

Ammonium persulphate
Product code: 1010
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Material Safety Data Sheet

According to 1907/2006/EC, article 31

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1 Identification of substance / preparation and company / manufacturer

Product name:

Ammonium persulphate

Use of the substance / preparation:

Initiator for emulsion polymerisation, oxidant

Manufacturer / Supplier:

RheinPerChemie GmbH

Grosse Bleichen 35

D-20354 Hamburg

Germany

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Information in case of emergency:

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2 Composition / Data on components

Chemical characterization:

Salt, crystalline
content $\geq 99,0$ %

Dangerous Components:

Chemical name: diammonium peroxodisulphate

Formula: $(\text{NH}_4)_2\text{S}_2\text{O}_8$

CAS number: 7727-54-0

EC number: 231-786-5

Symbols: Xn, O

R-phrases: R 8-22-36/37/38-42/43

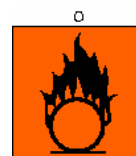
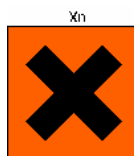
Additional information:

For the wording of the listed risk phrases refer to section 16.

3 Hazard identification

Hazard description:

Xn Harmful
O Oxidising



Information concerning to particular hazards to man and environment:

R 8 Contact with combustible material may cause fire.
R 22 Harmful if swallowed.
R 36/37/38 Irritating to eyes, respiratory system and skin.
R 42/43 May cause sensitisation by inhalation and skin contact.

Additional information:

Danger of decomposition under influence of heat.
Under conditions of thermal decomposition: formation of sulphur dioxide and sulphur trioxide. Decomposition could form a high temperature melt.

4 First aid measures

General information:

Move out of dangerous area. In case of unconsciousness place patient stably in side position for transportation. Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

After inhalation:

Take affected persons out into fresh air. In case of permanent discomfort, supply with medical care.

After skin contact:

Immediately wash with water and soap and rinse thoroughly. Consult a doctor in the event of permanent skin irritation. Remove contaminated clothing.

After eye contact:

Rinse opened eye for several minutes under running water. Consult an ophthalmologist.

After swallowing:

Have the mouth rinsed with water. Have patient drink plenty of water in small sips. Do not induce vomiting. Consult a doctor.

5 Fire fighting measures

Suitable extinguishing agents:

Carbon dioxide (CO₂), dry powder, foam or water.

Extinguishing agents which must not be used for safety reasons:

Organic compounds

Specific hazards during fire fighting:

Product is fire stimulating. Contact with combustible substances may cause inflammation. Release of oxygen may support combustion. In the case of fire, smoke fumes of sulphur dioxide and sulphur trioxide may be produced.

Special protective equipment for fire fighters:

In case of fire, wear respiratory protective equipment independent of surrounding air and chemical protective suit.

Further information:

In the case of fire, remove the endangered containers and bring to a safe place, if this can be done safely.

Water used to extinguish fire should not enter drainage systems, soil or stretches of water. Contaminated fire-extinguish water and fire residues must be disposed in accordance with the regulations.

6 Accidental release measures

Person-related safety precautions: Wear personal protective equipment.

Measures for environmental protection:

Do not allow to enter sewers/ surface or ground water.

Measures for cleaning / collecting:

Use mechanical handling equipment. Dispose contaminated material as waste according to item 13.

Additional advice:

Never return spilled product into its original container for re-use (risk of decomposition).

7 Handling and storage

Handling

Information for safe handling:

Wear personal protective equipment.

Keep receptacles tightly sealed.

Ensure good ventilation / exhaustion at the workplace.

Avoid dust formation.

Never return spilled product into its original container for re-use (risk of decomposition).

Information about fire - and explosion protection:

No special measures required.

Storage

Requirements to be met by storerooms and receptacles:

Store in a cool and dry place. Protect from sources of heat and heat.

Information about storage in one common storage facility:

Do not store together with reducing agents, heavy-metal compounds, acids and alkalis. Do not store together with inflammable substances.

Further information about storage conditions:

Keep receptacle tightly sealed.

8 Exposure controls and personal protection gear

Components with workplace control parameters:

Engineering measures:

Ensure suitable suction / aeration at the work place and with operational machinery. Avoid formation of dust.

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands and / or face before breaks and at the end of work.

Avoid contact with the eyes and skin.

Preventive skin protection.

Personal protective equipment*:

Respiratory protection:

If occurs of dust wear a half mask with particle filter P2 (European norm EN 143, Germany).

Protection of hands:

Wear protective gloves made of rubber or PVC.

Eye protection: Tightly sealed goggles. If occurs dust, wear basket-shaped glasses.

Skin and body protection:

Wear suitable protective clothing.

* The personal protective equipment used must meet the requirements of the directive 89/686/EEC and amendments (CE certification).

9 Physical and chemical properties:

Appearance:

Form: solid, crystalline
Colour: white
Odour: odourless

Safety data:

pH (250 g/l, 20 °C, water): approx. 2,3
Melting point / range: >160 °C (decomposition)
Boiling point / range: not applicable
Flammability: not applicable
Ignition temperature: not investigated
Auto-flammability: not self-igniting
Vapour pressure: not applicable
Density (20 °C): 1,98 g/cm³
Bulk density (20 °C): 900-1100 kg/m³
Water solubility (20 °C): 559 g/l
Content: ≥99,0 %
Molecular weight: 228,2 g/Mol

10 Stability and reactivity

Conditions to avoid:

Sun rays, heat, heat effect, humidity.

Materials to avoid:

Impurities, decomposition catalysts, metal salts, acids, alkalis, reducing substances, halides, organic substances (risk of decomposition).
 Combustible substances (risk of fire).

Dangerous decomposition products:

Under thermal decomposition: sulphur dioxide, sulphur trioxide, sulphuric acid, oxygen
 Reaction with alkalis: ammonia

Additional information:

No decomposition if used according to specifications.

11 Toxicological information

LD/LC50 values relevant for classification:

Acute oral toxicity: LD₅₀ rat (female) 495 mg/kg
 Acute inhalation toxicity: LC₅₀ rat 2,95 mg/l; 4 h
 Acute dermal toxicity: LD₅₀ rat > 2.000 mg/kg

Primary irritant effect:

On the skin: Irritant to skin and mucous membranes.
On the eye: Strong irritant with the danger of severe eye injury.

Sensitization:

Sensitization possible through inhalation.
 Sensitization possible through skin contact.

Additional toxicological information:

No tumorigenic effect.

12 Ecological information

General notes:

Water hazard class 1 (German Regulation, self-assessment): slightly hazardous for water.

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

Behaviour in environmental compartments:

Bioaccumulation: low

Ecotoxicity effects:

Toxicity to fishes	CL50 Poecillia reticulata: 323 mg/l, 96h method: OECD TG203
Toxicity to daphnia	CL 50 Daphni magna: 357 mg/l, 48 h method: OECD TG202
Toxicity to algae	IC 10 Scenedesmus acuminatus: 33 mg/l, 96h
Toxicity to bacteria	hydrolysis, reduction to oxygen, ammonium and sulphate ions

Additional information:

AOX: The product does not contain any organically bonded halogen
 Does not contain any heavy metals and compounds from directive EC 76/464.

13 Disposal considerations

Product:

Must not be disposed together with household garbage. Do not allow product to reach sewage system. Disposal according the local authority regulations.

Non cleaned packaging:

Rinse empty containers before disposal; recommended cleaning agent: water. Dispose of containers that have not been emptied completely and / or cleaned like of substance.

Waste Key Number:

No waste code in accordance with European Waste Catalogue can be specified for this product since it can only categorised on the basis of its use by the consumer. The waste code number is to be put on by arrangement with the disposal contractor, manufacturer or authority.

14 Transport information

Land transport ADR / RID (cross-border) / GGVSE (Germany)

ADR/RID class: 5.1 Oxidizing substances.

Orange warning plate: 50 /1444

Packaging group: III

Hazard label: 5.1

Description of goods (technical name):

1444 AMMONIUM PERSULPHATE



Maritime transport IMDG:

IMDG Class: 5.1

UN Number: 1444

Label 5.1

Packaging group: III

EMS Number: 5.1-06

Marine pollutant: No

Proper shipping name: AMMONIUM PERSULPHATE

Air transport ICAO-TI and IATA-DGR:

ICAO / IATA Class: 5.1

UN/ID Number: 1444

Label 5.1

Packaging group: III

Proper shipping name: AMMONIUM PERSULPHATE

Remarks: ERG-Code 5 L

15 Regulations

Labelling according to EU guidelines:

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials

Code letter and hazard designation of product:

Xn Harmful
O Oxidising

Hazard-determining components of labelling:

diammonium peroxodisulphate

Risk phrases:

R 8 Contact with combustible material may cause fire.
R 22 Harmful if swallowed.
R 36/37/38 Irritating to eyes, respiratory system and skin.
R 42/43 May cause sensitisation by inhalation and skin contact.

Safety phrases:

S 22 Do not breathe dust.
S 24 Avoid contact with skin.
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 37 Wear suitable gloves.

National regulations (Germany):

- Störfallverordnung vom 02.05.2000 (German Major Accident Hazard Legislation): attachment I, no. 3
- TRGS 515 "Lagerung von brandfördernden Stoffen" (Technical regulation for storing oxidising products)
- Storage class VCI: 5.1 B
- TRGS 540 "Sensibilisierende Stoffe" (Technical regulation for sensitising substances)
- Water hazard class: WKG 1 (Self-assessment).

Further information:

Observe national regulations.

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.

R-phrases:

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Listed in:

Europe (EINECS), USA (TSCA), Canada (DSL), Australia (AICS), Japan (MITI), Korea (TCCL), Philippines (PICCS), China, Switzerland (class 4, BAGT No. 601084).

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