

THE
CONDENSED
CHEMICAL
DICTIONARY

TENTH EDITION

Revised by

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d by Streptomyces no. 11.
xic.

ossible rodenticide.

$^{19}\text{N}_7\text{O}_{12}$. A specific antibiotic, but used loosely to designate several antibiotics produced by actinomycetes of streptidine attached in glycothe disaccharide, streptobioside against gram-negative bacteria *B. bacillus*. Usually available as phosphate, or sesquisulfate. One which readily forms salts with ble but very hygroscopic. One equals one microgram of pure streptomycin base.

Streptomyces griseus by aerobic streptomycin is then concentrated on activated carbon and purified. Damage to nerves and kidneys may be caused by FDA. (antibacterial). Streptomycin.

(SAN) $\text{C}_{25}\text{H}_{22}\text{N}_4\text{O}_8$. An antibiotic Streptomyces flocculus. Dark brown tals.

ation undergone by a material o a definite load (the force applied or the load may be static (constant) or sing at a uniform rate). In either strain in the material which results he deforming force exceeds its o strain; modulus of elasticity. ension cracking). Development of s in a rubber or plastic product spheric oxygen at low (5 to 10%) ong periods of time, for example, cking materials, etc., both in ng storage. Cracking will occur in ght. It can be minimized in the case h as polyethylene by lowering the melt index, and in rubber by use of

rademark for a modified sodium aldehyde. Used as a powerful reduc-trip dyed colors from wool and

atively volatile components from a er liquid mixture by distillation. by passage of steam, air or other gas id mixture. al of color from an improperly dyed y a chemical reaction. Compounds rpose in vat dyeing or in discharge med discharging agents. Substances as strippers are sodium hydrosulfite. e, sodium and zinc formaldehyde

strontia. See strontium oxide.

strontianite SrCO_3 . Natural strontium carbonate. Properties: Color white, gray, yellow, green; luster vitreous; Mohs hardness 3.5-4; sp. gr. 3.7. Occurrence: California, New York, Washington; Germany; Mexico. Use: Source of strontium chemicals.

strontium Sr Metallic element, of atomic number 38, Group IIA of Periodic Table. Atomic weight 87.62. Valence 2. Radioactive isotopes Sr-89 and Sr-90. There are 4 stable isotopes.

Properties: Pale yellow, soft metal, chemically similar to calcium. Soluble in alcohol and acids; decomposes water on contact. Sp. gr. 2.54; m.p. 752°C; b.p. 1390°C. Low toxicity.

Occurrence: Ores of strontianite and celestite (Mexico, Spain).

Derivation: (a) Electrolysis of molten strontium chloride in a graphite crucible with cooling of the upper, cathodic space; (b) thermal reduction of the oxide with metallic aluminum (strontium aluminum alloy formed), and distilling the strontium in a vacuum.

Grade: Technical.

Containers: Glass bottles containing sufficient naphtha to cover the metal.

Hazard: Spontaneously flammable in powder form; ignites when heated above melting point. Reacts with water to evolve hydrogen. Store under naphtha. Uses: Alloys; "getter" in electron tubes.

Shipping regulations: (Air) (alloys) Flammable Solid and Dangerous When Wet labels; (Sr metal dispersed in organic solvent) Flammable Liquid label. Not acceptable passenger.

strontium 90. Radioactive strontium isotope.

Properties: Half-life, 38 years; radiation, beta.

Derivation: From the fission products of nuclear reactor fuels.

Forms available: A mixture containing strontium 90, yttrium 90, and strontium 89 chlorides in hydrochloric acid solution; also as the carbonate and titanate.

Hazard: Highly toxic radioactive poison; present in fallout from nuclear explosions. Absorbed by growing plants; when ingested attacks bone marrow with possibly fatal results. It may be partially removed from milk by treatment with vermiculite (q.v.).

Uses: Radiation source in industrial thickness gauges; elimination of static charge; treatment of eye diseases; in radio-autography to determine the uniformity of material distribution; in electronics for studying strontium oxide in vacuum tubes; activation of phosphors; source of ionizing radiation in luminous paint; cigarette density control; measuring silt density; atomic batteries, etc.

Shipping regulations: (Rail, Air) Consult regulations.

strontium acetate $\text{Sr}(\text{C}_2\text{H}_3\text{O}_2)_2 \cdot \frac{1}{2}\text{H}_2\text{O}$.

Properties: White, crystalline powder; soluble in water. Loses $\frac{1}{2}\text{H}_2\text{O}$ at 150°C.

Derivation: Interaction of strontium hydroxide and acetic acid, followed by crystallization.

Grades: Technical; reagent.

Use: Intermediate for strontium compounds; catalyst production.

strontium bromate $\text{Sr}(\text{BrO}_3)_2 \cdot \text{H}_2\text{O}$.

Properties: Colorless or yellowish, crystalline, lustrous powder. Hygroscopic. Soluble in water. Sp. gr. 3.773; loses H_2O at 120°C; decomposes 240°C. Hazard: Moderately toxic. Strong oxidant; fire risk in contact with organic materials.

strontium bromide $\text{SrBr}_2 \cdot 6\text{H}_2\text{O}$.

Properties: White, hygroscopic crystals or powder. Soluble in water, alcohol, and amyl alcohol. Insoluble in ether. Sp. gr. 2.386 (25/4°C); loses $4\text{H}_2\text{O}$ at 89°C, remaining H_2O by 180°C; m.p. anhydrous salt 643°C.

Derivation: Strontium carbonate is treated with bromine or hydrobromic acid.

Grades: Anhydrous powder; crystal; technical; C.P.

Containers: Bottles; 150-lb drums.

Hazard: Moderately toxic by ingestion and inhalation.

Uses: Medicine (sedative); laboratory reagent.

strontium carbonate SrCO_3 .

Properties: White, impalpable powder. Soluble in acids, carbonated water and solutions of ammonium salts; slightly soluble in water. Sp. gr. 3.62; loses CO_2 at 1340°C. Low toxicity.

Derivation: Celestite is boiled with a solution of ammonium carbonate or is fused with sodium carbonate.

Grades: Precipitated; technical; natural; reagent.

Containers: 50-lb bags; drums.

Uses: Catalyst; in radiation-resistant glass for color television tubes; ceramic ferrites; pyrotechnics.

strontium chlorate (a) $\text{Sr}(\text{ClO}_3)_2$; (b) $\text{Sr}(\text{ClO}_3)_2 \cdot 8\text{H}_2\text{O}$.

Properties: White, crystalline powder. Soluble in water; slightly soluble in alcohol. (a) Sp. gr. 3.152; m.p., decomposes at 120°C.

Derivation: Strontium hydroxide solution is warmed and chlorine passed in, with subsequent crystallization.

Grades: Technical; reagent.

Containers: Tins; glass bottles.

Hazard: Dangerous explosion risk in contact with organic materials; highly sensitive to shock, heat and friction; oxidizing agent.

Use: Manufacture of red-fire and other pyrotechnics; tracer bullets.

Shipping regulations: (wet and dry) (Rail, Air) Oxidizer label.

strontium chloride (a) SrCl_2 ; (b) $\text{SrCl}_2 \cdot 6\text{H}_2\text{O}$.

Properties: White, crystalline needles; odorless; sharp, bitter taste; soluble in water and alcohol. (a) Sp. gr. 3.054; m.p. 872°C; b.p. 1250°C. (b) Sp. gr. 1.964; m.p. loses $6\text{H}_2\text{O}$ at 150°C.