

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



**molecular sieve 4 Å 0,4 nm, type 514, pearls bead form**

article number: **8471**  
Version: **2.0 en**  
Replaces version of: 2015-09-16  
Version: (1)

date of compilation: 2015-09-16  
Revision: 2018-01-31

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

### 1.1 Product identifier

|                                 |                        |
|---------------------------------|------------------------|
| Identification of the substance | <b>molecular sieve</b> |
| Article number                  | 8471                   |
| Registration number (REACH)     | 01-2119429034-49-xxxx  |
| EC number                       | 215-283-8              |
| CAS number                      | 1318-02-1              |

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

**Identified uses:** laboratory chemical

### 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

Emergency information service **Poison Centre Munich: +49/(0)89 19240**

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008 (CLP)

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

### 2.2 Label elements

#### Labelling according to Regulation (EC) No 1272/2008 (CLP)

not required

**Signal word** not required

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



molecular sieve 4 Å 0,4 nm, type 514, pearls bead form

article number: 8471

## 2.3 Other hazards

There is no additional information.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

|                             |                       |
|-----------------------------|-----------------------|
| Name of substance           | molecular sieve       |
| Registration number (REACH) | 01-2119429034-49-xxxx |
| EC number                   | 215-283-8             |
| CAS number                  | 1318-02-1             |

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

Take off contaminated clothing.

#### Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

#### 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

Symptoms and effects are not known to date

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

none

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media



# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



**molecular sieve 4 Å 0,4 nm, type 514, pearls bead form**

article number: **8471**

## **Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings  
water spray, foam, dry extinguishing powder, carbon dioxide (CO<sub>2</sub>)

## **Unsuitable extinguishing media**

water jet

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

Non-combustible.

## **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**

Control of dust.

### **6.2 Environmental precautions**

Keep away from drains, surface and ground water.

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

#### **Advices on how to contain a spill**

Covering of drains.

#### **Advices on how to clean up a spill**

Take up mechanically.

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

Place in appropriate containers for disposal.

### **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.

## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe handling**

No special measures are necessary.

#### **Advice on general occupational hygiene**

Keep away from food, drink and animal feedingstuffs.

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

Store in a dry place.

#### **Incompatible substances or mixtures**

Observe hints for combined storage.

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



molecular sieve 4 Å 0,4 nm, type 514, pearls bead form

article number: 8471

## 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)

| Country | Name of agent | CAS No | Notation | Identifier | TWA [mg/m <sup>3</sup> ] | STEL [mg/m <sup>3</sup> ] | Source    |
|---------|---------------|--------|----------|------------|--------------------------|---------------------------|-----------|
| GB      | dust          |        | i        | WEL        | 10                       |                           | EH40/2005 |
| GB      | dust          |        | r        | WEL        | 4                        |                           | EH40/2005 |

#### Notation

i Inhalable fraction

r Respirable 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

#### Relevant DNELs/DMELs/PNECs and other threshold levels

##### • human health values

| Endpoint | Threshold level     | Protection goal, route of exposure | Used in           | Exposure time              |
|----------|---------------------|------------------------------------|-------------------|----------------------------|
| DNEL     | 3 mg/m <sup>3</sup> | human, inhalatory                  | worker (industry) | chronic - local effects    |
| DNEL     | 2,5 mg/kg           | human, dermal                      | worker (industry) | chronic - systemic effects |

##### • environmental values

| Endpoint | Threshold level | Environmental compartment    | Exposure time                |
|----------|-----------------|------------------------------|------------------------------|
| PNEC     | 3,2 mg/l        | freshwater                   | short-term (single instance) |
| PNEC     | 0,32 mg/l       | marine water                 | short-term (single instance) |
| PNEC     | 95 mg/l         | sewage treatment plant (STP) | short-term (single instance) |
| PNEC     | 600 mg/kg       | soil                         | short-term (single instance) |

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



molecular sieve 4 Å 0,4 nm, type 514, pearls bead form

article number: 8471

## 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**

>0,11 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). P1 (filters at least 80 % 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 (spherical) |
| Colour          | beige             |
| Odour           | odourless         |
| Odour threshold | No data available |

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



## molecular sieve 4 Å 0,4 nm, type 514, pearls bead form

article number: 8471

### Other physical and chemical parameters

|   |  |
|---|--|
| pH (value)                              | This information is not available.             |
| Melting point/freezing point            | >400 °C  |
| Initial boiling point and boiling range | This information is not available.             |
| Flash point                             | not applicable                                 |
| 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                         | This information is not available.             |
| Density                                 | This information is not available.             |
| Vapour density                          | This information is not available.             |
| Relative density                        | Information on this property is not available. |
| <u>Solubility(ies)</u>                  |  |
| Water solubility                        | no data available                              |
| <u>Partition coefficient</u>            |  |
| n-octanol/water (log KOW)               | This information is not available.             |
| Auto-ignition temperature               | Information on this property is not available. |
| Decomposition temperature               | no data available                              |
| Viscosity                               | not relevant (solid matter)                    |
| Explosive properties                    | Shall not be classified as explosive           |
| Oxidising properties                    | none   |

### 9.2 Other information

There is no additional information.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

### 10.2 Chemical stability

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

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



molecular sieve 4 Å 0,4 nm, type 514, pearls bead form

article number: 8471

## 10.3 Possibility of hazardous reactions

Violent reaction with: Strong oxidiser

## 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

## 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

#### Acute toxicity

Shall not be classified as acutely toxic.

| Exposure route | Endpoint | Value        | Species | Source |
|----------------|----------|--------------|---------|--------|
| oral           | LD50     | >5.110 mg/kg | rat     | ECHA   |
| dermal         | LD50     | >2.000 mg/kg | rabbit  | 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

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



molecular sieve 4 Å 0,4 nm, type 514, pearls bead form

article number: 8471

- **If in eyes**

data are not available

- **If inhaled**

data are not available

- **If on skin**

data are not available

**Other information**

None

## 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 |
|----------|----------|---------|--------|---------------|
| ErC50    | 130 mg/l | algae   | ECHA   | 72 h          |
| EC50     | 44 mg/l  | algae   | ECHA   | 72 h          |

**Aquatic toxicity (chronic)**

| Endpoint | Value      | Species               | Source | Exposure time |
|----------|------------|-----------------------|--------|---------------|
| EC50     | 680 mg/l   | aquatic invertebrates | ECHA   | 21 d          |
| NOEC     | >86,7 mg/l | fish                  | ECHA   | 30 d          |
| LOEC     | 100 mg/l   | aquatic invertebrates | ECHA   | 21 d          |

### 12.2 Process of degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

### 12.3 Bioaccumulative potential

Data are not available.

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

Data are not available.

### 12.6 Other adverse effects

Data are not available.



# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



molecular sieve 4 Å 0,4 nm, type 514, pearls bead form

article number: 8471

## 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.

#### Sewage disposal-relevant information

Do not empty into drains.

### 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   | (not subject to transport regulations)                                       |
| 14.2 | UN proper shipping name   | not relevant   |
| 14.3 | Transport hazard class(es)  | not relevant   |
|      | Class   | -  |
| 14.4 | Packing group   | not relevant   |
| 14.5 | Environmental hazards   | none (non-environmentally hazardous acc. to the dangerous goods regulations) |
| 14.6 | <b>Special precautions for user</b>   |  |
|      |   | There is no additional information.  |
| 14.7 | <b>Transport in bulk according to Annex II of MARPOL and the IBC Code</b>             |  |
|      |   | The cargo is not intended to be carried in bulk.                             |
| 14.8 | <b>Information for each of the UN Model Regulations</b>                               |  |
|      | • <b>Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)</b> |  |
|      |   | Not subject to ADR, RID and ADN.   |
|      | • <b>International Maritime Dangerous Goods Code (IMDG)</b>                           |  |
|      |   | Not subject to IMDG.   |
|      | • <b>International Civil Aviation Organization (ICAO-IATA/DGR)</b>                    |  |
|      |   | Not subject to ICAO-IATA.  |

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



molecular sieve 4 Å 0,4 nm, type 514, pearls bead form

article number: 8471

## SECTION 15: Regulatory information

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

#### Relevant provisions of the European Union (EU)

- **Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC)**

Not listed.

- **Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS)**

Not listed.

- **Regulation 850/2004/EC on persistent organic pollutants (POP)**

Not listed.

- **Restrictions according to REACH, Annex XVII**

not listed

- **List of substances subject to authorisation (REACH, Annex XIV)**

not listed

- **Seveso Directive**

| 2012/18/EU (Seveso III) |                                       |   |       |
|-------------------------|---------------------------------------|---|-------|
| No                      | Dangerous substance/hazard categories | Qualifying quantity (tonnes) for the application of lower and upper-tier requirements | Notes |
|                         | not assigned                          |   |       |

#### Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II

not listed

#### Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

#### Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)

not listed

#### National inventories

Substance is listed in the following national inventories:

| Country | National inventories | Status              |
|---------|----------------------|---------------------|
| AU      | AICS                 | substance is listed |
| CN      | IECSC                | substance is listed |
| EU      | ECSI                 | substance is listed |
| KR      | KECI                 | substance is listed |
| NZ      | NZIoC                | substance is listed |
| PH      | PICCS                | substance is listed |
| TR      | CICR                 | substance is listed |

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



## molecular sieve 4 Å 0,4 nm, type 514, pearls bead form

article number: 8471

| Country | National inventories | Status              |
|---------|----------------------|---------------------|
| TW      | TCSI                 | substance is listed |

### Legend

|       |   |
|-------|---|
| AICS  | Australian Inventory of Chemical Substances                             |
| CICR  | Chemical Inventory and Control Regulation                               |
| ECSI  | EC Substance Inventory (EINECS, ELINCS, NLP)                            |
| IECSC | Inventory of Existing Chemical Substances Produced or Imported in China |
| KECI  | Korea Existing Chemicals Inventory                                      |
| NZIoC | New Zealand Inventory of Chemicals                                      |
| PICCS | Philippine Inventory of Chemicals and Chemical Substances               |
| TCSI  | Taiwan Chemical Substance Inventory                                     |

## 15.2 Chemical Safety Assessment

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

## SECTION 16: Other information

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

| Section | Former entry (text/value) | Actual entry (text/value)   | Safety-relevant |
|---------|---------------------------|---|-----------------|
| 14.8    |                           | • International Civil Aviation Organization (ICAO-IATA/DGR);<br>Not subject to ICAO-IATA. | yes             |

### 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)  |
| CLP       | Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures  |
| CMR       | Carcinogenic, Mutagenic or toxic for Reproduction   |
| DGR       | Dangerous Goods Regulations (see IATA/DGR)  |
| DMEL      | Derived Minimal Effect Level  |
| DNEL      | Derived No-Effect Level   |
| EH40/2005 | EH40/2005 Workplace exposure limits ( <a href="http://www.nationalarchives.gov.uk/doc/open-government-licence/">http://www.nationalarchives.gov.uk/doc/open-government-licence/</a> )                                 |
| EINECS    | European Inventory of Existing Commercial Chemical Substances   |
| ELINCS    | European List of Notified Chemical Substances   |
| 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   |
| MARPOL    | International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")   |
| NLP       | No-Longer Polymer   |

# Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



**molecular sieve 4 Å 0,4 nm, type 514, pearls bead form**

article number: **8471**

| Abbr. | Descriptions of used abbreviations  |
|-------|---|
| 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) |
| STEL  | short-term exposure limit   |
| TWA   | time-weighted average   |
| vPvB  | very Persistent and very Bioaccumulative  |
| WEL   | workplace exposure limit  |

## Key literature references and sources for data

- Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU
- Regulation (EC) No. 1272/2008 (CLP, EU GHS)
- 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.