



PRODUCT INFORMATION SHEET

GENERAL INFORMATION

Chemical Name:	Calcium, Potassium, Sodium Aluminosilicate	CAS No:	12173-10-3
Chemical Family:	Natural Zeolite	EINECS No:	215-283-8
Chemical Abstract Name:	Clinoptilolite		
Chemical Formula:	$(Ca,K_2,Na_2,Mg)_4Al_8Si_{40}O_{96} \cdot 24H_2O$		

MINERAL COMPOSITION *

Clinoptilolite	88 - 95 %	Montmorillonite	2 - 5 %	Muscovite	0 - 3 %
Feldspars	3 - 5 %	Cristobalite	0 - 2 %		

* Semi-Quantitative whole rock analysis (bulk mineralogy) has been done using powder X-ray Diffraction Method

CHEMICAL COMPOSITION **

SiO₂	65 - 72 %	Fe₂O₃	0,8 - 1,9 %	MnO	0 - 0,08 %
Al₂O₃	10 - 12 %	MgO	0,9 - 1,2 %	LOI***	9 - 12 %
CaO	2,5 - 3,7 %	Na₂O	0,3 - 0,65 %		
K₂O	2,3 - 3,5 %	TiO₂	0 - 0,1 %	SiO₂/Al₂O₃	5,4 - 6,0

** Analysed by XRF Spectrometer

*** Loss of Ignition

PHYSICAL PROPERTIES

Appearance	Ivory white	Oil Absorption (ml/100g)	57	Solubility	None
Smell	None	Abrasion (mg/100g)	87	Plasticity	Minor
Porosity	45 - 50 %	Single Point Surface Area	39 m ² /g	Softening Point	1150 °C
Hardness	2 - 3 Mohs	Micropore Area	11 m ² /g	Melting Point	1300 °C
Mudding Down	None	Mesopore Area	29 m ² /g	Bulk Density	650 - 850 kg / m ³
Water Absorption	42 - 50 %	Effective Diameter of Pores	4 angstrom	pH	7,0 - 8,0

CATION EXCHANGE CAPACITY (CEC) †

Total CEC: 1,5 - 1,9 meq/g

† Methylene Blue Chloride Method

Major Exchangeable Cations

Rb, Li, K, Cs, NH₄, Na, Ca, Ag, Cd, Pb, Zn, Ba, Sr, Cu, Hg, Mg, Fe, Co, Al, Cr.

(selectivity of above cations is a function of hydrated molecular size and relative concentrations).

Selectivity

Cs⁺ > NH₄⁺ > Pb²⁺ > K⁺ > Na⁺ > Ca²⁺ > Mg²⁺ > Ba²⁺ > Cu²⁺, Zn²⁺

Primary Adsorbing Gases

CO, CO₂, SO₂, H₂S, NH₃, HCHO, Ar, O₂, N₂, H₂O, He, H₂, Kr, Xe, CH₂OH, Freon, formaldehyde, and mercaptans.

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 of 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.

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