We create chemistry

Safety data sheet

1. Identification

Product identifier

Ammonium chloride RWS food grade

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

Relevant identified uses: food additive(s)
Recommended use: Raw material, auxiliary, inorganic salts, flavours

Details of the supplier of the safety data sheet

Company:
BASF SE
67056 Ludwigshafen
GERMANY
Division Monomers

Telephone: +49 621 60 42737
E-mail address: pss.monomers@basf.com

Emergency telephone number

International emergency number:
Telephone: +49 180 2273-112

2. Hazards Identification

Classification of the substance or mixture

According to UN GHS criteria

Acute Tox. 4 (oral)
Eye Irrit. 2A
Aquatic Acute 3

For the classifications not written out in full in this section the full text can be found in section 16.

Label elements

Globally Harmonized System (GHS)

Pictogram:

Signal Word:
Warning

Hazard Statement:

H319	Causes serious eye irritation.
H302	Harmful if swallowed.
H402	Harmful to aquatic life.

Precautionary Statements (Prevention):

P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/…
P273	Avoid release to the environment.
P270	Do not eat, drink or smoke when using this product.
P264	Wash contaminated body parts thoroughly after handling.

Precautionary Statements (Response):

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330	Rinse mouth.
P337 + P313	If eye irritation persists: Get medical attention.

Precautionary Statements (Disposal):

P501	Dispose of contents and container to hazardous or special waste collection point.

According to UN GHS criteria

Hazard determining component(s) for labelling: Ammonium chloride

Other hazards

According to UN GHS criteria

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

No specific dangers known, if the regulations/notes for storage and handling are considered.

3. Composition/Information on Ingredients

Substances

Not applicable

Mixtures

Chemical nature

Ammonium chloride

Contains: formulation auxiliary, anticaking agent

Hazardous ingredients (GHS)
According to UN GHS criteria

Ammonium chloride

Content (W/W): >= 75 % - <= 100 %	Acute Tox. 4 (oral)
	Eye Irrit. 2A
CAS Number: 12125-02-9	Aquatic Acute 3
EC-Number: 235-186-4	H319, H302, H402
INDEX-Number: 017-014-00-8	

For the classifications not written out in full in this section the full text can be found in section 16.

4. First-Aid Measures

Description of first aid measures

Remove contaminated clothing.

If inhaled:
After inhalation of decomposition products: Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:
Wash thoroughly with soap and water

On contact with eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:
Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11.

Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
water spray

Unsuitable extinguishing media for safety reasons:
water jet

Special hazards arising from the substance or mixture

Ammonia, anhydrous, hydrogen chloride
The substances/groups of substances mentioned can be released if the product is involved in a fire.

Advice for fire-fighters

Special protective equipment:
Wear a self-contained breathing apparatus.

Further information:
Product itself is non-combustible; fire extinguishing method of surrounding areas must be considered. In case of fire and/or explosion do not breathe fumes. Large quantities of extinguishing water containing dissolved product should be contained. Contaminated extinguishing water must be disposed of in accordance with official regulations.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Use personal protective clothing.

Environmental precautions

Do not empty into drains.

Methods and material for containment and cleaning up

For residues: Pick up in dry form. Dispose of absorbed material in accordance with regulations.

7. Handling and Storage

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

Protection against fire and explosion:
No special precautions necessary.

Conditions for safe storage, including any incompatibilities

Segregate from alkalies and alkalizing substances. Segregate from nitrites. Segregate from oxidants.
Do not store with: Sodium nitrate

Suitable materials for containers: Polyester resin, glass reinforced (Palatal A410), High density polyethylene (HDPE), Low density polyethylene (LDPE), Stainless steel 1.4571, rubberized, enamelled, Paper/Fibreboard
Further information on storage conditions: Protect against moisture.

8. Exposure Controls/Personal Protection

Control parameters

Components with occupational exposure limits

12125-02-9: Ammonium chloride

Exposure controls

Personal protective equipment

Respiratory protection:
Breathing protection if dusts are formed. Particle filter with low efficiency for solid particles (e.g. EN 143 or 149, Type P1or FFP1)

Hand protection:
Chemical resistant protective gloves (EN ISO 374-1)
Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1):
chloroprene rubber (CR) - 0.5 mm coating thickness
butyl rubber (butyl) - 0.7 mm coating thickness
nitrile rubber (NBR) - 0.4 mm coating thickness
fluoroelastomer (FKM) - 0.7 mm coating thickness
polyvinylchloride (PVC) - 0.7 mm coating thickness
Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.
Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:
Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:
Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Avoid inhalation of dusts. When using, do not eat, drink or smoke. Remove contaminated clothing immediately and clean before re-use or dispose it if necessary.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

State of matter:	solid	
Form:	crystalline, powder	
Colour:	white	
Odour:	almost odourless	
Odour threshold:	not applicable, odour not perceivable	
Melting point:	338 °C Literature data. The substance / product decomposes.	
Boiling point:	(1.013,25 hPa) The substance / product decomposes therefore not determined.	
Sublimation point:	338 °C The substance / product decomposes.	
Flammability:	not flammable	(Regulation 440/2008/EC, A.10)
Lower explosion limit:	For solids not relevant for classification and labelling.	
Upper explosion limit:	For solids not relevant for classification and labelling.	
Flash point:	not applicable, the product is a solid	
Auto-ignition temperature:	The substance / product decomposes therefore not determined.	
Self-ignition temperature:	not self-igniting	Test type: Self-ignition at high temperatures.

Thermal decomposition:	To avoid thermal decomposition, do not overheat.	
SADT:	Not a substance/mixture liable to self-decomposition according to GHS.	
pH value:	5,0 - 5,5 (1,0 - 10,0 %(m), 25 °C)	
Viscosity, dynamic:	not applicable, the product is a solid	
Solubility in water:	296 - 298 g/l (20 °C, pH 5,4)	(OECD Guideline 105)
Partitioning coefficient n-octanol/water (log Kow):	The value has not been determined because the substance is inorganic.	
Vapour pressure:	66 mbar (250 °C) Literature data.	
Density:	1,5274 g/cm3 (20 °C) Literature data.	
Particle characteristics		
Particle size distribution:	100 - 125 µm	(D50, Volumetric Distribution, measured)
Particle Shape:	fine particles - spheres	

9.2. Other information

Information with regard to physical hazard classes

Explosives		
Explosion hazard:	not explosive	(Regulation 440/2008/EC, A.14)
Impact sensitivity:	Based on the chemical structure there is no shock-sensitivity.	
Oxidizing properties		
Fire promoting properties:	not fire-propagating	(Regulation 440/2008/EC, A.17)
Pyrophoric properties		
Self-ignition temperature:	not self-igniting	Test type: Spontaneous self-ignition at room-temperature.
Self-heating substances and mixtures		
Self heating ability:	It is not a substance capable of spontaneous heating.	

Other safety characteristics

Bulk density:	600 - 900 kg/m3	(DIN ISO 697)
pKA:	not applicable	
Information on: Ammonia, anhydrous		
pKA:	*Study scientifically not justified., The substance does not dissociate.*	

Hygroscopy:	hygroscopic	

:
Study scientifically not justified.

Surface tension:
Based on chemical structure, surface activity is not to be expected.

Evaporation rate:
The product is a non-volatile solid.

10. Stability and Reactivity

Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Chemical stability

The product is chemically stable.

Possibility of hazardous reactions

Violent reaction under influence of oxidizing agents. Incompatible with bases. Reacts with nitrites.
The product is stable if stored and handled as prescribed/indicated.

Conditions to avoid

Avoid heat. Avoid moisture. See SDS section 7 - Handling and storage.

Incompatible materials

Substances to avoid:
nitrites, nitrates, oxidizing agents

Hazardous decomposition products

Hazardous decomposition products:
hydrogen chloride, Ammonia, anhydrous

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:
Of moderate toxicity after single ingestion. Virtually nontoxic after a single skin contact.

Experimental/calculated data:
LD50 rat (oral): 1.410 mg/kg (BASF-Test)

(by inhalation):No data available.

LD50 rat (dermal): > 2.000 mg/kg (Directive 92/69/EEC, B.3)
No mortality was observed.

Irritation

Assessment of irritating effects:
Not irritating to the skin. Eye contact causes irritation.

Experimental/calculated data:
Skin corrosion/irritation rabbit: non-irritant (Draize test)

Serious eye damage/irritation rabbit: Irritant. (BASF-Test)

Respiratory/Skin sensitization

Assessment of sensitization:
Skin sensitizing effects were not observed in animal studies.

Experimental/calculated data:
Guinea pig maximization test guinea pig: Non-sensitizing. (similar to OECD guideline 406)

Germ cell mutagenicity

Assessment of mutagenicity:
In the majority of studies performed with microorganisms and in mammalian cell culture, a mutagenic effect was not found. A mutagenic effect was also not observed in in vivo tests.

Carcinogenicity

Assessment of carcinogenicity:
In long-term studies in rats in which the substance was given by feed, a carcinogenic effect was not observed.

Reproductive toxicity

Assessment of reproduction toxicity:
Study scientifically not justified.

Developmental toxicity

Assessment of teratogenicity:
No indications of a developmental toxic / teratogenic effect were seen in animal studies.

Specific target organ toxicity (single exposure)

Assessment of STOT single:
Apart from effects causing lethality, no specific target organ toxicity was observed in experimental studies.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:
Repeated oral uptake of the substance did not cause substance-related effects.

Aspiration hazard

not applicable

12. Ecological Information

Toxicity

Assessment of aquatic toxicity:
Harmful to aquatic life.
Acutely harmful for aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish:
LC50 (96 h) 42,91 mg/l Ammonium chloride, Oncorhynchus mykiss (other, other)

Aquatic invertebrates:
EC50 (48 h) 136,6 mg/l, Daphnia magna (other, static)

Aquatic plants:
EC50 (5 d) 1.300 mg/l (growth rate), Chlorella vulgaris (other, static)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

EC50 (18 d) 2.700 mg/l (biomass), Chlorella vulgaris (other, static)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Microorganisms/Effect on activated sludge:
EC20 (0,5 h) approx. 850 mg/l, activated sludge, domestic (OECD Guideline 209, aquatic)

Chronic toxicity to fish:
EC10 (30 d) 4,28 mg/l ammonium chloride, Lepomis macrochirus (other, Flow through.)

Chronic toxicity to aquatic invertebrates:
EC10 (70 d) 2,52 mg/l ammonium chloride, aquatic crustacea (other, semistatic)

Assessment of terrestrial toxicity:
Toxic effects have been observed in studies with soil living organisms.

Soil living organisms:
LC50 (14 d) 163 mg/kg, Eisenia foetida (other, artificial soil)

Terrestrial plants:
No observed effect concentration (84 d) 626 mg/l
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Other terrestrial non-mammals:
Study scientifically not justified.

Persistence and degradability

Assessment biodegradation and elimination (H2O):
Inorganic product which cannot be eliminated from water by biological purification processes. Can be oxidized to nitrate, or be reduced to nitrogen, by microorganisms.

Elimination information:
not applicable

Assessment of stability in water:
According to structural properties, hydrolysis is not expected/probable.
Study scientifically not justified.
Information on Stability in Water (Hydrolysis):
Study scientifically not justified.

Bioaccumulative potential

Assessment bioaccumulation potential:
Accumulation in organisms is not to be expected.

Bioaccumulation potential:
Accumulation in organisms is not to be expected.

Mobility in soil

Assessment transport between environmental compartments:
Volatility: The substance will not evaporate into the atmosphere from the water surface. Study scientifically not justified.
Adsorption in soil: Adsorption to solid soil phase is possible.

Other adverse effects

The substance is not listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

Additional information

Add. remarks environm. fate & pathway:
The product has not been tested. The statements on environmental fate and pathway have been derived from the properties of the individual components.

13. Disposal Considerations

Waste treatment methods

Contact manufacturer regarding recycling.
Contact waste centre regarding recycling.

Contaminated packaging:
Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

14. Transport Information

Land transport

ADR

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

RID

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Inland waterway transport
ADN

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user:	None known

Transport in inland waterway vessel
Not evaluated

Sea transport

IMDG

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Air transport

IATA/ICAO

	Not classified as a dangerous good under transport regulations
UN number or ID number	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Maritime transport in bulk according to IMO instruments

Maritime transport in bulk is not intended.

Further information
Specific national features of transport regulations must be observed. They are to be found in the shipping documents.

15. Regulatory Information

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

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

16. Other Information

chemical industry

Full text of classifications, hazard symbols and hazard statements, if mentioned in section 2 or 3:

Acute Tox.	Acute toxicity
Eye Irrit.	Eye irritation
Aquatic Acute	Hazardous to the aquatic environment - acute
H319	Causes serious eye irritation.
H302	Harmful if swallowed.
H402	Harmful to aquatic life.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

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