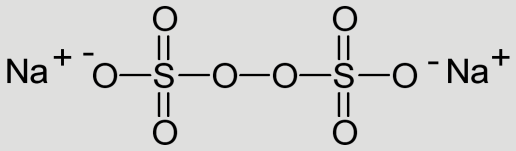
NPS (SPS)

Technical Data Sheet - Persulfates



Chemical Name	Sodium persulfate (sodium peroxodisulfate)
CAS-No.	7775-27-1
Molar Mass	238.09 g/mol
Properties	technically pure, salt

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 peroxodisulfate can be optionally supplied with an addition of silicic acid.

Technical Data

Property	Value(ca.)	Unit
Appearance	white crystalline salt	
$Na_2S_2O_8$ content (typically)	ca. 99.9	% w/w
Active oxygen (typically)	ca. 6.7	% w/w
Acid content (based on H_2SO_4, typically)	ca. 0.01	%
Iron content (typically)	ca. 0.5	mg/kg
Bulk density (typically)	ca. 1250	g/l
Melting point	(decomposition)	
Solubility in water at 10/20/40/60°C	ca. 515/545/605/680	g/l
pH of a 1% solution in water (typically)	ca. 4.5	
pH of a 10% solution in water (typically)	ca. 3.5	
Decomposition of the product as supplied	at above 65	°C
Recommended storage temperature	below 30	°C
Storage stability as from date of delivery	12	months
Moisture content (typically)	< 0.03	%

Contact: http://www.united-initiators.com/

This product ist in compliance with the ElektroG (EU-Directives: RoHS 2002/95/EG, WEEE 2002/96/EG)

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Further Data

Storage

Sodium peroxodisulfate must be stored under dry conditions and has to be protected from direct sunlight and from any other source of heat.

Application

Polymerisation:
Initiator for the emulsion or solution polymerisation of acrylic monomers, vinyl acetate, vinyl chloride etc. and for the emulsion copolymerisation of styrene, acrylonitrile, butadiene etc.. Dosage: 0.1-0.5% NPS (SPS). Temperature: 75-95°C. In combination with redox systems (ascorbic acid, Rongalit, sulfites or sugar - possibly in combination with heavy metal salts such as Fe2+ it can also be used for polymerisation 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)
- Swimming pool and spa treatment