

Safety Data Sheet AMMONIUM PERSULFATE

SDS no. GDMMK9X7 • Version 1.0 • Date of issue: 2023-08-31

SECTION 1: Identification

GHS Product identifier

Product name AMMONIUM PERSULFATE

Recommended use of the chemical and restrictions on use

Oxidising agent; bleaching agent; photography; electroplating; etchant for printed circuit boards, copper; manufacture of other persulfates; deodorising and bleaching oils; aniline dyes; preserving foods; depolariser in batteries; washing infected yeast; laboratory reagent.

Supplier's details

Name ChemSupply Australia Pty Ltd
Address 38-50 Bedford Street
5013 Gillman South Australia
Australia

Telephone 08 8440 2000
email www.chemsupply.com.au

Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

SECTION 2: Hazard identification

General hazard statement

Dangerous goods of Class 5.1 (Oxidizing Agent) are incompatible in a placard load with any of the following:
Class 1, Class 2.1, Class 2.3, Class 3, Class 4, Class 5.2, Class 7, Class 8, Fire risk substances and Combustible liquids.

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

- Acute toxicity, oral, Cat. 4
- Respiratory sensitizer, Cat. 1
- Serious eye damage/eye irritation, Cat. 2A
- Skin corrosion/irritation, Cat. 2
- Skin sensitizer, Cat. 1
- Specific target organ toxicity following single exposure, Cat. 3
- Oxidizing solids, Cat. 3

GHS label elements, including precautionary statements

Pictograms



Signal word

Danger

Hazard statement(s)

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 statement(s)

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220	Keep away from clothing and other combustible materials.
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.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	[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/soap
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.
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+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	In case of fire: Use agents recommended in Section 5 of SDS for extinction
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container to an approved waste disposal facility

SECTION 3: Composition/information on ingredients

Mixtures

Molecular weight: 228.2

Components

Component	CAS no.	Concentration
Ammonium Persulfate (EC no.: 231-786-5; Index no.: 016-060-00-6)	7727-54-0	98 - 100 % (weight)
CLASSIFICATIONS: Oxidizing solids, Cat. 3; Acute toxicity, oral, Cat. 4; Specific target organ toxicity following single exposure, Cat. 3; Skin corrosion/irritation, Cat. 2; Serious eye damage/eye irritation, Cat. 2A; Respiratory sensitizer, Cat. 1; Skin sensitizer, Cat. 1. HAZARDS: H272 - May intensify fire; oxidizer; H302 - Harmful if		

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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.

SECTION 4: First-aid measures

Description of necessary first-aid measures

If inhaled	If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Immediately obtain medical aid if cough or other symptoms appear.
In case of skin contact	Immediately remove contaminated clothing and wash affected area with water for at least 15 minutes. Ensure contaminated clothing is washed before re-use. Seek immediate medical advice /attention depending on the severity.
In case of eye contact	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. In all cases of eye contamination it is a sensible precaution to seek medical advice.
If swallowed	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek medical advice if effects persist.

Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of immediate medical attention and special treatment needed, if necessary

For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

SECTION 5: Fire-fighting measures

Suitable extinguishing media

Small fire: USE FLOODING QUANTITIES OF WATER. DO NOT use dry chemicals, CO2 or foam.

If safe to do so, move undamaged containers from the fire area. DO NOT move cargo if cargo has been exposed to heat.

Large fire: Flood fire area with water from a protected position.

Cool containers with flooding quantities of water until well after the fire is out. If impossible, withdraw from area and let it burn. Avoid getting water inside the containers; a violent reaction may occur. Dam fire control water for later disposal.

Specific hazards arising from the chemical

Will accelerate burning when involved in a fire. May explode on heating, shock, friction or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, clothing, etc). Fire may produce irritating, poisonous, and/or corrosive gases. Containers may explode on heating. Runoff may create fire or explosion hazard.

Special protective actions for fire-fighters

Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) operated in positive pressure mode. Fight fire from safe location.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Evacuate the area of all non-essential personnel. Avoid substance contact. Avoid generation of dusts: do not inhale dusts. Ensure supply of fresh air in enclosed rooms.

Wear protective clothing specified for normal operations (see Section 8)

Methods and materials for containment and cleaning up

Do not contaminate. Keep combustibles (wood, paper, clothing, oil, etc.) away from the spilled material. Do NOT touch damaged containers or spilled material unless wearing appropriate protective clothing. Use water spray to knock down vapours or divert vapour clouds. Prevent entry into waterways, drains or confined areas. Prevent exposure to heat.

Dry Spill: Use clean non-sparking tools to transfer material to a clean, dry plastic container and cover loosely. Move container from spill area.

Small Liquid Spill: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place in a loosely-covered container for later disposal.

Large Liquid Spill:

SEEK EXPERT ADVICE ON HANDLING AND DISPOSAL.

Do not use rags, sawdust or other combustible absorbents to wipe up spilled material.

SECTION 7: Handling and storage

Precautions for safe handling

Avoid generation or accumulation of dusts. Avoid prolonged or repeated contact with skin, eyes and clothing. Use in well ventilated areas away from all ignition sources. In case of insufficient ventilation, wear suitable respiratory equipment. Wash hands and face thoroughly after working with material. Contaminated clothing should be removed and washed before reuse.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry place. Store in well ventilated area. Keep containers closed at all times. Keep away from direct sunlight and other sources of heat or ignition. Keep away from moisture. This product should not be stored on wooden floors. Store away from combustible materials.

SECTION 8: Exposure controls/personal protection

Appropriate engineering controls

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits. If the engineering controls are not sufficient to maintain concentrations of vapours/mists below the exposure standards, suitable respiratory protection must be worn.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Skin protection

Hand Protection: Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance.

Body protection

Body Protection: Clean clothing or protective clothing should be worn, preferably with an apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Respiratory protection

Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Solid
Appearance	White crystals.
Color	No data available.
Odor	Odourless.
Odor threshold	No data available.
Melting point/freezing point	120 °C (decomposes)
Boiling point or initial boiling point and boiling range	No data available.
Flammability	Mixtures with combustible material are readily ignited and may burn fiercely releasing toxic fumes (oxides of sulfur and nitrogen) in fire.
Lower and upper explosion limit/flammability limit	No data available.
Flash point	No data available.
Explosive properties	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Oxidizing properties	No data available.
pH	3.2 (100 g /l, H ₂ O, 20 °C)
Kinematic viscosity	No data available.
Solubility	Solubility in Water: Very soluble in water (620 g/L @ 20 °C).
Partition coefficient n-octanol/water (log value)	No data available.
Vapor pressure	No data available.
Evaporation rate	No data available.
Density and/or relative density	Specific Gravity: 1.98 (@ 20 °C)
Relative vapor density	No data available.
Particle characteristics	No data available.

Supplemental information regarding physical hazard classes

No data available.

Further safety characteristics (supplemental)

No data available.

SECTION 10: Stability and reactivity

Reactivity

Reacts with incompatible materials

Chemical stability

Stability decreases in the presence of moisture.

Possibility of hazardous reactions

Decomposed by moisture to form oxygen and ozone. Burning may produce nitrogen oxides, sulfur oxides and sulfuric acid.

Conditions to avoid

May decompose on exposure to moisture (air or water). Shock and heat sensitive. Strong oxidisers, light and incompatibles.

Incompatible materials

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Reducing agents, organic material, sodium peroxide, water and aluminium powdered metals, potassium hydroxide, acid solutions, ammonia/silver mixtures, iron, ammonia/zinc mixtures, potassium persulfate, combustible material and oxidizers.

Hazardous decomposition products

Decomposed by moisture to form oxygen and ozone. Burning may produce nitrogen oxides, sulfur oxides and sulfuric acid.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Ingestion: Harmful if swallowed. Irritation of mucous membranes in the gastrointestinal tract. Corrosive. Symptoms include headache, abdominal pain, diarrhoea, nausea and vomiting.

Inhalation: Harmful if inhaled. Irritating to the mucous membranes of the respiratory tract. Lung sensitizer. Symptoms include sore throat, coughing, dyspnoea, shortness of breath, inflammation of nasal passages and wheezing. Any exposure may cause an allergic reaction with asthma-like symptoms and life-threatening shock. May lead to formation of lung edema, inflammation and chemical pneumonitis.

Skin corrosion/irritation

Harmful if absorbed through skin. Contact with skin results in irritation, sensitisation, skin burns, allergic reactions and dermatitis. Allergic reactions become more evident upon overexposure to material. Corrosive.

Serious eye damage/irritation

May cause severe irritation and pain.

Respiratory or skin sensitization

May produce allergic reaction to the skin.

Germ cell mutagenicity

No data available.

Carcinogenicity

No data available.

Reproductive toxicity

No data available.

Summary of evaluation of the CMR properties

No data available.

Specific target organ toxicity (STOT) - single exposure

May cause respiratory irritation.

Specific target organ toxicity (STOT) - repeated exposure

No data available.

Aspiration hazard

No data available.

Additional information

Chronic Effects: Prolonged skin contact may cause an allergic reaction with dermatitis. Prolonged or repeated exposure with the material may affect respiration and metabolism.

SECTION 12: Ecological information

Toxicity

Toxic for aquatic organisms. Product reacts with water.

Reacts with water to form toxic decomposition products including oxygen and ammonium compounds.

Persistence and degradability

No persistence/degradability data available for this product.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

Results of PBT and vPvB assessment

No data available.

Endocrine disrupting properties

No data available.

Other adverse effects

No data available.

SECTION 13: Disposal considerations

Disposal methods

Product disposal

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

Other disposal recommendations

Do not discharge this material into waterways, drains and sewers.

SECTION 14: Transport information

ADG (Road and Rail)

UN Number: 1444

Class: 5.1

Packing Group: III

Proper Shipping Name: AMMONIUM PERSULFATE

Environmental Hazards: Reacts with water to form toxic decomposition products including oxygen and ammonium compounds.

Hazchem emergency action code (EAC)

1Z

IMDG

UN Number: 1444

Class: 5.1

Packing Group: III

EMS Number:

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IATA

UN Number: 1444

Class: 5.1

Packing Group: III

Proper Shipping Name: AMMONIUM PERSULFATE

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Australia SUSMP

Poison Schedule: NS

SECTION 16: Other information

Further information/disclaimer

ChemSupply Australia Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon ChemSupply Australia Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of ChemSupply Australia Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

Preparation information

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Standard for the Uniform Scheduling of Medicines and Poisons, Commonwealth of Australia

National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'

Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', July 2020.

Safe Work Australia, 'National Guide for Classifying Hazardous Chemicals', July 2020.

Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants, December 2019

Safe Work Australia, Hazardous Chemical Information System (HCIS), hcis.safeworkaustralia.gov.au

IATA, Dangerous Goods Regulations (DGR)

IMO, International Maritime Dangerous Goods Code (IMDG)