

Ammonium Persulfate

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Ammonium Persulfate

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

Product Number: 0534

Product Use: Industrial, Manufacturing or Laboratory use

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

For More Information: 920-623-2140 (Monday-Friday 8:00-4:30)
www.columbuschemical.com

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

2. HAZARDS IDENTIFICATION

Hazard Not Otherwise Classified (HNOC): None

Specific Target Organ Toxicity (STOT): Respiratory irritation

Signal Words: Danger

Pictograms:



GHS Classification:

Oxidizing solids	Category 3
Acute toxicity, Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2b
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Specific target organ toxicity – single exposure	Category 3

GHS Label Elements, including precautionary statements:

Hazard Statements:

H272	May intensify fire; oxidizer.
H302	Harmful if swallowed.
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.

Precautionary Statements:

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P220	Keep/Store away from clothing and other combustible materials.
P221	Take any precaution to avoid mixing with combustibles.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P285	In case of inadequate ventilation, wear respiratory protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P330	Rinse mouth.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor /physician.
P362	Take off contaminated clothing and wash it before reuse.
P370+P378	In case of fire: Use appropriate media to extinguish.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local regulations.

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	1
Flammability	0
Reactivity	1
Specific hazard	OX

HMIS Ratings

Health	1
Fire	0
Reactivity	1

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Ammonium Persulfate	>98	7727-54-0	231-786-5	H ₈ N ₂ O ₈ S ₂	228.20 g/mol
Ammonium Sulfate	<2	7783-20-2	231-984-1	H ₈ N ₂ O ₄ S	132.14 g/mol

4. FIRST-AID MEASURES

Eyes	Rinse with plenty of water for at least 15 minutes 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	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.
General Advice	Get medical advice / attention if you feel unwell. Show this safety data sheet to the doctor.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media	Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.
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	Do not handle until all safety precautions have been read and understood. Do not get in eyes, on skin, or on clothing. Do not breathe dust. See section 8 for recommendations on the use of personal protective equipment. Remove the employees that are not involved from the spill area and call the emergency team.
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

Do not handle until all safety precautions have been read and understood. Do not get in eyes, on skin, or on clothing. Do not breathe dust. See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep the container closed when not in use. Keep away from sources of ignition – No smoking. Avoid the 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	TWA	ACGIH®TLVs®

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.
Other	Handle in accordance with good industrial hygiene and safety practices.

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 crystalline solid
Odor	Odorless
Odor threshold	Not Available
pH	5.2 (1% solution)
Melting point/freezing point	120°C (248°F)
Initial boiling point and boiling range	Decomposes on heating
Flash point	Not applicable
Evaporation rate	Not Available
Flammability (solid, gas)	Not flammable
Upper/lower flammability or explosive limit	Not Available
Vapor pressure	1.47E-23 mmHg at 25°C (77°F)
Vapor density	Not Available
Relative density	Not Available
Solubility (ies)	45.9% @ 25°C (77°F)
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	No evidence of combustion up to 600°C
Decomposition temperature	>100°C (212°F)

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

Ammonium Persulfate, 0534

Skin	LD50 Dermal – rat – 2,000 mg/kg
-------------	---------------------------------

Eyes	Not Available
Respiratory	LC50 Inhalation – rat - >2.95 mg/L 4hr
Ingestion	LD50 Oral – rat – 740 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	Trouble breathing, Irritation, chemical pneumonitis, pulmonary edema, inflammation and edema of bronchi.
Ingestion	Gastrointestinal discomfort and possible pain.

Chronic Toxicity	Not Available
Teratogenicity	Not Available
Mutagenicity	In vivo tests did not show mutagenic effects.
Embryotoxicity	Not Available
Specific Target Organ Toxicity	Eyes, skin, Respiratory System.
Reproductive Toxicity	This product is not recognized as reprotox by Research Agencies.
Respiratory/Skin Sensitization	May cause allergic respiratory and skin reactions.

12. ECOLOGICAL INFORMATION**Ecotoxicity***Ammonium Persulfate (7727-54-0)*

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	Biodegradability does not pertain to inorganic substances.
Bioaccumulative Potential	Does not bioaccumulate
Mobility in Soil	Dissociates into ions
PBT and vPvB Assessment	Not Available
Other Adverse Effects	None known

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 product container.
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 Active inventory.
DSL / NDSL	All ingredients are listed on the DSL inventory.
California Proposition 65	Not Listed
Rhode Island: Hazardous Substance List	Listed: Ammonium Sulfate
Massachusetts: Toxic or Hazardous Substance List, Right to Know	Listed: Ammonium Sulfate
Pennsylvania: Hazardous Substance List	Listed: Ammonium Sulfate
New Jersey: Right to Know Hazardous Substance List	Listed: Ammonium Persulfate
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Physical Hazard, Acute Health Hazard, Chronic Health Hazard.
SARA 312	Physical Hazard, Acute Health Hazard, Chronic Health Hazard.
SARA 313	Not Listed
WHMIS Canada	Not Listed

16. OTHER INFORMATION

Revision	Date
Original	12/05/2022

Disclaimer: The information provided in this Safety Data Sheet ("SDS") is correct to the best of our knowledge, information, and belief at the date of publication. The information in this SDS relates only to the specific Product identified under Section 1, and does not relate to its use in combination with other materials or products, or its use as to any particular process. Those handling, storing, or using the Product should satisfy themselves that they have current information regarding the particular way the Product is handled, stored or used and that the same is done in accordance with federal, state and local law. WE DO NOT MAKE ANY WARRANTY, EXPRESS OR IMPLIED, INCLUDING (WITHOUT LIMITATION) WARRANTIES WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN OR WITH RESPECT TO FITNESS FOR ANY PARTICULAR USE. WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, INJURY, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT.