

## 1. PRODUCT AND COMPANY IDENTIFICATION

### Product Identifier

**Product Name** Guanidine Hydrochloride

### Other means of identification

**Product Code(s)** A2719

**Synonyms** Aminoformamidine hydrochloride ; Guanidine Monohydrochloride, Guanidinium Chloride, Guanidinium Hydrochloride ;

**Product Use** For Laboratory Research Use Only.

### Supplier/Manufacturer

Biomatik Corporation  
9-140 McGovern Dr.  
Cambridge, Ontario N3H 4R7  
Canada

**Telephone Number** 1-519-489-7195

**E-mail Address** info@biomatik.com

**Emergency Telephone Number** Chemtrec 1-800-424-9300

## 2. HAZARDS IDENTIFICATION

### Classification

#### **OSHA Regulatory Status**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute Toxicity - Oral	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2

### Label elements

#### **Emergency Overview**

#### **Warning**

#### **Hazard statements**

H302 - Harmful if swallowed

H315 - Causes skin irritation

H319 - Causes serious eye irritation



**Appearance** White **Physical State** Crystalline Powder **Odor** No information available

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response**

Specific treatment (see .? on this label)  
IF ON SKIN: Wash with plenty of soap and water  
If skin irritation occurs: Get medical advice/attention  
Take off contaminated clothing and wash before reuse  
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
Rinse mouth

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not regulated

**Other Information**

Unknown Acute Toxicity 0 % of the mixture consists of ingredient(s) of unknown toxicity

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**Synonyms** Aminoformamidine hydrochloride ;, Guanidine Monohydrochloride, Guanidinium Chloride, Guanidinium Hydrochloride ;

Chemical Name	CAS-No	EC No.	Weight %	Trade Secret
Guanidine hydrochloride	50-01-1	200-002-3	95-100	Not applicable

**4. FIRST AID MEASURES****First Aid Measures**

**General Advice** Consult a physician. Show this safety data sheet to the doctor in attendance.

**Eye Contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin Contact** Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.

**Inhalation** Move to fresh air. If not breathing, give artificial respiration.

**Ingestion** Clean mouth with water and afterwards drink plenty of water. Consult a physician.

**Most important symptoms and effects, both acute and delayed**

**Most Important Symptoms/Effects** No information available.

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

**Notes to Physician** Treat symptomatically.

**5. FIRE-FIGHTING MEASURES****Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media** No information available.

**Specific Hazards Arising from the Chemical**

No information available.

**Hazardous Combustion Products** Carbon oxides. Nitrogen oxides (NOx). Hydrogen Chloride gas. Emits toxic fumes.

**Explosion Data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

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

**Personal protection** Ensure adequate ventilation, especially in confined areas.

**Environmental Precautions**

**Environmental Precautions** See Section 12 for additional Ecological information.

**Methods and material for containment and cleaning up**

**Methods for Containment** Prevent further leakage or spillage if safe to do so.

**Methods for Cleaning Up** Avoid dust formation. Pick up and transfer to properly labeled containers. Ventilate area and wash spill site after material pickup is complete.

## 7. HANDLING AND STORAGE

**Precautions for Safe Handling**

**Handling** Handle in accordance with good industrial hygiene and safety practice. Wear personal protective equipment. Hygroscopic.

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

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place. Hygroscopic.

**Incompatible Products** Strong oxidizing agents.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Guidelines** This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Guanidine hydrochloride	-	-	-

**Appropriate engineering controls**

**Engineering Measures** Showers  
Eyewash stations  
Ventilation systems.

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

<b>Eye/Face Protection</b>	Avoid contact with eyes. Safety glasses with side-shields.
<b>Skin and Body Protection</b>	Wear protective gloves/clothing.
<b>Respiratory Protection</b>	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
<b>Hygiene Measures</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical State</b>	Crystalline Powder	<b>Odor</b>	No information available
<b>Appearance</b>	White	<b>Odor Threshold</b>	No information available
<b>Color</b>	No information available		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	approx. 6	
<b>Melting point/freezing point</b>	180 - 185 °C / 356 - 365 °F	
<b>Boiling Point/Range</b>	No information available	
<b>Flash Point (High in °C)</b>	No information available	
<b>Evaporation Rate</b>	No information available	
<b>Flammability (solid, gas)</b>	No information available	
<b>Flammability Limit in Air</b>		
<b>Upper flammability limit:</b>	No information available	
<b>Lower flammability limit:</b>	No information available	
<b>Vapor pressure</b>	No information available	
<b>Vapor Density</b>	No information available	
<b>Specific Gravity</b>	1.4	
<b>Water Solubility</b>	Very soluble in water	
<b>Solubility in other solvents</b>	No information available	
<b>Partition coefficient</b>	No information available	
<b>Autoignition Temperature</b>	No information available	
<b>Decomposition Temperature</b>	No information available	
<b>Kinematic viscosity</b>	No information available	
<b>Dynamic viscosity</b>	No information available	
<b>Explosive Properties</b>	No information available	
<b>Oxidizing Properties</b>	No information available	

### Other Information

<b>Softening Point</b>	No information available
<b>Molecular Weight</b>	No information available
<b>VOC Content</b>	No information available
<b>Density</b>	No information available
<b>Bulk Density</b>	No information available

## 10. STABILITY AND REACTIVITY

### Reactivity

No data available

### Chemical Stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

None under normal processing.

### Conditions to Avoid

Hygroscopic. Protect from moisture.

**Incompatible Materials**

Strong oxidizing agents.

**Hazardous Decomposition Products**

In the event of fire: see section 5.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure****Product Information**

<b>Inhalation</b>	There is no data available for this product.
<b>Eye Contact</b>	Irritating to eyes.
<b>Skin Contact</b>	Irritating to skin. May be harmful in contact with skin.
<b>Ingestion</b>	Harmful if swallowed.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Guanidine hydrochloride	= 475 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	-

**Information on toxicological effects**

**Symptoms** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Skin Corrosion/Irritation</b>	Irritating to skin.
<b>Serious Eye Damage/Eye Irritation</b>	Irritating to eyes.
<b>Sensitization</b>	No information available.
<b>Mutagenic Effects</b>	No information available.
<b>Carcinogenicity</b>	No information available.

Chemical Name	ACGIH	IARC	NTP	OSHA
Guanidine hydrochloride	-	-	-	-

<b>Reproductive Toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Target Organ Effects</b>	Liver.
<b>Aspiration hazard</b>	No information available.

**Numerical measures of toxicity - Product Information**

**Unknown Acute Toxicity** 0 % of the mixture consists of ingredient(s) of unknown toxicity  
The following values are calculated based on chapter 3.1 of the GHS document .

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

100% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Toxicity to Fish	Crustacea
Guanidine hydrochloride	-	1758: 48 h Leuciscus idus mg/L LC50	-

**Persistence and Degradability**

No information available.

**Bioaccumulation/Accumulation**

No information available.

Chemical Name	Partition coefficient
Guanidine hydrochloride	<=1.7

**Other Adverse Effects** No information available

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Waste Disposal Method** Dispose of material in accordance with all federal, state, and local regulations.

**Contaminated Packaging** Do not re-use empty containers.

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Guanidine hydrochloride	-	-	-	-

Chemical Name	California Hazardous Waste Status
Guanidine hydrochloride	-

**14. TRANSPORT INFORMATION**

**DOT** Not regulated

**IATA** Not regulated

**15. REGULATORY INFORMATION**

**International Inventories**

- TSCA Complies
- DSL/NDSL Complies
- EINECS/ELINCS Complies
- ENCS Complies
- IECSC Complies
- KECL Complies
- PICCS Complies
- AICS Complies

**Legend**

- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
- ENCS - Japan Existing and New Chemical Substances
- IECSC - China Inventory of Existing Chemical Substances
- KECL - Korean Existing and Evaluated Chemical Substances
- PICCS - Philippines Inventory of Chemicals and Chemical Substances
- AICS - Australian Inventory of Chemical Substances

**U.S. Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Component	SARA 313 - Threshold Values %
Guanidine hydrochloride	-

**SARA 311/312 Hazard Categories**

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

**Clean Water Act**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Guanidine hydrochloride	-	-	-	-

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Guanidine hydrochloride	-	-	-

**U.S. State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals.

Chemical Name	California Prop. 65
Guanidine hydrochloride	-

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Guanidine hydrochloride	-	-	-

**U.S. EPA Label Information**

EPA Pesticide Registration Number Not regulated

## 16. OTHER INFORMATION

**Disclaimer**

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet