

Safety Data Sheet

1. Chemical product and company identification

Product name : Guanidine hydrochloride

Company information

Name of manufacturer : KANTO CHEMICAL CO., INC.
Address : 2-1, Nihonbashi, Muromachi 2-Chome, Chuo-Ku, Tokyo, 103-0022, JP
Name of section : Business Administration Department, Reagent Division
Telephone number : +81-3-6214-1090
Facsimile number : +81-3-3241-1047
Mail address : BC32@kanto.co.jp
Reference No : 17051
Recommended use : For research use only
Restrictions on use : Seek expert judgment when using the product for applications other than those recommended.

2. Hazards identification

GHS classification

Health hazards	Acute toxicity (oral)	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A

Hazard
pictograms



Signal word : Warning

Hazard statements : Harmful if swallowed
Causes skin irritation
Causes serious eye irritation

Precautionary statements

Prevention : Wash hands, forearms and face thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/protective clothing/eye protection/face protection.

Response : IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
IF ON SKIN: Wash with plenty of water.
IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
Specific treatment (see supplemental first aid instruction on this label).
Rinse mouth.
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.



Disposal : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

3. Composition/information on ingredients

Distinction of substance or mixture : Substance

Synonyms : Guanidinium chloride

Chemical name	Concentration (%)	Formula	TSCA	EC-No.	CAS RN
Guanidine hydrochloride	≥ 98	CH ₅ N ₃ · HCl	Listed	200-002-3	50-01-1

4. First aid measures

First aid measures

First-aid measures after inhalation : Remove the victim to fresh air, and make him blow his nose and gargle.

First-aid measures after skin contact : Wash the affected areas under running water.

First-aid measures after eye contact : Wash the affected areas under running water for at least 15 minutes. If necessary, get medical treatment.

First-aid measures after ingestion : Rinse mouth with water. Give the victim one or two glasses of water or milk. Do not induce vomiting. Get medical treatment as soon as possible.

Personal Protection in First Aid and Measures : Rescuers should wear proper protective equipment like rubber gloves, goggles.

5. Fire fighting measures

Suitable extinguishing media : Water, dry chemical powder, carbon dioxide, dry sand, foam

Unsuitable extinguishing media : None

Firefighting instructions : Move containers from fire area if it can be done without risk, if not possible, apply water from a safe distance to cool and protect surrounding area.

Fight fire from windward.

Dry chemical powder, carbon dioxide or dry sand should be used for small fires. Foam extinguisher is effective for a large scale fire.

Personal protection (Emergency response) : Firefighters should wear protective equipment.

6. Accidental release measures

Personal Precautions, Protective Equipment and Emergency Procedures

General measures : Wear proper protective equipment and avoid contact with skin and inhalation of dust. Conduct operations from upwind and evacuate people downwind.

Environmental precautions

Environmental precautions : Attention should be given to avoid discharge of spilled product into rivers and resulting environmental damage. When diluting spill with large amounts of water, discharge of untreated



wastewater into the environment must be avoided.

Methods and Equipment for Containment and Cleaning up

For containment : Sweep up in a chemical waste container. Flush contaminated area with copious amounts of water.

7. Handling and storage

Handling

Technical measures : Wear appropriate protective equipment to avoid contact with skin or inhalation of dust.

Precautions for safe handling : Avoid formation of dust and aerosols.
Do not allow contact with oxidizing substances.

Storage

Storage conditions : Store the bottle tightly closed in a cool, dark place because the substance is hygroscopic.

Material used in packaging/containers : Glass, polyethylene, polypropylene.

8. Exposure controls / Personal protection equipment

ACGIH TWA	Not established
-----------	-----------------

Appropriate engineering controls : Install a local ventilation system in case of dusty condition.

Protective equipment

Respiratory protection : Dust mask

Hand protection : Impervious protective gloves

Eye protection : Safety goggles

Skin and body protection : Protective clothing, protective boots

9. Physical and chemical properties

Physical state : Solid

Color : White

Odor : Odorless

pH : The aqueous solution is weakly acidity.

Melting point : 178 - 185 ° C

Freezing point : No data available

Boiling point : No data available

Flash point : No data available

Auto-ignition temperature : No data available

Decomposition temperature : > 231 ° C

Flammability : Flammable solid

Vapor pressure : No data available

Relative density : No data available

Density : 1.3 g/cm³ (20°C)

Relative gas density : No data available

Solubility : Water: 215 g/100mL (20°C)
Organic solvent: Soluble in ethanol, methanol.



Partition coefficient n-octanol/water (log Pow) : < -1.7
Explosive limits (vol %) : No data available
Viscosity, kinematic : No data available
Particle characteristics : No data available

10. Stability and reactivity

Reactivity : May react with oxidizing substances.
Chemical stability : Stable under normal conditions. Hydroscopic.
Possibility of hazardous reactions : Stable under normal conditions of use.
Conditions to avoid : Light, heat, moisture.
Incompatible materials : Oxidizing substances.
Hazardous decomposition products : Carbon monoxide, nitrogen oxides, chlorine, hydrogen chloride.

11. Toxicological information

Acute toxicity (oral) : Harmful if swallowed
rat LD50=774 mg/kg
Acute toxicity (dermal) : No classification
rabbit LD50>2000 mg/kg
Acute toxicity (inhalation) : No classification (gas)
Classification not possible (vapor)
No classification (dust, mist)
rat LC50=5.319 mg/L/4h
Skin corrosion/irritation : Causes skin irritation
Since the substance showed to be highly irritating in a test using rabbits (EPA guidelines) and it is rated Xi; R36/38 in EU classification, it was classified into category 2.
Serious eye damage/irritation : Causes serious eye irritation
Since the substance showed to be irritating in a test using rabbits (EPA guidelines) and it is rated Xi; R36/38 in EU classification, it was classified into category 2A.
Respiratory sensitization : Classification not possible
Skin sensitization : Classification not possible
It is described that in a skin sensitization test using guinea pigs (Buehler test) (EPA guideline), the substance was not sensitizing. However, since it is a List 2 datum, the substance was classified into "Classification not possible".
Germ cell mutagenicity : Classification not possible
Since no data of in vivo mutagenicity tests are available, classification is not possible. As relevant information, an Ames test (in vitro mutagenicity test) yielded negative results.
Carcinogenicity : Classification not possible
Reproductive toxicity : Classification not possible
STOT-single exposure : Classification not possible
STOT-repeated exposure : Classification not possible
Aspiration hazard : Classification not possible

12. Ecological information

Ecotoxicity

Aquatic acute : Classification not possible



Aquatic chronic : Classification not possible

Persistence and degradability

Not readily biodegradable
BOD : 0%

Bioaccumulative potential

Low bioconcentration
BCF : ≤ 0.1 – $0.1(20 \mu\text{g/L})$, ≤ 0.1 – $0.1(2 \mu\text{g/L})$

Mobility in soil

No additional information available

Hazardous to the ozone layer

Ozone : Classification not possible

13. Disposal considerations

Ecological waste information : Mixed with flammable organic solvents and burn in a chemical incinerator equipped with an afterburner and a scrubber. Or entrust approved waste disposal companies with the disposal.

Contaminated container and packaging : In case of disposal of empty bottles, dispose bottles after removing the content thoroughly.

14. Transport information

International Regulations

Transport by sea(IMDG)

UN-No. (IMDG) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Packing group (IMDG) : Not applicable
Transport hazard class(es) (IMDG) : Not applicable

Air transport(IATA)

UN-No. (IATA) : Not applicable
Proper Shipping Name (IATA) : Not applicable
Packing group (IATA) : Not applicable
Transport hazard class(es) (IATA) : Not applicable

Marine pollutant : Not applicable

15. Regulatory information

Regulatory information with regard to this substance in your country or region should be examined by your own responsibility.

16. Other information

Data sources : NITE Chemical Risk Information Platform (NITE-CHRIP), National Institute of Technology and Evaluation.
ICSC Card (2009) .
ECHA (European Chemicals Agency).

The information contained herein is based on several references and the present state of our knowledge. However the SDS does not always cover all information about the product, handle the product carefully. The information is intended to ordinary usage, in case of particular handlings,



conduct appropriate safety measurements. The information herein is only provision of information, and it does not represent a guarantee the properties of the product. The Safety Data Sheet (SDS) is prepared based on JIS Z7253.

