

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 30.11.2020

Version number 6

Revision: 30.11.2020

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

### 1.1 Product identifier

**Trade name:** *KÖSTROLITH® NaMSXK, KÖSTROLITH® NaMSXK-10B, KÖSTROLITH® NaMSX(O2)K, KÖSTROLITH® NaYK, KÖSTROLITH® UK8K*

**MSDS №:** MS209000

**CAS Number:**

1318-02-1 zeolite (crystalline aluminosilicate)  
zeolite, cuboidal, crystalline, synthetic, non-fibrous

**Registration number** 01-2119429034-49-0021

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

#### Sector of Use

SU0 Other  
SU1 Agriculture, forestry, fishery  
SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites  
SU5 Manufacture of textiles, leather, fur  
SU6b Manufacture of pulp, paper and paper products  
SU8 Manufacture of bulk, large scale chemicals (including petroleum products)  
SU9 Manufacture of fine chemicals  
SU10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys)  
SU11 Manufacture of rubber products  
SU12 Manufacture of plastics products, including compounding and conversion  
SU16 Manufacture of computer, electronic and optical products, electrical equipment  
SU17 General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment  
SU18 Manufacture of furniture  
SU19 Building and construction work  
SU20 Health services  
SU21 Consumer uses: Private households / general public / consumers  
SU23 Electricity, steam, gas water supply and sewage treatment

#### Application of the substance / the mixture

PC2 Adsorbents  
PC19 Intermediate

**Uses advised against** Not applicable.

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

#### Manufacturer/Supplier:

Chemiewerk Bad Köstritz GmbH  
Heinrichshall 2  
D-07586 Bad Köstritz  
Germany  
Phone: +49 (0) 36605 810 (Mo-Fr: 7 am - 4 pm)  
Fax: +49 (0) 36605 2345  
Email: msds@cwk-bk.de

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008** The product is not classified, according to the CLP regulation.

### 2.2 Label elements

**Labelling according to Regulation (EC) No 1272/2008** Void

**Hazard pictograms** Void

**Signal word** Void

**Hazard statements** Void

#### Additional information:

Repeated exposure may cause skin dryness or cracking.  
Do not breathe dust.  
Reaction with water results in palpable heat development.  
Safety data sheet available on request.

### 2.3 Other hazards

The product contains of ~ 1% quartz, included in a natural raw material.  
Safety identification of quartz containing products is currently not necessary according to EU regulations.

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Nevertheless quartz is classified as carcinogenic for human beings through breathing (group I) from the IARC (International Agency for Research on Cancer). Furthermore quartz may cause silicosis or other lung diseases due long exposition.

The employer is responsible for the compliance with essential regulations for working place, where employees are exposed to alveolar dust of crystalline silicon dioxide in form of quartz and cristobalite.

## Results of PBT and vPvB assessment

**PBT:** Not applicable.

**vPvB:** Not applicable.

## SECTION 3: Composition/information on ingredients

### 3.1 Chemical characterisation: Substances

#### CAS No. Description

1318-02-1 zeolite (crystalline aluminosilicate)  
zeolite, cuboidal, crystalline, synthetic, non-fibrous

### 3.2 Chemical characterisation: Mixtures

#### Description:

Mixture: consisting of the following components.

zeolite NaMSX (FAU):  $\text{Na}_2\text{O} \cdot \text{Al}_2\text{O}_3 \cdot 2,35 \text{ SiO}_2 \cdot n \text{ H}_2\text{O}$

or

zeolite NaY (FAU):  $\text{Na}_2\text{O} \cdot \text{Al}_2\text{O}_3 \cdot x \text{ SiO}_2 \cdot n \text{ H}_2\text{O}$ ;  $x > 5$

or

zeolite USY (FAU):  $x \text{ Na}_2\text{O} \cdot \text{Al}_2\text{O}_3 \cdot y \text{ SiO}_2 \cdot n \text{ H}_2\text{O}$ ;  $x \leq 1$ ;  $y > 50$

and

mineral binder

**Dangerous components:** impurity: quartz

#### Most important ingredients

CAS: 1318-02-1	zeolite (crystalline aluminosilicate)	Zeolite, cuboidal, crystalline, synthetic, non-fibrous	50-100%
EINECS: 215-283-8			
CAS: 12174-11-7	mineral binder		10-25%
CAS: 14808-60-7	quartz		0.1-≤2.5%
EINECS: 238-878-4			

**Additional information:** For the wording of the listed hazard phrases refer to section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General information:

No special measures required.

Product acts as desiccant and may cause irritations.

**After inhalation:** Supply fresh air; consult doctor in case of complaints.

#### After skin contact:

Rinse with warm water.

After each cleaning use treatment creams, for very dry skin greasy ointments.

**After eye contact:** Rinse opened eye for several minutes under running water.

**After swallowing:** If symptoms persist consult doctor.

**4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

**4.3 Indication of any immediate medical attention and special treatment needed** No further relevant information available.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.

**5.2 Special hazards arising from the substance or mixture** No further relevant information available.

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## 5.3 Advice for firefighters

**Protective equipment:** No special measures required.

**Additional information** Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

## SECTION 6: Accidental release measures

**6.1 Personal precautions, protective equipment and emergency procedures** Wear protective clothing.

**6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

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

Avoid formation of dust.

Pick up mechanically.

### 6.4 Reference to other sections

No dangerous substances are released.

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

## \* SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Prevent formation of dust.

Keep receptacles tightly sealed.

Provide suction extractors if dust is formed.

Any unavoidable deposit of dust must be regularly removed.

Protect against electrostatic charges.

No special measures required.

**Information about fire - and explosion protection:** The product is not flammable.

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

#### Storage:

**Requirements to be met by storerooms and receptacles:** Store dryly

**Information about storage in one common storage facility:**

Store away from foodstuffs.

Do not store together with acids.

**Further information about storage conditions:**

Keep container tightly sealed.

Store in dry conditions.

This product is hygroscopic.

**Storage class:** 13

**7.3 Specific end use(s)** No further relevant information available.

## \* SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

1318-02-1 zeolite (crystalline aluminosilicate)

zeolite, cuboidal, crystalline, synthetic, non-fibrous

**Additional information about design of technical facilities:** No further data; see item 7.

### Ingredients with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

#### DNELs

1318-02-1 zeolite (crystalline aluminosilicate)

zeolite, cuboidal, crystalline, synthetic, non-fibrous

Oral DNEL/DMEL, 1.25-1.5 mg / kg / d

Consumer exposure: Long-term - systemic effects (repeated dose toxicity)

Dermal DNEL/DMEL, 1.25-1.5 mg / kg / d

Consumer exposure: Long-term - systemic effects (repeated dose toxicity)

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Inhalative DNEL/DMEL : 2.5-3 mg / m<sup>3</sup> / d  
 Worker exposure: long-term systemic effects (repeated dose toxicity)

DNEL/DMEL : 3 mg / m<sup>3</sup>  
 Worker exposure: long-term – local effects (OEL)

DNEL/DMEL : 0.0033 mg / m<sup>3</sup>  
 Consumer exposure: Long-term - systemic effects (repeated dose toxicity)

## PNECs

PNEC aqua - freshwater 3.2 mg/L (Daphnia magna)  
 PNEC aqua - marine water 0.32 mg/L (Daphnia magna)  
 PNEC aqua - intermittent releases >1 mg/L (Daphnia magna)  
 PNEC soil 600 mg/kg. w. (Raphanus sativus)  
 long-term toxicity test

**Additional information:** Based on lists valid at date of MSDS creation.

## 8.2 Exposure controls

### Personal protective equipment:

**General protective and hygienic measures:** The usual precautionary measures are to be adhered to when handling chemicals.

### Respiratory protection:

In the case of generation of fine dust use of dust filter

Filter P2

### Protection of hands:

Wear gloves for the protection against mechanical hazards according to EN 388.

Check protective gloves prior to each use for their proper condition.

Use gloves of stable material (e.g. Nitrile) - if necessary tricoted to improve the wearability.

Preventive skin protection by use of skin-protecting agents is recommended.

After each cleaning use treatment creams, for very dry skin greasy ointments.

### Material of gloves

Wear gloves for the protection against mechanical hazards according to EN 388.

Butyl rubber, BR

Nitrile rubber, NBR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Recommended thickness of the material:  $\geq 0.2$  mm

### Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

For the mixture of chemicals mentioned below the penetration time has to be at least 480 minutes (Permeation according to EN 16523-1:2015: Level 6).

**For the permanent contact in work areas without heightened risk of injury (e.g. Laboratory) gloves made of the following material are suitable:**

Butyl rubber, BR

Nitrile rubber, NBR

**Not suitable are gloves made of the following materials:**

Strong material gloves

Leather gloves

**Eye protection:** Safety glasses

**Body protection:** Protective work clothing

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### General Information

##### Appearance:

**Form:** Solid  
**Colour:** Yellow-brown  
**Odour:** Odourless  
**Odour threshold:** Not applicable.

**pH-value:** 7-11

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**Change in condition**

**Melting point/freezing point:** >1273 K  
**Initial boiling point and boiling range:** Undetermined.

**Flash point:** Not applicable.

**Flammability (solid, gas):** Not applicable.

**Decomposition temperature:** > 600 °C

**Auto-ignition temperature:** Product is not selfigniting.

**Explosive properties:** Product does not present an explosion hazard.

**Explosion limits:**

**Lower:** Not applicable.  
**Upper:** Not applicable.

**Vapour pressure:** Not applicable.

**Density at 20 °C:** 2.1 g/cm<sup>3</sup>  
**Relative density** Not determined.  
**Vapour density** Not applicable.  
**Evaporation rate** Not applicable.

**Solubility in / Miscibility with water:** Insoluble.

**Partition coefficient: n-octanol/water:** Not determined.

**Viscosity:**

**Dynamic:** Not applicable.  
**Kinematic:** Not applicable.

**Solvent content:**

**VOC (EC)** 0.00 %  
**Solids content:** 100.0 %

**9.2 Other information** No further relevant information available.

## SECTION 10: Stability and reactivity

**10.1 Reactivity** No further relevant information available.

**10.2 Chemical stability**

No decomposition if used and stored according to specifications.

Decomposition with acids

**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

**10.3 Possibility of hazardous reactions** No dangerous reactions known.

**10.4 Conditions to avoid** No further relevant information available.

**10.5 Incompatible materials:** No further relevant information available.

**10.6 Hazardous decomposition products:** No dangerous decomposition products known.

## \* SECTION 11: Toxicological information

**11.1 Information on toxicological effects**

1318-02-1 zeolite (crystalline aluminosilicate)  
 zeolite, cuboidal, crystalline, synthetic, non-fibrous

**Acute toxicity** Based on available data, the classification criteria are not met.

**LD/LC50 values relevant for classification:**

Oral LD50 >5,110 mg/kg (rat) (OECD TG 401)

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Dermal LD50 >2,000 mg/kg (rabbit) (OECD TG 402)

Inhalative LC50/4 h >3,350 mg/m<sup>3</sup> (rat)  
(IUCLID Dataset 18-Feb-2000)

## Primary irritant effect:

### Skin corrosion/irritation

Owing to direct exposure with skin or mucosa may appear a stimulation effects in consequence of dehydration, that may cause red palms or desiccation of skin or mucosal.

Irritation of skin IS 0 (rabbit) (OECD TG 404)

### Serious eye damage/irritation

Owing to direct exposure with skin or mucosa may appear a stimulation effects in consequence of dehydration, that may cause red palms or desiccation of skin or mucosal.

Irritation of eyes IS 0.7-1.3 (rabbit) (OECD 405)  
Corneal opacity

## Respiratory or skin sensitisation

Buehler Test, guinea pig: No sensitization observed, OECD 406 (zeolite)

Oral CHO >0.5 mg/kg bw (rat) (OECD TG 474)  
no genotoxic effects

CHO 0.067 mg/l (Chinese Hamster Ovary) (OECD TG 473)  
cytotoxic 0.0671-0.725 mg/l without metabolic activation  
0.313-0.4 with metabolic activation

Mouse Lymphoma Test >0.08 mg/ml (L5178Y) (OECD TG 476)  
no genotoxicity;  
cytotoxicity > 0.02 mg/ml (without metabolic activation);  
> 0.08 with metabolic activation

## Subacute to chronic toxicity:

Oral NOEL / (90 d) 5,000 ppm (rat)  
feeding experiment

Inhalative Lung effects / (11 weeks) (rat)  
inflammation; no follow-up period

Lung effects, inflammation Es wurden keine negativen Auswirkungen festgestellt. Test auf Karzinogenität und Teratogenität

## Additional toxicological information:

**Sensitisation** No sensitizing effect known.

## Repeated dose toxicity

Oral NOAEL (90 d) 250-300 mg/kg (rat)  
subchronic oral repeated dose

## CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Oral AMES Test >0.1 mg/plate (*Salmonella typhimurium*) (OECD TG 471)  
No effect with or without metabolic activation

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

**STOT-single exposure** Based on available data, the classification criteria are not met.

**STOT-repeated exposure** Based on available data, the classification criteria are not met.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## \* SECTION 12: Ecological information

### 12.1 Toxicity

1318-02-1 zeolite (crystalline aluminosilicate)  
zeolite, cuboidal, crystalline, synthetic, non-fibrous

Subsequent information refers to the deliver goods not to used goods.

### Aquatic toxicity:

The product behaves under normal conditions environmental neutral.

LC50/ (96 h) >680 mg / L (*Pimephales promelas*) (EPA 660/3-75/009)

EC50 / (24 h) 2,808 mg/L (*Daphnia magna*) (OECD TG 202)

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EC50 / (96 h) >328 mg / L (*scenedesmus subspicatus*) (OECD TG 201)

EC50 / (16 h) 950 mg / L (*pseudomonas putida*) (DIN 38412/8)

**12.2 Persistence and degradability** The only known route of degradation is a slow hydrolysis, especially in acid.

**12.3 Bioaccumulative potential** No further relevant information available.

**12.4 Mobility in soil** No further relevant information available.

**Ecotoxicological effects:**

**Remark:** Based on the capability of KÖSTROLITH molecular sieves to ion exchange heavy metals may be trapped.

**Additional ecological information:**

**General notes:** Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

**12.5 Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

**12.6 Other adverse effects** No further relevant information available.

## SECTION 13: Disposal considerations

**13.1 Waste treatment methods**

**Recommendation** Subsequent information refers to the deliver goods not to used goods.

**Waste disposal key:**

The disposal of the product has to be carried out in accordance with the legal requirements. EWC waste codes are strictly industry-oriented, therefore waste classification has to be done by the waste producer.

**European waste catalogue**

06 08 99 wastes not otherwise specified

**Uncleaned packaging:**

**Recommendation:** Disposal must be made according to official regulations.

## SECTION 14: Transport information

**14.1 UN-Number**

**ADR, IMDG, IATA** Not applicable.

**14.2 UN proper shipping name**

**ADR, IMDG, IATA** Not applicable.

**14.3 Transport hazard class(es)**

**ADR, IMDG, IATA** Not applicable.

**14.4 Packing group**

**ADR, IMDG, IATA** Not applicable.

**14.5 Environmental hazards:**

**Marine pollutant:** No

**14.6 Special precautions for user**

Not applicable.

**14.7 Transport in bulk according to Annex II of Marpol and the IBC**

**Code** Not applicable.

## SECTION 15: Regulatory information

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

**Labelling according to Regulation (EC) No 1272/2008** Void

**Hazard pictograms** Void

**Signal word** Void

**Hazard statements** Void

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**Directive 2012/18/EU**

**Named dangerous substances - ANNEX I** None of the ingredients is listed.

**15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**SECTION 16: Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Department issuing SDS:**

Abteilung Produktsicherheit

MS-F

**Contact:** Kristin Gleichmann**Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

**\* Data compared to the previous version altered.**