

SAFETY DATA SHEET

according to the Globally Harmonized System



Guanidine Hydrochloride Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
7.0	14.04.2025	441543-00021	Date of first issue: 06.01.2016

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Guanidine Hydrochloride Formulation

Manufacturer or supplier's details

Company : MSD

Address : Briahnager - Off Pune Nagar Road
Wagholi - Pune - India 412 207

Telephone : +1-908-740-4000

Emergency telephone number : +1-908-423-6000

E-mail address : EHSDATASTEWARD@msd.com

Recommended use of the chemical and restrictions on use

Recommended use : Pharmaceutical

Restrictions on use : Not applicable

2. HAZARDS IDENTIFICATION

Manufacture, Storage and Import of Hazardous Chemicals Rules 1989

Classification

Not classified as hazardous according to criteria laid down in Part I of Schedule-1.

GHS Classification

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 5

Skin corrosion/irritation : Category 2

Serious eye damage/eye irritation : Category 2A


Specific target organ toxicity - repeated exposure : Category 1 (Nervous system, Bone marrow, Kidney)

Short-term (acute) aquatic hazard : Category 3

GHS label elements

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Version 7.0 Revision Date: 14.04.2025 SDS Number: 441543-00021 Date of last issue: 28.09.2024
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Hazard pictograms	:	
Signal word	:	Danger
Hazard statements	:	H302 Harmful if swallowed. H315 + H319 Causes skin irritation and serious eye irritation. H333 May be harmful if inhaled. H372 Causes damage to organs (Nervous system, Bone marrow, Kidney) through prolonged or repeated exposure. H402 Harmful to aquatic life.
Precautionary statements	:	Prevention: P260 Do not breathe dust. P264+P265 Wash hands thoroughly after handling. Do not touch eyes. P270 Do not eat, drink or smoke when using this product. P273 Avoid release to the environment. P280 Wear protective gloves/ eye protection/ face protection. Response: P301 + P317 + P330 IF SWALLOWED: Get medical help. Rinse mouth. P302 + P352 IF ON SKIN: Wash with plenty of water. P304 + P317 IF INHALED: Get medical help. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P319 Get medical help if you feel unwell. P332 + P317 If skin irritation occurs: Get medical help. P337 + P317 If eye irritation persists: Get medical help. P362 + P364 Take off contaminated clothing and wash it before reuse. Disposal: P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Cellulose	9004-34-6	>= 50 - < 70
Guanidinium chloride	50-01-1	>= 30 - < 50
Silicon dioxide	7631-86-9	>= 1 - < 5
Magnesium stearate	557-04-0	>= 1 - < 5

SAFETY DATA SHEET

according to the Globally Harmonized System



Guanidine Hydrochloride Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
7.0	14.04.2025	441543-00021	Date of first issue: 06.01.2016

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 | : If inhaled, remove to fresh air.
Get medical attention if symptoms occur. |
| In case of skin contact | : 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 for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Get medical attention. |
| If swallowed | : If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel.
Get medical attention.
Rinse mouth thoroughly with water.
Never give anything by mouth to an unconscious person. |
| Most important symptoms and effects, both acute and delayed | : Harmful if swallowed.
Causes skin irritation and serious eye irritation.
May be harmful if inhaled.
Causes damage to organs through prolonged or repeated exposure. |
| Protection of first-aiders | : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8). |
| Notes to physician | : Treat symptomatically and supportively. |

5. FIREFIGHTING MEASURES

- | | |
|---------------------------------------|---|
| Suitable extinguishing media | : Water spray
Alcohol-resistant foam
Carbon dioxide (CO ₂)
Dry chemical |
| Unsuitable extinguishing media | : None known. |
| Specific hazards during fire-fighting | : Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
Exposure to combustion products may be a hazard to health. |
| Hazardous combustion products | : Carbon oxides
Nitrogen oxides (NO _x)
Chlorine compounds
Metal oxides |
| Specific extinguishing method | : Use extinguishing measures that are appropriate to local cir- |

SAFETY DATA SHEET

according to the Globally Harmonized System



Guanidine Hydrochloride Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
7.0	14.04.2025	441543-00021	Date of first issue: 06.01.2016

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cumstances 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 firefighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency 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.
Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up : Sweep up or vacuum up spillage and collect in suitable container for disposal.
Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).
Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

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 : Use only with adequate ventilation.

Advice on safe handling : 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.

SAFETY DATA SHEET

according to the Globally Harmonized System



Guanidine Hydrochloride Formulation

Version 7.0 Revision Date: 14.04.2025 SDS Number: 441543-00021 Date of last issue: 28.09.2024
Date of first issue: 06.01.2016

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 labelled containers.
Store in accordance with the particular national regulations.

Materials to avoid : Do not store with the following product types:
Strong oxidizing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Cellulose	9004-34-6	TWA	10 mg/m ³	ACGIH
Guanidinium chloride	50-01-1	TWA	600 µg/m ³ (OEB 2)	Internal
Silicon dioxide	7631-86-9	TWA (Total dust)	10 mg/m ³ (Silica)	IN OEL
Magnesium stearate	557-04-0	TWA (Inhalable particulate matter)	10 mg/m ³	ACGIH
		TWA (Respirable particulate matter)	3 mg/m ³	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 equipment

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type : Particulates type

Hand protection

Material : Chemical-resistant gloves

Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the

SAFETY DATA SHEET

according to the Globally Harmonized System



Guanidine Hydrochloride Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
7.0	14.04.2025	441543-00021	Date of first issue: 06.01.2016

Eye protection	:	glove manufacturer. Wash hands before breaks and at the end of workday. Wear the following personal protective equipment: Safety goggles
Skin and body protection	:	Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential. Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).
Hygiene measures	:	If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	powder
Colour	:	No data available
Odour	:	No data available
Odour Threshold	:	No data available
pH	:	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
Vapour pressure	:	Not applicable
Relative vapour density	:	Not applicable
Relative density	:	No data available
Density	:	No data available

SAFETY DATA SHEET

according to the Globally Harmonized System



Guanidine Hydrochloride Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
7.0	14.04.2025	441543-00021	Date of first issue: 06.01.2016

Solubility(ies)		
Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, kinematic	:	Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Molecular weight	:	No data available
Particle characteristics		
Particle size	:	No data available

10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	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	:	No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation Skin contact Ingestion Eye contact
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Acute toxicity

Harmful if swallowed.
May be harmful if inhaled.

Product:

Acute oral toxicity	:	Acute toxicity estimate: 1,330 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: 8.91 mg/l Exposure time: 4 h

SAFETY DATA SHEET

according to the Globally Harmonized System



Guanidine Hydrochloride Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
7.0	14.04.2025	441543-00021	Date of first issue: 06.01.2016

Test atmosphere: dust/mist
Method: Calculation method

Components:

Cellulose:

Acute oral toxicity	: LD50 (Rat): > 5,000 mg/kg
Acute inhalation toxicity	: LC50 (Rat): > 5.8 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	: LD50 (Rabbit): > 2,000 mg/kg

Guanidinium chloride:

Acute oral toxicity	: LD50 (Rat): 474.6 mg/kg LD50 (Mouse): 571 mg/kg
Acute inhalation toxicity	: LC50 (Rat): 3.181 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403
Acute dermal toxicity	: LD50 (Rabbit): > 2,000 mg/kg Assessment: The substance or mixture has no acute dermal toxicity

Silicon dioxide:

Acute oral toxicity	: LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	: LC50 (Rat): > 2.08 mg/l Exposure time: 4 h Test atmosphere: dust/mist Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	: LD50 (Rabbit): > 5,000 mg/kg

Magnesium stearate:

Acute oral toxicity	: LD50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 423 Assessment: The substance or mixture has no acute oral toxicity Remarks: Based on data from similar materials
Acute dermal toxicity	: LD50 (Rabbit): > 2,000 mg/kg Remarks: Based on data from similar materials

SAFETY DATA SHEET

according to the Globally Harmonized System



Guanidine Hydrochloride Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
7.0	14.04.2025	441543-00021	Date of first issue: 06.01.2016

Skin corrosion/irritation

Causes skin irritation.

Components:

Guanidinium chloride:

Species	: Rabbit
Result	: Skin irritation

Silicon dioxide:

Species	: Rabbit
Method	: OECD Test Guideline 404
Result	: No skin irritation

Magnesium stearate:

Species	: Rabbit
Result	: No skin irritation
Remarks	: Based on data from similar materials

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

Guanidinium chloride:

Result	: Irritation to eyes, reversing within 21 days
Remarks	: Based on national or regional regulation.

Silicon dioxide:

Species	: Rabbit
Method	: OECD Test Guideline 405
Result	: No eye irritation

Magnesium stearate:

Species	: Rabbit
Result	: No eye irritation
Remarks	: Based on data from similar materials

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

Guanidinium chloride:

Test Type	: Buehler Test
Exposure routes	: Skin contact

SAFETY DATA SHEET

according to the Globally Harmonized System



Guanidine Hydrochloride Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
7.0	14.04.2025	441543-00021	Date of first issue: 06.01.2016

Species	: Guinea pig
Result	: negative

Magnesium stearate:

Test Type	: Maximisation Test
Exposure routes	: Skin contact
Species	: Guinea pig
Method	: OECD Test Guideline 406
Result	: negative
Remarks	: Based on data from similar materials

Germ cell mutagenicity

Not classified based on available information.

Components:

Cellulose:

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Result: negative Test Type: In vitro mammalian cell gene mutation test Result: negative
Genotoxicity in vivo	: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Application Route: Ingestion Result: negative

Guanidinium chloride:

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative Test Type: Chromosome aberration test in vitro Result: negative
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Silicon dioxide:

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative
Genotoxicity in vivo	: Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis) Species: Rat Application Route: Ingestion Result: negative

Magnesium stearate:

Genotoxicity in vitro	: Test Type: In vitro mammalian cell gene mutation test Result: negative
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SAFETY DATA SHEET

according to the Globally Harmonized System



Guanidine Hydrochloride Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
7.0	14.04.2025	441543-00021	Date of first issue: 06.01.2016

Remarks: Based on data from similar materials

Test Type: Chromosome aberration test in vitro

Method: OECD Test Guideline 473

Result: negative

Remarks: Based on data from similar materials

Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

Remarks: Based on data from similar materials

Carcinogenicity

Not classified based on available information.

Components:

Cellulose:

Species	: Rat
Application Route	: Ingestion
Exposure time	: 72 weeks
Result	: negative

Silicon dioxide:

Species	: Rat
Application Route	: Ingestion
Exposure time	: 103 weeks
Result	: negative

Reproductive toxicity

Not classified based on available information.

Components:

Cellulose:

Effects on fertility	: Test Type: One-generation reproduction toxicity study
	Species: Rat
	Application Route: Ingestion
	Result: negative

Effects on foetal development	: Test Type: Fertility/early embryonic development
	Species: Rat
	Application Route: Ingestion
	Result: negative

Guanidinium chloride:

Effects on foetal development	: Test Type: Embryo-foetal development
	Species: Rat
	Application Route: Ingestion
	Method: OECD Test Guideline 414
	Result: negative

Silicon dioxide:

SAFETY DATA SHEET

according to the Globally Harmonized System



Guanidine Hydrochloride Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
7.0	14.04.2025	441543-00021	Date of first issue: 06.01.2016

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Result: negative

Magnesium stearate:

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 422
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based 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:

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

Repeated dose toxicity

Components:

Cellulose:

Species : Rat
NOAEL : $\geq 9,000$ mg/kg
Application Route : Ingestion
Exposure time : 90 Days

Guanidinium chloride:

Species : Rat
NOAEL : 100 mg/kg
Application Route : Ingestion
Exposure time : 90 Days
Method : OECD Test Guideline 408

SAFETY DATA SHEET

according to the Globally Harmonized System



Guanidine Hydrochloride Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
7.0	14.04.2025	441543-00021	Date of first issue: 06.01.2016

Silicon dioxide:

Species	: Rat
NOAEL	: 1.3 mg/m3
Application Route	: inhalation (dust/mist/fume)
Exposure time	: 13 Weeks

Magnesium stearate:

Species	: Rat
NOAEL	: > 100 mg/kg
Application Route	: Ingestion
Exposure time	: 90 Days
Remarks	: Based on data from similar materials

Aspiration toxicity

Not classified based on available information.

Experience with human exposure

Components:

Guanidinium chloride:

Ingestion	: Symptoms: tingling, numbness, anorexia, Diarrhoea
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12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Cellulose:

Toxicity to fish	: LC50 (Oryzias latipes (Japanese medaka)): > 100 mg/l Exposure time: 48 h Remarks: Based on data from similar materials
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Guanidinium chloride:

Toxicity to fish	: LC50 (Leuciscus idus (Golden orfe)): 1,758 mg/l Exposure time: 48 h
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 70.2 mg/l Exposure time: 48 h Remarks: Based on data from similar materials
Toxicity to algae/aquatic plants	: ErC50 (Pseudokirchneriella subcapitata (green algae)): 11.8 mg/l Exposure time: 72 h Method: Directive 67/548/EEC, Annex V, C.3. NOEC (Pseudokirchneriella subcapitata (green algae)): 6.3 mg/l Exposure time: 72 h Method: Directive 67/548/EEC, Annex V, C.3.

SAFETY DATA SHEET

according to the Globally Harmonized System



Guanidine Hydrochloride Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
7.0	14.04.2025	441543-00021	Date of first issue: 06.01.2016

Toxicity to microorganisms	: EC10 (<i>Pseudomonas putida</i>): 7,125 mg/l Exposure time: 18 h
Toxicity to fish (Chronic toxicity)	: NOEC: 181 mg/l Exposure time: 35 d Species: <i>Pimephales promelas</i> (fathead minnow) Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC: 2.9 mg/l Exposure time: 21 d Species: <i>Daphnia magna</i> (Water flea) Remarks: Based on data from similar materials

Silicon dioxide:

Toxicity to fish	: LC50 (<i>Danio rerio</i> (zebra fish)): > 10,000 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	: EC50 (<i>Daphnia magna</i> (Water flea)): > 1,000 mg/l Exposure time: 24 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	: EC50 (<i>Desmodesmus subspicatus</i> (green algae)): > 10,000 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials
	: NOEC (<i>Desmodesmus subspicatus</i> (green algae)): 10,000 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials

Magnesium stearate:

Toxicity to fish	: LC50 (<i>Leuciscus idus</i> (Golden orfe)): > 100 mg/l Exposure time: 48 h Method: DIN 38412 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	: EL50 (<i>Daphnia magna</i> (Water flea)): > 1 mg/l Exposure time: 47 h Test substance: Water Accommodated Fraction Method: Directive 67/548/EEC, Annex V, C.2. Remarks: Based on data from similar materials No toxicity at the limit of solubility
Toxicity to algae/aquatic plants	: EL50 (<i>Pseudokirchneriella subcapitata</i> (green algae)): > 1 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201 Remarks: Based on data from similar materials

SAFETY DATA SHEET

according to the Globally Harmonized System



Guanidine Hydrochloride Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
7.0	14.04.2025	441543-00021	Date of first issue: 06.01.2016

	No toxicity at the limit of solubility
	NOELR (Pseudokirchneriella subcapitata (green algae)): > 1 mg/l
	Exposure time: 72 h
	Test substance: Water Accommodated Fraction
	Method: OECD Test Guideline 201
	Remarks: Based on data from similar materials
Toxicity to microorganisms	: EC10 (Pseudomonas putida): > 100 mg/l
	Exposure time: 16 h
	Test substance: Water Accommodated Fraction
	Remarks: Based on data from similar materials

Persistence and degradability

Components:

Cellulose:

Biodegradability	: Result: Readily biodegradable.
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Guanidinium chloride:

Biodegradability	: Result: Not readily biodegradable.
	Biodegradation: 0 %
	Exposure time: 56 d
	Method: OECD Test Guideline 301C

Magnesium stearate:

Biodegradability	: Result: Not biodegradable
	Remarks: Based on data from similar materials

Bioaccumulative potential

Components:

Guanidinium chloride:

Partition coefficient: n-octanol/water	: log Pow: < -1.7
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Magnesium stearate:

Partition coefficient: n-octanol/water	: log Pow: > 4
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Mobility in soil

No data available

Other adverse effects

No data available

SAFETY DATA SHEET

according to the Globally Harmonized System



Guanidine Hydrochloride Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
7.0	14.04.2025	441543-00021	Date of first issue: 06.01.2016

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.

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 IMO instruments

Not applicable for product as supplied.

Special precautions for user

Not applicable

15. REGULATORY INFORMATION

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

The components of this product are reported in the following inventories:

AICS : not determined

DSL : not determined

IECSC : not determined

16. OTHER INFORMATION

Revision Date : 14.04.2025

Further information

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

Date format : dd.mm.yyyy

SAFETY DATA SHEET

according to the Globally Harmonized System



Guanidine Hydrochloride Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
7.0	14.04.2025	441543-00021	Date of first issue: 06.01.2016

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
IN OEL : India. Permissible levels of certain chemical substances in work environment.

ACGIH / TWA : 8-hour, time-weighted average
IN OEL / TWA : Time-Weighted Average Concentration (TWA) (8 hrs.)

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

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 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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