

# Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



## Phenylhydrazine hydrochloride ≥99 %, p.a.

article number: **KK20**  
Version: **GHS 4.0 en**  
Replaces version of: 2022-10-20  
Version: (GHS 3)

date of compilation: 2016-01-25  
Revision: 2024-03-02

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

### 1.1 Product identifier

Identification of the substance **Phenylhydrazine hydrochloride ≥99 %, p.a.**  
Article number **KK20**  
CAS number **59-88-1**

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

Relevant identified uses: **Laboratory chemical  
Laboratory and analytical use**  
Uses advised against: **Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household). Food, drink and animal feeding-stuffs.**

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

Carl Roth GmbH + Co. KG  
Schoemperlenstr. 3-5  
D-76185 Karlsruhe  
Germany

**Telephone:**+49 (0) 721 - 56 06 0  
**Telefax:** +49 (0) 721 - 56 06 149  
**e-mail:** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)  
**Website:** [www.carlroth.de](http://www.carlroth.de)

Competent person responsible for the safety data sheet: **Department Health, Safety and Environment**

**e-mail (competent person):** **[sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)**

### 1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
NSW Poisons Information Centre Childrens Hospital	Hawkesbury Road	2145 Westmead, NSW	131126	

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification acc. to GHS

Section	Hazard class	Category	Hazard class and category	Hazard statement
3.1O	Acute toxicity (oral)	3	Acute Tox. 3	H301
3.1D	Acute toxicity (dermal)	3	Acute Tox. 3	H311
3.1I	Acute toxicity (inhal.)	3	Acute Tox. 3	H331
3.2	Skin corrosion/irritation	2	Skin Irrit. 2	H315

# Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



## Phenylhydrazine hydrochloride $\geq 99\%$ , p.a.

article number: **KK20**

Section	Hazard class	Cat-egory	Hazard class and category	Hazard statement
3.3	Serious eye damage/eye irritation	2	Eye Irrit. 2	H319
3.4S	Skin sensitisation	1	Skin Sens. 1	H317
3.5	Germ cell mutagenicity	2	Muta. 2	H341
3.6	Carcinogenicity	1B	Carc. 1B	H350
3.9	Specific target organ toxicity - repeated exposure	1	STOT RE 1	H372

For full text of abbreviations: see SECTION 16

### The most important adverse physicochemical, human health and environmental effects

Delayed or immediate effects can be expected after short or long-term exposure.

## 2.2 Label elements

### Labelling

#### Signal word

**Danger**

#### Pictograms

GHS06, GHS08



#### Hazard statements

H301+H311+H331 Toxic if swallowed, in contact with skin or if inhaled  
H315 Causes skin irritation  
H317 May cause an allergic skin reaction  
H319 Causes serious eye irritation  
H341 Suspected of causing genetic defects  
H350 May cause cancer  
H372 Causes damage to organs through prolonged or repeated exposure

#### Precautionary statements

##### Precautionary statements - prevention

P260 Do not breathe dust/fume/gas/mist/vapours/spray  
P280 Wear protective gloves/protective clothing

##### Precautionary statements - response

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
P302+P352 IF ON SKIN: Wash with plenty of soap and water  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

##### Precautionary statements - storage

P403+P233 Store in a well-ventilated place. Keep container tightly closed

For professional users only

# Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



## Phenylhydrazine hydrochloride $\geq 99\%$ , p.a.

article number: **KK20**

### 2.3 Other hazards

#### Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

#### Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Name of substance	Phenylhydrazine hydrochloride
Molecular formula	$C_6H_8N_2 \cdot HCl$
Molar mass	144.6 g/mol
CAS No	59-88-1

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

Take off immediately all contaminated clothing. Self-protection of the first aider.

#### Following inhalation

Call a physician immediately. If breathing is irregular or stopped, administer artificial respiration.

#### Following skin contact

Rinse skin with water/shower. After contact with skin, wash immediately with plenty of water. In case of skin reactions, consult a physician. In case of skin irritation, consult a physician.

#### Following eye contact

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In case of eye irritation consult an ophthalmologist.

#### Following ingestion

Rinse mouth immediately and drink plenty of water. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

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

After eye contact: Corneal opacity, Irritation,  
Following skin contact: Pruritis, Causes burns, Allergic reactions,  
Following inhalation: Pulmonary irritation,  
Following ingestion: Nausea, Diarrhoea

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

none

## Phenylhydrazine hydrochloride $\geq 99\%$ , p.a.

article number: **KK20**

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media



##### Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings!  
water, foam, alcohol resistant foam, dry extinguishing powder, ABC-powder

##### Unsuitable extinguishing media

water jet

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

Combustible.

##### Hazardous combustion products

In case of fire may be liberated: Nitrogen oxides (NO<sub>x</sub>), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Hydrogen chloride (HCl)

#### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus. Wear full chemical protective clothing.

### SECTION 6: Accidental release measures

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



##### For non-emergency personnel

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe dust.

#### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

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

##### Advice on how to contain a spill

Covering of drains. Take up mechanically.

##### Advice on how to clean up a spill

Take up mechanically. Control of dust.

##### Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

#### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

# Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



Phenylhydrazine hydrochloride  $\geq 99\%$ , p.a.

article number: **KK20**

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Use extractor hood (laboratory). Handle and open container with care. Avoid exposure. Avoid dust formation. Clear contaminated areas thoroughly.

#### Measures to prevent fire as well as aerosol and dust generation

Removal of dust deposits.

#### Advice on general occupational hygiene

When using do not eat or drink. Thorough skin-cleansing after handling the product.

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

Store in a dry place.

#### Incompatible substances or mixtures

Observe hints for combined storage.

#### Protect against external exposure, such as

contact with air/oxygen, UV-radiation/sunlight

#### Consideration of other advice:

Store locked up.

#### Ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted. Use local and general ventilation.

#### Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C

### 7.3 Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### National limit values

#### Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [mg/m <sup>3</sup> ]	STEL [mg/m <sup>3</sup> ]	Ceiling-C [mg/m <sup>3</sup> ]	Notation	Source
AU	nuisance dusts		WES	10			i	WES

#### Notation

Ceiling-C  
i Ceiling value is a limit value above which exposure should not occur  
Inhalable fraction

STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

## Phenylhydrazine hydrochloride $\geq 99\%$ , p.a.

article number: **KK20**

### 8.2 Exposure controls

#### Individual protection measures (personal protective equipment)

##### Eye/face protection



Use safety goggle with side protection.

##### Skin protection



##### • hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

##### • type of material

NBR (Nitrile rubber)

##### • material thickness

>0,11 mm

##### • breakthrough times of the glove material

>480 minutes (permeation: level 6)

##### • other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

##### Respiratory protection



Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P3 (filters at least 99,95 % of airborne particles, colour code: White).

##### Environmental exposure controls

Keep away from drains, surface and ground water.

# Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



## Phenylhydrazine hydrochloride $\geq 99\%$ , p.a.

article number: **KK20**

### SECTION 9: Physical and chemical properties

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

Physical state	solid
Colour	white - whitish
Odour	characteristic
Melting point/freezing point	250 – 254 °C (decomposition)
Boiling point or initial boiling point and boiling range	not determined
Flammability	this material is combustible, but will not ignite readily
Lower and upper explosion limit	not determined
Flash point	not applicable
Auto-ignition temperature	not determined
Decomposition temperature	>245 °C
pH (value)	2.6 – 2.9 (in aqueous solution: 50 g/l, 20 °C)
Kinematic viscosity	not relevant
<u>Solubility(ies)</u>	
Water solubility	~50 g/l at 20 °C
<u>Partition coefficient</u>	
Partition coefficient n-octanol/water (log value):	-2.27 (TOXNET) (calculated value)
Vapour pressure	not determined
<u>Density and/or relative density</u>	
Density	not determined
Relative vapour density	Information on this property is not available.
Bulk density	~330 kg/m <sup>3</sup>
Particle characteristics	No data available.

#### Other safety parameters

Oxidising properties none

#### 9.2 Other information

Information with regard to physical hazard classes: hazard classes acc. to GHS (physical hazards): not relevant

Other safety characteristics: There is no additional information.

## Phenylhydrazine hydrochloride $\geq 99\%$ , p.a.

article number: **KK20**

### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

#### 10.2 Chemical stability

Reactivity if exposed to air.

#### 10.3 Possibility of hazardous reactions

**Violent reaction with:** Strong oxidiser, Alkali hydroxide (caustic alkali), Strong alkali, Halogenated hydrocarbons, Heat,  
=> Explosive properties

#### 10.4 Conditions to avoid

Contact with air/oxygen. UV-radiation/sunlight. Keep away from heat. Decomposition takes place from temperatures above:  $>245\text{ }^{\circ}\text{C}$ .

#### 10.5 Incompatible materials

There is no additional information.

#### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

**Classification acc. to GHS**

##### Acute toxicity

Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled.

##### Skin corrosion/irritation

Causes skin irritation.

##### Serious eye damage/eye irritation

Causes serious eye irritation.

##### Respiratory or skin sensitisation

May cause an allergic skin reaction.

##### Germ cell mutagenicity

Suspected of causing genetic defects.

##### Carcinogenicity

May cause cancer.

##### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

##### Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

##### Specific target organ toxicity - repeated exposure

Causes damage to organs through prolonged or repeated exposure.



# Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



## Phenylhydrazine hydrochloride $\geq 99\%$ , p.a.

article number: **KK20**

### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

### Symptoms related to the physical, chemical and toxicological characteristics

#### • If swallowed

gastrointestinal complaints, diarrhoea, vomiting

#### • If in eyes

Causes serious eye irritation

#### • If inhaled

irritant effects, varying degrees of pulmonary injury

#### • If on skin

causes skin irritation, May produce an allergic reaction, pruritis, localised redness

#### • Other information

none

### 11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

## SECTION 12: Ecological information

### 12.1 Toxicity

Very toxic to aquatic life.

### 12.2 Persistence and degradability

Theoretical Oxygen Demand (without nitrification):  $1.438 \text{ mg/mg}$

Theoretical Oxygen Demand (with nitrification):  $1.908 \text{ mg/mg}$

Theoretical Carbon Dioxide:  $1.826 \text{ mg/mg}$

### 12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

n-octanol/water (log KOW)	-2.27 (TOXNET) (Calculated value)
---------------------------	-----------------------------------

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

Data are not available.

### 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

### 12.7 Other adverse effects

Data are not available.

# Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



Phenylhydrazine hydrochloride  $\geq 99\%$ , p.a.

article number: **KK20**

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Sewage disposal-relevant information

Do not empty into drains.

#### Waste treatment of containers/packagings

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used. Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

#### Relevant provisions relating to waste(Basel Convention)

#### Properties of waste which render it hazardous

**H6.1**      Poisonous (Acute)  
**H11**        Toxic (Delayed or chronic)

### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions. Non-contaminated packages may be recycled.

## SECTION 14: Transport information

### 14.1 UN number

<b>UN RTDG</b>	UN 2811
IMDG-Code	UN 2811
ICAO-TI	UN 2811

### 14.2 UN proper shipping name

<b>UN RTDG</b>	TOXIC SOLID, ORGANIC, N.O.S.
IMDG-Code	TOXIC SOLID, ORGANIC, N.O.S.
ICAO-TI	Toxic solid, organic, n.o.s.
Technical name	Phenylhydrazine hydrochloride

### 14.3 Transport hazard class(es)

<b>UN RTDG</b>	6.1
IMDG-Code	6.1
ICAO-TI	6.1

### 14.4 Packing group

<b>UN RTDG</b>	III
IMDG-Code	III
ICAO-TI	III

# Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



## Phenylhydrazine hydrochloride $\geq 99\%$ , p.a.

article number: **KK20**

**14.5 Environmental hazards** hazardous to the aquatic environment

### 14.6 Special precautions for user

There is no additional information.

### 14.7 Transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

### 14.8 Information for each of the UN Model Regulations

#### Transport information National regulations Additional information (UN RTDG)

**UN number** 2811

**Class** 6.1

**Environmental hazards** Yes  
Hazardous to the aquatic environment

**Packing group** III

**Danger label(s)** 6.1  
Fish and tree



**Special provisions (SP)** 223, 274  
UN RTDG

**Excepted quantities (EQ)** E1  
UN RTDG

**Limited quantities (LQ)** 5 kg  
UN RTDG

**Emergency Action Code** 2X

#### International Maritime Dangerous Goods Code (IMDG) - Additional information

**Proper shipping name** TOXIC SOLID, ORGANIC, N.O.S.

**Particulars in the shipper's declaration** UN2811, TOXIC SOLID, ORGANIC, N.O.S., (Phenylhydrazine hydrochloride), 6.1, III, MARINE POLLUTANT

**Marine pollutant** YES (hazardous to the aquatic environment)

**Danger label(s)** 6.1, "Fish and tree"



**Special provisions (SP)** 223, 274

**Excepted quantities (EQ)** E1

**Limited quantities (LQ)** 5 kg

**EmS** F-A, S-A

**Stowage category** A

# Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



## Phenylhydrazine hydrochloride ≥99 %, p.a.

article number: **KK20**

### International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Proper shipping name	Toxic solid, organic, n.o.s.
Particulars in the shipper's declaration	UN2811, Toxic solid, organic, n.o.s., (Phenylhydrazine hydrochloride), 6.1, III
Environmental hazards	YES (hazardous to the aquatic environment)
Danger label(s)	6.1
Special provisions (SP)	A3, A5
Excepted quantities (EQ)	E1
Limited quantities (LQ)	10 kg

## SECTION 15: Regulatory information

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

There is no additional information.

#### National regulations(Australia)

##### Australian Inventory of Chemical Substances(AICS)

Substance is listed.

#### Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

#### National inventories

Country	Inventory	Status
AU	AIIC	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
KR	KECI	substance is listed
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed (ACTIVE)
VN	NCI	substance is listed

#### Legend

AIIC	Australian Inventory of Industrial Chemicals
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NCI	National Chemical Inventory

# Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



## Phenylhydrazine hydrochloride ≥99 %, p.a.

article number: **KK20**

### Legend

NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

## 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

## SECTION 16: Other information

### Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.3		Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.	yes
14.8		Emergency Action Code: 2X	yes
15.1		National inventories: change in the listing (table)	yes

### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
DGR	Dangerous Goods Regulations (see IATA/DGR)
ED	Endocrine disruptor
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
STEL	Short-term exposure limit
TWA	Time-weighted average
UN RTDG	UN Recommendations on the Transport of Dangerous Good

# Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



## Phenylhydrazine hydrochloride $\geq 99\%$ , p.a.

article number: **KK20**

Abbr.	Descriptions of used abbreviations
vPvB	Very Persistent and very Bioaccumulative
WES	Safe Work Australia: Workplace exposure standards for airborne contaminants

### Key literature references and sources for data

Safe Work Australia's Code of Practice for Labelling of Workplace Hazardous Chemicals (under WHS Regulations).

UN Recommendations on the Transport of Dangerous Good. International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
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.
H331	Toxic if inhaled.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H372	Causes damage to organs through prolonged or repeated exposure.

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.