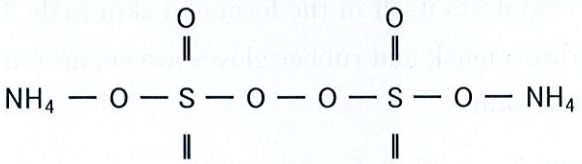
# AMMONIUM PERSULFATE

(Ammonium Peroxydisulfate) CAS No.7727-54-0

## 1. Properties

| | |
|---|---|
| **White crystal** | A solution in water is slightly acidic. |
| **Formula** | $(NH_4)_2S_2O_8$ |
| **Molecular weight** | 228.2 |
| **Structural formula** |  |

Ammonium persulfate(APS)dissolves into sodium bisulfate and hydrogen peroxide, then Manifests the action of oxidization.

$(NH_4)_2S_2O_8 + 2H_2O \rightarrow 2NH_4HSO_4 + H_2O_2$

## 2. Specifications

| | |
|---|---|
| **Purity (%)** | 99.0 min. |
| **Heavy metals** | 30 ppm max. |
| **Iron** | 10 ppm max. |
| **Manganese** | 1.0 ppm max` |
| **Total Cl (%)** | 0.005 max. |
| **Solution in water** | Nearly transparent and slightly acidic. |

## 3. Stability

**(1) Storage Stability**

Ammonium persulfate crystals are stable compounds. If kept dry in closed container, representative samples stored for l2months can be expected to lose only about 0.1-0.15% of their total active oxygen.

**(2) Compatibilitv**

Catalylic decomposition of Ammonium persulfate may take place in contact with various metals such as platinum black, 1ead, iron, copper, magnesium, nickel, manganese and their salts as well as al1oys. Ammonium persulfate also decomposes in contact with easily oxidizable organic compounds.

## 4. Materials Suitable for Storage and Hnadling

All storage and conveyance materials(tanks, pipelines, etc.)should be made from stainless Steel (type 304 or 316).

The following materials are also suitable:

polyvinyl chloride, polyethylene, ceramics, and glass

## 5. Safety and Handling Precautions

(1)Refrain contact with combustibles.

(2)Refrain contact with metals and their salts or alloys which may decompose Ammonium persulfate.

(3)Take care to store in a cool dry area.

(4)Prolonged contact of persulfate with a skin should be avoided. Persulfate allergy is not uncommon and manifests itself in the form of a skin rash. To avoid accidental contact with persulfate, wearing a mask and rubber gloves are suggested. After contact, water should be used to cleanse the skin.

## 6. Applications.

**(1) Polymerization**

Initiators for emulsion polymerization reactions such as acrylics, PVC, polystyrenes, neoprene, SBR and others

**(2) Metal Industry**

Chemical milling

Treatment of metal surfaces

Copper cleaning

**(3) Electronics Industry**

Etching of printed circuits

Cleaning prior to plating and application of resists

**(4) Textile Industry**

Desizing

Dyestuff oxidation

**(5) Cosmetic Industry**

Booster for hair bleaching formulations

Oxidation of "Para" type hair dyes

**(6) Miscellaneous**

Photographic

Oxidizing agent in organic synthesis

## 7. Packing

25kgs in a polyethylene bag