

## Table of data

Zeolite Products, Varsseveld, The Netherlands  
 Registration No. GMP+ : GMP-001846  
 Registration No. VWA: PDV500161  
 Secure Feed Supplier, GMP+ B3 certificated product.



### NAME TITLE OF MATERIAL 1g 568

Natural zeolite	
<b>Chemical name</b>	Hydrated Calcium Aluminosilicate
<b>Mineralogical form</b>	Clinoptilolite, of sedimentary origin, 1g 568
<b>Chemical type</b>	Molecular sieve
<b>Empirical formula</b>	(Ca,K <sub>2</sub> ,Na <sub>2</sub> ,Mg) <sub>4</sub> Al <sub>8</sub> Si <sub>40</sub> O <sub>96</sub> .24H <sub>2</sub> O
<b>CAS No. Natural Zeolite</b>	1318-02-1
<b>CAS No. Clinoptilolite</b>	12173-10-3
<b>EC No.</b>	215-283-8

### CHEMICAL COMPOSITION

<b>Silicon Dioxide</b> SiO <sub>2</sub>	64,18-75,50%	<b>Sodium Oxide</b> Na <sub>2</sub> O	0,10-2,97%
<b>Aluminum Oxide</b> Al <sub>2</sub> O <sub>3</sub>	10,93-14,80%	<b>Titanium Dioxide</b> TiO <sub>2</sub>	0,08-0,39%
<b>Calcium Oxide</b> CaO	1,43-11,68%	<b>Phosphorus Oxide</b> P <sub>2</sub> O <sub>5</sub>	0,01 - 0,18%
<b>Kalium Oxide</b> K <sub>2</sub> O	1,24-4,24%	<b>Iron Oxide</b> FeO	0,29-1,43%
<b>Iron Oxide</b> Fe <sub>2</sub> O <sub>3</sub>	0,12-2,45%	<b>Sulfur Oxide</b> SO <sub>3</sub>	0,00-0,23%
<b>Magnesium Oxide</b> MgO	0,29-1,43%	<b>L.O.I. Humidity</b>	max. 6% SI/AI 4,8 - 5,4

### PHYSICAL COMPOSITION

<b>Clinoptilolite</b>	82 - 84%	<b>Plagioclase</b>	3 - 4%
<b>Cristobalite</b>	9%	<b>Quarz</b>	traces
<b>Clay mica</b>	2 - 3%	<b>Dioxins &amp; - PCB's</b> max. 1,5 ng 2,3,7,8-TCDD TEQ/kg	
		<b>Tested on heavy metals and samonella</b>	

### PHICICAL-MECHANICAL DATA

<b>Softening point</b>	1 260 °C	<b>Porosity</b>	24 - 32 %
<b>Melting point</b>	1 340 °C	<b>Effective diameter of pores</b>	0,4 nm (4 angstrom)
<b>Pour point</b>	1 420 °C	<b>Compactness</b>	70%
<b>Compression strenght</b>	33 MPa	<b>Whiteness</b>	70%
<b>Specific weight</b>	750-950kg/m <sup>3</sup>	<b>Mohs hardness</b>	2 - 3
<b>Volume weight</b>	1333-1176L	<b>Grindability according to VTI</b>	kVTI = 1,628
<b>Appearance and smell</b>	grey-green-without smell	<b>Water Absorption</b>	34 - 36 %
<b>pH</b>	6,8 - 7,2		

### ION EXCHANGE PROPERTIES

<b>Total exchange</b>	Ca <sup>2+</sup> 0,64 - 0,98 mol/kg	K <sup>+</sup> 0,22 - 0,45 mol/kg
	Mg <sup>2+</sup> 0,06 - 0,19 mol/kg	Na <sup>+</sup> 0,01 - 0,19 mol/kg
<b>Partial exchange capacity NH<sub>4</sub><sup>+</sup></b>	min. 0,70 mol/kg	
<b>Total exchange capacity NH<sub>4</sub><sup>+</sup></b>	1,2 - 1,5 mol/kg	
<b>Sorption of steam by dehydrated rock</b>	at relative humidity of 52 %	7,5 - 8,5 g H <sub>2</sub> O/100g
	at relative humidity of 98 %	13,5-14,5 g H <sub>2</sub> O/100g

**Major Exchangeable:** Rb, Li, K, Cs, NH<sub>4</sub>, Na, Ca, Ag, Cd, Pb, Zn, Ba, Sr, Cu, Hg, Mg, Fe, Co, Al, Cr.

**Selectivity:** Cs<sup>+</sup> > NH<sub>4</sub><sup>+</sup> > Pb<sup>2+</sup> > K<sup>+</sup> > Na<sup>+</sup> > Ca<sup>2+</sup> > Mg<sup>2+</sup> > Ba<sup>2+</sup> > Cu<sup>2+</sup>, Zn<sup>2+</sup>

**Primary Adsorbing Gases** CO, CO<sub>2</sub>, SO<sub>2</sub>, H<sub>2</sub>S, NH<sub>3</sub>, HCHO, Ar, O<sub>2</sub>, N<sub>2</sub>, H<sub>2</sub>O, He, H<sub>2</sub>, Kr, Xe, Ch<sub>2</sub>OH, Freon

Information herein is accurate to the best of our knowledge, but may be subject to change without notice.

Suggestions

are made without warranty or guarantee to results. Before using, user should determine the suitability of the product for its intended use and user assumes the risk and liability in connection herewith.

### DATA ON REACTIVITI

<b>Stability against acids</b>	79,50%	<b>Hazardous decomposition</b>	none
<b>Thermal stability</b>	up to 400 °C	<b>Hazardous polymerisation</b>	it does not occur
<b>Solubility in water</b>	0		

