

Safety data sheet
according to 1907/2006/EC, Article 31

revised on: 03.01.2023

Version number 8 (replaces version 7)

Creation Date: 17.02.2016

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier****Trade name: Ammonium chloride****Article number:** 2668, 2689**CAS Number:**

12125-02-9

EC number:

235-186-4

Index number:

017-014-00-8

Registration number 01-2119489385-24-XXXX**1.2 Relevant identified uses of the substance or mixture and uses advised against****Life cycle stages**

F Formulation or re-packing

IS Use at industrial Sites

Sector of Use

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

SU9 Manufacture of fine chemicals

SU24 Scientific research and development

Product category

PC19 Intermediate

PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents

PC21 Laboratory chemicals

PC30 Photo-chemicals

PC39 Cosmetics, personal care products

PC40 Extraction agents

Process category

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

PROC4 Chemical production where opportunity for exposure arises

PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

PROC15 Use as laboratory reagent

Environmental release category

ERC1 Manufacture of the substance

ERC2 Formulation into mixture

ERC3 Formulation into solid matrix

ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

ERC5 Use at industrial site leading to inclusion into/onto article

ERC6a Use of intermediate

Application of the substance / the mixture

Industrial use

Laboratory chemicals

Reagent for analysis

1.3 Details of the supplier of the safety data sheet**Manufacturer/Supplier:**

Th. Geyer GmbH & Co. KG

Dornierstr. 4 – 6

D-71272 Renningen

(Contd. on page 2)

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 03.01.2023

Version number 8 (replaces version 7)

Creation Date: 17.02.2016

Trade name: Ammonium chloride

(Contd. of page 1)

Tel.: +49(0)7159-1637-0, Fax:+49 (0)7159/18417

www.thgeyer.de

sicherheitsdatenblaetter@thgeyer.de

- **Further information obtainable from:** Product management department

- **1.4 Emergency telephone number:**

National Poisons Information Service

City Hospital

Dudley Road

Birmingham B18 7QH

Tel.:Emergency: (00 44) 87 06 00 62 66

Members of the public seeking specific information on poisons should contact:

In England and Wales: NHS 111 - dial 111

In Scotland: NHS 24 - dial 111

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**

- **Classification according to Regulation (EC) No 1272/2008**



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Eye Irrit. 2 H319 Causes serious eye irritation.

- **2.2 Label elements**

- **Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the GB CLP regulation.

- **Hazard pictograms**



GHS07

- **Signal word** Warning

- **Hazard statements**

H302 Harmful if swallowed.

H319 Causes serious eye irritation.

- **Precautionary statements**

P264 Wash thoroughly after handling.

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

P280 Wear protective gloves/protective clothing/eye protection/face protection.

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

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.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **2.3 Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 03.01.2023

Version number 8 (replaces version 7)

Creation Date: 17.02.2016

Trade name: Ammonium chloride

(Contd. of page 2)

SECTION 3: Composition/information on ingredients

- **3.1 Substances**
- **CAS No. Description**
CAS: 12125-02-9 Ammonium chloride
- **Identification number(s)**
- **EC number:** 235-186-4
- **Index number:** 017-014-00-8

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**
First aider needs to protect himself.
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
Supply fresh air.
Consult a doctor if symptoms persist or are severe.
- **After skin contact:**
Flush contaminated skin with soap and plenty of water.
After prolonged contact or any signs of skin changes (redness or other signs of inflammation) seek medical attention.
- **After eye contact:**
Protect unharmed eye.
Remove contact lenses
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**
Rinse mouth thoroughly with water.
Make victim drink water (two glasses at most).
Seek medical treatment.
- **Information for doctor:** Please observe safety data sheet/label.
- **4.2 Most important symptoms and effects, both acute and delayed**
In certain cases, the symptoms of poisoning may only appear after an extended period/after several hours
Breathing difficulty
Dazed feeling
Thirst
Vertigo
Gastric or intestinal disorders
Unconsciousness
Nausea
Profuse sweating
- **Hazards**
Danger of circulatory collapse.
Danger of impaired breathing.
- **4.3 Indication of any immediate medical attention and special treatment needed**
Give Glucocorticoid-Aerosol in case of lung irritation.
If necessary oxygen respiration treatment.
Monitor circulation.
Symptomatic treatment.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Carbon dioxide, powder, water spray or alcohol-resistant foam.

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 03.01.2023

Version number 8 (replaces version 7)

Creation Date: 17.02.2016

Trade name: Ammonium chloride

(Contd. of page 3)

- **For safety reasons unsuitable extinguishing agents:** Water with full jet.
- **5.2 Special hazards arising from the substance or mixture**
 - Not combustible.
 - Formation of toxic gases is possible during heating or in case of fire.
 - In case of fire, the following can be released:
 - Hydrogen chloride (HCl)
 - Nitrogen oxides (NOx)
 - Under certain fire conditions, traces of other toxic gases cannot be excluded.
- **5.3 Advice for firefighters**
- **Protective equipment:**
 - Wear self-contained respiratory protective device.
 - Do not inhale explosion gases or combustion gases.
- **Additional information**
 - Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
 - 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**
 - Evacuate the danger area.
 - Provide adequate ventilation and do not vapors, dust or gases.
 - Ensure adequate ventilation.
 - Avoid contact with eyes and skin.
- **6.2 Environmental precautions:** Do not allow to enter sewers/surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
 - Cover drains.
 - Pick up mechanically.
 - Dispose contaminated material as waste according to item 13.
 - Dispose of the material collected according to regulations.
- **6.4 Reference to other sections**
 - See Section 7 for information on safe handling.
 - See Section 8 for information on personal protection equipment.
 - See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
 - Store in cool, dry place in tightly closed receptacles.
 - Keep away from heat and direct sunlight.
 - Apply the general protection and hygiene measures for the handling with chemicals.
 - Prevent formation of dust.
- **Information about fire - and explosion protection:**
 - Substance itself does not burn, tuning measures to environment
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
- **Information about storage in one common storage facility:**
 - Store away from oxidising agents.
 - Store away from metals.
 - Store away from water.
- **Further information about storage conditions:**
 - Store in dry conditions.
 - Protect from humidity and water.
 - This product is hygroscopic.
 - Keep container tightly sealed.
- **Storage class:** 13

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 03.01.2023

Version number 8 (replaces version 7)

Creation Date: 17.02.2016

Trade name: Ammonium chloride

(Contd. of page 4)

 · **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

 · **Ingredients with limit values that require monitoring at the workplace:**
CAS: 12125-02-9 Ammonium chloride

WEL	Short-term value: 20 mg/m ³ Long-term value: 10 mg/m ³
-----	---

 · **Additional information:** The lists valid during the making were used as basis.

· 8.2 Exposure controls

 · **Appropriate engineering controls** No further data; see item 7.

 · **Individual protection measures, such as personal protective equipment**

 · **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

 · **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device. If air-purifying respiratory protection is required according to the risk assessment, wear a respirator with full-face mask with combination filter (US) or with filter type ABEK (EN 14387) filter cartridge. If the respirator is the only protective measure, an ambient air self-contained breathing apparatus with a full face mask must be worn. Respirators and components must be approved to appropriate government standards (for example, NIOSH (US) or CEN (EU)). Translated with www.DeepL.com/Translator (free version)

 · **Hand protection**


Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
 Labsolute@protective

 · **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

NBR: acrylonitrile-butadiene rubber

Material thickness > 0.11 mm

 · **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

level 6 for application > 480 min

 · **Eye/face protection**


Tightly sealed goggles

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 03.01.2023

Version number 8 (replaces version 7)

Creation Date: 17.02.2016

Trade name: Ammonium chloride

(Contd. of page 5)

· Body protection:

Protective work clothing (e. g. safety shoes EN ISO 20345, long-sleeved protective working garments).

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties**· General Information****· Physical state**

Solid

· Colour:

Colourless

· Odour:

Odourless

· Melting point/freezing point:

Undetermined.

· Boiling point or initial boiling point and boiling range

Undetermined.

· Flammability

Product is not flammable.

· Lower and upper explosion limit**· Lower:**

Not determined.

· Upper:

Not determined.

· Flash point:

Not applicable.

· Decomposition temperature:

Not determined.

· pH

>4.5

· Viscosity:**· Kinematic viscosity**

Not applicable.

· Dynamic:

Not applicable.

· Solubility**· water at 20 °C:**

376 g/l

· Partition coefficient n-octanol/water (log value)

Not determined.

· Vapour pressure at 30 °C:

<1.3 hPa

· Density and/or relative density**· Density at 20 °C:**1.53 g/cm³**· Relative density**

Not determined.

· Bulk density:500 kg/m³**· Vapour density**

Not applicable.

· Particle characteristics

See item 3.

· 9.2 Other information**· Appearance:****· Form:**

Solid

· Important information on protection of health and environment, and on safety.**· Auto-ignition temperature:**

Not determined.

· Explosive properties:

Product does not present an explosion hazard.

· Molecular weight

53.49 g/mol

· Change in condition**· Evaporation rate**

Not applicable.

· Information with regard to physical hazard classes**· Explosives**

Void

· Flammable gases

Void

· Aerosols

Void

· Oxidising gases

Void

· Gases under pressure

Void

· Flammable liquids

Void

(Contd. on page 7)

E

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 03.01.2023

Version number 8 (replaces version 7)

Creation Date: 17.02.2016

Trade name: Ammonium chloride

(Contd. of page 6)

· Flammable solids	Void
· Self-reactive substances and mixtures	Void
· Pyrophoric liquids	Void
· Pyrophoric solids	Void
· Self-heating substances and mixtures	Void
· Substances and mixtures, which emit flammable gases in contact with water	Void
· Oxidising liquids	Void
· Oxidising solids	Void
· Organic peroxides	Void
· Corrosive to metals	Void
· Desensitised explosives	Void

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability** Stable with proper storage and handling.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**
Reacts violently with water.
Reacts with acids, alkalis and oxidising agents.
- **10.4 Conditions to avoid** Protect from humidity.
- **10.5 Incompatible materials:** Avoid contact with other chemicals.
- **10.6 Hazardous decomposition products:** On fire: see chapter 5

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Harmful if swallowed.

· LD/LC50 values relevant for classification:

Oral	LD50	1,650 mg/kg (rat)
------	------	-------------------

- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** Substance is not listed.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

(Contd. on page 8)

E

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 03.01.2023

Version number 8 (replaces version 7)

Creation Date: 17.02.2016

Trade name: Ammonium chloride

(Contd. of page 7)

- **12.6 Endocrine disrupting properties**
The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
Observe local (country-specific) regulations and laws
This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Chemicals must be disposed of in compliance with the respective national regulations.

- **European waste catalogue**

06 00 00	WASTES FROM INORGANIC CHEMICAL PROCESSES
06 03 00	wastes from the MFSU of salts and their solutions and metallic oxides
06 03 14	solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13
HP4	Irritant - skin irritation and eye damage
HP6	Acute Toxicity
HP8	Corrosive

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- | | |
|---|-----------------|
| · 14.1 UN number or ID number
· ADR, ADN, IMDG, IATA | not regulated |
| · 14.2 UN proper shipping name
· ADR, ADN, IMDG, IATA | not regulated |
| · 14.3 Transport hazard class(es)
· ADR, ADN, IMDG, IATA
· Class | not regulated |
| · 14.4 Packing group
· ADR, IMDG, IATA | not regulated |
| · 14.5 Environmental hazards: | Not applicable. |
| · 14.6 Special precautions for user | Not applicable. |
| · 14.7 Maritime transport in bulk according to IMO instruments | Not applicable. |
| · UN "Model Regulation": | not regulated |

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Inventory of Hazardous Chemicals** Substance is not listed.

(Contd. on page 9)

E

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 03.01.2023

Version number 8 (replaces version 7)

Creation Date: 17.02.2016

Trade name: Ammonium chloride

(Contd. of page 8)

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 65
- **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**
Substance is not listed.
- **REGULATION (EU) 2019/1148**
- **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**
Substance is not listed.
- **Annex II - REPORTABLE EXPLOSIVES PRECURSORS** Substance is not listed.
- **Regulation (EC) No 273/2004 on drug precursors** Substance is not listed.
- **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**
Substance is not listed.
- **National regulations:**
- **Information about limitation of use:**
Employment restrictions concerning juveniles must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 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.
Application, use and handling of our products take place out of our control and are solely your responsibility.

- **Department issuing SDS:** Product management
- **Contact:** Product management
- **Version number of previous version:** 7
- **Abbreviations and acronyms:**
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 4: Acute toxicity – Category 4
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
- *** Data compared to the previous version altered.**

E