

## 1 Identification

- **Product identifier**
- **Trade name: Molecular Sieve Beads Type 4A**
- **Application of the substance / the preparation:** Adsorbent
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
BVV  
1251 Frontenac Rd  
STE 150  
Naperville IL 60563  
U.S.A.
- **Support department:**  
331-281-0154  
support@shopbv.com
- **Emergency telephone number:**  
CHEMTEL USA (1-800-255-3924)

## 2 Hazard(s) identification

### Classification of the substance or mixture

The product is not classified, according to the Globally Harmonized System (GHS).

### Label elements

**GHS label elements** None

**Hazard pictograms** None

**Signal word** None

**Hazard statements** None

### Hazard not otherwise classified

The product is very adsorbent and may have a drying effect on skin and eyes.

When exceeding the OEL (Occupational Exposure Limit) a mechanical overburdening of the respiratory system is possible.

In contact with water heat development and therefore burning of the skin and mucous membrane is possible.

Contains ~1% naturally occurring quartz that is bound in the product matrix reducing free respirable crystalline silica to <0.1%.

WARNING. Contains a substance known to the State of California to cause cancer.

## 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Crystalline aluminosilicate with binders.

• CAS No. and description:		
1318-02-1	zeolites	99-100%
	Silica, crystalline (non respirable form) Alternative CAS number: 14808-60-7	< 1.0%
• List of Dangerous Components		
	Silica, crystalline (airborne particles of respirable size) Alternative CAS number: 14808-60-7	<§> Care. 1A, H350 < 0.1%

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• **Impurities and stabilizing additives:**

Silica, crystalline (airborne particles of respirable size) Alternative CAS number: 14808-60-7

<§> Care. 1A, H350

#### 4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**  
Immediately flush skin with water for at least 15 minutes.  
Generally the product does not irritate the skin.
- **After eye contact:**  
Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. If symptoms occur, consult a doctor.
- **After swallowing:** Seek medical attention. Do not induce vomiting.
- **Information for doctor:**
- Most important symptoms and effects, both acute and delayed  
No further relevant information available.
- Indication of any immediate medical attention and special treatment needed  
No further relevant information available.

#### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Hazardous combustion products** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Wear personal protective equipment.
- **Additional information**  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

#### 6 Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

Wear protective clothing.

**Environmental precautions:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

**Methods and material for containment and cleaning up:**

Vacuuming or wet sweeping may be used to avoid dust dispersal.

**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.

• **Protective Action Criteria for Chemicals**

• **PAC-1:**

14808-60-71 quartz (SiO<sub>2</sub>)

10.075 mg/m<sup>3</sup>

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<b>• PAC-2:</b>	
14808-60-71 quartz (SiO <sub>2</sub> )	133 mg/m <sup>3</sup>
<b>• PAC-3:</b>	
14808-60-71 quartz (SiO <sub>2</sub> )	200 mg/m <sup>3</sup>

**7 Handling and storage**

**Handling:**

**• Precautions for safe handling**

- Keep receptacles tightly sealed.
- Provide suction extractors if dust is formed.
- Any deposit of dust which cannot be avoided must be regularly removed.
- Take precautionary measures against static discharges.

**• Information about protection against explosions and fires:**

- When transferring this material into flammable solvents, use proper grounding to avoid static electric sparks.
- The product is not flammable.

**• Conditions for safe storage, including any incompatibilities**

**Storage:**

- Requirements to be met by storerooms and receptacles:** No special requirements.
- Information about storage in one common storage facility:** Store away from foodstuffs.
- Further information about storage conditions:**
  - Store in dry conditions.
  - This product is hygroscopic.
  - Keep receptacle tightly sealed.

**8 Exposure controls/personal protection**

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

**Control parameters**

**Components with limit values that require monitoring at the workplace:**

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the remaining constituent has no known exposure limits.

<b>1318-02-1 zeolites</b>	
PEL	Long-term value: *15 "5 mg/m <sup>3</sup> OSHA, "Total Dust, "Respirable Dust
<b>1480 5-60-7 quartz (SiO<sub>2</sub>)</b>	
IDLH	Short-term value: 50 mg/m <sup>3</sup>
PEL	Long-term value: 0.05* mg/m <sup>3</sup> *resp. dust; 30mg/m <sup>3</sup> /%SiO <sub>2</sub> +2
REL	
TLV	
	Long-term value: 0.025* mg/m <sup>3</sup> 'respirable particulate matter, A2
<b>• Additional Occupational Exposure Limit Values for possible hazards during processing:</b>	
<b>Dust inhalable</b>	
PEL	Long-term value: 15 mg/m <sup>3</sup> TWA

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REL	Long-term value: 15 mg/m <sup>3</sup> TWA
Dust respirable	
PEL	Long-term value: 5 mg/m <sup>3</sup> TWA
REL	Long-term value: 5 mg/m <sup>3</sup> TWA

- **Additional information: Valid lists at time of creation were used as basis.**
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
The usual precautionary measures for handling chemicals should be followed.
- **Protection of hands:**



Wear gloves for the protection against mechanical hazards.  
Use gloves of stable material  
Check protective gloves prior to each use for their proper condition.  
Check the permeability prior to each new use of the glove.  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

**Material of gloves**

Recommended thickness of the material: > 0.11 mm Butyl rubber, BR  
Nitrile rubber, NBR

**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

**For the permanent contact gloves made of the following materials are suitable:** Nitrile rubber, NBR

**Not suitable are gloves made of the following materials:** Strong fabric gloves  
Leather gloves

\* **Eye protection:**



Safety glasses

- **Body protection:** Protective work clothing

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## 9 Physical and Chemical Properties

- Information on basic physical and chemical properties

- General Information

- Appearance:

Form: Solid Beads  
Color: Beige

• Odor:	Odorless
• Odor threshold:	Not determined.
• pH-value at 20 °C (68 °F):	7-11
• Change in condition	
Melting point/Melting range:	>400 °C (>752 °F) (OECD TG 102) (zeolite)
Boiling point/Boiling range:	Not determined.
• Flash point:	Not determined.
• Flammability (solid, gaseous):	
• Ignition temperature:	Product is not flammable. Not determined.
• Decomposition temperature:	Not applicable.
• Auto ignition temperature:	Not determined.
	Product does not present an explosion hazard.
• Danger of explosion:	
• Explosion limits:	Not determined.
Lower: Upper:	Not determined.
• Vapor pressure:	Not applicable.
• Density:	Not determined.
• Relative density	Not determined.
• Vapor density	Not applicable.
• Evaporation rate	Not applicable.
• Solubility in / Miscibility with	
Water:	Insoluble.
• Coefficient of water/oil distribution:	Not determined.
• Viscosity: Dynamic: Kinematic:	
	Not applicable. Not applicable.
• Other information	No further relevant information available. Not determined.
• Particle characteristics	

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability** No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

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## 11 Toxicological information

### Information on toxicological effects

#### Acute toxicity:

• <b>LD/LC50 values that are relevant for classification:</b>		
<b>1318-02-1 zeolites</b>		
Oral	LD50	>5,110 mg/kg (rat) (OECD 401)
Dermal	LD50	>5,000 mg/kg (rabbit) (OECD 402)
Inhalative	LC0	>3,350 mg/m <sup>3</sup> /4h (rat) IUCLID Dataset 18-Feb-2000
	LC50 (6 h)	1.25-1.5 mg/m <sup>3</sup> (General population)

#### Primary irritant effect:

• <b>on the skin:</b>		
<b>1318-02-1 zeolites</b>		
Irritation of skin	IS	0 (rabbit) (OECD 404)
• <b>on the eye:</b>		
<b>1318-02-1 zeolites</b>		
Irritation of eyes	IS	0.7-1.3 (rabbit) (OECD 405) Corneal opacity

- **Respiratory sensitization** No further relevant information available.
- **Skin sensitization** No further relevant information available.

#### Additional toxicological information:

##### • Carcinogenic categories

• <b>IARC (International Agency for Research on Cancer)</b>		
1318-02-1	zeolites	3
	Silica, crystalline (airborne particles of respirable size)	1
• <b>NTP (National Toxicology Program)</b>		
14808-60-71	quartz (SiO <sub>2</sub> )	K
• <b>OSHA-Ca (Occupational Safety &amp; Health Administration)</b>		
None of the ingredients is listed.		
• <b>Repeated dose toxicity</b>		
<b>131 -02-1 zeolites</b>		
Oral	NOAEL (90 d)	250-300 mg/kg bw/day (rat) subchronic oral repeated dose

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

• <b>Carcinogenicity</b>		
<b>1318-02-1 zeolites</b>		
Oral	NOAEL	>1,000 ppm (rat)
• <b>Mutagenicity</b>		
<b>1318-02-1 zeolites</b>		
Oral	Micronucleus-Test	5,000 mg/kg bw (mouse) (OECD 474) Genotoxicity: negative (male/female)
	AMES Test	>0.1 mg/plate (Salmonella typhimurium) (OECD 471) negative with and without metabolic activation
	HPRT Test	>0.08 mg/ml (L5178Y) (OECD 476) no genotoxicity; cytotoxicity: >0,02 mg/ml without metabolic activation; >0,08 mg/ml with metabolic activation

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• <b>Reproductive toxicity</b>		
<b>1318-02-1 zeolites</b>		
Oral	NOAEL (maternal toxicity)	>1,600 mg/kg bw/day (rat) (OECD 414)
	NOAEL (teratogenicity)	>1,600 mg/kg bw/day (rabbit) (OECD 414) >1,600 mg/kg bw/day (rat) (OECD 414) >1,600 mg/kg bw/day (rabbit) (OECD 414)

- **Specific target organ toxicity (single exposure)** No further relevant information available.
- **Specific target organ toxicity (repeated exposure)** No further relevant information available.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:**

• <b>Fish toxicity</b>	
<b>1318-02-1 zeolites</b>	
LC50 (96 h)	>680 mg/l (Pimephales promelas) (EPA 660/3-75/009)
• <b>Water flea toxicity</b>	
<b>1318-02-1 zeolites</b>	
EC50 (24 h)	12,808 mg/l (Daphnia magna) (OECD 202)
• <b>Algae toxicity</b>	
<b>1318-02-1 zeolites</b>	
EC50 (96h)	>328 mg/l (Scenedesmus subspicatus) (OECD 201)
• <b>Bacterial toxicity</b>	
<b>1318-02-1 zeolites</b>	
EC50 (16h)	1950 mg/l (Pseudomonas putida) (DIN 38412/8)

- **Persistence and degradability** No further relevant information available.
- **Other information:**  
By the insolubility in water there is a separation at every filtration and sedimentation process.
- **Behavior in environmental systems:** Accumulation in organisms is not to be expected.
- **Bioaccumulative potential** Does not accumulate in organisms
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Not hazardous for water.
- **Results of PBT and vPvB assessment**
- PBT: Not determined.
- vPvB: Not determined.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Precautions for disposal:**
- **Recommendation:**  
Disposal must be made according to official regulations. Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State/provincial and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state/provincial and local requirements.

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### 14 Transport information

<ul style="list-style-type: none"> <li>• UN-Number</li> <li>• DOT, ADR, ADN, IMDG, IATA</li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>• UN proper shipping name</li> <li>• DOT, ADR, ADN, IMDG, IATA</li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>• Transport hazard class(es)</li> <li>• DOT, ADR, ADN, IMDG, IATA</li> <li>• Class</li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>• Packing group</li> <li>• DOT, ADR, IMDG, IATA</li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>• Environmental hazards:</li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>• Special precautions for user</li> <li>• Segregation groups</li> </ul>	Not applicable. -
<ul style="list-style-type: none"> <li>• Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>• Transport/Additional information:</li> </ul>	Not dangerous according to the above specifications. GRACE recommendation for air transport: Cargo aircraft only.

### 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- SARA
- SARA 302/304  
None of the ingredients is listed.

- SARA 313

None of the ingredients is listed.

- SARA 311/312 Not applicable.
- TSCA (Toxic Substances Control Act):

EPA recognizes zeolites (CAS: 1318-02-1) as a family of aluminosilicates manufactured from a number of commercial processes and techniques that utilize different proportions of alumina, silica and a variety of sources of different inorganic and organic cations. Zeolites are considered for TSCA purposes to be mixtures of the substances used to manufacture them. The individual reactant materials used to produce zeolites are required to be listed separately on the Inventory.

14808-60-71 quartz (SiO <sub>2</sub> )	ACTIVE
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- Hazardous Air Pollutants

None of the ingredients is listed.

- Proposition 65

- Chemicals known to cause cancer:

Silica, crystalline (airborne particles of respirable size)

- Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

- Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

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• Chemicals known to cause developmental toxicity:  
None of the ingredients is listed.

• Carcinogenic categories

• EPA (Environmental Protection Agency)  
None of the ingredients is listed.

• TLV (Threshold Limit Value)  
14808-60-71 quartz (SiO<sub>2</sub>)

• NIOSH-Ca (National Institute for Occupational Safety and Health)  
14808-60-71 quartz (SiO<sub>2</sub>)

- Canadian DSL

In addition to the specific listings appearing on the DSL synthetic zeolites (CAS: 1318-02-1) may also be considered as mixtures (specifically section 3 of Canadian Environmental Protection Act, 1999, and 3.2.1 of the Guidelines for the Notification and Testing of New Substances: "Mixtures that are prepared formulations or reaction mixtures that are fully characterized in terms of constituent substances are not considered substances for the purpose of the Regulations and, consequently, do not require notification. [J]").

14808-60-71 quartz (SiO <sub>2</sub> )		
* Canadian NDSL		
None of the ingredients is listed.		
• European EINECS		
All ingredients are listed or exempted from listing.		
• Philippines Inventory of Chemicals and Chemical Substances PICCS		
All ingredients are listed or exempted from listing.		
• Inventory of the Existing Chemical Substances manufactured or imported in China IECSC		
1318-02-1	zeolites	
14808-60-7	quartz (SiO <sub>2</sub> )	
* Australian Inventory of Industrial Chemicals (AIIC)		
All ingredients are listed or exempted from listing.		
* Existing and New Chemical Substance List ENCS		
1318-02-1	zeolites	1-26
14808-60-7	quartz (SiO <sub>2</sub> )	1-548
• Korean Existing Chemical Inventory KECI		
1318-02-1	zeolites	KE-35511
14808-60-7	quartz (SiO <sub>2</sub> )	KE-29983
• TCSCA (Taiwan)		
1318-02-11	zeolites	EPEP4A01713969
- Russian Register of Potentially Hazardous Chemical and Biological Substances (RPOHV)		
1318-02-1	zeolites	AT-1251 -1252-1253-1254-1628-2354-3712
14808-60-7	quartz (SiO <sub>2</sub> )	№ AT-001043 от 02.10.1996 r.
• New Zealand Inventory of Chemicals (NZIoC)		
All ingredients are listed or exempted from listing.		
• Existing Chemical Directory of Thailand (DIW)		
All ingredients are listed or exempted from listing.		
• TCSI - Taiwan Chemical Substance Inventory		
All ingredients are listed or exempted from listing.		
• Mexican National Inventory of Chemical Substances (INSQ)		
14808-60-71 quartz (SiO <sub>2</sub> )		

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- **GHS label elements** None
- **Hazard pictograms** None
- **Signal word** None
- **Hazard statements** None
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 1  
Fire = 0  
U Reactivity = 0

- **HMIS-ratings (scale 0-4)**



Health = \*1  
Fire = 0  
Reactivity = 0

## 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.

- **Relevant phrases**  
H350 May cause cancer.
- **Department issuing SDS:** BVV
- **Harmonized Tariff Schedule** 3824 9915

### Abbreviations and acronyms:

RID: Reglement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
ICAO: International Civil Aviation Organisation  
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
DOT: US Department of Transportation  
IATA: International Air Transport Association  
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)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
NIOSH: National Institute for Occupational Safety  
OSHA: Occupational Safety & Health  
TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit  
Care. 1 A: Carcinogenicity - Category 1A

