

Safety data sheet

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BASF Safety data sheet according to Regulation (EC) No. 1907/2006

Date / Revised: 07.06.2013

Version: 8.0

Product: **Ammonium chloride NA, non food grade**

(ID no. 30042217/SDS_GEN_EU/EN)

Date of print 09.06.2013

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

1.1. Product identifier

Ammonium chloride NA, non food grade

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

Relevant identified uses: Chemical

Recommended use: Raw material, auxiliary, inorganic salts

For the detailed identified uses of the product see appendix of the safety data sheet.

1.3. Details of the supplier of the safety data sheet

Company:

BASF SE

67056 Ludwigshafen

GERMANY

Telephone: +49 621 60-0

E-mail address: global.info@basf.com

1.4. Emergency telephone number

International emergency number:

Telephone: +49 180 2273-112

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

According to Regulation (EC) No 1272/2008 [CLP]

Acute Tox. 4 (oral)

Eye Dam./Irrit. 2

According to Directive 67/548/EEC or 1999/45/EC

Possible Hazards:

Harmful if swallowed.

Irritating to eyes.

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

2.2. Label elements

Globally Harmonized System, EU (GHS)

Pictogram:



Signal Word:

Warning

Hazard Statement:

H319 Causes serious eye irritation.

H302 Harmful if swallowed.

Precautionary Statements (Prevention):

P280d Wear eye/face protection.

P270 Do not eat, drink or smoke when using this product.

P264.1 Wash contaminated skin thoroughly with plenty of water and soap after handling.

Precautionary Statements (Response):

P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P330 Rinse mouth.

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

P337 + P313 If eye irritation persists: Get medical advice/attention.

Precautionary Statements (Disposal):

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

According to Regulation (EC) No 1272/2008 [CLP]

Hazard determining component(s) for labelling: AMMONIUM CHLORIDE

According to Directive 67/548/EEC or 1999/45/EC

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as in Annex I of Directive 67/548/EEC

Hazard symbol(s)

Xn Harmful.



R-phrase(s)

R22

Harmful if swallowed.

R36

Irritating to eyes.

S-phrase(s)

S22

Do not breathe dust.

Hazard determining component(s) for labelling: AMMONIUM CHLORIDE

2.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

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.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical nature

ammonium chloride

Contains: anticaking agent

Hazardous ingredients (GHS)

according to Regulation (EC) No. 1272/2008

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ammonium chloride

Content (W/W): ≥ 98 %

CAS Number: 12125-02-9

EC-Number: 235-186-4

REACH registration number: 01-2119487950-27

INDEX-Number: 017-014-00-8

Acute Tox. 4 (oral)

Eye Dam./Irrit. 2

H319, H302

Hazardous ingredients

according to Directive 1999/45/EC

ammonium chloride

Content (W/W): ≥ 98 %

CAS Number: 12125-02-9

EC-Number: 235-186-4

REACH registration number: 01-2119487950-27

INDEX-Number: 017-014-00-8

Hazard symbol(s): Xn

R-phrases: 22, 36

For the classifications not written out in full in this section, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, the full text is listed in section 16.

SECTION 4: First-Aid Measures

4.1. 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:

Rinse mouth immediately and then drink plenty of water, seek medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms: Overexposure may cause: vomiting, lethargy, confusion, hyperventilation, nausea, headache

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4.3. Indication of any immediate medical attention and special treatment needed

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

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media:
water spray

5.2. 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.

5.3. 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.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective clothing.

6.2. Environmental precautions

Do not empty into drains.

6.3. Methods and material for containment and cleaning up

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

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

Protection against fire and explosion:

No special precautions necessary.

7.2. Conditions for safe storage, including any incompatibilities

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Segregate from alkalis and alkalizing substances. Segregate from nitrites. Segregate from oxidants.

Do not store with: Sodium nitrate

Further information on storage conditions: Protect against moisture.

7.3. Specific end use(s)

See exposure scenario(s) in the attachment to this safety data sheet.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

7647-01-0: hydrogen chloride

TWA value 8 mg/m³ ; 5 ppm (OEL (EU))

indicative

STEL value 15 mg/m³ ; 10 ppm (OEL (EU))

indicative

7664-41-7: ammonia, anhydrous

TWA value 14 mg/m³ ; 20 ppm (OEL (EU))

indicative

STEL value 36 mg/m³ ; 50 ppm (OEL (EU))

indicative

12125-02-9: ammonium chloride

PNEC

freshwater: 0.25 mg/l

marine water: 0.025 mg/l

intermittent release: 0.43 mg/l

sediment (freshwater): 0.9 mg/kg

sediment (marine water): 0.09 mg/kg

soil: 50.7 mg/kg

STP: 13.1 mg/l

DNEL

worker:

Long-term exposure- systemic effects, Inhalation: 43.97 mg/m³

worker:

Long-term exposure- systemic effects, dermal: 128.9 mg/kg

consumer:

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Long-term exposure- systemic effects, Inhalation: 9.4 mg/m³

consumer:

Long-term exposure- systemic effects, dermal: 55.2 mg/kg

consumer:

Long-term exposure- systemic effects, oral: 55.2 mg/kg

8.2. 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 P1 or FFP1)

Hand protection:

Chemical resistant protective gloves (EN 374)

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374):

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)

General safety and hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Form:	crystalline, powder
Colour:	white
Odour:	almost odourless
pH value:	< 5.6 (10 %(m), 25 °C)
Melting point:	338 °C Literature data. The substance / product decomposes.

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Sublimation point:	338 °C The substance / product decomposes.	
Flash point:	not applicable	
Flammability:	not flammable	(other)
Ignition temperature:	The substance / product decomposes therefore not determined.	
Vapour pressure:	1 mmHg (160 °C)	
Density:	1.53 g/cm ³ (25 °C)	
Solubility in water:	Literature data. Literature data. 372 g/l (20 °C)	
Partitioning coefficient n-octanol/water (log Kow):	The value has not been determined because the substance is inorganic.	
Self ignition:	not applicable	Test type: Self-ignition at high temperatures.
	not self-igniting	Test type: Spontaneous self-ignition at room-temperature.
Thermal decomposition:	To avoid thermal decomposition, do not overheat.	
Viscosity, dynamic:	not applicable	
Explosion hazard:	Based on the chemical structure there is no indicating of explosive properties.	
Fire promoting properties:	Based on its structural properties the product is not classified as oxidizing.	

9.2. Other information

Bulk density:	600 - 900 kg/m ³	(DIN ISO 697)
pKA:	not applicable	
Hygroscopy:	hygroscopic	
Surface tension:	Based on chemical structure, surface activity is not to be expected.	

SECTION 10: Stability and Reactivity

10.1. Reactivity

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

10.2. Chemical stability

The product is chemically stable.

10.3. Possibility of hazardous reactions

Violent reaction under influence of oxidizing agents. Incompatible with bases. Reacts with nitrites.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Substances to avoid:

nitrites, nitrates, oxidizing agents

10.6. Hazardous decomposition products

Hazardous decomposition products:

hydrogen chloride, ammonia, anhydrous

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:

Of moderate toxicity after single ingestion. Virtually nontoxic after a single skin contact. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

Experimental/calculated data:

LD50 rat (oral): 1,410 mg/kg (BASF-Test)

(by inhalation): Study scientifically not justified.

LD50 rat (dermal): > 2,000 mg/kg

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

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)

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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.

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.

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.

SECTION 12: Ecological Information

12.1. Toxicity

Assessment of aquatic toxicity:

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.

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*

LC50 (96 h) 46,27 mg/l Ammonium chloride, *Prosopium williamsoni*

Aquatic invertebrates:

EC50 (48 h) 98,5 mg/l Ammonium chloride, *Ceriodaphnia dubia* (static)

EC50 (48 h) 136,6 mg/l Ammonium chloride, *Daphnia magna* (static)

Aquatic plants:

EC50 (5 d) 1,300 mg/l (growth rate), *Chlorella vulgaris* (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, *Chlorella vulgaris* (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* (Flow through.)

Chronic toxicity to aquatic invertebrates:

EC10 (70 d) 2,52 mg/l ammonium chloride (semistatic)

Soil living organisms:

LC50 (14 d) 163 mg/kg, *Eisenia foetida* (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.

12.2. 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.

Assessment of stability in water:

Study scientifically not justified.

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:

Accumulation in organisms is not to be expected.

Bioaccumulation potential:

Accumulation in organisms is not to be expected.

12.4. Mobility in soil

Assessment transport between environmental compartments:

Study scientifically not justified.

Adsorption to solid soil phase is possible.

12.5. Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): Not applicable for inorganic substances.

12.6. Other adverse effects

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

12.7. 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.

SECTION 13: Disposal Considerations

13.1. 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.

SECTION 14: Transport Information

Land transport

ADR

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable

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Special precautions for user None known

RID

Not classified as a dangerous good under transport regulations

UN 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: 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: 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: Not applicable

UN proper shipping name: Not applicable

Transport hazard class(es): Not applicable

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Packing group: Not applicable
Environmental hazards: Not applicable
Special precautions for user: None known

14.1. UN number

See corresponding entries for "UN number" for the respective regulations in the tables above.

14.2. UN proper shipping name

See corresponding entries for "UN proper shipping name" for the respective regulations in the tables above.

14.3. Transport hazard class(es)

See corresponding entries for "Transport hazard class(es)" for the respective regulations in the tables above.

14.4. Packing group

See corresponding entries for "Packing group" for the respective regulations in the tables above.

14.5. Environmental hazards

See corresponding entries for "Environmental hazards" for the respective regulations in the tables above.

14.6. Special precautions for user

See corresponding entries for "Special precautions for user" for the respective regulations in the tables above.

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

Regulation: Not evaluated
Shipment approved: Not evaluated
Pollution name: Not evaluated
Pollution category: Not evaluated
Ship Type: Not evaluated

Further information

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

SECTION 15: Regulatory Information

15.1. 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.

15.2. Chemical Safety Assessment

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 Chemical Safety Assessment performed

SECTION 16: Other Information

Assessment of the hazard classes according to UN GHS criteria (most recent version):

Acute Tox. 4 (oral)

Aquatic Acute 3

Eye Dam./Irrit. 2A

Full text of the classifications, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, if mentioned in section 2 or 3:

Xn	Harmful.
22	Harmful if swallowed.
36	Irritating to eyes.
Acute Tox.	Acute toxicity
Eye Dam./Irrit.	Serious eye damage/eye irritation
H319	Causes serious eye irritation.
H302	Harmful if swallowed.

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. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

 Vertical lines in the left hand margin indicate an amendment from the previous version.