



## Safety Data Sheet

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### 1. Identification of the substance/mixture and of the company/undertaking

#### Product identifier:

Product name: Guanidine hydrochloride

Product code(SDS NO): 3504E-1

#### Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

Address: 3-1, Honmachibashi, Chuo-ku, Osaka 540-0029, JAPAN

Division: Safety Management Dept. of Chemicals

Telephone number: +81-6-6946-8061

FAX: +81-6-6946-1607

e-mail address: kagakuhinanzekenri@kishida.co.jp

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### 2. Hazards identification

#### GHS classification and label elements of the product

#### Classification of the substance or mixture

##### HEALTH HAZARDS

Acute toxicity Oral: Category 4

Skin corrosion/irritation: Category 2

Serious eye damage/eye irritation: Category 2A

(Note) GHS classification without description: Not applicable/Out of classification/Not classifiable

#### Label elements



Signal word: Warning

#### HAZARD STATEMENT

Harmful if swallowed

Causes skin irritation

Causes serious eye irritation

#### PRECAUTIONARY STATEMENT

##### Prevention

Wash contaminated parts thoroughly after handling.

Wear protective gloves.

Wear eye protection/face protection.

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

##### Response

IF ON SKIN: Wash with plenty of soap and water.

If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

Rinse mouth.

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

##### Disposal

Dispose of contents/container in accordance with local/national regulation.



### 3. Composition/information on ingredients

#### Mixture/Substance selection:

##### Substance

Ingredient name: Guanidine hydrochloride

Content(%): 98(min)

Chemical formula:  $\text{NH}_2\text{C}(\text{NH}_2)_2 \cdot \text{HCl}$

Chemicals No, Japan: 2-1773

CAS No.: 50-01-1

MW: 95.53

ECNO: 200-002-3

Note : The figures shown above are not the specifications of the product.

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### 4. First-aid measures

#### Descriptions of first-aid measures

##### IF INHALED

Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

##### IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water/shower.

Wash with plenty of soap and water.

If skin irritation or rash occurs: Get medical advice/attention.

##### IF IN EYES

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

##### IF SWALLOWED

Rinse mouth.

Call a POISON CENTER or doctor/physician if you feel unwell.

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### 5. Fire-fighting measures

#### Extinguishing media

##### Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

#### Specific hazards arising from the substance or mixture

Containers may explode when heated.

Fire may produce irritating, corrosive and/or toxic gases.

#### Advice for firefighters

##### Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

##### Special protective equipment and precautions for fire-fighters

Wear fire/flame resistant/retardant clothing.

Wear protective gloves/protective clothing/eye protection/face protection.

Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.

**6. Accidental release measures**

## Personnel precautions, protective equipment and emergency procedures

- Ventilate area after material pick up is complete.

- Wear proper protective equipment.

## Methods and materials for containment and cleaning up

- Sweep up, place in a bag and hold for waste disposal.

## Preventive measures for secondary accident

- Collect spillage.

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**7. Handling and storage**

## Precautions for safe handling

## Preventive measures

- (Protective measures against fire and explosion)

- Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

## Exhaust/ventilator

- Exhaust/ventilator should be available.

## Safety treatments

- Avoid contact with skin.

- Avoid contact with eyes.

## Safety Measures/Incompatibility

- Wear protective gloves, protective clothing or face protection.

- Wear eye protection/face protection.

- When using do not eat, drink or smoke.

## Conditions for safe storage, including any incompatibilities

## Recommendation for storage

- Keep container tightly closed.

- Store in a cool, dry place. Do not store in direct sunlight.

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**8. Exposure controls/personal protection**

## Exposure controls

## Appropriate engineering controls

- Do not use in areas without adequate ventilation.

- Eye wash station should be available.

- Washing facilities should be available.

## Individual protection measures

## Respiratory protection

- Wear respiratory protection.

## Hand protection

- Wear protective gloves.

## Eye protection

- Wear eye/face protection.

## Safety and Health measures

- Wash ... thoroughly after handling.

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

- Take off contaminated clothing and wash it before reuse.



## 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical properties

Appearance: Crystals or crystalline powder

Color: Colorless to white

Odor: Odourless

Phase change temperature

Initial Boiling Point/Boiling point data N.A.

Melting point/Freezing point: 178 through 185°C

Decomposition temperature data N.A.

Flash point data N.A.

Auto-ignition temperature data N.A.

Explosive properties data N.A.

Vapor pressure data N.A.

Vapor density data N.A.

Specific gravity/Density: 1.3g/cm<sup>3</sup>

Solubility

Solubility in water: 215 g/100 ml (20°C)

n-Octanol /water partition coefficient: log Pow-1.7

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## 10. Stability and Reactivity

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

On combustion, forms toxic and corrosive fumes including hydrogen chloride and nitrogen oxides. The solution in water is a weak acid. (ICSC 0894)

Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

Incompatible materials

Bases

Hazardous decomposition products

Nitrogen oxides, Hydrogen chloride

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## 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]

(Guanidine hydrochloride)

rat LD50=774 mg/kg (IUCLID, 2000)

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]

(Guanidine hydrochloride)

rabbit highly irritating (IUCLID, 2000)

Serious eye damage /irritation

[GHS Cat. Japan, base data]

(Guanidine hydrochloride)

rabbit irritating (IUCLID, 2000)

No Allergenic and sensitizing effects data available



No Mutagenic effects data available  
No Carcinogenic effects data available  
No Teratogenic effects data available  
No reproductive toxicity data available  
No STOT-single/repeated exposure data available  
No Aspiration hazard data available

Additional data

May cause lung disorders by massive inhalation of powdered substance.  
-e.g. fibrosis of lung tissue, cough, sputum, breath shortness, dyspnea, decline of lung function, interstitial lung disease, pneumothorax

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## 12. Ecological Information

Ecotoxicity

No Aquatic toxicity data available

Water solubility

(Guanidine hydrochloride)  
215 g/100 ml (20°C) (ICSC, 2000)

No Persistence and degradability data available

Bioaccumulative potential

(Guanidine hydrochloride)  
log Pow=-1.7 (ICSC, 2000)

No Mobility in soil data available

Ozone depleting chemical data not available

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## 13. Disposal considerations

Waste treatment methods

Dispose of contents/container in accordance with local/national regulation.

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## 14. Transport Information

Not applicable to UN NO.

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## 15. Regulatory Information

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

US major regulations

TSCA

Guanidine hydrochloride

Other regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

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## 16. Other information

GHS classification and labelling

Acute Tox. 4: H302 Harmful if swallowed  
Skin Irrit. 2: H315 Causes skin irritation  
Eye Irrit. 2A: H319 Causes serious eye irritation

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (5th ed., 2013), UN Recommendations on the TRANSPORT OF DANGEROUS GOODS 19th edit., 2015 UN Classification, labelling and packaging of substances and mixtures (table3-1 ECNO6182012)



Guanidine hydrochloride, KISHIDA CHEMICAL CO., LTD., 3504E-1, 20/04/2018

2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2017 TLVs and BEIs. (ACGIH)

<http://monographs.iarc.fr/ENG/Classification/index.php>

Supplier's data/information

Hazard Communication Standard – 2012

#### General Disclaimer

This information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we assume no liability resulting from its use. It is advised to make their own tests to determine the safety and suitability of each such product or combination for their own purposes.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2016).