GUANIDINE HYDROCHLORIDE
CAS No 50-01-1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers
  Product name       : Guanidine Hydrochloride
  CAS-No.            : 50-01-1

1.2 Relevant identified uses of the substance or mixture and uses advised against
  Identified uses    : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet
  Company            : Central Drug House (P) Ltd
                        7/28 Vardaan House
                        New Delhi -110002
                        INDIA
  Telephone          : +91 11 49404040
  Email              : care@cdhfinechemical.com

1.4 Emergency telephone number
  Emergency Phone #  : +91 11 49404040 (9:00am - 6:00 pm) [Office hours]

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
  Classification according to Regulation (EC) No 1272/2008
  Acute toxicity, Oral (Category 4), H302
  Acute toxicity, Inhalation (Category 4), H332
  Skin irritation (Category 2), H315
  Eye irritation (Category 2), H319

  For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements
  Labelling according Regulation (EC) No 1272/2008
  Pictogram
  !

  Signal word        : Warning
  Hazard statement(s):
  H302 + H332        : Harmful if swallowed or if inhaled
  H315              : Causes skin irritation.
  H319              : Causes serious eye irritation.
Precautionary statement(s)
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P280 Wear eye protection/ face protection.
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
Supplemental Hazard Statements none

2.3 Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances
Synonyms: Aminoisoxazolyl hydrochloride
Aminomethanidamid hydrochloride

Formula: CH₃N₃ HCl
Molecular weight: 95.53 g/mol
CAS-No.: 50-01-1
EC-No.: 200-002-3
Index-No.: 607-148-00-0

Hazardous ingredients according to Regulation (EC) No 1272/2008

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guanidinium chloride</td>
<td>Acute Tox. 4; Skin Irrit. 2; Eye</td>
<td>&lt;= 100 %</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>50-01-1</td>
<td></td>
</tr>
<tr>
<td>EC-No.</td>
<td>200-002-3</td>
<td>Irrit. 2; H302, H332, H315,</td>
</tr>
<tr>
<td>Index-No.</td>
<td>607-148-00-0</td>
<td>H319</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

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

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Firefighting measures
5.1 Extinguishing media
   Suitable extinguishing media
   Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
5.2 Special hazards arising from the substance or mixture
   Carbon oxides, Nitrogen oxides (NOx), Hydrogen chloride gas
5.3 Advice for firefighters
   Wear self-contained breathing apparatus for firefighting if necessary.
5.4 Further information
   No data available

SECTION 6: Accidental release measures
6.1 Personal precautions, protective equipment and emergency procedures
   Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Avoid breathing dust.
   For personal protection see section 8.
6.2 Environmental precautions
   Do not let product enter drains.
6.3 Methods and materials for containment and cleaning up
   Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.
6.4 Reference to other sections
   For disposal see section 13.

SECTION 7: Handling and storage
7.1 Precautions for safe handling
   Avoid contact with skin and eyes. Avoid formation of dust and aerosols.
   Provide appropriate exhaust ventilation at places where dust is formed.
   For precautions see section 2.2.
7.2 Conditions for safe storage, including any incompatibilities
   Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
      hygroscopic
   Storage class (TRGS 510): Non Combustible Solids
7.3 Specific end use(s)
   Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection
8.1 Control parameters
8.2 Exposure controls
   Appropriate engineering controls
   Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
   Personal protective equipment
      Eye/face protection
      Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
**Skin protection**
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Body Protection**
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**
For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle r (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure**
Do not let product enter drains.

**SECTION 9: Physical and chemical properties**

**9.1 Information on basic physical and chemical properties**

a) **Appearance**
Form: crystalline
Colour: white

b) **Odour**
No data available

c) **Odour Threshold**
No data available

d) **pH**
4.5 - 6 at 573 g/l at 25 °C

e) **Melting point/freezing point**
Melting point/range: 180 - 185 °C - lit.

f) **Initial boiling point and boiling range**
No data available

g) **Flash point**
No data available

h) **Evaporation rate**
No data available

i) **Flammability (solid, gas)**
No data available

j) **Upper/lower flammability or explosive limits**
No data available

k) **Vapour pressure**
No data available

l) **Vapour density**
No data available

m) **Relative density**
1.345 g/cm3 at 20 °C

n) **Water solubility**
573 g/l at 20 °C - completely soluble

o) **Partition coefficient: n-octanol/water**
log Pow: -1.7 at ca.20 °C

p) **Auto-ignition temperature**
No data available

q) **Decomposition temperature**
> 310 °C -

r) **Viscosity**
No data available
s) Explosive properties  No data available

t) Oxidizing properties  No data available

9.2 Other safety information
No data available

SECTION 10: Stability and reactivity

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
No data available

10.5 Incompatible materials
Strong oxidizing agents

10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Hydrogen chloride gas
Other decomposition products - No data available
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - 475 mg/kg(Guanidinium chloride)
LD50 Oral - Mouse - 571 mg/kg(Guanidinium chloride)
LD50 Oral - Rat - 1,120 mg/kg(Guanidinium chloride)
LD50 Oral - Rat - Female - 4 h - 3.181 mg/l(Guanidinium chloride)
(OECD Test Guideline 403)

Skin corrosion/irritation
Skin - Rabbit(Guanidinium chloride)
Result: Skin irritation

Serious eye damage/eye irritation
Eyes - Rabbit(Guanidinium chloride)
Result: Irritating to eyes.

Respiratory or skin sensitisation
Buehler Test - Guinea pig(Guanidinium chloride)
Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity
Not mutagenic in Ames Test(Guanidinium chloride)

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity
No data available (Guanidinium chloride)

Specific target organ toxicity - single exposure
No data available (Guanidinium chloride)

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available (Guanidinium chloride)

Additional Information
RTECS: MF4300000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. (Guanidinium chloride)

Liver - Irregularities - Based on Human Evidence (Guanidinium chloride)

SECTION 12: Ecological information

12.1 Toxicity
Toxicity to fish LC50 - Leuciscus idus (Golden orfe) - 1,759 mg/l (Guanidinium chloride)

12.2 Persistence and degradability
Biodegradability Result: - Not readily biodegradable.

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available (Guanidinium chloride)

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects
No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chem scrubber.

Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number
ADR/RID: - IMDG: - IATA: -

14.2 UN proper shipping name
ADR/RID: Not dangerous goods IMDG: Not dangerous goods IATA: Not dangerous goods

14.3 Transport hazard class(es)
ADR/RID: - IMDG: - IATA: -
14.4 Packaging group
ADR/RID: - IMDG: - IATA: -

14.5 Environmental hazards
ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user
No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment
For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H302 Harmful if swallowed.
H302 + H332 Harmful if swallowed or if inhaled
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.

Further information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Central Drug House (P) Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.cdhfinechemical.com for additional terms and conditions of sale.