

Table of data

Zeolite Products, Arnhem, The Netherlands



www.zeolite-products.com

NAME TITLE OF THE MATERIAL

Name of material	Natural zeolite
Chemical name	Hydrated Calcium Aluminosilicate, of sedimentary origin
Mineralogical form	Clinoptilolite
Chemical type	Molecular sieve
Empirical formula	$(Ca,K_2,Na_2,Mg)_4Al_8Si_{40}O_{96} \cdot 24H_2O$

CHEMICAL COMPOSITION

Siliciumdioxide	SiO ₂	64,18-75,50%	Natriumoxide	Na ₂ O	0,10-2,97%
Aluminiumoxide	Al ₂ O ₃	10,93-14,80%	Titaandioxide	TiO ₂	0,08-0,39%
Calciumoxide	CaO	1,43-11,68%	Fosforpentoxide	P ₂ O ₅	0,01 - 0,18%
Kaliumoxide	K ₂ O	1,24-4,24%	FeO		0,29-1,43%
Ijzeroxide	Fe ₂ O ₃	0,12-2,45%	Zwaveltrioxide	SO ₃	0,00-0,23%
Magnesiumoxide	MgO	0,29-1,43%	Si / Al		4,8 - 5,4

MINERALOGICAL COMPOSITION

Clinoptilolite	82 - 84%	Plagioclase	3 - 4%
Cristobalite	9%	Quarz	traces
Clay mica	2 - 3%		

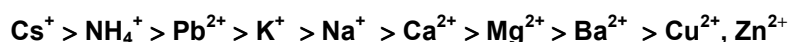
PHYSICAL-MECHANICAL DATA

Softening point	1 260 °C	Porosity	24 - 32 %
Melting point	1 340 °C	Effective diameter of pores	0,4 nm (4 angstrom)
Pour point	1 420 °C	Compactness	70%
Compression strenght	33 MPa	Whiteness	70%
Specific weight	2 200 - 2 440 kg/m ³	Mohs hardness	2 - 3
Volume weight	1 600 - 1800 kg/m ³	Grindability according to VTI	kVTI = 1,628
Appearance and smell	grey-green-without smell	Water Absorption	34 - 36 %
		pH	6,8 - 7,2

ION EXCHANGE PROPERTIES

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

SELECTIVITY



DATA ON REACTIVITY

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