

## Ammonium Persulfate

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### 1. PRODUCT AND COMPANY IDENTIFICATION

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**Product Name:** Ammonium Persulfate

**Synonyms/Generic Names:** Ammonium peroxydisulfate; AP; APS; PER

**SDS Number:** 56.00

**Product Use:** For Educational Use Only

**Manufacturer:** Columbus Chemical Industries, Inc.  
N4335 Temkin Rd.  
Columbus, WI. 53925

**For More Information Contact:** Ward's Science  
5100 West Henrietta Rd.  
PO Box 92912-9012  
Rochester, NY 14692  
(800) 962-2660 (Monday-Friday 7:30-7:00 Eastern Time)

**In Case of Emergency Call:** CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

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### 2. HAZARDS IDENTIFICATION

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**OSHA Hazards:** Oxidizer, Harmful by ingestion, Harmful by skin absorption, Skin and respiratory sensitizer, Irritant

**Target Organs:** Respiratory system, Eyes, Skin

**Signal Words:** Danger

**Pictograms:**



**GHS Classification:**

Oxidizing solids	Category 3
Acute toxicity, Dermal	Category 4
Acute toxicity, Oral	Category 4
Skin irritation	Category 2
Eye irritation	Category 2A
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Specific target organ toxicity – single exposure	Category 3
Acute aquatic toxicity	Category 3

**GHS Label Elements, including precautionary statements:****Hazard Statements:**

H272	May intensify fire; oxidizer.
H302+H312	Harmful if swallowed or in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H402	Harmful to aquatic life.

**Precautionary Statements:**

P220	Keep/Store away from clothing/combustible materials.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P280	Wear protective gloves.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

**Potential Health Effects**

<b>Eyes</b>	Causes eye irritation.
<b>Inhalation</b>	May be harmful if inhaled. Causes respiratory tract irritation.
<b>Skin</b>	Harmful if absorbed through skin. Causes skin irritation.
<b>Ingestion</b>	Harmful if swallowed.

**NFPA Ratings**

<b>Health</b>	2
<b>Flammability</b>	1
<b>Reactivity</b>	3
<b>Specific hazard</b>	OX

**HMIS Ratings**

<b>Health</b>	2
<b>Fire</b>	1
<b>Reactivity</b>	3
<b>Personal</b>	E

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Ammonium Persulfate	100	7727-54-0	231-786-5	H <sub>8</sub> N <sub>2</sub> O <sub>8</sub> S <sub>2</sub>	228.20 g/mol

**4. FIRST-AID MEASURES**

<b>Eyes</b>	In case of eye contact, rinse with plenty of water and seek medical attention.
<b>Inhalation</b>	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
<b>Skin</b>	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention.
<b>Ingestion</b>	<b>Do Not Induce Vomiting!</b> Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention.

**5. FIRE-FIGHTING MEASURES**

<b>Suitable (and unsuitable) extinguishing media</b>	Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.
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<b>Special protective equipment and precautions for firefighters</b>	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
<b>Specific hazards arising from the chemical</b>	Emits toxic fumes (nitrogen oxides, sulfur oxides) under fire conditions. (See also Stability and Reactivity section).

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## 6. ACCIDENTAL RELEASE MEASURES

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<b>Personal precautions, protective equipment and emergency procedures</b>	See section 8 for recommendations on the use of personal protective equipment.
<b>Environmental precautions</b>	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
<b>Methods and materials for containment and cleaning up</b>	Pick up arrange disposal without creating dust. Sweep up and shovel. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

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## 7. HANDLING AND STORAGE

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### Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Keep away from sources of ignition – No smoking. Avoid formation of dust.

### Conditions for safe storage, including any incompatibilities

Store in cool, dry well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities). Moisture sensitive.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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**Occupational exposure controls:** Ventilation and appropriate grounding of containers.

Component	Exposure Limits	Basis	Entity
Ammonium Persulfate	0.1 mg/m <sup>3</sup>	TLV	ACGIH

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

CEIL: Ceiling

### Personal Protection

<b>Eyes</b>	Wear chemical safety glasses or goggles.
<b>Inhalation</b>	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
<b>Skin</b>	Wear nitrile or rubber gloves, coveralls, rubber apron, and boots. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
<b>Other</b>	Not Available

### Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	White to yellow powder
Odor	Unpleasant (slight)
Odor threshold	Not Available
pH	1.0-2 @ 228 g/l @ 25°C (77°F)
Melting point/freezing point	120°C (248°F)
Initial boiling point and boiling range	Not Available
Flash point	>93.3°C (200°F)
Evaporation rate	Not Available
Flammability (solid, gas)	Not Available
Upper/lower flammability or explosive limit	Not Available
Vapor pressure	Not Available
Vapor density	Not Available
Relative density	Not Available
Solubility (ies)	Complete soluble in water
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable under recommended storage conditions. May decompose on exposure to moist air or water.
<b>Possibility of Hazardous Reactions</b>	Will not occur.
<b>Conditions to Avoid</b>	Heat, moisture, ignition sources.
<b>Incompatible Materials</b>	Reducing agents, organic materials, powdered metals, acids, alkalis, combustibles, sodium peroxide.
<b>Hazardous Decomposition Products</b>	Nitrogen oxides, sulfur oxides.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

<b>Skin</b>	LD50 Dermal – rat – 2,000 mg/kg
<b>Eyes</b>	Not Available
<b>Respiratory</b>	Not Available
<b>Ingestion</b>	LD50 Oral – rat – 689 mg/kg

### Carcinogenicity

<b>IARC</b>	No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
<b>ACGIH</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
<b>NTP</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
<b>OSHA</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### Signs & Symptoms of Exposure

<b>Skin</b>	Irritation, itching, swelling, redness, and pain.
<b>Eyes</b>	Irritation, itching, redness, and pain.
<b>Respiratory</b>	Irritation, chemical pneumonitis, pulmonary edema, inflammation and edema of bronchi.
<b>Ingestion</b>	Gastrointestinal discomfort and possible pain.

<b>Chronic Toxicity</b>	Not Available
<b>Teratogenicity</b>	Not Available
<b>Mutagenicity</b>	Not Available
<b>Embryotoxicity</b>	Not Available
<b>Specific Target Organ Toxicity</b>	Not Available
<b>Reproductive Toxicity</b>	Not Available
<b>Respiratory/Skin Sensitization</b>	May cause allergic respiratory and skin reactions

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## 12. ECOLOGICAL INFORMATION

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### Ecotoxicity

<b>Aquatic Vertebrate</b>	LC50 – Oncorhynchus mykiss (rainbow trout) – 76 mg/l – 96 hours
<b>Aquatic Invertebrate</b>	EC50 – Daphnia magna (water flea) – 120 mg/l – 48 hours
<b>Terrestrial</b>	Not Available

<b>Persistence and Degradability</b>	Not Available
<b>Bioaccumulative Potential</b>	Not Available
<b>Mobility in Soil</b>	Not Available
<b>PBT and vPvB Assessment</b>	Not Available
<b>Other Adverse Effects</b>	Harmful to aquatic life.

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## 13. DISPOSAL CONSIDERATIONS

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<b>Waste Residues</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste products or residues.
<b>Product Containers</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

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## 14. TRANSPORTATION INFORMATION

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US DOT	UN1444, Ammonium Persulfate, 5.1, pg III
TDG	UN1444, AMMONIUM PERSULFATE, 5.1, pg III
IMDG	UN1444, AMMONIUM PERSULFATE, 5.1, pg III
Marine Pollutant	No
IATA/ICAO	UN1444, Ammonium Persulfate, 5.1, pg III

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## 15. REGULATORY INFORMATION

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TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Not Listed
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Ammonium Persulfate
SARA 312	Ammonium Persulfate

SARA 313	Listed: Ammonium Persulfate
WHMIS Canada	Class C: Oxidizing Material Class D-2A: Very Toxic Material Causing Other Toxic Effects Class D-2B: Toxic Material Causing Other Toxic Effects

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## 16. OTHER INFORMATION

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Revision	Date
Revision 1	06-11-2012
Revision 2	06/20/2013

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