x^-$.
are surrounded by a zone of oriented
molecules. **crystalline-** A crystal containing
as part of its lattice. **s. theory.**
ormalities of solutions are due to the
n of complexes between the ions or
s of the solute and solvent. Cf. *hydration*.
A combination between solute and solvent;
ter is water, hydrates or hydrated ions are
e.g., $\text{M}(\text{H}_2\text{O})_x$.

ism. The formation, by molecular
of a colored complex (solvate) between
molecules of organic compounds and
other compounds.

ist. 1838-1922. Belgian industrial che-
process. Making sodium carbonate
um chloride by treating sodium chloride
monia and carbon dioxide. The sodium
ate produced is heated, and some carbon
recovered; the ammonia is recovered by
agnesia.

(1) That component of a homogeneous
which is excess. (2) A liquid which
another substance (solute), generally a
hout any change in chemical composition;
r containing sugar. (3) A liquid that
a substance by chemical reaction; as, acids
als. **acid-** A s. that acts as an acid by
proton to the solute. **aqueous-** Water.

ng- A s. whose molecules form complexes;
Cf. *bond*. **basic-** A s. that acts as a
aining a proton from the solute. **chem-**
e (3). **ionizing-** See *polar-s.* **lacquer-**
liquids used to dissolve resins and nitro-
low-boiling- b. below 100 (alcohol).
boiling- b. near 125 (toluene). *high-*
b. 150-200 (xylene). *plasticizers and*
b. near 300 (camphor). **molten-** Flux.
iating- A s. that does not form complexes
its molecules or ions and the solute; as,
nonaqueous- A solvent other than
nonionizing- Nonpolar. **nonpolar-** A s.

that does not conduct an electric current; as,
hydrocarbons. **normal-** Nonassociating. **physical-**
A s. that does not react chemically with the solute.
polar- A s. that produces electrically conducting
solutions (as, water), and causes dissociation of the
solute into ions. **two-type-** A s. having 2 groups
which confer s. properties; as alcohol-ethers,
 $\text{HO}\cdot\text{R}\cdot\text{O}\cdot\text{R}$, e.g., Cellosolve. **universal-** Aqua regia.
s. action. A process of making substances
water-soluble

solvolytic. The effect of the acid or basic character
of a solvent on the ionization of a salt dissolved in it.
solvolytic. Pertaining to solvation. **s. dissociation.**
Ionization in a nonaqueous solution. Cf. *solvate*
theory.

sombrierite. A "hard" mineral phosphate (35%
phosphorus pentoxide); a source of phosphorus.

Sommelet reaction. The production of benzaldehyde
by the reaction between benzylamine and form-
aldehyde, preferably in presence of hexamine.

Sommerfeld, Arnold. 1868-1951. German physicist;
developed the quantum theory of atomic structure.
S. notation. See *quantum numbers*.

somnal. $\text{C}_7\text{H}_{12}\text{NO}_3\text{Cl}_3 = 264.49$. An ethyl deriva-
tive of chloral urethane; a hypnotic and diuretic.
somnifacient. A hypnotic, q.v.

Somnifene. Trademark for a soluble barbiturate
sedative-hypnotic.

somnirol. $\text{C}_{22}\text{H}_{44}\text{O}_7 = 540.34$. A monohydric al-
cohol of *Withania* species (Solanaceae).

Sommitol. $\text{C}_{33}\text{H}_{46}\text{O}_7 = 554.32$. Trade name for a
alcohol from *Withania* species (Solanaceae).

Somnol. $\text{C}_9\text{H}_{11}\text{O}_6\text{Cl}_9 = 518.2$. Trade name for
chlorethanal alcoholate; a hypnotic.

Somnos. Trademark for chlorethanal alcohol.

soneryl. Neonal. Butobarbitone (neonal).

sonic. Phonic. Cf. *sound*.

Sonnenschein, Franz Leopold. 1819-1879. German
forensic analyst. **S.'s reagent.** A solution of
phosphomolybdic acid forms a yellow precipitate
with the sulfates of alkaloids.

sonoluminescence. Luminescence induced by sound
waves.

sonometer. Phonometer. An instrument to meas-
ure sound vibrations.

sonora gum. The exudations of the creosote bush,
Covillea tridentata (Mexico).

soot. An impure black carbon containing oily and
empyreumatic compounds from the incomplete
combustion of resinous materials or wood. It
contains hydrocarbons, and if derived from coal,
ammonium sulfate. Cf. *lampblack*.

sophol. A yellow compound of silver and methy-
lenenucleinic acid; used medicinally.

sophora. Coral bean. The poisonous seeds of
Sophora species (Leguminosae), India. **S. tomen-**
tosa. A leguminous shrub (Japan); a remedy for
cholera and diarrhea.

sophorine. An alkaloid from *Sophora* species.
Colorless liquid resembling cytosine and matrine.
Cf. *kuhseng*.

soporific. An agent that produces deep sleep. Cf.
hypnotic.

sorbet. Sherbet.

sorbic acid. $\text{Me}\cdot\text{CH}:\text{CH}\cdot\text{CH}\cdot\text{CH}\cdot\text{COOH} = 112.1$.
Hexadienic acid, pentadienecarboxylic acid, 2,4-
hexadienoic acid*, from the unripe berries of
mountain ash, *Sorbus*. Colorless needles, m.134,

b.228 (decomp.), soluble in water; a selective
fungistatic for certain foods. **hydro-** Hexenic
acid*. **methylenedioxyphenyl-** Piperic acid. **para-**
A lactone-like body forming sorbic acid when
heated with acid or alkali.

sorbin. Sorbinose.

sorbinose. $\text{C}_6\text{H}_{12}\text{O}_6 = 180.1$. Sorbin, 1,3,4,5,6-
pentahydroxy-2-hexanone*, sorbose. An opti-
cally active carbohydrate from the fruits of
mountain ash, *Sorbus*. Colorless rhombs, m.154;
slightly soluble in water.

sorbite. (1) Sorbitol. (2) A mixture of ferrite and
cementite, with conglomerations of carbon in
steel; a transition form between pearlite and
troostite.

sorbitol. $\text{C}_6\text{H}_{14}\text{O}_6\frac{1}{2}\text{H}_2\text{O} = 191.1$. Sorbite, 1,2,3,
4,5,6-hexanehexol*. An alcohol isomer of man-
nitol from *Sorbus aucuparia*. Colorless crystals,
m.111, soluble in water. Used chiefly for the
preparation of ascorbic acid (U.S.P.); also as a
humectant and in surfactants, pharmaceuticals,
foods and rigid polymethane foams.

Sorbol. $\text{C}_{34}\text{H}_{70}\text{O} = 494.5$. Trade name for an
alcohol, m.78, from the wax of the berries of
Sorbus aucuparia.

sorbos. Sorbinose.

sorbus. Rowan tree, mountain ash. The tree
Pyrus (*Sorbus* or *Mespilus*) *aucuparia* (Rosaceae).
A decoction of the bark contains sorbitol and
sorbinose; used to treat diarrhea.

Sorel cement. $\text{MgO}\cdot\text{MgCl}_2\cdot 11\text{H}_2\text{O}$. A hard, quick-
setting mixture of magnesium oxide and a con-
centrated solution of magnesium chloride. **S.**
dental cement. A mixture of zinc oxide, zinc
chloride, and fine sand. **S. floor cement.** A
mixture of magnesium oxide, zinc chloride, and
portland cement, used for floors; 10% copper
powder makes it waterproof.

Sørensen, Søren P. L. 1868-1939. Danish chemist.
S. indicators. A group of hydrogen-ion-concentra-
tion indicators, q.v. **S. phosphate.** Dibasic so-
dium phosphate. **S. symbols.** See *pH*. **S. value.**
Hydrogen-ion concentration.

Soret effect, S. principle. Ludwig phenomenon.
When differences of temperature are maintained
in a salt solution, the solute will concentrate in the
coolest parts.

sorethytan. U.S.P. name for polysorbate-80.

sorghum. A cane, *Andropogon sorghum* or *Sorghum*
vulgare, from which a sugar and Indian millet
(African, durra) are obtained.

sorgo. *Sorghum vulgare*.

sorption. A reaction on a surface, especially *absorp-*
tion, q.v., or solution, *adsorption*, q.v., and *persorp-*
tion (permeation into a very porous solid). Cf.
monomolecular film. **ab-** See *absorption*. **ad-** See
adsorption. **re-** See *resorption*. Cf. *zone*.

sorrel. The leaves of *Rumex acetosa* (Polygonaceae);
a refrigerant and diuretic. **s. salt.** Potassium
bioxalate.

sosoloid. Solid solution. One solid phase dispersed
in another. See *colloidal systems*.

Soubeiran, Eugène. 1797-1858. French apothecary;
discoverer of chloroform.

sound. (1) Air oscillations or vibrations that affect
the ear and are rendered audible. Cf. *musical*
notes. (2) Vibrations in air or other medium which
may or may not be audible; as, *infraphonic* (longer