

According to Regulation (EC) No 1907/2006

# Semicarbazide hydrochloride

Version number: 1.0  
Issued: 2023-11-10



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

### 1.1. Product identifier

**Trade name**

Semicarbazide hydrochloride

**Name of the chemical**

Hydrazinecarboxamide hydrochloride

**CAS number**

563-41-7

**EC number**

209-247-0

**Synonyms**

N-Aminourea hydrochloride

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Relevant identified uses**

Research and development.

**Not suitable for use in**

Not suitable for human consumption or veterinary purposes.

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

**Supplier**

Molekula Group

Address

Molekula Ltd, Lingfield Way, Darlington,  
DL1 4XX Darlington  
United Kingdom

Telephone

+44 (0) 3302 000 333

Email

info@molekula.com

Web site

www.molekula.com

**Contact person**

Kevin Banks

**Email**

+44 (0) 7769276927

According to Regulation (EC) No 1907/2006

# Semicarbazide hydrochloride

Version number: 1.0  
Issued: 2023-11-10



## 1.4. Emergency telephone number

### Poison center/Additional emergency number

0344 892 0111 - National Poisons Information Service (Newcastle Centre)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

#### Classification

Acute toxicity, oral, hazard category 3

Skin corrosion, hazard category 1B

Reproductive toxicity, hazard category 2

Specific Target Organ Toxicity — Single exposure, hazard category 2

Hazardous to the aquatic environment — Acute hazard category 3

#### Hazard statements

H301, H314, H318, H361, H373, H402

### 2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

#### Hazard pictograms



#### Signal word

Danger

#### Hazard statements

H301 Toxic if swallowed.

H314 Causes severe skin burns and eye damage.

H361 Suspected of damaging fertility or the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure

H402 Harmful to aquatic life.

According to Regulation (EC) No 1907/2006

# Semicarbazide hydrochloride

Version number: 1.0  
Issued: 2023-11-10



## Precautionary statements

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P260 Do not breathe dust.  
P264 Wash skin thoroughly after handling.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P310 Immediately call a POISON CENTER/doctor.  
P330 Rinse mouth.  
P363 Wash contaminated clothing before reuse.  
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308 + P313 IF exposed or concerned: Get medical advice/attention.  
P405 Store locked up.  
P308 + P311 IF exposed or concerned: Call a POISON CENTER/doctor.

## 2.3. Other hazards

No data available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrases M factor acute M factor chronic	Note
Hydrazinecarboxamide hydrochloride	563-41-7 209-247-0 - -	100%	Acute Tox. 3 - oral, Skin Corr. 1B, Repr. 2, Aquatic Acute 3, STOT SE 2	H301, H314, H361, H373, H402 - -	-

## Molecular weight

111.53

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

IF exposed or concerned: Get medical advice/attention. First aiders/ medical personnel need to protect themselves. Show this Safety Data Sheet (SDS) to medical personnel.

According to Regulation (EC) No 1907/2006

# Semicarbazide hydrochloride

Version number: 1.0  
Issued: 2023-11-10



## **Inhalation**

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. If breathing stops, provide artificial respiration. For breathing difficulties oxygen may be necessary.

## **Skin contact**

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. Immediately call a POISON CENTER/doctor.

## **Eye contact**

Remove contact lenses if present. Rinse eyes with water. Continue to rinse for at least 15 minutes and seek medical attention.

## **Ingestion**

IF SWALLOWED: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only if the persons are fully conscious and awake). Administer activated charcoal (20 - 40g in a 10% slurry) and consult a doctor as quickly as possible. Do not attempt to neutralise.

## **Information for doctors**

No data available.

### **4.2. Most important symptoms and effects, both acute and delayed**

The severity of the symptoms described will vary dependant of the concentration and the length of exposure. Causes burns by all exposure routes.

See section 11 for more detailed information on health effects and symptoms.

## **Inhalation**

Single exposure may cause the following adverse effects: Causes severe burns. Difficulty in breathing. Unconsciousness, possibly death.

## **Skin contact**

Single exposure may cause the following adverse effects: Causes severe burns. Blistering may occur. Unconsciousness, death.

## **Eye contact**

Single exposure may cause the following adverse effects: Causes serious eye damage. Unconsciousness, possibly death.

## **Ingestion**

Single exposure may cause the following adverse effects: Severe abdominal pain. May cause severe internal injury. Unconsciousness, possibly death.

### **4.3. Indication of any immediate medical attention and special treatment needed**

Treat symptomatically. Immediately call a POISON CENTER/doctor.

According to Regulation (EC) No 1907/2006

# Semicarbazide hydrochloride

Version number: 1.0  
Issued: 2023-11-10



## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.

#### Unsuitable extinguishing media

No specific fire fighting procedure given.

### 5.2. Special hazards arising from the substance or mixture

Specific hazards: Combustible. Toxic. Corrosive.

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Nitrous gases (NO<sub>x</sub>). Hydrogen chloride (HCl).

### 5.3. Advice for firefighters

#### Special protective equipment for fire-fighters

Evacuate area. Avoid breathing gas, fume, vapours or spray. Prevent skin contact by maintaining a safe distance and by wearing suitable protective equipment/ clothing. Cool containers exposed to heat with water spray and remove container, if no risk is involved.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Do not breathe vapour/spray. Avoid contact with skin and eyes. For personal protection, see section 8.

In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.

### 6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

### 6.3. Methods and material for containment and cleaning up

Collect with absorbent, non-combustible material into suitable containers.

### 6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Preventive handling precautions

For precautions see section 2.2.

### 7.2. Conditions for safe storage, including any incompatibilities

Store in a dry place. Store in a closed container.

Store at ambient temperature.

### 7.3. Specific end use(s)

No specific usage precautions noted.

According to Regulation (EC) No 1907/2006

# Semicarbazide hydrochloride

Version number: 1.0  
Issued: 2023-11-10



## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### DNEL/DMEL

Product/Substance name (CAS No./EC No.)	Type	Exposure	Value	Population	Effects
Hydrazinecarboxamide hydrochloride (563-41-7/209-247-0)	DNEL	Chronic (long term) Dermal	26.4 µg/kg bw/day	Workers	Systemic
Hydrazinecarboxamide hydrochloride (563-41-7/209-247-0)	DNEL	Chronic (long term) Inhalation	93.2 µg/m <sup>3</sup>	Workers	Systemic

### 8.2. Exposure controls

#### Personal Protective Equipment Symbols



#### Eye / face protection

Wear eye protection.

#### Hand protection

Wear protective gloves. Recommended gloves: Nitrile.

Glove Thickness: 0.11mm

Breakthrough time: 8 hours

Always inspect gloves before use. If signs of wear and tear are noticed then the gloves should be replaced.

No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals. Wash contaminated skin thoroughly after handling.

#### Other skin protection

Wash skin thoroughly after handling.

#### Respiratory protection

Provide adequate ventilation. If ventilation is insufficient, suitable respiratory protection must be provided.

#### Environmental exposure controls

Avoid discharge into drains.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

#### Physical state

Solid

According to Regulation (EC) No 1907/2006

# Semicarbazide hydrochloride

Version number: 1.0  
Issued: 2023-11-10



## Colour

White.

## Odour

No data available

## Melting point / freezing point

170 - 178 °C

## Boiling point or initial boiling point and boiling range

No data available

## Flammability

No data available

## Lower and upper explosion limit

No data available

## Flash point

No data available

## Auto-ignition temperature

No data available

## Decomposition temperature

No data available

## pH

1.5

## **Method**

(10% aq.)

## Kinematic viscosity

No data available

## Solubility

Soluble in water.

## **Method**

(100g/l, 15°C)

## Partition coefficient n-octanol/water

No data available

## Vapour pressure

No data available

## Density and/or relative density

1.52 g/cm<sup>3</sup>

## **Method**

(25°C)

According to Regulation (EC) No 1907/2006

# Semicarbazide hydrochloride

Version number: 1.0  
Issued: 2023-11-10



## Relative vapour density

No data available

## Explosive properties

Not explosive

## Particle characteristics

No data available

## 9.2. Other information

No data available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The following applies in general to flammable organic substances and mixtures: when finely distributed, the risk of a dust explosion may be assumed.

### 10.2. Chemical stability

Stable under the prescribed storage conditions.

### 10.3. Possibility of hazardous reactions

Violent reactions possible with:  
oxidising agents

### 10.4. Conditions to avoid

No data available

### 10.5. Incompatible materials

Strong oxidising substances, strong acids and strong bases.

### 10.6. Hazardous decomposition products

See section 5.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Acute toxicity

Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Test animals
Hydrazinecarboxamide hydrochloride 563-41-7 / 209-247-0	Acute Toxicity (Oral LD50):	225mg/kg	Rat
Hydrazinecarboxamide hydrochloride 563-41-7 / 209-247-0	Acute Toxicity (Dermal LD50):	> 2,000mg/kg	Rat



According to Regulation (EC) No 1907/2006

# Semicarbazide hydrochloride

Version number: 1.0  
 Issued: 2023-11-10

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**11.2. Information on other hazards**

No data available

**SECTION 12: Ecological information****12.1. Toxicity****Acute fish toxicity**

Product / Sub- stance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species	Remark
Hydrazinecarbox- amide hydrochloride 563-41-7 / 209-247- 0	LC50	26.29mg/l	96 hours	Brachydanio rerio (Zebra Fish)	(US-EPA)

**Acute algae toxicity**

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Hydrazinecarboxamide hydrochloride 563-41-7 / 209-247-0	ErC50	22.7mg/l	72 hours	Pseudokirchneriella sub- capitata

**Acute crustacean toxicity**

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Hydrazinecarboxamide hydrochloride 563-41-7 / 209-247-0	EC50	67mg/l	48 hours	Daphnia magna

**Micro-/macro organism toxicity**

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Hydrazinecarboxamide hydrochloride	EC50	ca. 760mg/l	3 hours	Activated sludge.

According to Regulation (EC) No 1907/2006

# Semicarbazide hydrochloride

Version number: 1.0  
Issued: 2023-11-10



Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
563-41-7 / 209-247-0				

## 12.2. Persistence and degradability

### Persistence and degradability

Product / Substance name CAS / EC no.	Type of test	Duration	Result	Degradation
Hydrazinecarboxamide hydrochloride 563-41-7 / 209-247-0	aerobic	28 days	84%	The substance is readily biodegradable.

## 12.3. Bioaccumulative potential

No data available

## 12.4. Mobility in soil

No data available

## 12.5. Results of PBT and vPvB assessment

No data available

## 12.6. Endocrine disrupting properties

This product does not contain any known or suspected endocrine disruptors.

## 12.7. Other adverse effects

No data available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Disposal considerations

Dispose of contents/container in accordance with local regulations.

## SECTION 14: Transport information

### 14.1. UN number

2928

### 14.2. UN proper shipping name

#### ADR / RID / ADN proper shipping name

TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S. (Semicarbazide hydrochloride)

According to Regulation (EC) No 1907/2006

# Semicarbazide hydrochloride

Version number: 1.0  
Issued: 2023-11-10



## IMDG proper shipping name

TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S. (Semicarbazide hydrochloride)

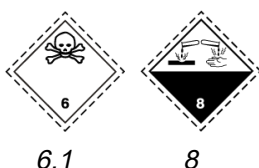
## IATA proper shipping name

Toxic solid, corrosive, organic, n.o.s. (Semicarbazide hydrochloride)

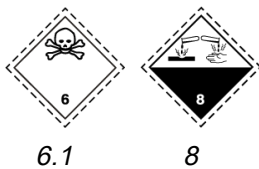
### 14.3. Transport hazard class(es)

#### Label

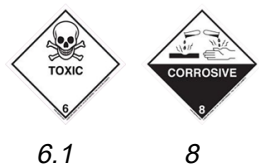
ADR/RID/ADN



IMDG



IATA



#### ADR / RID Class

6.1

#### ADR / RID Classification code

TC2

#### ADR / RID hazard identification number

68

#### IMDG Class

6.1 (8)

#### IATA Class

6.1 (8)

#### ADN Class

6.1

#### ADN Class Code

TC2

According to Regulation (EC) No 1907/2006

# Semicarbazide hydrochloride

Version number: 1.0  
Issued: 2023-11-10



## 14.4. Packing group

ADR / RID / ADN: II  
IMDG: II  
IATA: II

## 14.5. Environmental hazards

**IMDG EmS**  
F-A, S-B

## 14.6. Special precautions for user

Tunnel restriction code: D/E  
Transport category: 2

## 14.7. Maritime transport in bulk according to IMO instruments

IBC Instruction: IBC06

## SECTION 15: Regulatory information

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

#### **EU regulations**

This SDS is not mandated under REACH Regulation (EC) No 1907/2006 and is provided for information only.

#### **National regulations**

No data available

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

## SECTION 16: Other information

#### **Phrase meaning**

Acute Tox. 3 - oral - Acute toxicity, oral, hazard category 3

Skin Corr. 1B - Skin corrosion, hazard category 1B

Repr. 2 - Reproductive toxicity, hazard category 2

STOT SE 2 - Specific Target Organ Toxicity — Single exposure, hazard category 2

Aquatic Acute 3 - Hazardous to the aquatic environment — Acute hazard category 3

H301 Toxic if swallowed.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H361 Suspected of damaging fertility or the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure

H402 Harmful to aquatic life.