



Preparing for the New Era of Laboratories

# MATERIAL SAFETY DATA SHEET (MSDS)

According to regulation (EU) no.1907/2006

## **AMMONIUM BICARBONATE 99% AR**

PRODUCT CODE : O-5017

CAS No : 1066-33-7

FORMULA :  $\text{NH}_4\text{HCO}_3$

UN No : Not Applicable

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## AMMONIUM BICARBONATE 99% AR



MSDS Number : 0032

Date : Aug 16<sup>th</sup>, 2024

Version : 1.0

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

- 1.1 Product Name** : AMMONIUM BICARBONATE 99% AR  
**Synonyms** : Ammonium hydrogen carbonate, Bicarbonate of ammonium  
**CAS No.** : 1066-33-7  
**HS Code** : 2836 99 90  
**Chemical Formula** :  $\text{NH}_4\text{HCO}_3$  Hill :  $\text{CH}_5\text{NO}_3$   
**Molecular Weight** : 79.06 g/mol  
**Product Code** : O-5017  
**Brand** : Labotiq  
**1.2 Manufacturer** : Labotiq  
**Address** : Jl.Terapi Raya AD2-Bumi Menteng Asri Bogor, Jawa Barat Indonesia – 16111  
**Website** : [www.labotiq.net](http://www.labotiq.net)  
**Email** : [labotiq.id@gmail.com](mailto:labotiq.id@gmail.com)  
**For information** : Phone : (+62-251) 839110, 8311662, Fax : (+62-251) 83135710  
**Emergency number** : +6281316894650  
**1.3 Application** : Laboratory chemicals, Manufacture of substances, General Chemical reagent

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Acute toxicity, Oral (Category 4), H302

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

#### 2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Warning

Hazard statement(s)

Harmful if swallowed.

H302

Precautionary statement(s)

Wash skin thoroughly after handling.

P264

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

P270

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

P301 + P312

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

P501

Supplemental Hazard Statements

none

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**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 :  $\text{NH}_4\text{HCO}_3$  CH<sub>5</sub>NO<sub>3</sub> Hill  
Molecular weight : 79.06 g/mol  
CAS-No. : 1066-33-7  
EC-No. : 213-911-5

**3.2 Mixture**

**Hazardous ingredients according to Regulation (EC) No 1272/2008**

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

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

**SECTION 4: First aid measures****4.1 Description of first aid measures****General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.

**If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. 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

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### **SECTION 5: Firefighting measures**

#### **5.1 Extinguishing media**

##### **Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### **5.2 Special hazards arising from the substance or mixture**

Carbon oxides, Nitrogen oxides (NO<sub>x</sub>)

#### **5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

#### **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**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. 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**

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### 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/m3
Worker DNEL, acute	inhalation		160,7 mg/m3
Worker DNEL, longterm	inhalation	Systemic effects	62,5 mg/m3
Worker DNEL, longterm	inhalation	Local effects	62,5 mg/m3
Worker DNEL, longterm	dermal	Systemic effects	
Consumer DNEL, acute	inhalation	Systemic effects	143,91 mg/m3
Consumer DNEL, acute	oral	Systemic effects	
Consumer DNEL, acute	inhalation	Local effects	143,91 mg/m3
Consumer DNEL, longterm	dermal	Systemic effects	
Consumer DNEL, longterm	inhalation	Systemic effects	13,33 mg/m3
Consumer DNEL, longterm	oral	Systemic effects	
Consumer DNEL, longterm	inhalation	Local effects	13,33 mg/m3

#### 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 control

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### 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

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

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Minimum layer thickness: 0,11 mm  
 Break through time: 480 min  
 Material tested : KCL 741 Dermatril® L

### Splash contact

Material: Nitrile rubber  
 Minimum layer thickness: 0.11 mm  
 Break through time: 480 min  
 Material tested: Dermatril®

### 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

Appearance	Form: crystalline
	Colour: white
Odour	No data available
Odour Threshold	No data available
pH	7,0 - 8,5 at 79,1 g/l at 25 °C
Melting point/freezingpoint	Melting point/freezing point: 60 °C
Initial boiling point and boiling range	No data available
Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	Does not sustain combustion.
Upper/lower flammability or explosive limits	No data available
Vapour pressure	67,1 hPa at 20 °C
	513 hPa at 50 °C
Vapour density	2,73 - (Air = 1.0)
Relative density	1,580 g/cm <sup>3</sup>
Water solubility	79,1 g/l at 20 °C - completely soluble
Partition coefficient: noctanol/water	log Pow: -2,4
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	The substance or mixture is not classified as oxidizing.

### 9.2 Other safety information

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

2,73 - (Air = 1.0)

**SECTION 10: Stability and reactivity****10.1 Reactivity**

No data available

**10.2 Chemical stability**

Stable under recommended storage conditions.

**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**

Oxidizing agents, Strong acids, Nitrites, Nitrates

**10.6 Hazardous decomposition products**Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO<sub>x</sub>) Other decomposition products - No data available 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)

LC50 Inhalation - Rat - male and female - 4,5 h - &gt; 4,74 mg/l (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 - &gt; 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 sensitisation**

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 bicarbonate

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**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 bicarbonate

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Reproductive toxicity**

No data available(Ammonium hydrogencarbonate)

**Specific target organ toxicity - single exposure**

No data available(Ammonium hydrogencarbonate)

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available(Ammonium hydrogencarbonate)

**Additional Information**

RTECS: B08600000

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

**12.4 Mobility in soil**

No data available(Ammonium hydrogencarbonate)



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### 12.5 Results of PBT and vPvB assessment

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.

### 12.6 Other adverse effects

Avoid release to the environment.

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.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chem scrubber.

#### Contaminated packaging

Dispose of as unused product.

## SECTION 14: Transport information

### 14.1 UN number

ADR/RID: -

IMDG: -

IATA: -

### 14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

### 14.3 Transport hazard class(es)

ADR/RID: -

IMDG: -

IATA: -

### 14.4 Packaging group

ADR/RID: -

IMDG: -

IATA: -

### 14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

### 14.6 Special precautions for user

#### Further information

No data available

## SECTION 15: Regulatory information

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

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

### 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

## SECTION 16: Other information

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**Full text of H-Statements referred to under sections 2 and 3.**  
H302 Harmful if swallowed

### **National Fire Protection Association (U.S.A.):**

Health: 1

Flammability: 1

Reactivity: 1

### **Further information**

*The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Labotiq shall not be held liable for any damage resulting from handling or from contact with the above product.*

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