

## SAFETY DATA SHEET

Version 6.2  
Revision Date 07/28/2021  
Print Date 09/25/2021

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**

Product name : Ammonium persulfate  
Product Number : 248614  
Brand : SIGALD  
Index-No. : 016-060-00-6  
CAS-No. : 7727-54-0

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses : Laboratory chemicals, Synthesis of substances

**1.3 Details of the supplier of the safety data sheet**

Company : Sigma-Aldrich Inc.  
3050 SPRUCE ST  
ST. LOUIS MO 63103  
UNITED STATES

Telephone : +1 314 771-5765  
Fax : +1 800 325-5052

**1.4 Emergency telephone**

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-  
527-3887 CHEMTREC (International) 24  
Hours/day; 7 Days/week

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Oxidizing solids (Category 3), H272  
Acute toxicity, Oral (Category 4), H302  
Skin irritation (Category 2), H315  
Eye irritation (Category 2A), H319  
Respiratory sensitization (Category 1), H334  
Skin sensitization (Category 1), H317  
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335  
Short-term (acute) aquatic hazard (Category 3), H402

For the full text of the H-Statements mentioned in this Section, see Section 16.

**2.2 GHS Label elements, including precautionary statements**

Pictogram



Signal word

Danger

Hazard statement(s)

H272

H302

H315

H317

H319

H334

H335

H402

Precautionary statement(s)

P210

P220

P221

P261

P264

P270

P271

P272

P273

P280

P285

P301 + P312 + P330

P302 + P352

P304 + P340 + P312

P305 + P351 + P338

P333 + P313

P337 + P313

P342 + P311

P362

P370 + P378

P403 + P233

P405

P501

May intensify fire; oxidizer.

Harmful if swallowed.

Causes skin irritation.

May cause an allergic skin reaction.

Causes serious eye irritation.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause respiratory irritation.

Harmful to aquatic life.

Keep away from heat.

Keep/Store away from clothing/ combustible materials.

Take any precaution to avoid mixing with combustibles.

Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

Wash skin thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Contaminated work clothing must not be allowed out of the workplace.

Avoid release to the environment.

Wear protective gloves/ eye protection/ face protection.

In case of inadequate ventilation wear respiratory protection.

IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.

IF ON SKIN: Wash with plenty of soap and water.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

If skin irritation or rash occurs: Get medical advice/ attention.

If eye irritation persists: Get medical advice/ attention.

If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.

Take off contaminated clothing and wash before reuse.

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Dispose of contents/ container to an approved waste disposal plant.

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

SIGALD - 248614

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Synonyms : AP  
Ammonium peroxodisulfate  
APS  
PER  
Ammonium peroxydisulfate

Formula :  $(\text{NH}_4)_2\text{S}_2\text{O}_8$   
Molecular weight : 228.20 g/mol  
CAS-No. : 7727-54-0  
EC-No. : 231-786-5  
Index-No. : 016-060-00-6

| Component                       | Classification                                                                                                                                                                    | Concentration |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| <b>Ammonium peroxodisulfate</b> | Ox. Sol. 3; Acute Tox. 4;<br>Skin Irrit. 2; Eye Irrit. 2A;<br>Resp. Sens. 1; Skin Sens.<br>1; STOT SE 3; Aquatic<br>Acute 3; H272, H302,<br>H315, H319, H334, H317,<br>H335, H402 | <= 100 %      |

For the full text of the H-Statements mentioned in this Section, see Section 16.

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

#### If inhaled

After inhalation: fresh air. Call in physician.

#### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

#### In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

#### If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

### 4.2 Most important symptoms and effects, both acute and delayed

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

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### **Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### **Unsuitable extinguishing media**

For this substance/mixture no limitations of extinguishing agents are given.

### 5.2 Special hazards arising from the substance or mixture

Nitrogen oxides (NO<sub>x</sub>)

Sulfur oxides

Container explosion may occur under fire conditions.

Not combustible.

Has a fire-promoting effect due to release of oxygen.

Ambient fire may liberate hazardous vapours.

### 5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### 5.4 Further information

May intensify fire; oxidizer. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6: Accidental release measures

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

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

### 6.2 Environmental precautions

Do not let product enter drains.

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

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### **Advice on safe handling**

Work under hood. Do not inhale substance/mixture.

#### **Advice on protection against fire and explosion**

Keep away from open flames, hot surfaces and sources of ignition.

### Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.  
For precautions see section 2.2.

## 7.2 Conditions for safe storage, including any incompatibilities

### Storage conditions

Tightly closed. Keep locked up or in an area accessible only to qualified or authorized persons. Do not store near combustible materials.

Moisture sensitive.

Storage class (TRGS 510): 5.1B: Oxidizing hazardous materials

## 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Ingredients with workplace control parameters

| Component                 | CAS-No.   | Value | Control parameters    | Basis                                   |
|---------------------------|-----------|-------|-----------------------|-----------------------------------------|
| Ammonium peroxodisulphate | 7727-54-0 | TWA   | 0.1 mg/m <sup>3</sup> | USA. ACGIH Threshold Limit Values (TLV) |

### 8.2 Exposure controls

#### Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

#### Personal protective equipment

##### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

##### Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: KCL 741 Dermatrill® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm  
Break through time: 480 min  
Material tested: KCL 741 Dermatrill® L

### Body Protection

protective clothing

### Respiratory protection

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

### Control of environmental exposure

Do not let product enter drains.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|                                                 |                                               |
|-------------------------------------------------|-----------------------------------------------|
| a) Appearance                                   | Form: powder<br>Color: white                  |
| b) Odor                                         | No data available                             |
| c) Odor Threshold                               | No data available                             |
| d) pH                                           | 1.0 - 2 at 228 g/l at 25 °C (77 °F)           |
| e) Melting point/freezing point                 | ( )Decomposes before melting.                 |
| f) Initial boiling point and boiling range      | Decomposes below the boiling point.           |
| g) Flash point                                  | ( )No data available                          |
| h) Evaporation rate                             | No data available                             |
| i) Flammability (solid, gas)                    | No data available                             |
| j) Upper/lower flammability or explosive limits | No data available                             |
| k) Vapor pressure                               | No data available                             |
| l) Vapor density                                | 7.88 - (Air = 1.0)                            |
| m) Density                                      | 1.980 g/cm <sup>3</sup>                       |
| Relative density                                | No data available                             |
| n) Water solubility                             | 228 g/l at 20 °C (68 °F) - completely soluble |
| o) Partition coefficient: n-octanol/water       | No data available                             |
| p) Autoignition temperature                     | No data available                             |
| q) Decomposition temperature                    | No data available                             |

- |                         |                                                                          |
|-------------------------|--------------------------------------------------------------------------|
| r) Viscosity            | No data available                                                        |
| s) Explosive properties | No data available                                                        |
| t) Oxidizing properties | The substance or mixture is classified as oxidizing with the category 3. |

## 9.2 Other safety information

Relative vapor density 7.88 - (Air = 1.0)

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .  
May decompose on exposure to moist air or water.

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

no information available

### 10.5 Incompatible materials

No data available

### 10.6 Hazardous decomposition products

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - 689 mg/kg

Inhalation: No data available

LD50 Dermal - Rat - > 2,000 mg/kg

No data available

#### Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation

Eyes - Rabbit

Result: Mild eye irritation

(OECD Test Guideline 405)

#### Respiratory or skin sensitization

- Guinea pig

Result: Causes sensitization.  
(OECD Test Guideline 406)

**Germ cell mutagenicity**

No data available

**Carcinogenicity**

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No ingredient 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 component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**11.2 Additional Information**

RTECS: SE0350000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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**SECTION 12: Ecological information**

**12.1 Toxicity**

Toxicity to fish LC50 - *Oncorhynchus mykiss* (rainbow trout) - 76 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates EC50 - *Daphnia magna* (Water flea) - 120 mg/l - 48 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 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6 Other adverse effects**

No data available

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## SECTION 14: Transport information

#### DOT (US)

UN number: 1444 Class: 5.1 Packing group: III  
Proper shipping name: Ammonium persulfate  
Reportable Quantity (RQ):  
Poison Inhalation Hazard: No

#### IMDG

UN number: 1444 Class: 5.1 Packing group: III EMS-No: F-A, S-Q  
Proper shipping name: AMMONIUM PERSULPHATE

#### IATA

UN number: 1444 Class: 5.1 Packing group: III  
Proper shipping name: Ammonium persulphate

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## SECTION 15: Regulatory information

#### SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

#### SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### SARA 311/312 Hazards

Reactivity Hazard, Acute Health Hazard

#### Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

No components are subject to the Massachusetts Right to Know Act.

#### Pennsylvania Right To Know Components

|                           |                      |                             |
|---------------------------|----------------------|-----------------------------|
| Ammonium peroxodisulphate | CAS-No.<br>7727-54-0 | Revision Date<br>2007-03-01 |
|---------------------------|----------------------|-----------------------------|

#### New Jersey Right To Know Components

|                           |                      |                             |
|---------------------------|----------------------|-----------------------------|
| Ammonium peroxodisulphate | CAS-No.<br>7727-54-0 | Revision Date<br>2007-03-01 |
|---------------------------|----------------------|-----------------------------|

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**SECTION 16: Other information****Further information**

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. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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