SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Ammonium persulphate

Registration number	01-2119495973-19-0004
IUPAC	Diammonium peroxodisulphate
EU-INDEX	016-060-00-6
EINECS/ELINCS	231-786-5
CAS	7727-54-0

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

1.2.1 Relevant uses

Initiator for emulsion polymerizations, oxidizing agent
Usage only in accordance with the identified usages as stipulated in the CSR/CSA.

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Company

RheinPerChemie GmbH
Kattrepel 2
20095 Hamburg / GERMANY
Phone +49 (0)40-32 50 95-0
Fax +49 (0)40-32 50 95-10
Homepage www.rheinperchemie.com
E-mail sales@RheinPerChemie.com

Address enquiries to

Technical information	sales@RheinPerChemie.com
Safety Data Sheet	sdb@chemiebuero.de

1.4 Emergency telephone number

Company +49 (0) 7623 91 7272 (24h)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]

Ox. Sol. 3: H272 May intensify fire; oxidiser.
Acute Tox. 4: H302 Harmful if swallowed.
Eye Irrit. 2: H319 Causes serious eye irritation.
STOT SE 3: H335 May cause respiratory irritation.
Skin Irrit. 2: H315 Causes skin 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.

2.1.2 Classification according to Directive 67/548/EEC or 1999/45/EC

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

2.2 Label elements

The product is classified and required to be labelled in accordance with EC-Directives

Labelling according to Regulation (EC) 1272/2008

Hazard pictograms

Signal word DANGER

Contains: Diammonium peroxodisulphate EU-INDEX 016-060-00-6

Hazard statements

H272 May intensify fire; oxidiser.
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H315 Causes skin irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220 Keep/Store away from clothing/…/combustible materials.
P221 Take any precaution to avoid mixing with combustibles.
P261 Avoid breathing dust.
P264 Wash thoroughly after handling with plenty of water.
P270 Do no eat, drink or smoke when using this product.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P284 In case of inadequate ventilation wear respiratory protection.
P302+P352 IF ON SKIN: Wash with plenty of water/soap.
P304+P340 IF INHALED: 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.
P312 Call a POISON CENTER/doctor if you feel unwell.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P362 Take off contaminated clothing.
P501 Dispose of contents/container to in accordance with local/regional/national/international regulation.

2.3 Other hazards

Physico-chemical hazards See SECTION 10.

Human health dangers See SECTION 11.

Environmental hazards See SECTION 12.

Other hazards No particular hazards known.

SECTION 3: Composition / Information on ingredients

Product-type:

The product is a substance.

Range [%]	Substance
≥ 99,0	Diammonium peroxodisulphate
	CAS: 7727-54-0, EINECS/ELINCS: 231-786-5, EU-INDEX: 016-060-00-6
	GHS/CLP: Ox. Sol. 3: H272 - Acute Tox. 4: H302 - Eye Irrit. 2: H319 - STOT SE 3: H335 - Skin Irrit. 2: H315 - Resp. Sens. 1: H334 - Skin Sens. 1: H317
	EEC: O-Xn, R 8-22-36/37/38-42/43

Comment on component parts Substances of Very High Concern - SVHC: substances are not contained or are below 0,1%.
For full text of H-statements and R-phrases: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information
Change soaked clothing immediately.

Inhalation
Ensure supply of fresh air.
In the event of symptoms seek for medical treatment.

Skin contact
In case of contact with skin wash off immediately with plenty of water.
Consult a doctor if skin irritation persists.

Eye contact
In case of contact with eyes rinse thoroughly with plenty of water and seek medical advice.

Ingestion
Supply with medical care.
Rinse out mouth and give plenty of water to drink.
Do not induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media
Foam, dry powder, water spray jet, carbon dioxide.

Extinguishing media that must not be used
Full water jet.

5.2 Special hazards arising from the substance or mixture

Risk of formation of toxic pyrolysis products.
Sulphur oxides (SOx).
Nitrogen oxides (NOx).

5.3 Advice for firefighters

Use self-contained breathing apparatus.
Wear full protective suit.

Cool containers at risk with water spray jet.
Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.
Use personal protective clothing.
Avoid dust formation.

6.2 Environmental precautions

Knock down dust with water spray jet.
Retain and dispose of contaminated wash water.

6.3 Methods and material for containment and cleaning up

Take up mechanically.
Avoid raising dust.
Dispose of absorbed material in accordance within the regulations.

6.4 Reference to other sections

See SECTION 8+13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use only in well-ventilated areas.
Provide vacuuming if dust raised.
Avoid the formation and deposition of dust.

Keep away from all sources of ignition.

Do not eat, drink, smoke or take drugs at work.
Wash hands before breaks and after work.
Use barrier skin cream.
Clean skin thoroughly after work, apply skin cream.

7.2 Conditions for safe storage, including any incompatibilities

Only use containers that are approved specifically for the substance/product.

Do not store with combustible materials.
Do not store together with reducing agents.
Do not store together with acids and alkalies.

Keep container tightly closed.
Store in a dry place.
Keep container in a well-ventilated place.
Protect from heat/overheating.

7.3 Specific end use(s)

See product use, SECTION 1.2

SECTION 8: Exposure controls / personal protection

Ingredients with occupational exposure limits to be monitored (GB)

8.1 Control parameters

not applicable

8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation. To pay attention to dust limit value (ACGHI-2011: 10 mg/m³ particle inhalable; 3 mg/m³ particle respirable). Generic Exposure Scenarios only in accordance with the identified usages as stipulated in the CSR/CSA.
Eye protection	Safety glasses.
Hand protection	The details concerned are recommendations. Please contact the glove supplier for further information. In full contact: Nitrile rubber, >480 min (EN 374).
Skin protection	Impermeable protective clothing.
Other	Do not inhale dust. Avoid contact with eyes and skin.
Respiratory protection	Respiratory protection in the case of dust formation. Short term: filter apparatus, filter P2.
Thermal hazards	No information available.
Delimitation and monitoring of the environmental exposition	not determined

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	solid crystalline
Color	white
Odor	odourless
Odour threshold	not determined
pH-value	ca. 2,3 (250 g/l) (20°C)
pH-value [1%]	not determined
Boiling point [°C]	not determined
Flash point [°C]	not applicable
Flammability [°C]	not determined
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Oxidizing properties	yes
Vapour pressure/gas pressure [kPa]	not applicable
Density [g/ml]	1,98 (20°C)
Bulk density [kg/m³]	900 - 1100 (20°C)
Solubility in water	559 (20°C)
Partition coefficient [n-octanol/water]	not determined
Viscosity	not applicable
Relative vapour density determined in air	not applicable
Evaporation speed	not applicable
Melting point [°C]	not determined
Autoignition temperature [°C]	not determined
Decomposition temperature [°C]	> 160

9.2 Other information

No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

See SECTION 10.3.

10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).

10.3 Possibility of hazardous reactions

Reactions with combustible substances.
Reactions with strong acids and alkalies.
Reactions with reducing agents, heavy metals.

10.4 Conditions to avoid

Strong heating.

10.5 Incompatible materials

No information available.

10.6 Hazardous decomposition products

Oxygen.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Range [%]	Substance
≥ 99,0	Diammonium peroxodisulphate, CAS: 7727-54-0
	LD50, oral, Rat: 495 mg/kg (IUCLID).
	LC0, inhalative, Rat: 2,95 mg/l/4h (IUCLID).
	LD0, dermal, Rabbit: 2000 mg/kg (IUCLID).

Serious eye damage/irritation	not determined
Skin corrosion/irritation	not determined
Respiratory or skin sensitisation	Sensitizing in the maximum-dose test on guinea pigs.
Specific target organ toxicity — single exposure	not determined
Specific target organ toxicity — repeated exposure	not determined
Mutagenicity	Ames-Test, OECD 471, Salmonella typhimurium: negative.
Reproduction toxicity	not determined
Carcinogenicity	not determined
General remarks	none
	The toxiclogical data are those of the pure product.

SECTION 12: Ecological information

12.1 Toxicity

Range [%]	Substance
≥ 99,0	Diammonium peroxodisulphate, CAS: 7727-54-0
	LC50, (96h), Oncorhynchus mykiss: 76 mg/l (IUCLID).
	EC50, (48h), Daphnia magna: 120 mg/l (IUCLID).
	IC10, (96h), Scenedesmus quadricauda (algea): 33 mg/l (IUCLID).

12.2 Persistence and degradability

Behaviour in environment compartments	not determined
Behaviour in sewage plant	Obtain approval of the relevant authorities before discharging into sewage treatment plants.
Biological degradability	not applicable

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Other adverse effects

Do not discharge product unmonitored into the environment.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

Product

Dispose of as hazardous waste.
For recycling, consult waste disposal centres.

Waste no. (recommended) 060314

Contaminated packaging

Uncontaminated packaging may be taken for recycling.
Packaging that cannot be cleaned should be disposed of as for product.

Waste no. (recommended) 150110*

SECTION 14: Transport information

14.1 UN number

See SECTION 14.2 in accordance with UN shipping name

14.2 UN proper shipping name

Transport by land according to ADR/RID UN 1444 Ammonium persulphate 5.1 III

- Classification Code O2

- Label

- ADR LQ 5 kg

- ADR 1.1.3.6 (8.6) Transport category (tunnel restriction code) 3 (E)

Inland navigation (ADN) UN 1444 Ammonium persulphate 5.1 III

- Classification Code O2

- Label

Marine transport in accordance with IMDG UN 1444 Ammonium persulphate 5.1 III

- EMS F-A, S-Q

- Label

- IMDG LQ 5 kg

Air transport in accordance with IATA UN 1444 Ammonium persulphate 5.1 III

- Label

14.3 Transport hazard class(es)

See SECTION 14.2 in accordance with UN shipping name

14.4 Packing group

See SECTION 14.2 in accordance with UN shipping name

14.5 Environmental hazards

See SECTION 14.2 in accordance with UN shipping name

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

No information available.

SECTION 15: Regulatory information

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

EEC-REGULATIONS	1967/548 (1999/45); 1991/689 (2001/118); 1999/13; 2004/42; 648/2004; 1907/2006 (Reach); 1272/2008; 75/324/EEC (2008/47/EC); 453/2010/EC
TRANSPORT-REGULATIONS	DOT-Classification, ADR (2013); IMDG-Code (2013, 36. Amdt.); IATA-DGR (2013).
NATIONAL REGULATIONS (GB):	EH40/2005 Workplace exposure limits (Second edition, published December 2011). CHIP 3/ CHIP 4
- Observe employment restrictions for people	yes
- VOC (1999/13/CE)	not applicable

15.2 Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information

16.1 R-phrases (SECTION 3)

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.
R 8: Contact with combustible material may cause fire.

16.2 Hazard statements (SECTION 3)

H317 May cause an allergic skin reaction.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H315 Causes skin irritation.
H335 May cause respiratory irritation.
H319 Causes serious eye irritation.
H302 Harmful if swallowed.
H272 May intensify fire; oxidiser.

16.3 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
CAS = Chemical Abstracts Service
CLP = Classification, Labelling and Packaging
DMEL = Derived Minimum Effect Level
DNEL = Derived No Effect Level
EC50 = Median effective concentration
ECB = European Chemicals Bureau
EEC = European Economic Community
EINECS = European Inventory of Existing Commercial Chemical Substances
ELINCS = European List of Notified Chemical Substances
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50 = Inhibition concentration, 50%
IMDG = International Maritime Code for Dangerous Goods
IUCLID = International Uniform ChemicaL Information Database
LC50 = Lethal concentration, 50%
LD50 = Median lethal dose
MARPOL = International Convention for the Prevention of Marine Pollution from Ships
PBT = Persistent, Bioaccumulative and Toxic substance
PNEC = Predicted No-Effect Concentration
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
TLV®/TWA = Threshold limit value – time-weighted average
TLV®STEL = Threshold limit value – short-time exposure limit
VOC = Volatile Organic Compounds
vPvB = very Persistent and very Bioaccumulative

16.4 Other information

Customs Tariff not determined

Classification procedure

Ox. Sol. 3: H272 May intensify fire; oxidiser. (Minimum classification)
Acute Tox. 4: H302 Harmful if swallowed. (Minimum classification)
Eye Irrit. 2: H319 Causes serious eye irritation. (Minimum classification)
STOT SE 3: H335 May cause respiratory irritation. (Minimum classification)
Skin Irrit. 2: H315 Causes skin irritation. (Minimum classification)
Resp. Sens. 1: H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. (Minimum classification)
Skin Sens. 1: H317 May cause an allergic skin reaction. (Minimum classification)

Modified position none