

## 1 Identification

- **Product identifier**
- **Trade name:** Ammonium Persulfate, molecular biology reagent
- **Article number:** 193988
- **CAS Number:**  
7727-54-0
- **EC number:**  
231-786-5
- **Index number:**  
016-060-00-6
- **Molecular Formula** H8 N2 O8 S2
- **Molecular Weight** 228.18 g/mol
- **Application of the substance / the mixture** For Research Use Only
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
MP Biomedicals, LLC  
29525 Fountain Parkway  
Solon, OH 44139  
United States  
www.mpbio.com
- **Information department:** Quality Control Department
- **Emergency telephone number:** CHEMTREC: 1-800-424-9300 (1-703-527-3887)

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS03 Flame over circle

Ox. Sol. 3 H272 May intensify fire; oxidizer.



GHS08 Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H312 Harmful in contact with skin.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**
- **GHS label elements**  
The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS03



GHS07



GHS08

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**Trade name: Ammonium Persulfate, molecular biology reagent**

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· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

*ammonium persulphate*

· **Hazard statements**

*May intensify fire; oxidizer.*

*Harmful if swallowed or in contact with skin.*

*Causes skin irritation.*

*Causes serious eye irritation.*

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

*May cause an allergic skin reaction.*

*May cause respiratory irritation.*

· **Precautionary statements**

*Take any precaution to avoid mixing with combustibles.*

*Wear protective gloves / eye protection / face protection.*

*Keep away from heat.*

*[In case of inadequate ventilation] wear respiratory protection.*

*Keep/Store away from clothing/combustible materials.*

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

*Wear protective gloves / protective clothing.*

*Wash 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.*

*If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*

*Continue rinsing.*

*Specific treatment (see on this label).*

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

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

*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*

*Wash contaminated clothing before reuse.*

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

*If eye irritation persists: Get medical advice/attention.*

*Rinse mouth.*

*In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.*

*IF ON SKIN: Wash with plenty of water.*

*Take off contaminated clothing and wash it before reuse.*

*Store locked up.*

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

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



*Health = 2*

*Fire = 0*

*Reactivity = 1*

*The substance possesses oxidizing properties.*

· **HMIS-ratings (scale 0 - 4)**



*Health = 2*

*Fire = 0*

*Reactivity = 1*

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** *Not applicable.*

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**Trade name: Ammonium Persulfate, molecular biology reagent**

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· **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**  
7727-54-0 ammonium persulphate
- **Identification number(s)**
- **EC number:** 231-786-5
- **Index number:** 016-060-00-6

### 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.  
Consult your Doctor. Show the safety data sheet to the Doctor. Away from the dangerous area.
- **After inhalation:**  
Supply fresh air and to be sure call for a doctor.  
If breathed in, supply fresh air. If not breathing, give artificial respiration. Consult a Doctor.
- **After skin contact:** Wash off with soap and plenty of water. Consult a Doctor.
- **After eye contact:**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**  
Never give anything by mouth to an unconscious person. Rinse mouth with water. If symptoms persist consult a Doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.  
For personal protection see section 8.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Pick up mechanically, dispose contaminated material as waste according to Section 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

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## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace. Avoid direct contact with skin and eyes.
- **Information about protection against explosions and fires:** No special requirements.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:** 15 - 30 °C
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Further information about storage conditions:**  
Desiccate.  
Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see Section 7.
- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

7727-54-0 ammonium persulphate

TLV	Long-term value: 0.1 mg/m <sup>3</sup> as Persulfates
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- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.
- **Breathing equipment:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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## · Eye protection:



Tightly sealed goggles

## 9 Physical and chemical properties

## · Information on basic physical and chemical properties

## · General Information

## · Appearance:

Form: Crystalline powder

Color: White

· Odor: Characteristic

· Odor threshold: Not determined.

· pH-value at 25 °C (77 °F): 1.0 - 2

## · Change in condition

Boiling point/Boiling range: Undetermined.

· Flash point: Not applicable.

· Flammability (solid, gaseous): Product is not flammable.

## · Ignition temperature:

Decomposition temperature: Not determined.

· Auto igniting: Not determined.

· Danger of explosion: See section 10

## · Explosion limits:

Lower: Not Applicable

Upper: Not Applicable

· Vapor pressure: Not applicable.

· Density at 20 °C (68 °F): 1.98 g/cm<sup>3</sup> (16.523 lbs/gal)· Bulk density at 20 °C (68 °F): 950-1050 kg/m<sup>3</sup>

· Relative density: Not determined.

· Vapor density: Not applicable.

· Evaporation rate: Not applicable.

· Solubility in / Miscibility with: Not Determined

· Water at 20 °C (68 °F): 228 g/l

· Partition coefficient (n-octanol/water): Not determined.

## · Viscosity:

Dynamic: Not applicable.

Kinematic: Not applicable.

## · Solvent content:

Organic solvents: 0.0 %

VOC content: 0.0 g/l / 0.00 lb/gl

Solids content: 100.0 %

· Other information: No further relevant information available.

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## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· <b>LD/LC50 values that are relevant for classification:</b>		
7727-54-0 ammonium persulphate		
Oral	LD50	689 mg/kg (rat)
Dermal	LD50	2000 mg/kg (rat)

- **Primary irritant effect:**

- **on the skin:** Irritant to skin and mucous membranes.

- **on the eye:** Irritating effect.

- **Sensitization:**

Sensitization possible through inhalation.

Sensitization possible through skin contact.

- **Additional toxicological information:**

- **Carcinogenic categories**

· <b>IARC (International Agency for Research on Cancer)</b>	
Substance is not listed.	

· <b>NTP (National Toxicology Program)</b>	
Substance is not listed.	

· <b>OSHA-Ca (Occupational Safety &amp; Health Administration)</b>	
Substance is not listed.	

## 12 Ecological information

- **Toxicity**

· <b>Aquatic toxicity:</b>		
7727-54-0 ammonium persulphate		
Oral	LC50 / 96 h	76 mg/L (Oncorhynchus mykiss)

- **Persistence and degradability** No further relevant information available.

- **Behavior in environmental systems:**

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Water hazard class 1 (Assessment by list): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

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- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Can not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Discard must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleaning agents.

## 14 Transport information

- |   |                               |
|---|-------------------------------|
| <b>· UN-Number</b>  | UN1444                        |
| <b>· DOT, ADR, IMDG, IATA</b>   |                               |
| <b>· UN proper shipping name</b>  | Ammonium persulfate           |
| <b>· DOT, IATA</b>  | 1444 Ammonium persulfate      |
| <b>· ADR</b>  | AMMONIUM PERSULPHATE          |
| <b>· IMDG</b>   |                               |
| <b>· Transport hazard class(es)</b>   |                               |
| <b>· DOT</b>  |                               |
|  |                               |
| <b>· Class</b>  | 5.1 Oxidizing substances      |
| <b>· Label</b>  | 5.1                           |
|   |                               |
| <b>· ADR, IMDG, IATA</b>  |                               |
|  |                               |
| <b>· Class</b>  | 5.1 Oxidizing substances      |
| <b>· Label</b>  | 5.1                           |
| <b>· Packing group</b>  | III                           |
| <b>· DOT, ADR, IMDG, IATA</b>   |                               |
| <b>· Environmental hazards:</b>   | Not applicable.               |
| <b>· Special precautions for user</b>   | Warning: Oxidizing substances |
| <b>· Danger code (Kemler):</b>  | 50                            |
| <b>· EMS Number:</b>  | F-A,S-Q                       |
| <b>· Segregation groups</b>   | Ammonium compounds            |
| <b>· Stowage Category</b>   | A                             |
| <b>· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>    | Not applicable.               |

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**· Transport/Additional information:**

**· DOT**

**· Quantity limitations**

On passenger aircraft/rail: 25 kg

On cargo aircraft only: 100 kg

**· ADR**

**· Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 1000 g

**· IMDG**

**· Limited quantities (LQ)**

5 kg

**· Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 1000 g

**· UN "Model Regulation":**

UN 1444 AMMONIUM PERSULFATE, 5.1, III

## 15 Regulatory information

**· Safety, health and environmental regulations/legislation specific for the substance or mixture**

**· Sara**

**· Section 355 (extremely hazardous substances):**

Substance is not listed.

**· Section 313 (Specific toxic chemical listings):**

Substance is not listed.

**· TSCA (Toxic Substances Control Act):**

Substance is listed.

**· Proposition 65**

**· Chemicals known to cause cancer:**

Substance is not listed.

**· Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

**· Chemicals known to cause reproductive toxicity for males:**

Substance is not listed.

**· Chemicals known to cause developmental toxicity:**

Substance is not listed.

**· Carcinogenic categories**

**· EPA (Environmental Protection Agency)**

Substance is not listed.

**· TLV (Threshold Limit Value established by ACGIH)**

Substance is not listed.

**· NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

**· GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

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· **Hazard pictograms**



GHS03   GHS07   GHS08

· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

*ammonium persulphate*

· **Hazard statements**

*May intensify fire; oxidizer.*

*Harmful if swallowed or in contact with skin.*

*Causes skin irritation.*

*Causes serious eye irritation.*

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

*May cause an allergic skin reaction.*

*May cause respiratory irritation.*

· **Precautionary statements**

*Take any precaution to avoid mixing with combustibles.*

*Wear protective gloves / eye protection / face protection.*

*Keep away from heat.*

*[In case of inadequate ventilation] wear respiratory protection.*

*Keep/Store away from clothing/combustible materials.*

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

*Wear protective gloves / protective clothing.*

*Wash 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.*

*If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*

*Continue rinsing.*

*Specific treatment (see on this label).*

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

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

*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*

*Wash contaminated clothing before reuse.*

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

*If eye irritation persists: Get medical advice/attention.*

*Rinse mouth.*

*In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.*

*IF ON SKIN: Wash with plenty of water.*

*Take off contaminated clothing and wash it before reuse.*

*Store locked up.*

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

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

## 16 Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

· **Department issuing SDS:** *Quality Control Dept.*

· **Date of preparation / last revision** *08/10/2016 / -*

· **Abbreviations and acronyms:**

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*

*IMDG: International Maritime Code for Dangerous Goods*

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*DOT: US Department of Transportation*  
*IATA: International Air Transport Association*  
*ACGIH: American Conference of Governmental Industrial Hygienists*  
*EINECS: European Inventory of Existing Commercial Chemical Substances*  
*CAS: Chemical Abstracts Service (division of the American Chemical Society)*  
*NFPA: National Fire Protection Association (USA)*  
*HMIS: Hazardous Materials Identification System (USA)*  
*VOC: Volatile Organic Compounds (USA, EU)*  
*LC50: Lethal concentration, 50 percent*  
*LD50: Lethal dose, 50 percent*  
*PBT: Persistent, Bioaccumulative and Toxic*  
*vPvB: very Persistent and very Bioaccumulative*  
*NIOSH: National Institute for Occupational Safety*  
*OSHA: Occupational Safety & Health*  
*TLV: Threshold Limit Value*  
*PEL: Permissible Exposure Limit*  
*REL: Recommended Exposure Limit*  
*Ox. Sol. 3: Oxidising Solids, Hazard Category 3*  
*Acute Tox. 4: Acute toxicity, Hazard Category 4*  
*Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2*  
*Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A*  
*Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1*  
*Skin Sens. 1: Sensitisation - Skin, Hazard Category 1*  
*STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3*

US