Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

Ammonium Chloride Feed, Fertilizer and Tech Grade

Version number: 2.0

SECTION 1: Identification

1.1 Product identifier

Identification of the substance ammonium chloride

Trade name **Ammonium Chloride Feed, Fertilizer and Tech Grade**

CAS number 12125-02-9

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

Relevant identified uses

Chemicals for various applications
Animal feed additive
Additive for fertilizer

1.3 Details of the supplier of the safety data sheet

Valudor Products, LLC
179 Calle Magdalena Suite 100
Encinitas, California CA 92024
United States

Telephone: +1 (760) 635 8500
e-mail: info@valudor.com
Website: www.valudor.com

1.4 Emergency telephone number

Emergency information 800-535-5053 (Infotrac)

As above or nearest toxicological information center.

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Classification				
Section	**Hazard class**	**Category**	**Hazard class and category**	**Hazard statement**
A.1O	acute toxicity (oral)	4	Acute Tox. 4	H302
A.3	serious eye damage/eye irritation	2	Eye Irrit. 2	H319

For full text of abbreviations: see SECTION 16

2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Signal word warning

Pictograms

GHS07

Hazard statements

H302	Harmful if swallowed.
H319	Causes serious eye irritation.

Precautionary statements

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.
P330	Rinse mouth.
P337+P313	If eye irritation persists: Get medical advice/attention.
P501	Dispose of contents/container to an authorized waste treatment facility.

2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance	ammonium chloride
Identifiers	
CAS No	12125-02-9
Molecular formula	NH4Cl
Molar mass	53.49 $^{g}/_{mol}$
Purity	99 - 100 %

SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes

Self-protection of the first aider.
Remove affected person from the danger area and lay down.
Do not leave affected person unattended.
Take off immediately all contaminated clothing.

In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

Provide fresh air.
If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

Following skin contact

Rinse skin with water/shower.
After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water.
If skin irritation occurs: Get medical advice/attention.

Following eye contact

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Remove contact lenses, if present and easy to do. Continue rinsing.

Following ingestion

Rinse mouth. Do not induce vomiting.
Get medical advice/attention if you feel unwell.

Notes for the doctor

None.

4.2 Most important symptoms and effects, both acute and delayed

Disorientation.
Malaise.
Nausea.

4.3 Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

non-combustible, coordinate firefighting measures to the fire surroundings

Unsuitable extinguishing media

none

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products: Section 10.

Hazardous combustion products

ammonia (NH_3), nitrogen oxides (NO_x), hydrogen chloride (HCl)

5.3 Advice for firefighters

Non-combustible.
Keep containers cool with water spray.
In case of fire and/or explosion do not breathe fumes.
Coordinate firefighting measures to the fire surroundings.
Do not allow firefighting water to enter drains or water courses.

Collect contaminated firefighting water separately.
Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

chemical protection suit, self-contained breathing apparatus (SCBA)

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.
Ventilate affected area.
Control of dust.
Do not breathe dust.
Do not get in eyes, on skin, or on clothing.
Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water.
Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.
Take up mechanically.

Advice on how to clean up a spill

Take up mechanically.
Collect spillage.

Other information relating to spills and releases

Place in appropriate containers for disposal.
Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5.
Personal protective equipment: see section 8.
Incompatible materials: see section 10.
Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Do not get in eyes, on skin, or on clothing.
Do not breathe dust.

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.
Removal of dust deposits.

Specific notes/details

Dust deposits may accumulate on all deposition surfaces in a technical room.

Measures to protect the environment

Avoid release to the environment.
Do not empty into drains; dispose of this material and its container at hazardous or special waste collection point.

Advice on general occupational hygiene

Do not eat, drink and smoke in work areas.
Remove contaminated clothing and protective equipment before entering eating areas.
Do not breathe dust.
Do not get in eyes, on skin, or on clothing.
Wash hands thoroughly after handling.
Preventive skin protection (barrier creams/ointments) is recommended.

7.2 Conditions for safe storage, including any incompatibilities

Flammability hazards

None.

Incompatible substances or mixtures

Incompatible materials: see section 10.

Protect against external exposure, such as

heat, humidity

Consideration of other advice

Keep away from food, drink and animal feedingstuffs.

Ventilation requirements

Provision of sufficient ventilation.

Specific designs for storage rooms or vessels

Keep container tightly closed and in a well-ventilated place.
Keep cool.
Store in a dry place.

Packaging compatibilities

Keep only in original container.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

The following constituents are the only constituents of the product which have a PEL, a TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Occupational exposure limit values (Workplace Exposure Limits)									
Country	**Name of agent**	**CAS No**	**Identifier**	**TWA [ppm]**	**TWA [mg/m³]**	**STEL [ppm]**	**STEL [mg/m³]**	**Notation**	**Source**
US	Particulates not otherwise regulated	-	PEL (CA)	-	10	-	-	dust	Cal/OSHA PEL
US	Particulates not otherwise regulated	-	PEL (CA)	-	5	-	-	r	Cal/OSHA PEL
US	particulates not otherwise classified (PNOC)	-	PEL	-	15	-	-	dust	29 CFR 1910.1000
US	particulates not otherwise classified (PNOC)	-	PEL	1,765	-	-	-	partml, dust	29 CFR 1910.1000
US	particulates not otherwise classified (PNOC)	-	PEL	529.5	-	-	-	partml, r, dust	29 CFR 1910.1000
US	particulates not otherwise classified (PNOC)	-	PEL	-	5	-	-	r	29 CFR 1910.1000
US	particulate not otherwise regulated	-	REL	-	-	-	-	appx-D	NIOSH REL
US	ammonium chloride	12125-02-9	PEL (CA)	-	10	-	20	fume	Cal/OSHA PEL
US	ammonium chloride	12125-02-9	REL	-	10 (10 h)	-	20	fume	NIOSH REL
US	ammonium chloride	12125-02-9	TLV®	-	10	-	20	fume	ACGIH® 2024

Notation

appx-D	see Appendix D - Substances with No Established RELs
dust	as dust
fume	as fume
partml	particles/ml
r	respirable fraction
STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified

8.2 Exposure controls

Appropriate engineering controls

Use local and general ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Hand protection

Protective gloves		
Material	**Material thickness**	**Breakthrough times of the glove material**
NBR: acrylonitrile-butadiene rubber	≥ 0,4 mm	>480 minutes (permeation: level 6)
PVC: polyvinyl chloride	≥ 0,7 mm	>480 minutes (permeation: level 6)
CR: chloroprene (chlorobutadiene) rubber	≥ 0,5 mm	>480 minutes (permeation: level 6)
IIR: isobutene-isoprene (butyl) rubber	≥ 0,7 mm	>480 minutes (permeation: level 6)
FKM: fluoro-elastomer	≥ 0,7 mm	>480 minutes (permeation: level 6)

Wear suitable gloves.
Chemical protection gloves are suitable, which are tested according to EN 374.
Check leak-tightness/impermeability prior to use.
For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Body protection

Protective clothing for use against solid particulates.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.
Particle filter device (DIN EN 143).
P1 (filters at least 80 % of airborne particles, color code: White).

Environmental exposure controls

Use appropriate container to avoid environmental contamination.
Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	solid (powder, crystalline)
Color	white

Odor	odorless
Odor threshold	not determined
Other safety parameters	
pH (value)	5.5 (in aqueous solution: 1 % ($^{w}/_{w}$)) 5.1 (in aqueous solution: 3 % ($^{w}/_{w}$)) 5 (in aqueous solution: 10 % ($^{w}/_{w}$))
Melting point/freezing point	these information are not available
Sublimation point	338 °C, (decomposition)
Boiling point or initial boiling point and boiling range	520 °C
Flash point	not applicable
Evaporation rate	not determined
Flammability (solid, gas)	non-combustible
Explosive limits	not determined
Explosion limits of dust clouds	not determined
Vapor pressure	1.3 hPa at 160 °C
Density and/or relative density	
Density	1.53 $^{g}/_{cm^3}$ at 25 °C
Relative density / Relative vapour density	1.9 (air = 1) 1.53 (water = 1)
Solubility(ies)	
Water solubility	372 $^{g}/_{l}$ at 20 °C not miscible in any proportion
Partition coefficient	
n-octanol/water (log KOW)	not relevant (inorganic)
Auto-ignition temperature	not determined
Decomposition temperature	not relevant
Viscosity	not relevant (solid)
Explosive properties	none
Oxidizing properties	none
Information for relevant hazard classes	hazard classes acc. to GHS (physical hazards):

	according to GHS	not relevant
9.2	**Other information**	there is no additional information

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Keep away from heat.
Hygroscopic solid.
Protect from moisture.

10.5 Incompatible materials

bases, oxidizers, nitrite, nitrate

10.6 Hazardous decomposition products

Hydrogen chloride (HCl).
Ammonia (NH_3).

SECTION 11: Toxicological information

11.1 Information on toxicological effects

If not otherwise specified the classification is based on:

Animal studies; Evidence from any other toxicity tests; Expert judgment (weight of evidence determination).

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Acute toxicity

Shall not be classified as acutely toxic (dermal).
Harmful if swallowed.
Inhalation.
Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Exposure route	Endpoint	Value	Species	Method	Source
oral	LD50	1,410 $^{mg}/_{kg}$	rat	OECD Guideline 401	ECHA
dermal	LD0	>2,000	rat	EU method B.3	ECHA

Exposure route	Endpoint	Value	Species	Method	Source
		$^{mg}/_{kg}$			

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.
(ECHA)

Serious eye damage/eye irritation

Causes serious eye irritation.
(ECHA)

Respiratory or skin sensitization
Skin sensitization

Shall not be classified as a skin sensitizer.
(ECHA, OECD Guideline 406)

Respiratory sensitization

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.
OECD Guideline 471, OECD Guideline 473, OECD Guideline 474)

Carcinogenicity

Shall not be classified as carcinogenic.
(ECHA, OECD Guideline 451)

IARC Monographs

not listed

National Toxicology Program (United States)

not listed

OSHA Carcinogens

Not listed.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.
(ECHA,OECD Guideline 422)

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Exposure route	Endpoint	Value	Exposure time	Species	Method
oral	NOAEL	~1,696 $^{mg}/_{kg\ bw}$ /day	90 d	rat	OECD Guideline 408

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Other information

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity (acute)

Based on available data, the classification criteria are not met.

Endpoint	Exposure time	Value	Species	Method	Source
LC50	96 h	209 $^{mg}/_{l}$	common carp (Cyprinus caprio)	E03-05:APHA, AWWA & WPCF (1960)	ECHA
EC50	48 h	101 $^{mg}/_{l}$	daphnia magna	ASTM E 729-80	ECHA

Aquatic toxicity (chronic)

Based on available data, the classification criteria are not met.

Endpoint	Exposure time	Value	Species	Method	Source
EC50	18 d	2,700 $^{mg}/_{l}$	algae (Chlorella vulgaris)	-	ECHA
EC50	30 min	1,310 $^{mg}/_{l}$	Activated sludge, municipal	OECD Guideline 209	ECHA
NOEC	28 d	11.8 $^{mg}/_{l}$	fathead minnow (Pimephales promelas)	-	ECHA
NOEC	21 d	14.6 $^{mg}/_{l}$	daphnia magna	-	ECHA
NOEC	10 d	26.8 $^{mg}/_{l}$	alga (Navicula pelliculosa)	-	ECHA
LOEC	28 d	18.7 $^{mg}/_{l}$	fathead minnow (Pimephales promelas)	-	ECHA
LOEC	21 d	30.2 $^{mg}/_{l}$	daphnia magna	-	ECHA
LOEC	10 d	53.5 $^{mg}/_{l}$	alga (Navicula pelliculosa)	-	ECHA
growth (EbCx) 18%	30 min	556 $^{mg}/_{l}$	Activated sludge, municipal	OECD Guideline 209	ECHA
growth (EbCx) 20%	30 min	850 $^{mg}/_{l}$	Activated sludge, municipal	OECD Guideline 209	ECHA

12.2 Persistence and degradability

Biodegradation

The study does not need to be conducted because the substance is inorganic.

Persistence

The study does not need to be conducted because the substance is inorganic.

12.3 Bioaccumulative potential

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

n-octanol/water (log KOW)	not relevant (inorganic)

12.4 Mobility in soil

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

12.6 Other adverse effects

Data are not available.

Remarks

None.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packages

Completely emptied packages can be recycled.
Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1	**UN number**	not subject to transport regulations
14.2	**UN proper shipping name**	-
14.3	**Transport hazard class(es)**	-
14.4	**Packing group**	-
14.5	**Environmental hazards**	-

14.6 Special precautions for user -

14.7 Transport in bulk according to IMO instruments -

14.8 Information for each of the UN Model Regulations

Transport of dangerous goods by road or rail (49 CFR US DOT) Additional information

Not subject to transport regulations.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

Toxic Substance Control Act (TSCA) Substance is listed (ACTIVE)

Superfund Amendment and Reauthorization Act (SARA TITLE III)

The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

Not listed

Specific Toxic Chemical Listings (EPCRA Section 313)

Not listed

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

Name of substance	Name acc. to inventory	CAS No	Remarks	Statutory code	Final RQ pounds (Kg)
ammonium chloride	ammonium chloride	12125-02-9	-	1	5000 (2270)

Legend

1 "1" indicates that the statutory source is section 311(b)(2) of the Clean Water Act

Clean Air Act

Not listed

Right to Know Hazardous Substance List

Toxic or Hazardous Substance List (MA-TURA)

Name of substance	Name acc. to inventory	CAS No	DEP CODE	PBT / HHS / LHS	PBT / HHS Threshold	De Minimis Concentration Threshold
ammonium chloride	Ammonia	7664-41-7	-	-	-	1.0 %

Hazardous Substances List (MN-ERTK)

Name of substance	Name acc. to inventory	CAS No	References	Remarks
ammonium chloride	Ammonium chloride	12125-02-9	A	fume

Legend

A American Conference of Governmental Industrial Hygienists (ACGIH), "Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices for 1992-93", available from ACGIH

fume Small solid particles formed by the condensation of vapors of solid materials.

Hazardous Substance List (NJ-RTK)

Name of substance	Name acc. to inventory	CAS No	Remarks	Classifications	Listed in	Substance number	DOT number
ammonium chloride	ammonium chloride	12125-02-9	-		2 3 4 17 20	0093	3077

Legend

17 "2008 Emergency Response Guidebook," Research and Special Programs Administration, U.S. Department of Transportation, 2008.

2 "2009 TLVs® and BEIs®, Threshold Limit Values and Biological Exposure Indices," American Conference of Governmental Industrial Hygienists (ACGIH), 2009.

20 List of Hazardous Substances and Reportable Quantities (RQ) , Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), U.S. Environmenta l Protection Agency, 40 CFR 302, Table 302.4, July 1, 2008.

3 Office of Hazardous Materials Safety, Research and Special Programs Administration, U.S. Department of Transportation, 49 CFR 172.101-Hazardous Materials Table, October 1, 2008.

4 "NIOSH Pocket Guide to Chemical Hazards," National Institute for Occupational Safety and Health (NIOSH), U.S. Department of Health and Human Services, No. 2005-149, September 2005.

Hazardous Substance List (Chapter 323) (PA-RTK)

Name acc. to inventory	CAS No	Classification
AMMONIUM CHLORIDE ((NH4)CL)	12125-02-9	E

Legend

E Environmental hazard

Hazardous Substance List (RI-RTK)

Name of substance	Name acc. to inventory	CAS No	References
ammonium chloride	Ammonium chloride - fume	12125-02-9	T, F

Legend

F Flammability (NFPA®)

T Toxicity (ACGIH®)

California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

Not listed

Drug precursors, Chemicals designated within the Controlled Substances Act, 21 U.S.C. § 802, paragraphs 34 (list I) and 35 (list II)

Not listed

SECTION 16: Other information, including date of preparation or last revision

Date of preparation: 2022-10-04
Date of last revision: 2025-07-18.

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
29 CFR 1910.1000	29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits)
49 CFR US DOT	49 CFR U.S. Department of Transportation
ACGIH®	American Conference of Governmental Industrial Hygienists
ACGIH® 2024	From ACGIH®, 2024 TLVs® and BEIs® Book. Copyright 2024. Reprinted with permission. Information on the proper use of the TLVs® and BEIs®: http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement
Cal/OSHA PEL	California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DEP CODE	Department of Environmental Protection Code

Abbr.	Descriptions of used abbreviations
DGR	Dangerous Goods Regulations (see IATA/DGR)
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
HHS	Higher hazard substance
IARC	International Agency for Research on Cancer
IARC Monographs	IARC Monographs on the Evaluation of Carcinogenic Risks to Humans
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
IMDG	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
LHS	Lower hazard substance
LOEC	Lowest Observed Effect Concentration
NFPA®	National Fire Protection Association (United States)
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)
NOAEL	No Observed Adverse Effect Level
NOEC	No Observed Effect Concentration
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible exposure limit
ppm	Parts per million
STEL	Short-term exposure limit
TLV®	Threshold Limit Values
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200 (May 20, 2024 eff. July 19, 2024).
Transport of dangerous goods by road or rail (49 CFR US DOT).
International Maritime Dangerous Goods Code (IMDG).
Dangerous Goods Regulations (DGR) for the air transport (IATA).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H302	Harmful if swallowed.
H319	Causes serious eye irritation.

Responsible for the safety data sheet

Chemical Regulatory Compliance Company
Jasper, GA
USA

Telephone: +1 (630) 410-1660
e-Mail: GHS@crc-us.com
Website: www.crc-us.com

Disclaimer

This information is based upon the present state of our knowledge.
This SDS has been compiled and is solely intended for this product.