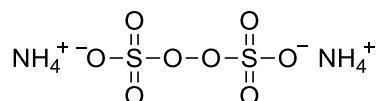


APS

Ammonium peroxodisulfate (ammonium persulfate)
CAS#7727-54-0
Technically pure, solid

Structural Formula



Description

Ammonium persulfate is a white, crystalline 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 lump especially in humid atmosphere and 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. 7.0 % w/w
Acid (calculated as H ₂ SO ₄ , typically)	approx. 0.05 % w/w
Iron content (typically)	approx. 1 mg/kg
Bulk density	approx. 1100 kg/m ³
Melting point	(decomposition)
Solubility in water at 10 / 20 / 40 / 60 °C	approx. 550 / 620 / 700 / 835 g/L
pH of a 1 % solution in water (typically)*	approx. 4.3
pH of a 10 % solution in water (typically)*	approx. 3.5
Decomposition temperature (SADT)**	130 °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
500 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 % APS

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 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)
- Battery recycling & mining (hydrometallurgical processing steps)

Storage

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

Disclaimer:

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United Initiators
Europe
T: +49 89 74422 237
F: +49 89 74422 6237
cs-initiators.eu@united-in.com

United Initiators
Nafta
T: +1 800 231 2702
F: +1 440 323 0898
cs-initiators.nafta@united-in.com

United Initiators
China
T: +86 21 6117 2760
F: +86 139 2503 8952
cs-initiators.cn@united-in.com

United Initiators
Australia
T: +61 2 9316 0046
F: +61 2 9316 0034
cs-initiators.au@united-in.com

www.united-initiators.com