

# SAFETY DATA SHEET

## 1. Identification

**Product identifier:** Guanidine Hydrochloride Solution

### Other means of identification

**Product No.:** 0515, 0516, 0561, 0563, 0570, 0834, 4068

### Recommended use and restriction on use

**Recommended use:** Not determined.

**Restrictions on use:** For industrial use only.

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

	Avantor Performance Materials, LLC. 3477 Corporate Parkway Center Valley, PA 18034
Telephone:	
	Customer Service: 855-282-6867
Fax:	610-573-2610
Contact Person:	Environmental Health & Safety
E-mail:	info@avantormaterials.com

### Emergency telephone number:

CHEMTREC: 1-800-424-9300 within US and Canada

## 2. Hazard(s) identification

### Hazard Classification

#### Health Hazards

Acute toxicity (Oral)	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2A
Specific Target Organ Toxicity - Single Exposure	Category 3 <sup>1</sup>

#### Target Organs

1. Respiratory tract irritation.

#### Unknown toxicity - Health

Acute toxicity, dermal	50 %
Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	100 %

#### Unknown toxicity - Environment

Acute hazards to the aquatic environment	50 %
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Chronic hazards to the aquatic environment 50 %

## Label Elements

### Hazard Symbol:



**Signal Word:** Warning

**Hazard Statement:** Harmful if swallowed.  
Causes skin irritation.  
Causes serious eye irritation.  
May cause respiratory irritation.

### Precautionary Statements

**Prevention:** Do not eat, drink or smoke when using this product. Avoid breathing dust. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Wash hands thoroughly after handling.

**Response:** IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth. 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 ON SKIN: Wash with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing.

**Storage:** Store in a well-ventilated place. Keep container tightly closed. Store locked up.

**Disposal:** 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.

**Other hazards which do not result in GHS classification:** None.

## 3. Composition/information on ingredients

### Mixtures

Chemical name	Common name and synonyms	CAS number	Content in percent (%)*
GUANIDINE HYDROCHLORIDE		50-01-1	50 - 80%

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

#### 4. First-aid measures

<b>General information:</b>	Ensure that emergency personnel are aware of the material involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.
<b>Ingestion:</b>	Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
<b>Inhalation:</b>	Move to fresh air. If breathing stops, provide artificial respiration. Get medical attention.
<b>Skin Contact:</b>	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.
<b>Eye contact:</b>	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

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

<b>Symptoms:</b>	Irritating to eyes, respiratory system and skin. Narcotic effect.
<b>Hazards:</b>	Irritant.

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

<b>Treatment:</b>	Treat symptomatically. Symptoms may be delayed.
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#### 5. Fire-fighting measures

<b>General Fire Hazards:</b>	In case of fire and/or explosion do not breathe fumes.
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#### Suitable (and unsuitable) extinguishing media

<b>Suitable extinguishing media:</b>	Water spray, fog, CO2, dry chemical, or regular foam.
<b>Unsuitable extinguishing media:</b>	None known.

<b>Specific hazards arising from the chemical:</b>	None known.
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#### Special protective equipment and precautions for firefighters

<b>Special fire fighting procedures:</b>	Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.
<b>Special protective equipment for fire-fighters:</b>	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

#### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures:</b>	See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.
<b>Methods and material for containment and cleaning up:</b>	Neutralize with lime or soda ash. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination.
<b>Notification Procedures:</b>	Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.
<b>Environmental Precautions:</b>	Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

## 7. Handling and storage

<b>Precautions for safe handling:</b>	Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Wash hands thoroughly after handling. See Section 8 of the SDS for Personal Protective Equipment.
<b>Conditions for safe storage, including any incompatibilities:</b>	Keep away from food, drink and animal feeding stuffs. Store in tightly closed original container in a dry, cool and well-ventilated place.

## 8. Exposure controls/personal protection

### Control Parameters

#### Occupational Exposure Limits

None of the components have assigned exposure limits.

#### Appropriate Engineering Controls

Adequate ventilation should be provided whenever the material is heated or mists are generated.

### Individual protection measures, such as personal protective equipment

<b>General information:</b>	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.
<b>Eye/face protection:</b>	Wear safety glasses with side shields (or goggles).
<b>Skin Protection</b>	
<b>Hand Protection:</b>	Wear protective gloves.
<b>Other:</b>	Wear suitable protective clothing.
<b>Respiratory Protection:</b>	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

<b>Hygiene measures:</b>	Provide eyewash station and safety shower. Do not eat, drink or smoke when using the product. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Wash contaminated clothing before reuse.
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## 9. Physical and chemical properties

### Appearance

<b>Physical state:</b>	Liquid
<b>Form:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Odorless
<b>Odor threshold:</b>	No data available.
<b>pH:</b>	4,5 - 6,0
<b>Melting point/freezing point:</b>	No data available.
<b>Initial boiling point and boiling range:</b>	No data available.
<b>Flash Point:</b>	Not applicable
<b>Evaporation rate:</b>	As water
<b>Flammability (solid, gas):</b>	No data available.
<b>Upper/lower limit on flammability or explosive limits</b>	
<b>Flammability limit - upper (%):</b>	No data available.
<b>Flammability limit - lower (%):</b>	No data available.
<b>Explosive limit - upper (%):</b>	No data available.
<b>Explosive limit - lower (%):</b>	No data available.
<b>Vapor pressure:</b>	As water
<b>Vapor density:</b>	No data available.
<b>Density:</b>	1,19 g/ml (20 °C)
<b>Relative density:</b>	1,19 (20 °C)
<b>Solubility(ies)</b>	
<b>Solubility in water:</b>	Completely Soluble
<b>Solubility (other):</b>	No data available.
<b>Partition coefficient (n-octanol/water):</b>	No data available.
<b>Auto-ignition temperature:</b>	No data available.
<b>Decomposition temperature:</b>	No data available.
<b>Viscosity:</b>	No data available.

## 10. Stability and reactivity

<b>Reactivity:</b>	No dangerous reaction known under conditions of normal use.
<b>Chemical Stability:</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions:</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid:</b>	Contact with incompatible materials. Excessive heat.
<b>Incompatible Materials:</b>	Strong oxidizing agents. Chlorinated compounds. Inorganic salts. Acids.
<b>Hazardous Decomposition Products:</b>	Thermal decomposition may produce oxides of carbon and nitrogen. Hydrogen chloride.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation:</b>	May cause irritation to the respiratory system.
<b>Skin Contact:</b>	Causes skin irritation.
<b>Eye contact:</b>	Causes serious eye irritation.
<b>Ingestion:</b>	Harmful if swallowed.

### Information on toxicological effects

#### Acute toxicity (list all possible routes of exposure)

<b>Oral</b>	
<b>Product:</b>	LD 50 (Rat): 1.900 mg/kg
<b>Dermal</b>	
<b>Product:</b>	No data available.
<b>Inhalation</b>	
<b>Product:</b>	No data available.

#### Repeated dose toxicity

<b>Product:</b>	No data available.
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#### Skin Corrosion/Irritation

<b>Product:</b>	Causes skin irritation.
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#### Serious Eye Damage/Eye Irritation

<b>Product:</b>	Causes serious eye irritation.
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#### Respiratory or Skin Sensitization

<b>Product:</b>	Not a skin sensitizer.
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#### Carcinogenicity

<b>Product:</b>	This substance has no evidence of carcinogenic properties.
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#### IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

#### US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

#### ACGIH Carcinogen List:

No carcinogenic components identified

#### Germ Cell Mutagenicity

<b>In vitro</b>	
<b>Product:</b>	No mutagenic components identified
<b>In vivo</b>	
<b>Product:</b>	No mutagenic components identified

#### Reproductive toxicity

SDS\_CA - SDSMIX000539

**Product:** No components toxic to reproduction

**Specific Target Organ Toxicity - Single Exposure**

**Product:** Respiratory tract irritation.

**Specific Target Organ Toxicity - Repeated Exposure**

**Product:** No data available.

**Aspiration Hazard**

**Product:** Not classified

**Other effects:** None known.

## 12. Ecological information

**Ecotoxicity:**

**Acute hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Aquatic Invertebrates**

**Product:** No data available.

**Chronic hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Aquatic Invertebrates**

**Product:** No data available.

**Toxicity to Aquatic Plants**

**Product:** No data available.

**Persistence and Degradability**

**Biodegradation**

**Product:** There are no data on the degradability of this product.

**BOD/COD Ratio**

**Product:** No data available.

**Bioaccumulative potential**

**Bioconcentration Factor (BCF)**

**Product:** No data available on bioaccumulation.

**Partition Coefficient n-octanol / water (log Kow)**

**Product:** No data available.

**Mobility in soil:**

The product is water soluble and may spread in water systems.

**Other adverse effects:**

The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

### 13. Disposal considerations

<b>Disposal instructions:</b>	Discharge, treatment, or disposal may be subject to national, state, or local laws.
<b>Contaminated Packaging:</b>	Since emptied containers retain product residue, follow label warnings even after container is emptied.

### 14. Transport information

**TDG**

Not regulated.

**IMDG**

Not regulated.

**IATA**

Not regulated.

**Transport in bulk according to Annex II of MARPOL and the IBC Code:** Not applicable

### 15. Regulatory information

**Canada Federal Regulations**

List of Toxic Substances (CEPA, Schedule 1)

Export Control List (CEPA 1999, Schedule 3)

National Pollutant Release Inventory (NPRI)

Greenhouse Gases

Controlled Drugs and Substances Act

Precursor Control Regulations

**International regulations**

**Montreal protocol**

Not applicable

**Stockholm convention**

Not applicable

**Rotterdam convention**

Not applicable

**Kyoto protocol**

Not applicable



**Inventory Status:**

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	Not in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	Not in compliance with the inventory.
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

**16. Other information, including date of preparation or last revision**

**Revision Date:** 21.05.2018

**Version #:** 2.1

**Further Information:** No data available.

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