

# SAFETY DATA SHEETS

According to the UN GHS revision 8

Version: 1.0

Creation Date: July 15, 2024

Revision Date: July 15, 2024

## 1. Identification

### 1.1 GHS Product identifier

Product name Ammonium persulfate

### 1.2 Other means of identification

Product number A30001

Other names

### 1.3 Recommended use of the chemical and restrictions on use

Identified uses Food Additives: FLOUR\_TREATMENT\_AGENT

Uses advised against no data available

### 1.4 Supplier's details

Company Tianjin Psaitong Biomedical Technology Co., Ltd

Beijing Psaitong Biotechnology Co., Ltd

Address Building 145, Yougu New Science Park, Qingguang Town, Beichen District, Tianjin City

Tel/Fax +86-10-60605840

### 1.5 Emergency phone number

Emergency phone number +86-10-60605840

Service hours Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

## 2. Hazard identification

### 2.1 Classification of the substance or mixture

Oxidizing solids, Category 3

Acute toxicity - Oral, Category 4

Skin irritation, Category 2

Eye irritation, Category 2

Skin sensitization, Category 1

Specific target organ toxicity – single exposure, Category 3

Respiratory sensitization, Category 1

### 2.2 GHS label elements, including precautionary statements

Pictogram(s)



Signal word Danger

Hazard statement(s) H272 May intensify fire; oxidizer

H302 Harmful if swallowed

H315 Causes skin irritation  
H319 Causes serious eye irritation  
H317 May cause an allergic skin reaction  
H335 May cause respiratory irritation  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled

#### Precautionary statement(s)

##### Prevention

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.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P264 Wash ... thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P271 Use only outdoors or in a well-ventilated area.  
P284 [In case of inadequate ventilation] wear respiratory protection.

##### Response

P370+P378 In case of fire: Use ... to extinguish.  
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor/...if you feel unwell.  
P330 Rinse mouth.  
P302+P352 IF ON SKIN: Wash with plenty of water/...  
P321 Specific treatment (see ... on this label).  
P332+P313 If skin irritation occurs: Get medical advice/attention.  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313 If eye irritation persists: Get medical advice/attention.  
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P312 Call a POISON CENTER/doctor/...if you feel unwell.  
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor/...

##### Storage

P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.

##### Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

## 2.3 Other hazards which do not result in classification

no data available

## 3. Composition/information on ingredients

### 3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
Diammonium peroxodisulphate	Diammonium peroxodisulphate	7727-54-0	231-786-5	100%

## 4. First-aid measures

### 4.1 Description of necessary first-aid measures

#### General advice

Medical attention is required. Consult a doctor. Show this safety data sheet (SDS) to the doctor in attendance.

#### If inhaled

Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.

#### Following skin contact

First rinse with plenty of water for at least 15 minutes, then remove contaminated clothes and rinse again.

#### **Following eye contact**

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

#### **Following ingestion**

Give one or two glasses of water to drink. Refer for medical attention .

### **4.2 Most important symptoms/effects, acute and delayed**

Inhalation produces slight toxic effects. Contact with dust irritates eyes and causes skin rash. (USCG, 1999)

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

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Inorganic acids and related compounds

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## **5. Fire-fighting measures**

### **5.1 Extinguishing media**

#### **Suitable extinguishing media**

If material involved in fire: Cool all affected containers with flooding quantities of water. Use water in flooding quantities as fog. Apply water from as far a distance as possible. Extinguish fire using agent suitable for type of surrounding fire.

### **5.2 Specific hazards arising from the chemical**

Special Hazards of Combustion Products: Toxic oxides of nitrogen and sulfuric acid fumes may form in fire. Behavior in Fire: Decomposes with loss of oxygen that increases intensity of fire (USCG, 1999)

### **5.3 Special protective actions for fire-fighters**

In case of fire in the surroundings, use appropriate extinguishing media. In case of fire: keep drums, etc., cool by spraying with water.

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## **6. Accidental release measures**

### **6.1 Personal precautions, protective equipment and emergency procedures**

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Sweep spilled substance into covered containers. Carefully collect remainder. Then wash away with plenty of water. Do NOT absorb in saw-dust or other combustible absorbents.

### **6.2 Environmental precautions**

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Sweep spilled substance into covered containers. Carefully collect remainder. Then wash away with plenty of water. Do NOT absorb in saw-dust or other combustible absorbents.

### **6.3 Methods and materials for containment and cleaning up**

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

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## **7. Handling and storage**

### **7.1 Precautions for safe handling**

NO contact with combustible substances. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

### **7.2 Conditions for safe storage, including any incompatibilities**

Dry. Well closed. Separated from combustible substances, reducing agents, powdered metals and strong bases.

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## 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure limit values

TLV: 0.1 mg/m<sup>3</sup>, as TWA.MAK: sensitization of respiratory tract and skin (SAH)

### 8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

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

#### Eye/face protection

Wear safety goggles or eye protection in combination with breathing protection if powder.

#### Skin protection

Protective gloves.

#### Respiratory protection

Use local exhaust or breathing protection.

#### Thermal hazards

no data available

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## 9. Physical and chemical properties

<b>Physical state</b>	Solid. Crystalline.
<b>Colour</b>	White.
<b>Odour</b>	Odorless
<b>Melting point/ freezing point</b>	Atm. press.:101.06 kPa.
<b>Boiling point or initial boiling point and boiling range</b>	Atm. press.:100.79 kPa.
<b>Flammability</b>	Not combustible but enhances combustion of other substances. Gives off irritating or toxic fumes (or gases) in a fire.
<b>Lower and upper explosion limit / flammability limit</b>	no data available
<b>Flash point</b>	-10°C(lit.)
<b>Auto-ignition temperature</b>	Remarks:No self-ignition up to the max. testing temperature of 600 °C.
<b>Decomposition temperature</b>	120°C
<b>pH</b>	no data available
<b>Kinematic viscosity</b>	no data available
<b>Solubility</b>	Miscible with water
<b>Partition coefficient n-octanol/water</b>	no data available
<b>Vapour pressure</b>	< 0 mm Hg. Temperature:25 °C. Remarks:Estimation: 1.47 E-23 mm Hg => 1.96 E-21 Pa.
<b>Density and/or relative density</b>	1.68 g/cm <sup>3</sup> . Temperature:20 °C.
<b>Relative vapour density</b>	7.9 (vs air)
<b>Particle characteristics</b>	no data available

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## 10. Stability and reactivity

### 10.1 Reactivity

The substance is a strong oxidant. It reacts with combustible and reducing materials. Decomposes on heating. This produces toxic and corrosive fumes including ammonia, nitrogen oxides and sulfur oxides. If in solution, reacts violently with iron, powdered aluminium and silver salts. The solution in water is a medium strong acid.

### 10.2 Chemical stability

no data available

### 10.3 Possibility of hazardous reactions

Material itself does not burn or burns with difficulty. AMMONIUM PERSULFATE is a potent oxidizing agent. A powdered mixture with aluminum and water can explode [NFPA 491M 1991]. A mixture with sodium peroxide will explode if subjected to friction (crushing in a mortar), heating, or if a stream of carbon dioxide is passed over it [Mellor 10:464 1946-47]. Acidic solutions dissolve iron violently, [Mellor, 1947, Vol. 10, 470].

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

A mixture of ammonium persulfate and sodium peroxide will explode if subjected to crushing (in a mortar), heating, or if a stream of carbon dioxide is passed over it.

### 10.6 Hazardous decomposition products

When heated to decomposition it emits toxic fumes of /sulfur oxides, nitrogen oxides and ammonia/.

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## 11. Toxicological information

### Acute toxicity

- Oral: LD50 Rat male oral 742 mg/kg
- Inhalation: LC50 Rat inhalation >2950 mg/cu m 4 hr
- Dermal: LD50 - rat (male/female) - > 2 000 mg/kg bw.

### Skin corrosion/irritation

no data available

### Serious eye damage/irritation

no data available

### Respiratory or skin sensitization

no data available

### Germ cell mutagenicity

no data available

### Carcinogenicity

no data available

### Reproductive toxicity

no data available

### STOT-single exposure

The substance is irritating to the eyes, skin and respiratory tract. Inhalation of dust may cause asthma-like reactions.

### STOT-repeated exposure

Repeated or prolonged inhalation may cause asthma. Repeated or prolonged contact with skin may cause dermatitis. Repeated or prolonged contact may cause skin sensitization. May cause a general allergic reaction, such as urticaria or shock.

### Aspiration hazard

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly on spraying or when dispersed, especially if powdered.

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## 12. Ecological information

### 12.1 Toxicity

- Toxicity to fish: LC50 - *Oncorhynchus mykiss* (previous name: *Salmo gairdneri*) - 76.3 mg/L - 96 h.
- Toxicity to daphnia and other aquatic invertebrates: EC50 - *Daphnia magna* - 120 mg/L - 48 h.

- Toxicity to algae: EC50 - Phaeodactylum tricornutum - 136 mg/L - 72 h.
- Toxicity to microorganisms: EC10 - Pseudomonas putida - 36 mg/L - 18 h.

## 12.2 Persistence and degradability

no data available

## 12.3 Bioaccumulative potential

no data available

## 12.4 Mobility in soil

no data available

## 12.5 Other adverse effects

no data available

## 13. Disposal considerations

### 13.1 Disposal methods

#### Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

#### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

## 14. Transport information

### 14.1 UN Number

ADR/RID: UN1444 (For reference only, please check.)

IMDG: UN1444 (For reference only, please check.)

IATA: UN1444 (For reference only, please check.)

### 14.2 UN Proper Shipping Name

ADR/RID: AMMONIUM PERSULPHATE (For reference only, please check.)

IMDG: AMMONIUM PERSULPHATE (For reference only, please check.)

IATA: AMMONIUM PERSULPHATE (For reference only, please check.)

### 14.3 Transport hazard class(es)

ADR/RID: 5.1 (For reference only, please check.)

IMDG: 5.1 (For reference only, please check.)

IATA: 5.1 (For reference only, please check.)

### 14.4 Packing group, if applicable

ADR/RID: III (For reference only, please check.)

IMDG: III (For reference only, please check.)

IATA: III (For reference only, please check.)

### 14.5 Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

### 14.6 Special precautions for user

no data available

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

no data available

## 15. Regulatory information

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

Chemical name	Common names and synonyms	CAS number	EC number
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Diammonium peroxodisulphate	Diammonium peroxodisulphate	7727-54-0	231-786-5
<b>European Inventory of Existing Commercial Chemical Substances (EINECS)</b>			Listed.
<b>EC Inventory</b>			Listed.
<b>United States Toxic Substances Control Act (TSCA) Inventory</b>			Listed.
<b>China Catalog of Hazardous chemicals 2015</b>			Listed.
<b>New Zealand Inventory of Chemicals (NZIoC)</b>			Listed.
<b>Philippines Inventory of Chemicals and Chemical Substances (PICCS)</b>			Listed.
<b>Vietnam National Chemical Inventory</b>			Listed.
<b>Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)</b>			Listed.
<b>Korea Existing Chemicals List (KECL)</b>			Listed.

## 16. Other information

### Information on revision

**Creation Date** July 15, 2024

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### Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

### References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

### Other Information

Rinse contaminated clothing with plenty of water because of fire hazard. Anyone who has shown symptoms of asthma due to this substance should avoid all further contact. The symptoms of asthma often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential. Do NOT take working clothes home.

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*Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any damage resulting from handling or from contact with the above product.*