# AMMONIUM PERSULFATE
# SODIUM PERSULFATE
# POTASSIUM PERSULFATE

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## SPECIFICATIONS

| Common Name | Ammonium Persulfate | Potassium Persulfate | Sodium Persulfate |
|---|---|---|---|
| Content | 98.0% min. | 98.0% min. | 98.0% min. |
| Solution | Almost Transparent | Almost Transparent | Almost Transparent |
| Residue after Ignition | 0.1% max. | ------ | ------ |
| Total Chloride (Cl) | 0.005% max. | 0.01% max. | ------- |
| Heavy Metals (as Pb) | 0.003% max. | 0.002% max. | 0.001% max. |
| Iron (Fe) | 0.001% max. | 0.001% max. | 0.001% max. |
| Manganese (Mn) | 0.0001% max. | 0.0002% max. | 0.0001% max. |
| Total Nitrogen (N) | ------ | 0.4% max. | 0.1% max. |

## PHYSICAL PROPERTIES

| Common Name | Ammonium Persulfate | Potassium Persulfate | Sodium Persulfate |
|---|---|---|---|
| Formula | $(NH_4)_2S_2O_8$ | $K_2S_2O_8$ | $Na_2S_2O_8$ |
| Molecular Weight | 228.2 | 270.3 | 238.1 |
| Active Oxygen | 7.0% | 5.9% | 6.7% |
| Decomposition Temperature ($^0$C) | 177 | 267 | 292 |
| Bulk Density (g/cc) | 1.15 | 1.35 | 1.20 |
| Crystal Density (g/cc) | 1.98 | 2.47 | 2.55 |

## SOLUBILITY

| Temperature ($^o$C) | Ammonium Persulfate | Potassium Persulfate | Sodium Persulfate |
|---|---|---|---|
| 0 | 43.8 | 2.5 | 61.3 |
| 10 | 56.3 | 3.5 | 65.4 |
| 20 | 70.0 | 5.2 | 70.2 |
| 30 | 82.5 | 8.7 | 76.0 |
| 40 | 92.0 | 12.5 | 82.8 |

## STABILITY

THE RATE OF DECOMPOSITION PER YEAR IS AS FOLLOWS.

| Ammonium Persulfate | Potassium Persulfate | Sodium Persulfate |
|---|---|---|
| 0.2% max. | 0.05% max. | 0.2% max. |

(**The data above was obtained by experiments in a non-air-conditioned warehouse.**)

## HANDLING

When handling Persulfates, avoid contact with skin, eyes or clothing. Wearing protective goggles and rubber gloves can minimize exposure. Inhaling dust from Persulfates can cause asthma. Wearing a protective facemask is recommended. In case of contact, flush skin or eyes with running water. For eyes, seek medical treatment. Make a point of gargling after work. When handled with appropriate care and attention, Persulfates do not pose any serious health hazard.

## STORAGE

Persulfates should be stored in a cool, dry location and protected from heat and humidity. Metals except stainless steel, reductants or impurities such as rust may cause decomposition of Persulfates. Although Persulfates are not combustible, their decomposition may generate heat and oxygen, which may increase the combustibility of combustible materials. Plastics such as PVC and stainless steel (Type 316) are suitable materials for containers or tools. Other materials are not recommended for storage and handling.

## APPLICATIONS

Catalyst for polymerization:
Used as a polymerization initiator for ABS resin, SB Rubber, Acrylic Fibers, etc.

Electronics Industry:
Cleans copper surfaces or etches printed circuit boards.

Textile Industry:
Applied as a de-sizing agent for removing synthetic sizes such as PVA.