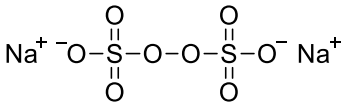
NPS (SPS)

Sodium peroxodisulfate (sodium persulfate)
CAS#7775-27-1
Technically pure, solid

Structural Formula



Description

Sodium persulfate is a white, crystalline, odourless salt consisting of technically pure sodium peroxodisulfate. It is used as an initiator (source of free radicals) for the polymerisation of monomers and as a strong oxidizing agent in many applications. It has the particular advantage of being almost non-hygroscopic, of having a good storage stability as a result of its extremely high purity and of being easy and safe to handle. As a result of the process used for its production it is free from contamination by ammonium ions. Sodium peroxydisulfate can be optionally supplied with an addition of silicic acid.

Technical Data

Appearance	white, crystalline solid
Assay (typically)	approx. 99.9 % w/w
Active oxygen (AO, typically)	approx. 6.7 % w/w
Acid (calculated as H_2SO_4, typically)	approx. 0.01 % w/w
Iron content (typically)	approx. 0.5 mg/kg
Bulk density	approx. 1250 kg/m^3
Melting point	(decomposition)
Solubility in water at 10 / 20 / 40 / 60 °C	approx. 515 / 545 / 605 / 680 g/L
pH of a 1 % solution in water (typically)*	approx. 5.0
pH of a 10 % solution in water (typically)*	approx. 4.0
Decomposition temperature (SADT)**	180 °C
Recommended storage temperature	< 30 °C
Storage stability as from date of delivery	12 months
Moisture content (typically)	< 0.03 % w/w

**The initial pH value depends on the certified sulfuric acid content.*
***Even small amounts of moisture or impurities can noticeably reduce SADT.*

Standard Packaging

25 kg PE-bag
1000 kg big bag

Application

POLYMERIZATION:
Initiator for the emulsion or solution polymerization of acrylic monomers, vinyl acetate, vinyl chloride etc. and for the emulsion copolymerization of styrene, acrylonitrile, butadiene etc.
Dosage: 0.1 - 0.5 % NPS (SPS)
Temperature: 75 - 95 °C
In combination with redox systems (ascorbic acid, Rongalite, sulfites or sugar - possibly in combination with heavy metal salts such as Fe^{2+}) it can also be used for polymerization reactions carried out at lower - and even at ambient - temperatures. To reduce the residual monomer content, a combination of NPS (SPS) with TBHP-70-AQ is recommended, particularly in cases where redox systems are used.

METAL TREATMENT:
- Treatment of metal surfaces (e.g. in the manufacture of semiconductors; cleaning and etching of printed circuits), activation of copper and aluminium surfaces

COSMETICS:
- Essential component of bleaching formulations

PAPER:
- Modification of starch; repulping of wet-strength paper

TEXTILE:
- Desizing agent and bleach activator - particularly for cold bleaching (e.g. bleaching of jeans)

OTHERS:
- Chemical synthesis
- Water treatment (decontamination)
- Waste gas treatment, oxidative degradation of harmful substances (e.g. Hg)
- Mining & battery recycling (hydrometallurgical processing steps)

Storage

Avoid any source of heat, light, humidity and protect the product from impurities. Keep dry and within save temperature limits.

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