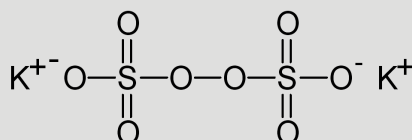


**KPS (PPS)**

## Technical Data Sheet - Persulfates



Chemical Name	Potassium persulfate (potassium peroxodisulfate)
CAS-No.	7727-21-1
Molar Mass	270.33 g/mol
Properties	technically pure, salt

**Description**

Potassium persulfate is a white, finely crystalline, odourless salt consisting of technically pure potassium peroxodisulfate. It is used as an initiator (source of free radicals) for the polymerisation of monomers and as a strong oxidising agent in many applications. It has the particular advantage of being only slightly hygroscopic and easy and safe to handle. As a result of the process used for its production it is free from contamination by ammonium ions. As a result of its extremely high purity it has a good storage stability. Due to its fine crystallinity potassium peroxodisulfate tends to lumping and can be optionally supplied with an addition of silicic acid.

**Technical Data**

Property	Value(ca.) Unit
Appearance	white, finely crystalline salt
K <sub>2</sub> S <sub>2</sub> O <sub>8</sub> content (typically)	ca. 99.6 % w/w
Active oxygen (typically)	ca. 5.9 % w/w
Acid content (based on H <sub>2</sub> SO <sub>4</sub> , typically)	ca. 0.1 %
Iron content (typically)	ca. 1 mg/kg
Bulk density (typically)	ca. 1100 g/l
Melting point	(decomposition)
Solubility in water at 10/20/40/60°C	ca. 30/50/105/210 g/l
pH of a 1% solution in water (typically)	ca. 3.7
pH of a 10% solution in water (typically)	ca. 3.1
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 %



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#### Further Data

#### Storage

Potassium peroxodisulfate is slightly hygroscopic and must be stored under dry conditions. It 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% KPS (PPS). Temperature: 75-95°C. In combination with redox systems (ascorbic acid, Rongalit, sulfites or sugar - possibly in combination with heavy metal salts such as Fe<sup>2+</sup> 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 KPS (PPS) with TBHP-70-AQ is recommended, particularly in cases where redox systems are used.

##### Cosmetics:

Essential component of bleaching formulations.

##### Paper:

Modification of starch; Repulping particularly 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)

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