

Ammonium Persulfate

1. PRODUCT AND COMPANY IDENTIFICATION

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)

2. HAZARDS IDENTIFICATION

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

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

NFPA Ratings

Health	2
Flammability	1
Reactivity	3
Specific hazard	OX

HMIS Ratings

Health	2
Fire	1
Reactivity	3
Personal	E

3. COMPOSITION/INFORMATION ON INGREDIENTS

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

4. FIRST-AID MEASURES

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

5. FIRE-FIGHTING MEASURES

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	See section 8 for recommendations on the use of personal protective equipment.
Environmental precautions	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
Methods and materials for containment and cleaning up	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.

7. HANDLING AND STORAGE

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.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls: Ventilation and appropriate grounding of containers.

Component	Exposure Limits	Basis	Entity
Ammonium Persulfate	0.1 mg/m ³	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

Eyes	Wear chemical safety glasses or goggles.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	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.
Other	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

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

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

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

Carcinogenicity

IARC	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.
ACGIH	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.
NTP	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.
OSHA	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

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

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

12. ECOLOGICAL INFORMATION

Ecotoxicity

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

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

13. DISPOSAL CONSIDERATIONS

Waste Residues	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.
Product Containers	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.

14. TRANSPORTATION INFORMATION

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

15. REGULATORY INFORMATION

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

16. OTHER INFORMATION

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

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