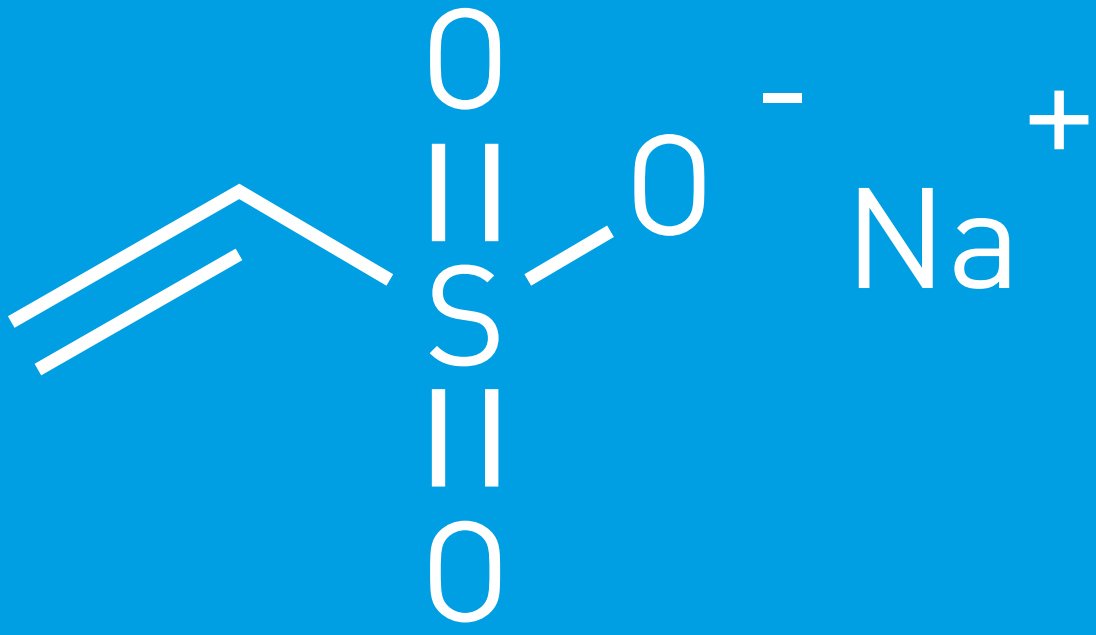
WEYLCHEM Höchst

Better chemistry – achieving more.

Sodium Vinyl Sulfonate

Extremely versatile monomer

Formula: C2H3O3 SNa
CAS-No.: 3039 – 83 – 6
Molecular Weight: 130.1 g/mol



Sodium Vinyl Sulfonate

SVS has an olefinic bond and a reactive sulfonic acid group. This bifunctional structure suggests its use for an organic intermediate to a functional monomer in polymerization reactions. Major applications reported in the literature are as follows:

ELECTROPLATING

SVS is used as a brightener in Nickel and Chromium baths for electro-deposition, increased throwing power and equalizing agent. It is also used in electroplating of iron-group metals and alloys.

ION EXCHANGE RESINS

SVS is used as an adjuvant for ion exchange resin polymers for substantially increasing the exchange capacity.

IN OIL WELL PETROLEUM RECOVERY

As a co-polymer with chloroethene and 2-propenamide SVS is used in petroleum recovery by water flooding. SVS co-polymers are also reported to be used as viscosifying agent, water loss control additive in drilling fluids and oil well cementing composition as well as a dispersant – deflocculant for aqueous clay-based drilling fluids.

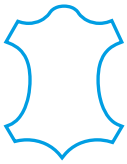
CEMENT ADDITIVE

SVS based co-polymers are used as setting retarders for cement for high temperature wells, water loss inhibition in deep wellbore holes, dispersing agent for salt-high cement slurries in high temperature well bores. It is also used as a cement dispersant for slump and workability improvement and increased strength and as cement additive for concrete.

TEXTILES AND FIBERS

As a co-polymer with methyl methacrylate SVS is used to improve antistatic and antisoiling properties to secure a fibrous boehmite (AlCl3 6H2O) base coat on polyacrylonitrile fibers.

- Co-polymer with styrene comprises another
- useful finish overcoming the non-adherent properties of polyamide fibers.
- SVS Acrylamide co-polymer can be cured on hydrophobic fibers with dimethylolurea and AlCl3 6H2O to provide hydrophilic antistatic finish.
- Incorporation of a small amount of vinyl sulfonic acid in vinylidene cyanide co-polymer to get shrink-resistant fibers.
- SVS may be grafted on polyacrylonitrile fiber to provide antistatic and abrasion-resistance properties.
- As a co-polymer with ethenylbenzene and 2-propenenitrile SVS is used for fire resistance coating.
- Co-polymers of SVS are used as heat stabilizers for acrylic fibers for improved whiteness.
- Co-polymer with pigment containing cationic dyes is used for speck dyeing of acrylic fibers.
- Co-polymers of SVS are used as a stain proofing agent for nylon fibers.
- Co-polymers of SVS are used for fixing dyes in nylon or spandex fibers for improved wash fastness and color fastness.
- As a co-polymer with ethenyl acetate SVS is used for manufacture of heat stable vinyl chloride containing fibers.
- Co-polymers of SVS are also used for improved fiber dyeing.



LEATHER TANNING

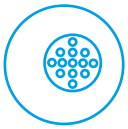
SVS-based copolymers are used as a tanning agent for retaining leather for improved color texture, softness, fullness and light fastness. Also used as a binder for leather coating materials.

CUTTING FLUIDS

Co-polymers of SVS are used in cutting fluid for grinding of steel, as a dispersant for multifunctional additives in metal working rolling and in lubricating composition for cold rolling of steel.

PAPER

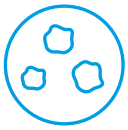
Dispersing agent with sodium gluconate for kaolin is used for paper coating. It is used for coatings containing inorganic pigments on paper and as a binder and dispersant for pigments of high solids paper coating.



COATING & ADHESIVE

Co-polymers of SVS are:

- for stable aqueous pressure sensitive adhesive polymer emulsions.
- as crosslinkable solvent-resistant adhesives.
- as binders for foundry cores.
- as latex adhesives for floor covering and polyurethane foams.
- as heat-resistant adhesives with good adhesion to glass.
- for coatings with improved hardness.



FLOCCULATING AGENT

Co-polymers of SVS are used as filter aid and flocculating agent for Kaolin and anionic coagulant for sludge dewatering.

MISCELLANEOUS

Polymers and Co-polymers of SVS are used:

- as controlled release agent in pesticides.
- in tooth calculus and plaque inhibiting compositions containing bactericides.
- for hair conditioners – in aerosol foams.
- for improved bleach-fixing in color photographic emulsions.
- as gelatin substitute in photographic emulsions.
- as stabilizer for photographic additive dispersions.
- as protective colloids for viscosity control in polymerizations.
- as dispersant for aqueous coal slurries and CaCO3 slurries.
- as stabilizer for prevention of sedimentation in microcapsule dispersions.
- as stabilizer for high concentration agrochemicals.
- emulsifying agent for manufacture of vinyl polymerization.
- in paints for scale prevention in sea water desalination and dispersion for thixotropic agents.

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