



## **Guanidine Hydrochloride Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 04/04/2023
8.0	09/30/2023	438957-00021	Date of first issue: 01/06/2016

### **SECTION 1. IDENTIFICATION**

Product name	:	Guanidine Hydrochloride Formulation
Other means of identification	:	No data available

### Manufacturer or supplier's details

Company name of supplier	:	Merck & Co., Inc
Address	:	126 E. Lincoln Avenue
		Rahway, New Jersey U.S.A. 07065
Telephone	:	908-740-4000
Emergency telephone	:	1-908-423-6000
E-mail address	:	EHSDATASTEWARD@merck.com

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

Recommended use	:	Pharmaceutical
Restrictions on use	:	Not applicable

### **SECTION 2. HAZARDS IDENTIFICATION**

GHS classification in accordance with the Hazardous Products Regulations					
Acute toxicity (Oral)	:	Category 4			
Skin irritation	:	Category 2			
Eye irritation	:	Category 2A			
Specific target organ toxicity - repeated exposure	:	Category 1 (Nervous system, Bone marrow, Kidney)			
GHS label elements					
Hazard pictograms	:				
Signal Word	:	Danger			
Hazard Statements	:	<ul> <li>H302 Harmful if swallowed.</li> <li>H315 Causes skin irritation.</li> <li>H319 Causes serious eye irritation.</li> <li>H372 Causes damage to organs (Nervous system, Bone marrow, Kidney) through prolonged or repeated exposure.</li> </ul>			
Precautionary Statements	:	Prevention:			
		<ul> <li>P260 Do not breathe dust.</li> <li>P264 Wash skin thoroughly after handling.</li> <li>P270 Do not eat, drink or smoke when using this product.</li> <li>P280 Wear protective gloves, eye protection and face protection.</li> </ul>			

according to the Hazardous Products Regulations



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		unwell. Rinse mo P302 + P352 IF P305 + P351 + F for several minut to do. Continue r P314 Get medica P332 + P313 If s P337 + P313 If e	ON SKIN: Wash with plenty of water. P338 IF IN EYES: Rinse cautiously with water es. Remove contact lenses, if present and easy
		<b>Disposal:</b> P501 Dispose of disposal plant.	contents and container to an approved waste

### Other hazards

May form explosive dust-air mixture during processing, handling or other means.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

### Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
Cellulose	No data availa- ble	9004-34-6	50.86
Guanidinium chloride	Guanidine, hy- drochloride (1:1)	50-01-1	35.71
Silicon dioxide	Silica	7631-86-9	1.97
Magnesium stearate	Octadecanoic acid, magnesi- um salt (2:1)	557-04-0	1.31

#### **SECTION 4. FIRST AID MEASURES**

General advice	:	In the case of accident or if you feel unwell, seek medical advice immediately. When symptoms persist or in all cases of doubt seek medical advice.
If inhaled In case of skin contact		If inhaled, remove to fresh air. Get medical attention if symptoms occur. In case of contact, immediately flush skin with plenty of water
		for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.
In case of eye contact	:	In case of contact, immediately flush eyes with plenty of water

according to the Hazardous Products Regulations



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If swallowed		:	Get medical atten If swallowed, DO so by medical per Get medical atten Rinse mouth thore	ove contact lens, if worn. tion. NOT induce vomiting unless directed to do sonnel. tion. bughly with water.	
ar	Most important symptoms : Harmfu and effects, both acute and delayed Causes Causes		Harmful if swallow Causes skin irritat Causes serious e	ever give anything by mouth to an unconscious person. armful if swallowed. auses skin irritation. auses serious eye irritation. auses damage to organs through prolonged or repeated	
P	Protection of first-aiders		:	First Aid responde and use the recor	ers should pay attention to self-protection, nmended personal protective equipment I for exposure exists (see section 8).
Ν	lotes to	o physician	:		cally and supportively.
SECTI	ION 5.	FIRE-FIGHTING ME	ASL	IRES	
S	Suitable	e extinguishing media	:	Water spray Alcohol-resistant f Carbon dioxide (C Dry chemical	
	Jnsuita nedia	ble extinguishing	:	None known.	
S		hazards during fire	:	concentrations, an potential dust exp	dust; fine dust dispersed in air in sufficient nd in the presence of an ignition source is a losion hazard. pustion products may be a hazard to health.
	lazard cts	ous combustion prod-	:	Carbon oxides Nitrogen oxides (I Chlorine compour Metal oxides	
	Specific ds	extinguishing meth-	:		measures that are appropriate to local cir- he surrounding environment.

 Outs
 Curristances and the surrounding environment.

 Use water spray to cool unopened containers.

 Remove undamaged containers from fire area if it is safe to do so.

 Evacuate area.

 Special protective equipment for fire-fighters

 In the event of fire, wear self-contained breathing apparatus.

 Use personal protective equipment.

### **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protec- tive equipment and emer- gency procedures	:	Use personal protective equipment. Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).
Environmental precautions	:	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Retain and dispose of contaminated wash water.

**SAFETY DATA SHEET** according to the Hazardous Products Regulations



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Metho	ods and materials for inment and cleaning up	Local authorities cannot be conta : Sweep up or vac container for dis Avoid dispersal with compressed Dust deposits sh surfaces, as the released into the Local or nationa disposal of this r employed in the determine which Sections 13 and	s should be advised if significant spillages ined. cuum up spillage and collect in suitable posal. of dust in the air (i.e., clearing dust surfaces
			-

### SECTION 7. HANDLING AND STORAGE

Technical measures	:	Static electricity may accumulate and ignite suspended dust causing an explosion. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.
Local/Total ventilation Advice on safe handling	:	Use only with adequate ventilation. Do not get on skin or clothing. Do not breathe dust. Do not swallow. Do not get in eyes. Wash skin thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment Minimize dust generation and accumulation. Keep container closed when not in use. Keep away from heat and sources of ignition. Take precautionary measures against static discharges. Do not eat, drink or smoke when using this product. Take care to prevent spills, waste and minimize release to the environment.
Conditions for safe storage	:	Keep in properly labeled containers. Store in accordance with the particular national regulations.
Materials to avoid	:	Do not store with the following product types: Strong oxidizing agents Self-reactive substances and mixtures Organic peroxides Explosives Gases

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Ingredients with workplace control parameters



according to the Hazardous Products Regulations

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Comp	oonents	CAS-No.	Value type (Form of exposure)	Control parame- ters / Permissible concentration	Basis
Cellu	lose	9004-34-6	TŴA	10 mg/m <sup>3</sup>	CA AB OEL
			TWA (Total dust)	10 mg/m <sup>3</sup>	CA BC OEL
			TWA (respir- able dust fraction)	3 mg/m³	CA BC OEL
			TWAEV (to- tal dust)	10 mg/m <sup>3</sup>	CA QC OEL
			TWA	10 mg/m <sup>3</sup>	ACGIH
Guan	nidinium chloride	50-01-1	TWA	600 μg/m3 (OEB 2)	Internal
Silico	n dioxide	7631-86-9	TWAEV (respirable dust)	6 mg/m <sup>3</sup>	CA QC OEL
Magr	nesium stearate	557-04-0	TWÁ	10 mg/m <sup>3</sup>	CA AB OEL
			TWAEV	10 mg/m <sup>3</sup>	CA QC OEL
			TWA (Inhal- able)	10 mg/m <sup>3</sup>	CA BC OEL
			TWA (Res- pirable)	3 mg/m <sup>3</sup>	CA BC OEL
			TWA (Inhalable particulate matter)	10 mg/m³	ACGIH
			TWA (Respirable particulate matter)	3 mg/m³	ACGIH

Engineering measures	:	Ensure adequate ventilation, especially in confined areas. Minimize workplace exposure concentrations. Apply measures to prevent dust explosions. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).
Personal protective equipme	ent	
Respiratory protection	:	If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.
Filter type Hand protection	:	Particulates type
Material	:	Chemical-resistant gloves
Remarks	:	Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the



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		gloves with the g	emicals of the aforementioned protective love manufacturer. Wash hands before e end of workday.				
Eye protection		: Wear the following personal protective equipment: Safety goggles					
Skin and body protection		: Select appropriate protective clothing based on chemer resistance data and an assessment of the local expo- potential.					
			st be avoided by using impervious protective aprons, boots, etc).				
Hygie	ne measures	eye flushing syst working place. When using do n	emical is likely during typical use, provide ems and safety showers close to the lot eat, drink or smoke. ted clothing before re-use.				

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	powder
Color	:	No data available
Odor	:	No data available
Odor Threshold	:	No data available
рН	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	Not applicable
Evaporation rate	:	Not applicable
Flammability (solid, gas)	:	May form explosive dust-air mixture during processing, handling or other means.
Flammability (liquids)	:	Not applicable
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	Not applicable
Relative vapor density	:	Not applicable
Relative density	:	No data available

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	Density	/	:	No data available	e
	Solubility(ies) Water solubility		:	No data available	e
		n coefficient: n-	:	Not applicable	
	octanol/water Autoignition temperature		:	No data available	e
	Decomposition temperature		:	No data available	e
	Viscosi Visc	ity cosity, kinematic	:	Not applicable	
	Explosive properties		:	Not explosive	
		ng properties	:		r mixture is not classified as oxidizing.
	Molecular weight		:	No data available	9
	Particle	e size	:	No data available	e

### SECTION 10. STABILITY AND REACTIVITY

Reactivity Chemical stability Possibility of hazardous reac- tions	:	Not classified as a reactivity hazard. Stable under normal conditions. May form explosive dust-air mixture during processing, handling or other means. Can react with strong oxidizing agents.
Conditions to avoid	:	Heat, flames and sparks. Avoid dust formation.
Incompatible materials	:	Oxidizing agents
Hazardous decomposition products	:	

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure

Inhalation Skin contact Ingestion Eye contact

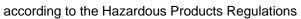
### Acute toxicity

Harmful if swallowed.

### Product:

Acute oral toxicity

: Acute toxicity estimate: 1,330 mg/kg Method: Calculation method





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Acute	inhalation toxicity	: Acute toxicity Exposure time Test atmosph Method: Calcu	ere: dust/mist
Comp	oonents:		
Cellu	lose:		
Acute	oral toxicity	: LD50 (Rat): >	5,000 mg/kg
Acute	inhalation toxicity	: LC50 (Rat): > Exposure time Test atmosph	2: 4 h
Acute	dermal toxicity	: LD50 (Rabbit)	: > 2,000 mg/kg
Guan	idinium chloride:		
Acute	oral toxicity	: LD50 (Rat): 4	74.6 mg/kg
		LD50 (Mouse)	: 571 mg/kg
Acute	inhalation toxicity	: LC50 (Rat): 3 Exposure time Test atmosph Method: OEC	e: 4 h
Acute	dermal toxicity		: > 2,000 mg/kg The substance or mixture has no acute dermal
Silico	n dioxide:		
Acute	oral toxicity	: LD50 (Rat): > Method: OEC	5,000 mg/kg D Test Guideline 401
Acute	inhalation toxicity	: LC50 (Rat): > Exposure time Test atmosph Assessment: tion toxicity	e: 4 h
Acute	dermal toxicity	: LD50 (Rabbit)	: > 5,000 mg/kg
Magn	esium stearate:		
	oral toxicity	Assessment: icity	2,000 mg/kg D Test Guideline 423 The substance or mixture has no acute oral tox- ed on data from similar materials
Acute	dermal toxicity		: > 2,000 mg/kg ed on data from similar materials

according to the Hazardous Products Regulations

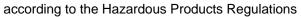


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II				
	corrosion/irritation			
	es skin irritation.			
	ponents:			
	nidinium chloride:			
Spec Resu		: Rabl	oit irritation	
Resu	in	. 3611	IIIIalion	
Silico	on dioxide:			
Spec		: Rabl		
Meth			D Test Gui	
Resu	lit	: INO S	kin irritation	
Magr	nesium stearate:			
Spec	ies	: Rabl	oit	
Resu Rema			kin irritation	rom similar materials
Caus <u>Com</u>	ous eye damage/eye i ses serious eye irritatio ponents:			
	nidinium chloride:			
Resu Rema				, reversing within 21 days al or regional regulation.
		. Dust		
Silico	on dioxide:			
Spec		: Rabl	oit	
Resu			ye irritation	
Meth	od	: OEC	D Test Gui	deline 405
Magr	nesium stearate:			
Spec		: Rabl		
Resu			ye irritation	
Rema	arks	: Base	ed on data f	rom similar materials
Resp	piratory or skin sensi	ization		
Skin	sensitization			
-	lassified based on ava	ilable inforn	nation.	

### **Respiratory sensitization**

Not classified based on available information.



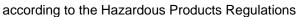


rsion )	Revision Date: 09/30/2023	SDS Number: 438957-00021	Date of last issue: 04/04/2023 Date of first issue: 01/06/2016
<u>Comp</u>	onents:		
Guani	idinium chloride:		
Test T	уре	: Buehler Te	st
Route	s of exposure	: Skin contac	zt
Specie Result		: Guinea pig : negative	
I Coun	·	. negative	
-	esium stearate:		_
Test T	ype s of exposure	: Maximization : Skin contact	
Specie		: Guinea pig	
Metho			t Guideline 406
Result		: negative	
Rema	rks	: Based on d	lata from similar materials
Germ	cell mutagenicity		
Not cla	assified based on av	ailable information.	
Comp	onents:		
Cellul	ose:		
Genot	oxicity in vitro	: Test Type: Result: neg	Bacterial reverse mutation assay (AMES) ative
		Test Type: Result: neg	In vitro mammalian cell gene mutation test ative
Genot	oxicity in vivo	: Test Type: cytogenetic Species: M	
			Route: Ingestion
II Guani	idinium chloride:		
	oxicity in vitro	: Test Type:	Bacterial reverse mutation assay (AMES)
			ECD Test Guideline 471
		Result: neg	ative
		Test Type: Result: neg	Chromosome aberration test in vitro ative
II Silico	n dioxide:		
	oxicity in vitro	: Test Type:	Bacterial reverse mutation assay (AMES)
	•		ECD Test Guideline 471
		Result. Hey	



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			Result: negative	
II Maar	nesium stearate:			
	otoxicity in vitro	:	Result: negative Remarks: Based of Test Type: Chrom Method: OECD To Result: negative	o mammalian cell gene mutation test on data from similar materials nosome aberration test in vitro est Guideline 473 on data from similar materials
			Result: negative	ial reverse mutation assay (AMES) on data from similar materials
II Carai	inogenicity			
	lassified based on availa	ble	information.	
_	ponents:			
	llose:		Det	
Spec Appli	cation Route	÷	Rat Ingestion	
	sure time	:	72 weeks	
Resu	lt	:	negative	
Silic	on dioxide:			
Spec			Rat	
	cation Route	÷	Ingestion	
	sure time	:	103 weeks	
Resu	lt	:	negative	
Renr	oductive toxicity			
-	lassified based on availa	ble	information.	
Com	ponents:			
	lose:			
	ts on fertility		Test Type: One-a	eneration reproduction toxicity study
Liec		•	Species: Rat Application Route Result: negative	
Effec	ts on fetal development	:	Test Type: Fertility Species: Rat Application Route Result: negative	y/early embryonic development : Ingestion
Guar	nidinium chloride:			
Effec	ts on fetal development	:	Test Type: Embry	o-fetal development





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			Species: Rat Application Route Method: OECD T Result: negative	est Guideline 414
Silico	n dioxide:			
Effects	s on fetal development	:	Test Type: Embry Species: Rat Application Route Result: negative	vo-fetal development : Ingestion
Magn	esium stearate:			
Effects	s on fertility	:	reproduction/deve Species: Rat Application Route Method: OECD T Result: negative	ined repeated dose toxicity study with the elopmental toxicity screening test :: Ingestion est Guideline 422 on data from similar materials
Effect	s on fetal development	:	Species: Rat Application Route Result: negative	vo-fetal development : Ingestion on data from similar materials

### STOT-single exposure

Not classified based on available information.

#### **STOT-repeated exposure**

Causes damage to organs (Nervous system, Bone marrow, Kidney) through prolonged or repeated exposure.

### **Components:**

### Guanidinium chloride:

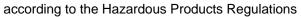
Routes of exposure	:	Ingestion
Target Organs	:	Nervous system, Kidney, Bone marrow
Target Organs Assessment	:	Causes damage to organs through prolonged or repeated
		exposure.

### Repeated dose toxicity

#### Components:

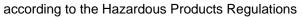
#### Cellulose:

Species NOAEL	:	Rat
NOAEL	:	>= 9,000 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 Days



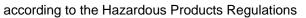


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Gua	nidinium chloride:			
Spe NOA Appl	cies AEL lication Route osure time	:	Rat 100 mg/kg Ingestion 90 Days OECD Test Guide	line 408
Silic	on dioxide:			
		:	Rat 1.3 mg/m³ inhalation (dust/m 13 Weeks	ist/fume)
Mag	nesium stearate:			
Spe NOA Appl Expo	cies	:	Rat > 100 mg/kg Ingestion 90 Days Based on data fro	m similar materials
Asp	iration toxicity			
•	classified based on availa	ble	information.	
Exp	erience with human exp	osı	ire	
<u>Con</u>	ponents:			
Gua Inge	nidinium chloride: stion	:	Symptoms: tinglir	g, numbness, anorexia, Diarrhea
SECTION	N 12. ECOLOGICAL INFO	DR	ATION	
Eco	toxicity			
<u>Con</u>	nponents:			
Cell	ulose:			
Тохі	city to fish	:	Exposure time: 48	pes (Japanese medaka)): > 100 mg/l 3 h on data from similar materials
	nidinium chloride:			
Toxi	city to fish	:	LC50 (Leuciscus Exposure time: 48	dus (Golden orfe)): 1,758 mg/l 8 h
	city to daphnia and other atic invertebrates	:	Exposure time: 48	agna (Water flea)): 70.2 mg/l 3 h on data from similar materials
Toxi plan	city to algae/aquatic ts	:	ErC50 (Pseudokii mg/l	chneriella subcapitata (green algae)): 11.8
-				





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			Exposure time: 72 Method: Directive	2 h 67/548/EEC, Annex V, C.3.
			mg/l Exposure time: 72	rchneriella subcapitata (green algae)): 6.3 2 h 67/548/EEC, Annex V, C.3.
Toxici icity)	ty to fish (Chronic tox-	:	Exposure time: 35	es promelas (fathead minnow)): 181 mg/l 5 d on data from similar materials
	ty to daphnia and other ic invertebrates (Chron- city)	:	Exposure time: 21	nagna (Water flea)): 2.9 mg/l l d on data from similar materials
Toxici	ty to microorganisms	:	EC10 (Pseudomo Exposure time: 18	nas putida): 7,125 mg/l 3 h
Silico	n dioxide:			
Toxici	ty to fish	:	LC50 (Danio rerio Exposure time: 96 Method: OECD Te	
	ty to daphnia and other ic invertebrates	:	EC50 (Daphnia m Exposure time: 24 Method: OECD Te	
Toxici plants	ty to algae/aquatic	:	mg/l Exposure time: 72 Method: OECD To	
			mg/l Exposure time: 72 Method: OECD To	
Magn	esium stearate:			
	ty to fish	:	Exposure time: 48 Method: DIN 384	
	ty to daphnia and other ic invertebrates	:	Exposure time: 47 Test substance: V Method: Directive	Vater Accommodated Fraction 67/548/EEC, Annex V, C.2. on data from similar materials





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Toxic plants	ity to algae/aquatic	:	mg/l Exposure time: 77 Test substance: \ Method: OECD T	Vater Accommodated Fraction est Guideline 201 on data from similar materials
			mg/l Exposure time: 77 Test substance: \ Method: OECD T	kirchneriella subcapitata (green algae)): > 1 2 h Vater Accommodated Fraction est Guideline 201 on data from similar materials
Toxic	ity to microorganisms	:	Exposure time: 1 Test substance: \	onas putida): > 100 mg/l 5 h Vater Accommodated Fraction on data from similar materials
Persi	stence and degradabi	lity		
<u>Com</u>	ponents:			
Cellu	lose:			
Biode	egradability	:	Result: Readily b	odegradable.
	<b>idinium chloride:</b> egradability	:	Result: Not readil Biodegradation: Exposure time: 50 Method: OECD T	0 %
	<b>esium stearate:</b> egradability	:	Result: Not biode	
			Remarks: Based	on data from similar materials
Bioad	ccumulative potential			
Com	ponents:			
Partit	idinium chloride: ion coefficient: n- ol/water	:	log Pow: < -1.7	
Partit	nesium stearate: ion coefficient: n- ol/water	:	log Pow: > 4	
	<b>lity in soil</b> ata available			

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#### Other adverse effects

No data available

### SECTION 13. DISPOSAL CONSIDERATIONS

#### **Disposal methods**

Waste from residues	:	: Do not dispose of waste into sewer.		
		Dispose of in accordance with local regulations.		
Contaminated packaging	:	Empty containers should be taken to an approved waste		
		handling site for recycling or disposal.		
		If not otherwise specified: Dispose of as unused product.		

#### **SECTION 14. TRANSPORT INFORMATION**

#### **International Regulations**

UNRTDG

Not regulated as a dangerous good

#### IATA-DGR

Not regulated as a dangerous good

#### IMDG-Code

Not regulated as a dangerous good

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

### **Domestic regulation**

TDG

Not regulated as a dangerous good

#### Special precautions for user

Not applicable

### SECTION 15. REGULATORY INFORMATION

AICS	: not determined
------	------------------

DSL	:	not determined

IECSC

: not determined

### **SECTION 16. OTHER INFORMATION**

Full text of other abbreviation	ons
ACGIH	: USA. ACGIH Threshold Limit Values (TLV)
CA AB OEL	: Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
CA BC OEL	: Canada. British Columbia OEL



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CA QC	OEL	:		on respecting occupational health and safe- art 1: Permissible exposure values for air- nts
ACGIH	I / TWA		8-hour, time-weig	
CA AB	OEL / TWA		8-hour Occupatio	
CA BC	OEL / TWA		8-hour time weigh	
CA QC	OEL / TWAEV	:	Time-weighted av	verage exposure value

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR -Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature: SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Sources of key data used to compile the Material Safety Data Sheet	:	Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/
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Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided



according to the Hazardous Products Regulations

## **Guanidine Hydrochloride Formulation**

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relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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