



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

1.1 Product identifiers

Product name	:	Ammonium bicarbonate
REACH No.	:	01-2119486970-26-XXXX
CAS-No.	:	1066-33-7
Index-No.	:	CH-S0-A012

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

Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company	VALERIAN LABS HOLDING CORP
Address	1130-1971 BROADWAY STREETPORT COQUITLAM, BC V3C 0C9 CANADA
Telephone	+1 (604)-710-0869
E-mail:	info@valerianlabs.com

1.4 Emergency telephone

Number: 1-888-226-8832 CANUTEC (CANADA)
1-800-424-9300 CHEMTREC (USA)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

In accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

Acute toxicity, Oral (Category 4), H302

2.2 Label elements

Labelling In accordance with GHS Standards

Pictogram



Signal Word

Warning





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Hazard statement(s)

H302

Harmful if swallowed.

Precautionary statement(s)

P264

Wash skin thoroughly after handling.

P270

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

P301 + P312

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

P501

Dispose of contents/ container to an approved waste disposal plant.

Supplemental Hazard Statements

none

Reduced Labeling (<= 125 ml)

Pictogram



Signal Word

Warning

Hazard statement(s)

none

Precautionary statement(s)

none

Supplemental Hazard Statements

none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms : Ammonium hydrogen carbonate

Formula : CH₅NO₃

Molecular weight : 79,06 g/mol

CAS-No. : 1066-33-7

EC-No. : 213-911-5

Component	Classification	Concentration
ammonium hydrogen carbonate		
CAS-No. 1066-33-7 EC-No. 213-911-5	Acute Tox. 4; H302	<= 100 %





SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air.

In case of skin contact

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

In case of eye contact

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

If swallowed

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data 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.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

Nitrogen oxides (NO_x)

Not combustible.

Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

5.4 Further information

Suppress (knock down) gases/vapors/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.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter 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

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Dry.

Heat sensitive.

Storage class

Storage class (TRGS 510): 13: Non Combustible Solids

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

Ingredients with workplace control parameters

Derived No Effect Level (DNEL)

Application Area	Routes of exposure	Health effect	Value
Worker DNEL, acute	inhalation	Systemic effects	160,7 mg/m ³
Worker DNEL, acute	inhalation	Local effects	160,7 mg/m ³
Worker DNEL, longterm	inhalation	Systemic effects	62,5 mg/m ³
Worker DNEL, longterm	inhalation	Local effects	62,5 mg/m ³
Worker DNEL, longterm	dermal	Systemic effects	





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Consumer DNEL, acute	inhalation	Systemic effects	143,91 mg/m ³
Consumer DNEL, acute	oral	Systemic effects	
Consumer DNEL, acute	inhalation	Local effects	143,91 mg/m ³
Consumer DNEL, longterm	dermal	Systemic effects	
Consumer DNEL, longterm	inhalation	Systemic effects	13,33 mg/m ³
Consumer DNEL, longterm	oral	Systemic effects	
Consumer DNEL, longterm	inhalation	Local effects	13,33 mg/m ³

Predicted No Effect Concentration (PNEC)

Compartment	Value
Fresh water	0,37 mg/l
Fresh water sediment	0,1332 mg/kg
Sea water	0,037 mg/l
Sea sediment	0,01332 mg/kg
Aquatic intermittent release	0,63 mg/l
Soil	74,9 mg/kg
Sewage treatment plant	1347 mg/l

8.2 Exposure controls

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection

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.



**Body Protection**

protective clothing

Respiratory protection

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type P2

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.

Control of environmental exposure

Do not let product enter drains.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

- | | |
|-------------------------------------------------|----------------------------------------------------------------------------------|
| a) Physical state | crystalline |
| b) Color | white |
| c) Odor | No data available |
| d) Melting point/freezing point | Melting point/freezing point: 60 °C |
| e) Initial boiling point and boiling range | No data available |
| f) Flammability (solid, gas) | The product is not flammable. |
| g) Upper/lower flammability or explosive limits | No data available |
| h) Flash point | No data available |
| i) Autoignition temperature | No data available |
| j) Decomposition temperature | No data available |
| k) pH | 7,0 8,5 at 79,1 g/l at 25 °C |
| l) Viscosity | Viscosity, kinematic: No data available
Viscosity, dynamic: No data available |
| m) Water solubility | 79,1 g/l at 20 °C completely soluble |





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- n) Partition coefficient: n-octanol/water Not applicable for inorganic substances
- o) Vapor pressure 67,1 hPa at 20 °C
513 hPa at 50 °C
- p) Density No data available
Relative density No data available
- q) Relative vapor density No data available
- r) Particle characteristics No data available
- s) Explosive properties No data available
- t) Oxidizing properties none

9.2 Other safety information

Dissociation constant 6,49 at 20 °C
- OECD Test Guideline 112

Relative vapor density 2,73 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Violent reactions possible with:

nitrates

nitrites

Acids

alkalines

10.4 Conditions to avoid

Heat.

no information available

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

In the event of fire: see section 5





SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male and female - 1.576 mg/kg

(OECD Test Guideline 401)

Remarks: (ECHA)

Acute toxicity estimate Oral - 1.576 mg/kg

(ATE value derived from LD50/LC50 value)

LC50 Inhalation - Rat - male and female - 4,5 h - > 4,74 mg/l - dust/mist

(US-EPA)

Remarks: (ECHA)

(in analogy to similar products)

The value is given in analogy to the following substances: sodium hydrogencarbonate

LD50 Dermal - Rat - male and female - > 2.000 mg/kg

(OECD Test Guideline 434)

Remarks: (ECHA)

(in analogy to similar products)

The value is given in analogy to the following substances: ammonium sulphate

Skin corrosion/irritation

Skin - reconstructed human epidermis (RhE)

Result: No skin irritation

(OECD Test Guideline 431)

Remarks: (ECHA)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation

(US-EPA)

Remarks: (ECHA)

(in analogy to similar products)

The value is given in analogy to the following substances: sodium hydrogencarbonate

Respiratory or skin sensitization

Maximization Test - Guinea pig

Result: negative

(US-EPA)

Remarks: (ECHA)

(in analogy to similar products)

The value is given in analogy to the following substances: ammonium chloride

Germ cell mutagenicity

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Remarks: (ECHA)

Test Type: In vivo micronucleus test

Species: Mouse





Application Route: Intraperitoneal

Method: OECD Test Guideline 474

Result: negative

Remarks: (ECHA)

(in analogy to similar products)

The value is given in analogy to the following substances: ammonium chloride

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information

Endocrine disrupting properties

Product:

Assessment

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish

LC50 - Oncorhynchus mykiss (rainbow trout) - 173 mg/l - 96 h
Remarks: (ECOTOX Database)

LC50 - Oncorhynchus mykiss (rainbow trout) - 98,3 mg/l - 96 h
Remarks: (ECOTOX Database)

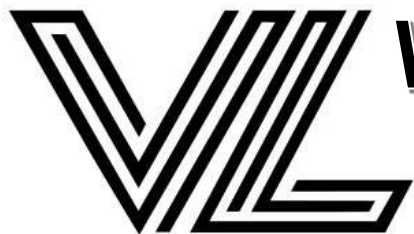
12.2 Persistence and degradability

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

12.3 Bioaccumulative potential

No data available





SECTION 15: Regulatory information

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Other regulations

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

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Full text of other abbreviations

These are abbreviations and acronyms commonly used in the field of chemical safety, regulation, and transportation:

1. ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
2. ADR - Agreement concerning the International Carriage of Dangerous Goods by Road
3. AIIC - Australian Inventory of Industrial Chemicals
4. ASTM - American Society for the Testing of Materials
5. bw - Body weight
6. CMR - Carcinogen, Mutagen, or Reproductive Toxicant
7. DIN - Standard of the German Institute for Standardization
8. DSL - Domestic Substances List (Canada)
9. EC_x - Concentration associated with x% response
10. EL_x - Loading rate associated with x% response
11. EmS - Emergency Schedule
12. ENCS - Existing and New Chemical Substances (Japan)
13. ErC_x - Concentration associated with x% growth rate response
14. GHS - Globally Harmonized System
15. GLP - Good Laboratory Practice
16. IARC - International Agency for Research on Cancer
17. IATA - International Air Transport Association
18. IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
19. IC₅₀ - Half maximal inhibitory concentration
20. ICAO - International Civil Aviation Organization



21. IECSC - Inventory of Existing Chemical Substances in China
22. IMDG - International Maritime Dangerous Goods
23. IMO - International Maritime Organization
24. ISHL - Industrial Safety and Health Law (Japan)
25. ISO - International Organization for Standardization
26. KECI - Korea Existing Chemicals Inventory
27. LC50 - Lethal Concentration to 50% of a test population
28. LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)
29. MARPOL - International Convention for the Prevention of Pollution from Ships
30. n.o.s. - Not Otherwise Specified
31. NO(A)EC - No Observed (Adverse) Effect Concentration
32. NO(A)EL - No Observed (Adverse) Effect Level
33. NOELR - No Observable Effect Loading Rate
34. NZIoC - New Zealand Inventory of Chemicals
35. OECD - Organization for Economic Co-operation and Development
36. OPPTS - Office of Chemical Safety and Pollution Prevention
37. PBT - Persistent, Bio accumulative, and Toxic substance
38. PICCS - Philippines Inventory of Chemicals and Chemical Substances
39. (Q)SAR - (Quantitative) Structure Activity Relationship
40. REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorization, and Restriction of Chemicals
41. RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
42. SADT - Self-Accelerating Decomposition Temperature
43. SDS - Safety Data Sheet
44. TCSI - Taiwan Chemical Substance Inventory
45. TECI - Thailand Existing Chemicals Inventory
46. TSCA - Toxic Substances Control Act (United States)
47. UN - United Nations
48. UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods
49. vPvB - Very Persistent and Very Bio accumulative

Additional information

The provided information is considered accurate but is not intended to cover every aspect and should be regarded as a general reference. The content in this document is derived from our current understanding and is relevant to the product concerning the necessary safety measures.