

Imidazole PUFFERAN® ≥ 99%, p.a., Ultra Quality

article number: **X998**
Version: **GHS 1.0 en**

date of compilation: 2019-08-29

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

1.1 Product identifier

Identification of the substance	Imidazole
Article number	X998
Registration number (REACH)	01-2119485825-24-XXXX
Index No	613-319-00-0
EC number	206-019-2
CAS number	288-32-4

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

Identified uses:	laboratory chemical laboratory and analytical use
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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**Website:** www.carlroth.de

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

e-mail (competent person) : 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	

Emergency information service

Poison Centre Munich: +49/(0)89 19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture**Classification acc. to GHS**

This substance does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC. This substance does not meet the criteria for classification.

2.2 Label elements**Labelling GHS**

not required

Signal word not required

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2.3 Other hazards

There is no additional information.

SECTION 3: Composition/information on ingredients
3.1 Substances

Name of substance	Imidazole
Index No	613-319-00-0
Registration number (REACH)	01-2119485825-24-XXXX
EC number	206-019-2
CAS number	288-32-4
Molecular formula	C ₃ H ₄ N ₂
Molar mass	68.08 g/mol

SECTION 4: First aid measures
4.1 Description of first aid measures

General notes

Take off contaminated clothing.

Following inhalation

Remove person to fresh air and keep comfortable for breathing. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

Following skin contact

Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

Irritation, Dyspnoea

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

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SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings
water spray, foam, dry extinguishing powder

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Combustible. Vapours may form explosive mixtures with air.

Hazardous combustion products

In case of fire may be liberated: nitrogen oxides (NO_x), carbon monoxide (CO), carbon dioxide (CO₂)

5.3 Advice for firefighters

Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

Ventilate affected area.

6.2 Environmental precautions

Keep away from drains, surface and ground water.

6.3 Methods and material for containment and cleaning up**Advice on how to contain a spill**

Covering of drains.

Advice on how to clean up a spill

Take up mechanically.

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.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Provide adequate ventilation as well as local exhaustion at critical locations.

Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed. Store in a dry place.

Incompatible substances or mixtures

Observe hints for combined storage.

Consideration of other advice

- **Ventilation requirements**

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)

Data are not available.

Relevant DNELs/DMELs/PNECs and other threshold levels

- **human health values**

Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	10.6 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
DNEL	1.5 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

- **environmental values**

Endpoint	Threshold level	Environmental compartment
PNEC	1.3 mg/l	water
PNEC	0.13 mg/l	freshwater
PNEC	0.013 mg/l	marine water
PNEC	10 mg/l	sewage treatment plant (STP)
PNEC	0.336 mg/kg	freshwater sediment
PNEC	0.034 mg/kg	marine sediment
PNEC	0.043 mg/kg	soil

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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.

- **type of material**

NBR (Nitrile rubber)

- **material thickness**

0,2mm.

- **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). P1 (filters at least 80 % of airborne particles, colour code: White). P3 (filters at least 99,95 % of airborne particles, colour code: White).

Environmental exposure controls

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	solid (crystalline)
Colour	white - light yellow
Odour	like: amine
Odour threshold	No data available

Other physical and chemical parameters

pH (value)	9 – 11 (water: 100 g/l, 20 °C)
Melting point/freezing point	88 – 90 °C

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Initial boiling point and boiling range	256 – 268 °C at 1,013 hPa
Flash point	145 °C (closed cup)
Evaporation rate	no data available
Flammability (solid, gas)	These information are not available
<u>Explosive limits</u>	
• lower explosion limit (LEL)	this information is not available
• upper explosion limit (UEL)	this information is not available
Explosion limits of dust clouds	these information are not available
Vapour pressure	0.003 hPa at 20 °C
Density	1.233 g/cm ³ at 20 °C
Vapour density	This information is not available.
Bulk density	500 – 600 kg/m ³
Relative density	Information on this property is not available.
<u>Solubility(ies)</u>	
Water solubility	>630 g/l at 20 °C
<u>Partition coefficient</u>	
n-octanol/water (log KOW)	0.0586 (ECHA)
Soil organic carbon/water (log KOC)	>1.362 – <2.316 (ECHA)
Auto-ignition temperature	480 °C
Decomposition temperature	no data available
Viscosity	not relevant (solid matter)
• dynamic viscosity	2.6 – 2.7 mPa s at 100 °C
Explosive properties	Shall not be classified as explosive
Oxidising properties	none

9.2 Other information
SECTION 10: Stability and reactivity
10.1 Reactivity

If heated: Vapours may form explosive mixtures with air. Dust explosibility.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Violent reaction with: Acids, Strong oxidiser, Acetic anhydride

10.4 Conditions to avoid

Keep away from heat.

10.5 Incompatible materials

There is no additional information.

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10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information
11.1 Information on toxicological effects
Acute toxicity

Shall not be classified as acutely toxic.

Exposure route	Endpoint	Value	Species	Source
oral	LD50	970 mg/kg	rat	ECHA

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Summary of evaluation of the CMR properties

Shall not be classified as germ cell mutagenic, carcinogenic nor 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

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

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics
• If swallowed

Data are not available.

• If in eyes

Data are not available.

• If inhaled

cough, Irritation to respiratory tract, breathing difficulties

• If on skin

data are not available

Other information

None

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SECTION 12: Ecological information

12.1 Toxicity

acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute)

Endpoint	Value	Species	Source	Exposure time
LC50	283.6 mg/l	fish	ECHA	48 h
EC50	341.5 mg/l	aquatic invertebrates	ECHA	48 h
ErC50	133 mg/l	algae	ECHA	72 h

Aquatic toxicity (chronic)

Endpoint	Value	Species	Source	Exposure time
EC50	>1,000 mg/l	microorganisms	ECHA	30 min
growth (EbCx) 20%	45 mg/l	microorganisms	ECHA	30 min

12.2 Process of degradability

The substance is readily biodegradable.

Theoretical Oxygen Demand with nitrification: 2.174 mg/mg

Theoretical Oxygen Demand: 1.175 mg/mg

Theoretical Carbon Dioxide: 1.939 mg/mg

Process	Degradation rate	Time
biotic/abiotic	86 %	19 d
DOC removal	90 - 100 %	18 d

12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

n-octanol/water (log KOW) 0.0586

12.4 Mobility in soilHenry's law constant $0 \text{ Pa m}^3/\text{mol}$ at 25 °C

The Organic Carbon normalised adsorption coefficient >1.362 - <2.316

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Other adverse effects

Data are not available.

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SECTION 13: Disposal considerations

13.1 Waste treatment methods



Consult the appropriate local waste disposal expert about waste disposal.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

Sewage disposal-relevant information

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Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.


13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

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.

SECTION 14: Transport information

14.1	UN number	3263
14.2	UN proper shipping name Hazardous ingredients	CORROSIVE SOLID, BASIC, ORGANIC, N.O.S. Imidazole
14.3	Transport hazard class(es)	
	Class	8 (corrosive substances)
14.4	Packing group	III (substance presenting low danger)
14.5	Environmental hazards	none (non-environmentally hazardous acc. to the dangerous goods regulations)
14.6	Special precautions for user	
	Provisions for dangerous goods (ADR) should be complied within the premises.	
14.7	Transport in bulk according to Annex II of MARPOL and the IBC Code	
	The cargo is not intended to be carried in bulk.	
14.8	Information for each of the UN Model Regulations	
	• Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)	
	UN number	3263
	Proper shipping name	CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.

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Particulars in the transport document	UN3263, CORROSIVE SOLID, BASIC, ORGANIC, N.O.S., (Imidazole), 8, III, (E)
Class	8
Classification code	C8
Packing group	III
Danger label(s)	8



Special provisions (SP)	274
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 kg
Transport category (TC)	3
Tunnel restriction code (TRC)	E
Hazard identification No	80
Emergency Action Code	2X

- **International Maritime Dangerous Goods Code (IMDG)**

UN number	3263
Proper shipping name	CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.
Particulars in the shipper's declaration	UN3263, CORROSIVE SOLID, BASIC, ORGANIC, N.O.S., (Imidazole), 8, III
Class	8
Marine pollutant	-
Packing group	III
Danger label(s)	8




Special provisions (SP)	223, 274
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 kg
EmS	F-A, S-B
Stowage category	A
Segregation group	18 - Alkalis

- **International Civil Aviation Organization (ICAO-IATA/DGR)**

UN number	3263
Proper shipping name	Corrosive solid, basic, organic, n.o.s.

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Particulars in the shipper's declaration	UN3263, Corrosive solid, basic, organic, n.o.s., (Imidazole), 8, III
Class	8
Packing group	III
Danger label(s)	8
	
Special provisions (SP)	A3
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 kg

SECTION 15: Regulatory information
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
National inventories

Substance is listed in the following national inventories:

Country	National inventories	Status
AU	AICS	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
EU	REACH Reg.	substance is listed
JP	CSCL-ENCS	substance is listed
KR	KECI	substance is listed
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TR	CICR	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed

Legend

AICS	Australian Inventory of Chemical Substances
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
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
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

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15.2 Chemical Safety Assessment

For this substance a chemical safety assessment has been carried out.

SECTION 16: Other information
Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
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
IMDG	International Maritime Dangerous Goods Code
index No	the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
vPvB	very Persistent and very Bioaccumulative

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Key literature references and sources for data

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

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

not relevant.

Disclaimer

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.