

## Chemical Safety Data Sheet MSDS / SDS

**Aminoguanidine bicarbonate**

Revision Date:2024-12-21 Revision Number:1

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

Product name : Aminoguanidine bicarbonate  
CBnumber : CB4114194  
CAS : 2582-30-1  
EINECS Number : 219-956-7  
Synonyms : AMINOQUANIDINE BICARBONATE,hydrazinecarboximidamide carbonate

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

**Company Identification**

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 400-158-6606

**SECTION 2: Hazards identification****GHS Label elements, including precautionary statements**

Symbol(GHS)



Signal word

Warning

**Precautionary statements**

P333+P313 IF SKIN irritation or rash occurs: Get medical advice/attention.  
P321 Specific treatment (see ... on this label).  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P273 Avoid release to the environment.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

**Hazard statements**

H411 Toxic to aquatic life with long lasting effects  
H401 Toxic to aquatic life  
H317 May cause an allergic skin reaction

## SECTION 3: Composition/information on ingredients

### Substance

Product name	: Aminoguanidine bicarbonate
Synonyms	: AMINOGUANIDINE BICARBONATE,hydrazinecarboximidamide carbonate
CAS	: 2582-30-1
EC number	: 219-956-7
MF	: C2H8N4O3
MW	: 136.11

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## SECTION 4: First aid measures

### Description of first aid measures

#### General advice

Consult a physician. Show this material 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. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 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

### Indication of any immediate medical attention and special treatment needed

No data available

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## SECTION 5: Firefighting measures

### Extinguishing media

#### Suitable extinguishing media

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

### Special hazards arising from the substance or mixture

Carbon oxides Nitrogen oxides (NOx)

### Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

## Further information

No data available

## NFPA 704



- HEALTH 2 Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury (e.g. [diethyl ether](#), ammonium phosphate, iodine)
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- FIRE 0 Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 820 °C (1,500 °F) for a period of 5 minutes.(e.g. Carbon tetrachloride)
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- REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, [N<sub>2</sub>](#))
- 
- SPEC.
- HAZ.
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## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Avoid breathing dust.

For personal protection see section 8.

### Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### Precautions for safe handling

### Advice on safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

### **Advice on protection against fire and explosion**

Provide appropriate exhaust ventilation at places where dust is formed.

### **Hygiene measures**

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

For precautions see section 2.2.

### **Conditions for safe storage, including any incompatibilities**

### **Storage conditions**

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

### **Specific end use(s)**

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

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## **SECTION 8: Exposure controls/personal protection**

### **control parameter**

#### **Hazard composition and occupational exposure limits**

Does not contain substances with occupational exposure limits.

### **Exposure controls**

#### **Personal protective equipment**

##### **Eye/face protection**

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

##### **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 Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm Break through time: 480 min

Material tested: Dermatril? (KCL 740 / Aldrich Z677272, Size M)

Splash contact Material: Nitrile rubber

Minimum layer thickness: 0,11 mm Break through time: 480 min

Material tested: Dermatril? (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

Appearance	yellow Crystalline powder, powder
Odour	odorless
Odour Threshold	No data available
pH	8,9 at 5 g/l at 20 °C
Melting point/freezing point	Melting point/range: 170 - 172 °C - dec.
Initial boiling point and boiling range	No data available
Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	The product is not flammable. - Test N.1: Test method for readily combustible solids
Upper/lower flammability or explosive limits	No data available
Vapour pressure	No data available
Vapour density	No data available
Relative density	No data available
Water solubility	5 g/l at 25 °C - soluble
Partition coefficient: n-octanol/water	No data available
Autoignition temperature	No data available
Decomposition temperature	No data available
Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
Explosive properties	No data available
Oxidizing properties	No data available

### Other safety information

No data available

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## SECTION 10: Stability and reactivity

### Reactivity

No data available

### **Chemical stability**

Stable under recommended storage conditions.

### **Possibility of hazardous reactions**

No data available

### **Conditions to avoid**

Heat. Exposure to light. hygroscopic

### **Incompatible materials**

Strong oxidizing agents, Nitric acid, Nitrites

### **Hazardous decomposition products**

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### **Information on toxicological effects**

#### **Acute toxicity**

LD50 Oral - Rat - male - > 5.000 mg/kg Remarks: (ECHA)

LD50 Dermal - Rat - male and female - > 5.000 mg/kg (OECD Test Guideline 402)

#### **Skin corrosion/irritation**

Skin - Rabbit

Result: No skin irritation - 24 h Remarks: (ECHA)

#### **Serious eye damage/eye irritation**

Eyes - Rabbit

Result: No eye irritation - 24 h Remarks: (ECHA)

#### **Respiratory or skin sensitization**

(OECD Test Guideline 406)

#### **Germ cell mutagenicity**

Test Type: In vitro mammalian cell gene mutation test Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476

Result: negative

Test Type: Ames test

Test system: Escherichia coli/Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471

Result: negative

Test Type: unscheduled DNA synthesis assay Species: Rat

Cell type: Liver cells Application Route: Oral

Method: OECD Test Guideline 486 Result: negative

#### **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

### **Toxicity**

LD50 orally in Rabbit: > 5000 mg/kg

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## SECTION 12: Ecological information

### **Toxicity**

#### **Toxicity to fish**

static test LC50 - Danio rerio (zebra fish) - 1.585 mg/l - 96 h Remarks: (ECHA)

#### **Toxicity to algae**

static test ErC50 - Desmodesmus subspicatus (green algae) - 10 mg/l - 72 h

Remarks: (ECHA)

(aminoguanidinium hydrogen carbonate)

#### **Toxicity to bacteria**

### **Persistence and degradability**

Biodegradability aerobic Dissolved organic carbon (DOC) - Exposure time 28 d Result: 38 % - Not readily biodegradable.

(OECD Test Guideline 302B)

### **Bioaccumulative potential**

No data available

### **Mobility in soil**

No data available

### **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.

### **Other adverse effects**

Toxic to aquatic life with long lasting effects. Discharge into the environment must be avoided.

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## SECTION 13: Disposal considerations

### **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 chemical incinerator equipped with an afterburner and scrubber. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

## Contaminated packaging

Dispose of as unused product.

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## SECTION 14: Transport information

### UN number

ADR/RID: 3077 IMDG: 3077 IATA: 3077

### UN proper shipping name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

(aminoguanidinium hydrogen carbonate)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

(aminoguanidinium hydrogen carbonate)

IATA: Environmentally hazardous substance, solid, n.o.s. (aminoguanidinium hydrogen carbonate)

### Transport hazard class(es)

ADR/RID: 9 IMDG: 9 IATA: 9

### Packaging group

ADR/RID: III IMDG: III IATA: III

### Environmental hazards

ADR/RID: yes IMDG Marine pollutant: yes IATA: yes

### Special precautions for user

### Further information

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids. Packages smaller than or equal to 5 kg / L , not dangerous goods of Class 9

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## SECTION 15: Regulatory information

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

#### Regulations on the Safety Management of Hazardous Chemicals

China Catalog of Hazardous chemicals 2015:Listed. website: <https://www.mem.gov.cn/>

#### Measures for Environmental Management of New Chemical Substances



Vietnam National Chemical Inventory: Listed. website: <https://chemicaldata.gov.vn/>  
United States Toxic Substances Control Act (TSCA) Inventory: Listed. website: <https://www.epa.gov/>  
Philippines Inventory of Chemicals and Chemical Substances (PICCS): Listed. website: <https://emb.gov.ph/>  
New Zealand Inventory of Chemicals (NZIoC): Listed. website: <https://www.epa.govt.nz/>  
Korea Existing Chemicals List (KECL): Listed. website: <http://ncis.nier.go.kr>  
European Inventory of Existing Commercial Chemical Substances (EINECS): Listed. website: <https://echa.europa.eu/>  
EC Inventory: Listed.  
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC): Listed. website: <https://www.mee.gov.cn/>

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## SECTION 16: Other information

### Abbreviations and acronyms

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS: Chemical Abstracts Service

EC50: Effective Concentration 50%

IATA: International Air Transportation Association

IMDG: International Maritime Dangerous Goods

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

STEL: Short term exposure limit

TWA: Time Weighted Average

### References

- 【1】 CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- 【2】 ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- 【3】 ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>
- 【4】 eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:  
[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- 【5】 ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- 【6】 Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- 【7】 HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- 【8】 IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- 【9】 IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- 【10】 Sigma-Aldrich, website: <https://www.sigmaaldrich.com/>

#### Disclaimer:

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