

Safety Data Sheet
 acc. to OSHA HCS

Page 1/9

Printing date 03/17/2018
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 Version number: 3

1 Identification

- **Product identifier**
- **Trade name:** diammonium peroxodisulphate
- **Article number:** A2941
- **CAS Number:**
7727-54-0
- **EC number:**
231-786-5
- **Index number:**
016-060-00-6
- **Application of the substance / the mixture** Laboratory chemical
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
AppliChem GmbH
Ottoweg 4
D-64291 Darmstadt
- **Information department:** Dept. Compliance
- **Emergency telephone number:** +49(0)6151 93570 (Inside normal business hours)

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2 Hazard(s) identification

- **Classification of the substance or mixture**
 - Ox. Sol. 3 H272 May intensify fire; oxidizer.
 - Acute Tox. 4 H302 Harmful if swallowed.
 - Skin Irrit. 2 H315 Causes skin irritation.
 - Eye Irrit. 2A H319 Causes serious eye irritation.
 - Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 - 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

- **Signal word** Danger
- **Hazard statements**
 - H272 May intensify fire; oxidizer.
 - H302 Harmful if swallowed.
 - H315 Causes skin irritation.
 - H319 Causes serious eye irritation.
 - H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 - H317 May cause an allergic skin reaction.
 - H335 May cause respiratory irritation.

(Contd. on page 2)

Trade name: diammonium peroxodisulphate

(Contd. of page 1)

• **Precautionary statements**

- P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 If on skin: Wash with plenty of soap and water.
P304+P341 If inhaled: If breathing is difficult, 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.
P342+P311 If experiencing respiratory symptoms: Call a poison center/doctor.

• **Classification system:**

• **NFPA ratings (scale 0 - 4)**



Health = 2
Fire = 3
Reactivity = 0

The substance possesses oxidizing properties.

• **HMIS-ratings (scale 0 - 4)**



Health = *2
Fire = 3
Reactivity = 0

• **Other hazards**

• **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**
7727-54-0 diammonium peroxodisulphate
- **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.
Involve doctor immediately.

• **After inhalation:**

Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

• **After skin contact:**

Call a doctor immediately.
Immediately wash with water and soap and rinse thoroughly.

• **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

• **After swallowing:**

Rinse out mouth.
make victim drink water (maximum of 2 drinking glasses)
Seek immediate medical advice.

(Contd. on page 3)

Trade name: diammonium peroxodisulphate

(Contd. of page 2)

- **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:**
Fire-extinguishing powder
CO₂. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water
- **Special hazards arising from the substance or mixture**
Nitrogen oxides (NO_x)
(SO₂, SO₃)
Ammonia
Has a fire-promoting effect due to release of oxygen.
Non-combustible.
- **Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
- **Additional information**
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Avoid formation of dust.
Do not inhale dust.
Avoid substance contact.
Ensure adequate ventilation
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Pick up mechanically.
Avoid generation of dusts.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Clean up affected area.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**
- **PAC-1:** 0.3 mg/m³
- **PAC-2:** 22 mg/m³
- **PAC-3:** 130 mg/m³

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of dust.
Any deposit of dust which cannot be avoided must be regularly removed.

(Contd. on page 4)

Trade name: diammonium peroxodisulphate

(Contd. of page 3)

- **Information about protection against explosions and fires:** The product is not flammable.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Open receptacle only under localized extractor facilities.
Store under lock and key and with access restricted to technical experts or their assistants only.
- **Recommended storage temperature:** +15 - +25°C
- **Storage class:** 5.1 B
- **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 item 7.
- **Control parameters**

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

7727-54-0 diammonium peroxodisulphate

TLV	Long-term value: 0.1 mg/m ³ 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.
Vacuum clean contaminated clothing. Do not blow or brush off contamination.
Avoid contact with the eyes and skin.
- **Breathing equipment:**
Required when dusts are generated.
Filter P1
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
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.
- **For the permanent contact gloves made of the following materials are suitable:**
Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.11 mm
Value for the permeation: Level ≥ 480 min
- **As protection from splashes gloves made of the following materials are suitable:**
Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.11 mm
Value for the permeation: Level ≥ 480 min

(Contd. on page 5)

Trade name: diammonium peroxodisulphate

(Contd. of page 4)

· **Eye protection:**



Tightly sealed goggles

· **Body protection:**

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Crystalline
Color:	White
Odor:	Odorless
Odor threshold:	Not determined.

· **pH-value:** 3.2

· **Change in condition**

Melting point/Melting range:	120 °C (248 °F)
Boiling point/Boiling range:	Undetermined.

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Contact with combustible material may cause fire.

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Not determined.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

· **Vapor pressure:** Not applicable.

· **Density at 20 °C (68 °F):** 1.982 g/cm³ (16.54 lbs/gal)

· Bulk density:	900 kg/m ³
· Relative density	Not determined.
· Vapor density	Not applicable.
· Evaporation rate	Not applicable.

· **Solubility in / Miscibility with**

Water at 20 °C (68 °F):	582 g/l
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· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

Dynamic:	Not applicable.
Kinematic:	Not applicable.

· **Other information** No further relevant information available.

10 Stability and reactivity

· **Reactivity** No dangerous reactions known.

(Contd. on page 6)

Trade name: diammonium peroxodisulphate

(Contd. of page 5)

- **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:**
bases
hydrogen peroxide
silver compounds
zinc
- **Hazardous decomposition products:** In the event of fire: See chapter 5
- **Additional information:**
strong oxidants
Dust explosion possible.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:**

Components	Type	Value	Species
Oral LD50		689 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**
- **IARC (International Agency for Research on Cancer)** Substance is not listed.
- **NTP (National Toxicology Program)** Substance is not listed.
- **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **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 to enter waters, waste water, or soil.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

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(Contd. on page 7)




Trade name: diammonium peroxodisulphate

(Contd. of page 6)

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Chemicals must be disposed of in compliance with the respective national regulations.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:**
Disposal must be made according to official regulations.
Packagings that cannot be cleansed are to be disposed of in the same manner as the product.

14 Transport information

- | | |
|---|-------------------------------|
| • UN-Number | UN1444 |
| • DOT, ADR, IMDG, IATA | |
| • UN proper shipping name | Ammonium persulfate |
| • DOT, ADR | AMMONIUM PERSULPHATE |
| • IMDG, IATA | |
| • Transport hazard class(es) | |
| • DOT | |
|  | |
| • Class | 5.1 Oxidizing substances |
| • Label | 5.1 |
| • ADR | |
|  | |
| • Class | 5.1 (O2) Oxidizing substances |
| • Label | 5.1 |
| • IMDG, IATA | |
|  | |
| • Class | 5.1 Oxidizing substances |
| • Label | 5.1 |
| • Packing group | III |
| • DOT, ADR, IMDG, IATA | |
| • Environmental hazards: | Not applicable. |
| • Special precautions for user | Warning: Oxidizing substances |
| • Danger code (Kemler): | 50 |
| • EMS Number: | 5.1-06 |
| • Segregation groups | Ammonium compounds |
| • Stowage Category | A |

(Contd. on page 8)

Trade name: diammonium peroxodisulphate

(Contd. of page 7)

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|--|--|
| • Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| • Transport/Additional information: | |
| • 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.
- **Cancerogenity 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).
- **Hazard pictograms**



GHS03 GHS07 GHS08

- **Signal word** Danger
- **Hazard statements**
H272 May intensify fire; oxidizer.
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P302+P352 If on skin: Wash with plenty of soap and water.
P304+P341 If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

(Contd. on page 9)

Trade name: diammonium peroxodisulphate

(Contd. of page 8)

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P342+P311 If experiencing respiratory symptoms: Call a poison center/doctor.

- **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:** Dept. Compliance
- **Date of preparation / last revision** 03/17/2018 / 2
- **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

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)

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: Oxidizing solids – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Resp. Sens. 1: Respiratory sensitisation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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