

According to Regulation (EC) No 1907/2006

# Phenylhydrazine



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

### 1.1. Product identifier

**Trade name**

Phenylhydrazine

**CAS number**

100-63-0

**EC number**

202-873-5

**Synonyms**

Fenilhidracina

### 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

Street 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 address**

+44 (0) 7769276927

### 1.4. Emergency telephone number

**Poison center/Additional emergency number**

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

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## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

#### Classification

Carcinogenicity, hazard category 1B  
Hazardous to the aquatic environment — Acute hazard category 1  
Skin irritation, hazard category 2  
Skin sensitisation, hazard category 1  
Germ cell mutagenicity, hazard category 2  
Specific Target Organ Toxicity — Repeated exposure, hazard category 1  
Eye irritation, hazard category 2  
Acute toxicity, oral, hazard category 3  
Acute toxicity, dermal, hazard category 3  
Acute toxicity, inhalation, hazard category 2

#### Hazard statements

H301, H311, H315, H317, H319, H330, H341, H350, H372, H400

### 2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

#### Hazard pictograms



#### Signal word

Danger

#### Hazard statements

H301 Toxic if swallowed.  
H311 Toxic in contact with skin.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H330 Fatal if inhaled.  
H341 Suspected of causing genetic defects.  
H350 May cause cancer.  
H372 Causes damage to organs through prolonged or repeated exposure .  
H400 Very toxic to aquatic life.

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## **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 .
- P261 Avoid breathing .
- P264 Wash thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P284 wear respiratory protection.
- P310 Immediately call a POISON CENTER/doctor.
- P312 Call a POISON CENTER/doctor if you feel unwell.
- P314 Get medical advice/attention if you feel unwell.
- P320 Specific treatment is urgent (see on this label).
- P321 Specific treatment (see on this label).
- P330 Rinse mouth.
- P391 Collect spillage.
- P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
- P302 + P352 IF ON SKIN: Wash with plenty of water/.
- 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.
- P332 + P313 If skin irritation occurs: Get medical advice/attention.
- P337 + P313 If eye irritation persists: Get medical advice/attention.
- P405 Store locked up.
- P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
- P501 Dispose of contents/container to .
- P361 + P364 Take off immediately all contaminated clothing and wash it before reuse.
- P362 + P364 Take off contaminated clothing and wash it before reuse.
- P333 +P313 If skin irritation or rash occurs: Get medical advice/attention.

## **2.3. Other hazards**

No data available

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## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrase M factor acute M factor chronic	Note
phenylhydrazine	100-63-0 202-873-5 01-2119510848-34 612-023-00-9	100%	Acute Tox. 3 - oral, Acute Tox. 3 - dermal, Skin Irrit. 2, Skin Sens. 1, Eye Irrit. 2, Acute Tox. 3 - inhalation, Muta. 2, Carc. 1B, STOT RE 1, Aquatic Acute 1	H301, H311, H315, H317, H319, H331, H341, H350, H372, H400 - -	-

#### Molecular weight

108.14

#### Substance additional information

For the complete text of H- / EUH-statements mentioned in this section, see section 16.

## 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.

#### Inhalation

Toxic if inhaled. 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

In case of 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).

#### Information for doctors

No data available.

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

### Inhalation

Single exposure may cause the following adverse effects: Difficulty in breathing.

### Skin contact

Single exposure may cause the following adverse effects:

### Eye contact

Single exposure may cause the following adverse effects: Severe irritation.

### Ingestion

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

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

Treat symptomatically. No special treatment requirement.

## 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:

Carbon dioxide (CO<sub>2</sub>). Carbon monoxide (CO).

Nitrous gases (NO<sub>x</sub>).

Combustible.

Forms explosive mixtures with air on intense heating.

Vapours are heavier than air and may spread near ground to sources of ignition.

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

### 5.3. Advice for firefighters

#### Special protective equipment for fire-fighters

Evacuate area. Avoid breathing gas, fume, vapours or spray. 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

Avoid inhalation of vapours and spray mist and contact with skin and eyes. Provide adequate ventilation. Keep away from heat and sources of ignition. For personal protection, see section 8.

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## 6.2. Environmental precautions

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

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

Absorb spillage with suitable absorbent material. Collect spillage with shovel, broom or the like and reuse, if possible. Dispose of large amounts of spillage/waste according to agreement with local authorities.

## 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

Work under hood Do not inhale substance/mixture Avoid generation of vapours/aerosols. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take action to prevent static discharges.

#### General hygiene

Immediately change contaminated clothes. Wash skin thoroughly after handling. For precautions see section 2.2.

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

Store at room temperature. Store in a well-ventilated place. Keep container tightly closed.

Light sensitive. Handle and store contents under inert gas. Air sensitive.

### 7.3. Specific end use(s)

No specific usage precautions noted.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No data available

### 8.2. Exposure controls

#### Eye / face protection

Wear eye protection.

#### Hand protection

Wear protective gloves. Recommended gloves: Butyl rubber.

Glove Thickness: 0.7mm

Breakthrough time: hours 8

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.

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## **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**

Liquid

#### **Colour**

No data available

#### **Odour**

No data available

#### **Melting point / freezing point**

18 - 21 °C

#### **Boiling point or initial boiling point and boiling range**

238 - 241 °C

#### **Flammability**

No data available

#### **Lower and upper explosion limit**

Lower explosion limit: 1.1 %(V)

#### **Flash point**

89 °C

#### **Method**

CC (Closed cup).

#### **Auto-ignition temperature**

No data available

#### **Decomposition temperature**

No data available

#### **pH**

No data available

#### **Kinematic viscosity**

No data available

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**Viscosity, dynamic**

0.017 Pas at 20 °C

**Solubility**

No data available

**Partition coefficient n-octanol/water**

log Pow: 1.25 - Bioaccumulation is not expected.

**Vapour pressure**

1.35 hPa at 60 °C

**Density and/or relative density**

1.098 g/mL

**Relative vapour density**

No data available

**Particle characteristics**

No data available

## 9.2. Other information

No data available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Forms explosive mixtures with air on intense heating.

15 (approx) Kelvin below the flash point is to be rated as critical.

### 10.2. Chemical stability

Stable under normal temperature conditions. Stable under the prescribed storage conditions.

### 10.3. Possibility of hazardous reactions

Exothermic reaction with:

Strong oxidising agents.

Sulphides

metallic oxides

Risk of explosion with:

metallic oxides

halogenated hydrocarbons

organic halides

perchloryl fluoride

surface-active substances

### 10.4. Conditions to avoid

strong heating

### 10.5. Incompatible materials

There are no known reactivity hazards associated with this product.



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## 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	Exposure route	Duration of exposure	Test animals
phenylhydrazine 100-63-0 / 202-873-5	LD50	188 mg/kg	Oral	-	Rat
phenylhydrazine 100-63-0 / 202-873-5	ATE = Acute Toxicity Estimate.	0.51 mg/l	Inhalation	4 hours	-
phenylhydrazine 100-63-0 / 202-873-5	ATE = Acute Toxicity Estimate.	300 mg/kg	Dermal	-	-

#### Skin corrosion/irritation

Product / Substance name CAS / EC no.	Result
phenylhydrazine 100-63-0 / 202-873-5	Causes skin irritation.

#### Serious eye damage/irritation

Product / Substance name CAS / EC no.	Result
phenylhydrazine 100-63-0 / 202-873-5	Causes serious eye irritation.

#### Respiratory or skin sensitisation

Product / Substance name CAS / EC no.	Result	Species	Method / Guideline
phenylhydrazine 100-63-0 / 202-873-5	Positive.	Human	Patch Test:

#### Germ cell mutagenicity

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Product / Substance name CAS / EC no.	Result
phenylhydrazine 100-63-0 / 202-873-5	Suspected of causing genetic defects.

**Carcinogenicity**

Product / Substance name CAS / EC no.	Other
phenylhydrazine 100-63-0 / 202-873-5	Potentially carcinogenic to humans.

**STOT-repeated exposure**

Product / Substance name CAS / EC no.	Result
phenylhydrazine 100-63-0 / 202-873-5	May cause damage to organs through prolonged or repeated exposure.

**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 / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
phenylhydrazine 100-63-0 / 202-873-5	LC50	0.16-0.25 mg/l	96 hours	Danio rerio (zebra fish)

**Acute crustacean toxicity**

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
phenylhydrazine 100-63-0 / 202-873-5	EC50	2-5 mg/l	48 hours	Daphnia magna

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## Micro-/macro organism toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
phenylhydrazine 100-63-0 / 202-873-5	EC50	175.2 mg/l	1 hours	Photobacterium phosphoreum

### 12.2. Persistence and degradability

No data available

### 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

No data available

### 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

2572

### 14.2. UN proper shipping name

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

PHENYLHYDRAZINE

#### IMDG proper shipping name

PHENYLHYDRAZINE

#### IATA proper shipping name

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## 14.3. Transport hazard class(es)

### Label

ADR/RID/ADN



6.1

IMDG



6.1

IATA



6.1

### ADR / RID Class

6.1

### ADR / RID Classification code

T1

### ADR / RID hazard identification number

60

### IMDG Class

6.1

### IATA Class

6.1

### ADN Class

6.1

### ADN Class Code

T1

## 14.4. Packing group

ADR / RID / ADN: II

IMDG: II

IATA: II

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## 14.5. Environmental hazards

### IMDG EmS

F-A, S-A

## 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: IBC02

## SECTION 15: Regulatory information

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

#### EU regulations

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

#### National regulations

H2 ACUTE TOXIC E1 ENVIRONMENTAL HAZARDS

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

## SECTION 16: Other information

### Phrase meaning

Carc. 1B - Carcinogenicity, hazard category 1B

Aquatic Acute 1 - Hazardous to the aquatic environment — Acute hazard category 1

Skin Irrit. 2 - Skin irritation, hazard category 2

Skin Sens. 1 - Skin sensitisation, hazard category 1

Muta. 2 - Germ cell mutagenicity, hazard category 2

STOT RE 1 - Specific Target Organ Toxicity — Repeated exposure, hazard category 1

Eye Irrit. 2 - Eye irritation, hazard category 2

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

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

Acute Tox. 2 - inhalation - Acute toxicity, inhalation, hazard category 2

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

H301 Toxic if swallowed.

H311 Toxic in contact with skin.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H330 Fatal if inhaled.

H331 Toxic if inhaled.

H341 Suspected of causing genetic defects.

H350 May cause cancer.

H372 Causes damage to organs through prolonged or repeated exposure .

H372 Causes damage to organs through prolonged or repeated exposure .?.

H400 Very toxic to aquatic life.