

Safety Data Sheet

according to UK REACH Regulation

Cryptand K222

Revision date: 24.08.2023

Product code: PEKR-0128-R-V1

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Cryptand K222

Further trade names

4,7,13,16,21,24-Hexaoxa-1,10-diazabicyclo[8.8.8]hexacosane

Synonyms:

2,2,2-Crypt; 2,2,2-Cryptand; 2,2,2-Cryptate; Crypt-2,2,2; Cryptand 2.2.2; Cryptand C 222; Cryptating agent 222; Cryptofix 222; Kryptand 222; Kryptofix 222

CAS No: 23978-09-8

EC No: 245-962-4

1.2. Relevant identified uses of the substance or mixture and uses advised against**Use of the substance/mixture**

Laboratory chemicals Manufacture of fine chemicals.

1.3. Details of the supplier of the safety data sheet

Company name:	ABX advanced biochemical compounds Biomedizinische Forschungsreagenzien GmbH	
Street:	Heinrich-Gläser-Straße 10-14	
Place:	01454 Radeberg	
Telephone:	+49 3528 4041 60	Telefax: +49 3528 4041 65
e-mail:	info@abx.de	
Contact person:	Dr. Christoph Meyer	Telephone: +49 3528 4041 8732
e-mail:	meyer@abx.de	
Internet:	http://www.abx.de	

1.4. Emergency telephone number: +49 3528 4041 60**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****GB CLP Regulation**

Acute Tox. 4; H302

Skin Irrit. 2; H315

Eye Dam. 1; H318

Full text of hazard statements: see SECTION 16.

2.2. Label elements**GB CLP Regulation****Signal word:** Danger**Pictograms:****Hazard statements**

H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.

Precautionary statements

P270 Do not eat, drink or smoke when using this product.

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P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330	Rinse mouth.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.

2.3. Other hazards

none

SECTION 3: Composition/information on ingredients**3.1. Substances**Sum formula: C₁₈H₃₆N₂O₂

Molecular weight: 376.49 g/mol

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
23978-09-8	Cryptand 222			95 - < 100 %
	245-962-4			
	Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1; H302 H315 H318			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
23978-09-8	245-962-4	Cryptand 222	95 - < 100 %
	oral: ATE = 500 mg/kg		

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

Call a physician in any case!

After inhalation

Provide fresh air.

After contact with skin

After contact with skin, wash immediately with: Water. Change contaminated clothing.

After contact with eyes

If product gets into the eye, keep eyelid open and rinse immediately with large quantities of water, for at least 5 minutes. Subsequently consult an ophthalmologist.

After ingestion

If swallowed, immediately drink: Water. Call a physician in any case!

SECTION 5: Firefighting measures**5.1. Extinguishing media**

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Suitable extinguishing media

Water. Foam. Extinguishing powder. Carbon dioxide (CO₂).

5.2. Special hazards arising from the substance or mixture

Nitrogen oxides (NO_x).

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information

Suppress gases/vapours/mists with water spray jet. Contaminated fire-fighting water must be collected separately. Do not allow to enter into surface water or drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Provide adequate ventilation. Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothes. Wear personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

Other information

Take up mechanically. Treat the recovered material as prescribed in the section on waste disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe dust.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Protect skin by using skin protective cream. After work, wash hands and face. When using do not eat or drink.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container dry. Keep container tightly closed.

Further information on storage conditions

storage temperature: < 30 °C

Protect against: Light.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Additional advice on limit values

Does not contain substances above concentration limits fixing an occupational exposure limit.

8.2. Exposure controls

Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe dust.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear eye/face protection.

Hand protection

Wear protective gloves.

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Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state: solid
 Colour: white
 Melting point/freezing point: 68 - 71 °C

SECTION 10: Stability and reactivity**10.1. Reactivity**

No data available

10.3. Possibility of hazardous reactions

Materials to avoid: Oxidizing agents, strong. acid.

10.4. Conditions to avoid

No data available

10.5. Incompatible materials

No data available

10.6. Hazardous decomposition productsCarbon dioxide. Carbon monoxide. Nitrogen oxides (NO_x).**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in GB CLP Regulation****Toxicokinetics, metabolism and distribution**

No data available

Acute toxicity

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
23978-09-8	Cryptand 222				
	oral	ATE 500 mg/kg			

Irritation and corrosivity

Irritating to eyes. Following inhalation: Lung irritation. Coughing. shortage of breath. After skin contact: irritant.

Carcinogenic/mutagenic/toxic effects for reproduction

No data available

Information on likely routes of exposure

Irritating to eyes. Following inhalation: Lung irritation. Coughing. shortage of breath. After skin contact: irritant.

Specific effects in experiment on an animal

No data available

Additional information on tests

The classification was carried out according to the calculation method of the Preparations Directive (1999/45/EC).

SECTION 12: Ecological information**12.1. Toxicity**

No data available

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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

This substance does not meet the PBT/vPvB criteria of UK REACH.

No data available

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

Further information

Do not allow to enter into surface water or drains. The classification was carried out according to the calculation method of the Preparations Directive (1999/45/EC).

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Dispose of waste according to applicable legislation.

Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Other applicable information

Not a hazardous material with respect to these transportation regulations.

SECTION 15: Regulatory information

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

National regulatory information

Water hazard class (D): 3 - highly hazardous to water

SECTION 16: Other information

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.