

# SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.0  
Creation Date: July 15, 2019  
Revision Date: July 15, 2019

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## SECTION 1: Identification

### 1.1 GHS Product identifier

**Product name** Guanidinium nitrate

### 1.2 Other means of identification

**Product number** -

**Other names** GUN; GuanidineNitratePure; IminoureaNitrate

### 1.3 Recommended use of the chemical and restrictions on use

**Identified uses** Industrial and scientific research use.

**Uses advised against** no data available

### 1.4 Supplier's details

**Company** Shanghai Yansheng Internet Technology Co., Ltd

**Address** 513, A3 / F, green space future center, Fengxian District, Shanghai, 201400, China

**Telephone** +86-4000-6969-66

### 1.5 Emergency phone number

**Emergency phone number** +86-4000-6969-66

**Service hours** Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

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## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

Acute toxicity - Category 4, Oral

Serious eye damage, Category 1

Acute toxicity - Category 4, Inhalation

### 2.2 GHS label elements, including precautionary statements

**Pictogram(s)**



**Signal word** Danger

**Hazard statement(s)** H302 Harmful if swallowed  
H318 Causes serious eye damage  
H332 Harmful if inhaled

**Precautionary statement(s)**

**Prevention** P264 Wash ... thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.

<b>Response</b>	<p>P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...</p> <p>P261 Avoid breathing dust/fume/gas/mist/vapours/spray.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P301+P317 IF SWALLOWED: Get medical help.</p> <p>P330 Rinse mouth.</p> <p>P305+P354+P338 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P317 Get medical help.</p> <p>P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.</p>
<b>Storage</b>	none
<b>Disposal</b>	P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

### 2.3 Other hazards which do not result in classification

no data available

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
Guanidinium nitrate	Guanidinium nitrate	506-93-4	208-060-1	100%

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## SECTION 4: First-aid measures

### 4.1 Description of necessary first-aid measures

#### If inhaled

Fresh air, rest.

#### Following skin contact

First rinse with plenty of water for at least 15 minutes, then remove contaminated clothes and rinse again.

#### Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

#### Following ingestion

Do NOT induce vomiting. Give one or two glasses of water to drink. Refer for medical attention .

### 4.2 Most important symptoms/effects, acute and delayed

Excerpt from ERG Guide 143 [Oxidizers (Unstable)]: TOXIC; inhalation, ingestion or contact (skin, eyes) with vapors, dusts or substance may cause severe injury, burns or death. Fire may produce irritating and/or toxic gases. Toxic fumes or dust may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Runoff from fire control or dilution water may cause pollution. (ERG, 2016)

### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR if necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on the left side (head-down position, if

possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Poisons A and B

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## **SECTION 5: Fire-fighting measures**

### **5.1 Suitable extinguishing media**

If material on fire or involved in fire: Flood with water. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible.

### **5.2 Specific hazards arising from the chemical**

Excerpt from ERG Guide 143 [Oxidizers (Unstable)]: May explode from friction, heat or contamination. These substances will accelerate burning when involved in a fire. May ignite combustibles (wood, paper, oil, clothing, etc.). Some will react explosively with hydrocarbons (fuels). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2016)

### **5.3 Special protective actions for fire-fighters**

Use water in large amounts. In case of fire: keep drums, etc., cool by spraying with water.

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## **SECTION 6: Accidental release measures**

### **6.1 Personal precautions, protective equipment and emergency procedures**

Evacuate danger area! Consult an expert! Do NOT wash away into sewer. Do NOT let this chemical enter the environment. Do NOT absorb in saw-dust or other combustible absorbents. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting.

### **6.2 Environmental precautions**

Evacuate danger area! Consult an expert! Do NOT wash away into sewer. Do NOT let this chemical enter the environment. Do NOT absorb in saw-dust or other combustible absorbents. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting.

### **6.3 Methods and materials for containment and cleaning up**

Evacuate danger area and consult an expert in case of large spill. Do NOT wash away into sewer. Do NOT let this chemical enter the environment. Do NOT absorb in saw-dust or other combustible absorbents. Sweep spilled substance into covered containers; if appropriate, moisten first to prevent dusting.

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## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe handling**

NO open flames, NO sparks and NO smoking. NO contact with flammables. Do NOT expose to friction or shock. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

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

Fireproof. Store in an area without drain or sewer access. Separated from combustible substances and reducing agents. Fireproof. Store in an area without drain or sewer access. Separated from combustible and reducing substances.

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

### **8.1 Control parameters**

#### **Occupational Exposure limit values**

no data available

#### **Biological limit values**

no data available

## 8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

## 8.3 Individual protection measures, such as personal protective equipment (PPE)

### Eye/face protection

Wear safety goggles.

### Skin protection

Protective gloves.

### Respiratory protection

Use local exhaust or breathing protection.

### Thermal hazards

no data available

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## SECTION 9: Physical and chemical properties and safety characteristics

<b>Physical state</b>	Solid. Crystalline.
<b>Colour</b>	White.
<b>Odour</b>	no data available
<b>Melting point/freezing point</b>	212 - 217 °C.
<b>Boiling point or initial boiling point and boiling range</b>	Has decomposed before boiling
<b>Flammability</b>	Gives off irritating or toxic fumes (or gases) in a fire.
<b>Lower and upper explosion limit/flammability limit</b>	no data available
<b>Flash point</b>	34.2°C
<b>Auto-ignition temperature</b>	no data available
<b>Decomposition temperature</b>	no data available
<b>pH</b>	Aq solution is neutral
<b>Kinematic viscosity</b>	no data available
<b>Solubility</b>	Miscible with water
<b>Partition coefficient n-octanol/water</b>	log Pow = < -1.7. Temperature:20 °C.
<b>Vapour pressure</b>	no data available
<b>Density and/or relative density</b>	1.44 g/cm <sup>3</sup> . Temperature:30 °C.
<b>Relative vapour density</b>	no data available
<b>Particle characteristics</b>	no data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

May decompose explosively on shock, friction or concussion. May explode on heating. On combustion, forms toxic and corrosive fumes including nitric acid and nitrogen oxides. The substance is a strong oxidant. It reacts with combustible and reducing materials.

### 10.2 Chemical stability

no data available

### 10.3 Possibility of hazardous reactions

Explosive. Gives off irritating or toxic fumes (or gases) in a fire. GUANIDINE NITRATE can explode. Demolished an autoclave built to withstand 50 atmospheres when it exploded as it was being synthesized from ammonium thiocyanate and lead nitrate [C. Angew Chem. 49:23(1936)]. Acts as an oxidizing agent with organic matter.

#### 10.4 Conditions to avoid

no data available

#### 10.5 Incompatible materials

no data available

#### 10.6 Hazardous decomposition products

When heated to decomposition it emits very toxic fumes of Nitric acid and /Nitrogen oxide/.

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### SECTION 11: Toxicological information

#### Acute toxicity

- Oral: LD50 - rat (male) - 989.6 mg/kg bw. Remarks: LD50 = 989.6 +/- 68.7.
- Inhalation: LC50 - rat (female) - 3.181 mg/L air (analytical).
- Dermal: LD50 - rabbit (male/female) - > 2 000 mg/kg bw.

#### Skin corrosion/irritation

no data available

#### Serious eye damage/irritation

no data available

#### Respiratory or skin sensitization

no data available

#### Germ cell mutagenicity

no data available

#### Carcinogenicity

no data available

#### Reproductive toxicity

no data available

#### STOT-single exposure

The substance is severely irritating to the eyes and skin.

#### STOT-repeated exposure

no data available

#### Aspiration hazard

A nuisance-causing concentration of airborne particles can be reached quickly when dispersed, especially if powdered.

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### SECTION 12: Ecological information

#### 12.1 Toxicity

- Toxicity to fish: NOEC - *Leuciscus idus* - 1 800 mg/L - 48 h.
- Toxicity to daphnia and other aquatic invertebrates: EC50 - *Daphnia magna* - 70.2 mg/L - 48 h.
- Toxicity to algae: EC50 - *Pseudokirchneriella subcapitata* (previous names: *Raphidocelis subcapitata*, *Selenastrum capricornutum*) - 11.8 mg/L - 72 h.
- Toxicity to microorganisms: EC10 - *Pseudomonas putida* - 831.8 mg/L - 18 h.

## 12.2 Persistence and degradability

no data available

## 12.3 Bioaccumulative potential

no data available

## 12.4 Mobility in soil

no data available

## 12.5 Other adverse effects

no data available

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## SECTION 13: Disposal considerations

### 13.1 Disposal methods

#### Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

#### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

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## SECTION 14: Transport information

### 14.1 UN Number

ADR/RID: UN1467 (For reference only, please check.)

IMDG: UN1467 (For reference only, please check.)

IATA: UN1467 (For reference only, please check.)

### 14.2 UN Proper Shipping Name

ADR/RID: GUANIDINE NITRATE (For reference only, please check.)

IMDG: GUANIDINE NITRATE (For reference only, please check.)

IATA: GUANIDINE NITRATE (For reference only, please check.)

### 14.3 Transport hazard class(es)

ADR/RID: 5.1 (For reference only, please check.)

IMDG: 5.1 (For reference only, please check.)

IATA: 5.1 (For reference only, please check.)

### 14.4 Packing group, if applicable

ADR/RID: III (For reference only, please check.)

IMDG: III (For reference only, please check.)

IATA: III (For reference only, please check.)

### 14.5 Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

### 14.6 Special precautions for user

no data available

### 14.7 Transport in bulk according to IMO instruments

no data available

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## SECTION 15: Regulatory information

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

Chemical name	Common names and synonyms	CAS number	EC number
Guanidinium nitrate	Guanidinium nitrate	506-93-4	208-060-1
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Listed.

## SECTION 16: Other information

### Information on revision

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### Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

### References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- 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)
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

### Other Information

Rinse contaminated clothing with plenty of water because of fire hazard.

**Any questions regarding this SDS, Please send your inquiry to [sds@xixisis.com](mailto:sds@xixisis.com)**

*Disclaimer: 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*

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