

Common Name: **AMMONIUM PERSULFATE**

Synonyms: Ammonium Peroxydisulfuric Acid; Diammonium Persulfate

CAS No: 7727-54-0

Molecular Formula:  $N_2H_8S_2O_8$

RTK Substance No: 0111

Description: Colorless, white or straw-colored, crystalline powder with a mild, unpleasant odor

### HAZARD DATA

Hazard Rating	Firefighting	Reactivity
<p><b>2 - Health</b></p> <p><b>0 - Fire</b></p> <p><b>1 - Reactivity</b></p> <p><b>DOT#:</b> UN 1444</p> <p><b>ERG Guide #:</b> 140</p> <p><b>Hazard Class:</b> 5.1 (Oxidizer)</p>	<p><b>Ammonium Persulfate</b> is not combustible, but it is a <b>STRONG OXIDIZER</b> that enhances the combustion of other substances.</p> <p>Use water only. <b>DO NOT USE CO<sub>2</sub></b> as an extinguishing agent.</p> <p><b>POISONOUS GASES ARE PRODUCED IN FIRE</b>, including <i>Sulfur Oxides</i>, <i>Nitrogen Oxides</i>, and <i>Ammonia</i>.</p> <p><b>CONTAINERS MAY EXPLODE IN FIRE.</b></p> <p>Use water spray to keep fire-exposed containers cool.</p> <p><b>Ammonium Persulfate</b> may ignite combustibles (wood, paper and oil).</p>	<p><b>AIR, LIGHT, WATER, MOISTURE, CONTAMINATION, and HEAT</b> will cause <b>Ammonium Persulfate</b> to decompose and become unstable.</p> <p><b>Ammonium Persulfate</b> reacts violently <i>in solution</i> with <b>IRON</b>; <b>POWDERED ALUMINUM</b>; and <b>SILVER SALTS</b>.</p> <p><b>Ammonium Persulfate</b> will react with <b>COMBUSTIBLE</b> and <b>ORGANIC MATERIALS</b> (PAPER, GAS and FUELS) to cause fires.</p> <p><b>Ammonium Persulfate</b> is not compatible with <b>OXIDIZING AGENTS</b> (such as <b>PERCHLORATES</b>, <b>PEROXIDES</b>, <b>PERMANGANATES</b>, <b>CHLORATES</b>, <b>NITRATES</b>, <b>CHLORINE</b>, <b>BROMINE</b> and <b>FLUORINE</b>); <b>STRONG ACIDS</b> (such as <b>HYDROCHLORIC</b>, <b>SULFURIC</b> and <b>NITRIC</b>); <b>STRONG BASES</b> (such as <b>SODIUM HYDROXIDE</b> and <b>POTASSIUM HYDROXIDE</b>); <b>REDUCING AGENTS</b> (such as <b>LITHIUM</b>, <b>SODIUM</b>, <b>ALUMINUM</b> and their <b>HYDRIDES</b>); and <b>HEAVY</b> and <b>POWDERED METALS</b> (such as <b>COPPER</b>, <b>NICKEL</b> and <b>ZINC</b>).</p>

### SPILL/LEAKS

**Isolation Distance:**

Spill: 25 meters (75 feet)

Fire: 800 meters (1/2 mile)

Collect powdered material in the most convenient and safe manner and place into sealed containers for disposal.

DO NOT wash into sewer.

**Ammonium Persulfate** is harmful to aquatic organisms.

### PHYSICAL PROPERTIES

<b>Odor Threshold:</b>	Mild, unpleasant
<b>Flash Point:</b>	Noncombustible
<b>Specific Gravity:</b>	1.98 (water = 1)
<b>Water Solubility:</b>	Soluble/Reactive
<b>Boiling Point:</b>	Decomposes
<b>Melting Point:</b>	Decomposes
<b>Molecular Weight:</b>	228.18

### EXPOSURE LIMITS

**ACGIH:** 0.1 mg/m<sup>3</sup> (as *Persulfate*)

The Protective Action Criteria values are:

PAC-1 = 0.3 mg/m<sup>3</sup>

PAC-2 = 22 mg/m<sup>3</sup>

PAC-3 = 130 mg/m<sup>3</sup>

### PROTECTIVE EQUIPMENT

<b>Gloves:</b>	Neoprene and Natural Rubber
<b>Coveralls:</b>	DuPont Tyvek®
<b>Respirator:</b>	>0.1 mg/m <sup>3</sup> - full facepiece APR with High efficiency filter >0.3 mg/m <sup>3</sup> - SCBA

### HEALTH EFFECTS

<b>Eyes:</b>	Irritation
<b>Skin:</b>	Irritation
<b>Inhalation:</b>	Nose, throat and lung irritation with coughing and severe shortness of breath (pulmonary edema)

### FIRST AID AND DECONTAMINATION

**Remove** the person from exposure.

**Flush** eyes with large amounts of water for at least 15 minutes. Remove contact lenses if worn.

**Quickly** remove contaminated clothing and wash contaminated skin with large amounts of water.

**Begin** artificial respiration if breathing has stopped and CPR if necessary.

**Transfer** promptly to a medical facility.

**Medical** observation is recommended as symptoms may be delayed.