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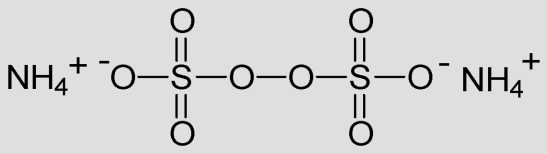
APS

Technical Data Sheet - Persulfates



Chemical Name	Ammonium persulfate (ammonium peroxydisulfate)
CAS-No.	7727-54-0
Molar Mass	228,20 g/mol
Properties	technically pure, salt

Description

Ammonium persulfate is a white, crystalline, odourless salt consisting of technically pure ammonium 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 having a good storage stability as a result of its extremely high purity and of being easy and safe to handle. Due to its hygroscopic character APS tends to lumping, expecially in humid atmosphere and can be optionally supplied with an addition of silicic acid.

Technical Data

Property	Value(ca.)	Unit
Appearance	white crystalline salt	
$(NH_4)_2S_2O_8$ content (typically)	ca. 99,9	% w/w
Active oxygen (typically)	ca. 7,0	% w/w
Acid content (based on H_2SO_4, typically)	ca. 0,05	%
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. 550/620/700/835	g/l
pH of a 1% solution in water (typically)	ca. 4,0	
pH of a 10% solution in water (typically)	ca. 3.1	
Decomposition of the product as supplied	at above 60	°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

APS is 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% APS. 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 APS with TBHP-70-AQ is recommended, particularly in cases where redox systems are used.

Cosmetics:

Essential component of bleaching formulations.

Textile:

Desizing agent and bleach activator - particularly for cold bleaching.

Others:

- Chemical synthesis
- Water treatment (decontamination)
- Waste gas treatment, oxidative degradation of harmful substances e.g. Hg)