

SAFETY DATA SHEET

according to Occupational Safety And Health (Classification,
Labelling And Safety Data Sheet Of Hazardous Chemicals)
Regulations 2013 (CLASS 2013)

Revision Date 10.09.2018

Version 1.6

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

1.1 Product identifier

Catalogue No.	101145
Product name	Ammonium chloride for analysis EMSURE® ACS,ISO,Reag. Ph Eur

REACH Registration Number	A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
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CAS-No.	12125-02-9
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1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Reagent for analysis For additional information on uses please refer to the Merck Chemicals portal (www.merckgroup.com).
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1.3 Details of the supplier of the safety data sheet

Company	Merck KGaA * 64271 Darmstadt *Germany* Telefon:+49 6151 72-0
Responsible Department	LS-QHC * e-mail: prodsafe@merckgroup.com
Regional representation	Merck Sdn. Bhd. (Co. No: 178145), No. 4, Jalan U1/26, Section U1, Hicom Glenmarie Industrial Park, 40150 Shah Alam, Selangor. Tel: 03-74943688 Fax: 03-74910850

1.4 Emergency telephone number	Customer Call Centre: + 62 0800 140 1253 (Toll Free)
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SAFETY DATA SHEET

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Labelling And Safety Data Sheet Of Hazardous Chemicals)
Regulations 2013 (CLASS 2013)

Catalogue No. 101145

Product name Ammonium chloride for analysis EMSURE® ACS,ISO,Reag. Ph Eur

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Classification according to CLASS regulations 2013

Acute toxicity, Category 4, Oral, H302

Eye irritation, Category 2, H319

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according to CLASS regulations 2013

Hazard pictograms



Signal word

Warning

Hazard statements

H302 Harmful if swallowed.

H319 Causes serious eye irritation.

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.

SAFETY DATA SHEET

according to Occupational Safety And Health (Classification,
Labelling And Safety Data Sheet Of Hazardous Chemicals)
Regulations 2013 (CLASS 2013)

Catalogue No. 101145

Product name Ammonium chloride for analysis EMSURE® ACS,ISO,Reag. Ph Eur

Reduced labelling (≤125 ml)

Hazard pictograms



Signal word

Warning

CAS-No. 12125-02-9

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

3.1 Substance

Formula	NH ₄ Cl	H ₄ CIN (Hill)
EC-No.	235-186-4	
Molar mass	53.49 g/mol	

Hazardous components according to CLASS regulations 2013

Chemical name (Concentration)

CAS-No. Registration number Classification

ammonium klorida (≤ 100 %)

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

12125-02-9 *)

Acute toxicity, Category 4, H302

Eye irritation, Category 2, H319

*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

For the full text of the H-Statements mentioned in this Section, see Section 16.

SAFETY DATA SHEET

according to Occupational Safety And Health (Classification,
Labelling And Safety Data Sheet Of Hazardous Chemicals)
Regulations 2013 (CLASS 2013)

Catalogue No. 101145

Product name Ammonium chloride for analysis EMSURE® ACS,ISO,Reag. Ph Eur

3.2 Mixture

Not applicable

SECTION 4. First aid measures

4.1 Description of first aid measures

After inhalation: fresh air.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/
shower.

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

After swallowing: immediately make victim drink water (two glasses at most). Consult a
physician.

4.2 Most important symptoms and effects, both acute and delayed

irritant effects

The following applies to ammonium salts in general: after swallowing: local irritation symptoms,
nausea, vomiting, diarrhoea. Systemic effect: after the uptake of very large quantities: drop in
blood pressure, collapse, CNS disorders, spasms, narcotic conditions, respiratory paralysis,
haemolysis.

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding
environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

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Regulations 2013 (CLASS 2013)

Catalogue No. 101145

Product name Ammonium chloride for analysis EMSURE® ACS,ISO,Reag. Ph Eur

5.2 Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapours.

Fire may cause evolution of:

nitrogen oxides, Hydrogen chloride gas

5.3 Advice for firefighters

Special protective equipment for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

6.2 Environmental precautions

Do not empty into drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

Indications about waste treatment see section 13.

SAFETY DATA SHEET

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Labelling And Safety Data Sheet Of Hazardous Chemicals)
Regulations 2013 (CLASS 2013)

Catalogue No. 101145

Product name Ammonium chloride for analysis EMSURE® ACS,ISO,Reag. Ph Eur

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Observe label precautions.

Hygiene measures

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Dry.

Recommended storage temperature see product label.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

ammonium klorida (12125-02-9)

MY OEL	Time Weighted Average	10 mg/m ³	Form of exposure: Fume.
	(TWA):		

8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

SAFETY DATA SHEET

according to Occupational Safety And Health (Classification,
Labelling And Safety Data Sheet Of Hazardous Chemicals)
Regulations 2013 (CLASS 2013)

Catalogue No. 101145

Product name Ammonium chloride for analysis EMSURE® ACS,ISO,Reag. Ph Eur

Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection

Safety glasses

Hand protection

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0.11 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0.11 mm
Break through time:	> 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment

protective clothing

Respiratory protection

required when dusts are generated.

Recommended Filter type: Filter P 2 (acc. to DIN 3181) for solid and liquid particles of harmful

SAFETY DATA SHEET

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Labelling And Safety Data Sheet Of Hazardous Chemicals)
Regulations 2013 (CLASS 2013)

Catalogue No. 101145

Product name Ammonium chloride for analysis EMSURE® ACS,ISO,Reag. Ph Eur

substances

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls

Do not empty into drains.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	Crystalline powder
Colour	white
Odour	odourless
Odour Threshold	Not applicable
pH	ca. 4.7 at 200 g/l 25 °C (External MSDS)
Melting point	338 °C (sublimed), (External MSDS)
Boiling point/boiling range	Not applicable
Flash point	Not applicable

SAFETY DATA SHEET

according to Occupational Safety And Health (Classification,
Labelling And Safety Data Sheet Of Hazardous Chemicals)
Regulations 2013 (CLASS 2013)

Catalogue No.	101145
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Evaporation rate	No information available.
Flammability (solid, gas)	The product is not flammable.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	66 hPa at 250 °C (External MSDS) 1.3 hPa at 30 °C
Relative vapour density	No information available.
Density	1.53 g/cm ³ at 25 °C
Relative density	No information available.
Water solubility	372 g/l at 20 °C (External MSDS)
Partition coefficient: n-octanol/water	Not applicable
Auto-ignition temperature	No information available.

SAFETY DATA SHEET

according to Occupational Safety And Health (Classification,
Labelling And Safety Data Sheet Of Hazardous Chemicals)
Regulations 2013 (CLASS 2013)

Catalogue No. 101145

Product name Ammonium chloride for analysis EMSURE® ACS,ISO,Reag. Ph Eur

Decomposition temperature Not applicable

Viscosity, dynamic No information available.

Explosive properties Not classified as explosive.

Oxidizing properties none

9.2 Other data

Ignition temperature > 400 °C

Bulk density ca.600 - 900 kg/m³

Particle size Mean particle size
0.116 mm

SECTION 10. Stability and reactivity

10.1 Reactivity

See section 10.3

10.2 Chemical stability

sublimable

10.3 Possibility of hazardous reactions

Violent reactions possible with:

alkali hydroxides, acids

Risk of ignition or formation of inflammable gases or vapours with:

halogen-halogen compounds, alkalines, alkaline substances

Risk of explosion with:

SAFETY DATA SHEET

according to Occupational Safety And Health (Classification,
Labelling And Safety Data Sheet Of Hazardous Chemicals)
Regulations 2013 (CLASS 2013)

Catalogue No. 101145

Product name Ammonium chloride for analysis EMSURE® ACS,ISO,Reag. Ph Eur

nitrates, chlorates, Heavy metal salts, nitrites, Hydrogen cyanide (hydrocyanic acid), Chlorine,
silver salt, Strong oxidizing agents

10.4 Conditions to avoid

no information available

10.5 Incompatible materials

Aluminium, Lead, Iron, Copper, copper compounds

10.6 Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity

LD50 Rat: 1,410 mg/kg

OECD Test Guideline 401

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and
gastrointestinal tract.

Acute inhalation toxicity

Symptoms: Possible damages:, mucosal irritations

Acute dermal toxicity

LD50 Rat: > 2,000 mg/kg

(ECHA)

Skin irritation

Rabbit

Result: No skin irritation

Draize Test

SAFETY DATA SHEET

according to Occupational Safety And Health (Classification,
Labelling And Safety Data Sheet Of Hazardous Chemicals)
Regulations 2013 (CLASS 2013)

Catalogue No. 101145

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Eye irritation

Causes serious eye irritation.

Rabbit

Result: Eye irritation

OECD Test Guideline 405

Sensitisation

Maximisation Test Guinea pig

Result: negative

(ECHA)

Germ cell mutagenicity

Genotoxicity in vivo

Micronucleus test

Mouse

male

Intraperitoneal injection

Bone marrow

Result: negative

Method: OECD Test Guideline 474

Genotoxicity in vitro

HGPRT (cell forward mutation assay)

Result: negative

Method: OECD Test Guideline 476

Ames test

Escherichia coli/Salmonella typhimurium

Result: negative

Method: OECD Test Guideline 471

Carcinogenicity

This information is not available.

SAFETY DATA SHEET

according to Occupational Safety And Health (Classification,
Labelling And Safety Data Sheet Of Hazardous Chemicals)
Regulations 2013 (CLASS 2013)

Catalogue No. 101145

Product name Ammonium chloride for analysis EMSURE® ACS,ISO,Reag. Ph Eur

Reproductive toxicity

This information is not available.

Teratogenicity

This information is not available.

Specific target organ toxicity - single exposure

This information is not available.

Specific target organ toxicity - repeated exposure

This information is not available.

Repeated dose toxicity

Rat

male and female

Oral

90 d

daily

NOAEL: 1,695.7 mg/kg

OECD Test Guideline 408

Subchronic toxicity

Aspiration hazard

This information is not available.

11.2 Further information

The following applies to ammonium salts in general: after swallowing: local irritation symptoms, nausea, vomiting, diarrhoea. Systemic effect: after the uptake of very large quantities: drop in blood pressure, collapse, CNS disorders, spasms, narcotic conditions, respiratory paralysis, haemolysis.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

12.1 Toxicity

SAFETY DATA SHEET

according to Occupational Safety And Health (Classification,
Labelling And Safety Data Sheet Of Hazardous Chemicals)
Regulations 2013 (CLASS 2013)

Catalogue No. 101145

Product name Ammonium chloride for analysis EMSURE® ACS,ISO,Reag. Ph Eur

Toxicity to fish

LC50 *Oncorhynchus mykiss* (rainbow trout): 42.91 mg/l; 96 h

Analytical monitoring: yes

US-EPA

Toxicity to daphnia and other aquatic invertebrates

static test EC50 *Daphnia magna* (Water flea): > 100 mg/l; 48 h

Analytical monitoring: yes

(ECHA)

Toxicity to bacteria

static test EC50 activated sludge: 1,310 mg/l; 0.5 h

OECD Test Guideline 209

Toxicity to fish (Chronic toxicity)

flow-through test EC10 *Lepomis macrochirus* (Bluegill sunfish): 4.28 mg/l; 30 d

Analytical monitoring: yes

(ECHA)

12.2 Persistence and degradability

Biodegradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water

Not applicable

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

12.6 Other adverse effects

Discharge into the environment must be avoided.

SAFETY DATA SHEET

according to Occupational Safety And Health (Classification,
Labelling And Safety Data Sheet Of Hazardous Chemicals)
Regulations 2013 (CLASS 2013)

Catalogue No. 101145

Product name Ammonium chloride for analysis EMSURE® ACS,ISO,Reag. Ph Eur

SECTION 13. Disposal considerations

Waste treatment methods

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

According to Quality Environment Regulation (Scheduled Waste) 2005, waste need to be sent to designated premise for recycle, treatment or disposal. Please contact Kualiti Alam for waste classification and correct disposal method.

SECTION 14. Transport information

Land transport (ADR/RID)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

Sea transport (IMDG)

SAFETY DATA SHEET

according to Occupational Safety And Health (Classification,
Labelling And Safety Data Sheet Of Hazardous Chemicals)
Regulations 2013 (CLASS 2013)

Catalogue No. 101145

Product name Ammonium chloride for analysis EMSURE® ACS,ISO,Reag. Ph Eur

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

SECTION 15. Regulatory information

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

All national and local regulations, including Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013, if applicable to the use, should be observed.

EU regulations

Occupational restrictions Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

National legislation

Storage class 10 - 13

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H302 Harmful if swallowed.

H319 Causes serious eye irritation.

Training advice

Provide adequate information, instruction and training for operators.

SAFETY DATA SHEET

according to Occupational Safety And Health (Classification,
Labelling And Safety Data Sheet Of Hazardous Chemicals)
Regulations 2013 (CLASS 2013)

Catalogue No. 101145

Product name Ammonium chloride for analysis EMSURE® ACS,ISO,Reag. Ph Eur

Labelling

Hazard pictograms



Signal word

Warning

Hazard statements

H302 Harmful if swallowed.

H319 Causes serious eye irritation.

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.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Regional representation

Merck Sdn. Bhd. (Co. No: 178145), No. 4, Jalan U1/26, Section U1, Hicom Glenmarie Industrial Park, 40150 Shah Alam, Selangor. Tel: 03-74943688 Fax: 03-74910850

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.