



TECHNICAL DATA SHEET

1. GENERAL INFORMATION

Chemical name	Hydrated sodium-potassium-calcium-alumino-silicate	CAS No	12173-10-3
Chemical abstract name	Clinoptilolite		
Chemical formula	$(\text{Na}_{0.5}\text{K}_{2.5})(\text{Ca}_{1.0}\text{Mg}_{0.5})(\text{Al}_6\text{Si}_{30})\text{O}_{72}\cdot 24\text{H}_2\text{O}$		
Producer	Gordes Zeolit Madencilik Sanayi ve Ticaret Anonim Sirketi		
Office Address	Ankara Caddesi, No: 81/123 Bayraklı, Izmir/Turkey		
Factory Address	Demirci Yolu 4.km Bodamaz Mevkii Gordes,		
Telephone / Fax	+90 232 348 56 56 / +90 232 348 43 10		
E-mail	info@gordeszeolite.com / export@gordeszeolite.com		
Web	www.gordeszeolite.com		

2. MINERAL CONTENT

Clinoptilolite Group 70-85 %

* Studies on identification and the origin, petrographic and mineralogical analysis of the rock samples with X-Ray Diffractometer.

3. CHEMICAL COMPOSITION

SiO₂	71.6	BaO	<0.01	SiO₂ / Al₂O₃	5.0 - 6.3	Mg	0.1 - 0.6
Al₂O₃	11.3	SrO	0.03	Na + K / Ca + Mg	1.4 - 2.2	Ca	0.9 - 1.3
Fe₂O₃	1.39	P₂O₅	0.011	Si	29.4 - 30.1	Na	0.2 - 0.5
MnO	0.02	CaO	2.27	Al	5.6 - 6.1		
TiO₂	0.08	Na₂O	0.86	Fe	0.05 - 0.25		
MgO	0.86	K₂O	3.67	K	1.9 - 2.7		

Analyzed with XRF spectrophotometry. The values are given for reference purposes.

4. PHYSICAL CHARACTERISTICS

Appearance	Solid	Color	White, whitish beige
Particle size	0.5-1.5 mm for golf courses and sports turfs	Solubility in water	Insoluble
Mineral content	Clinoptilolite group 70-85 %, Reactive components 85-95 %	Water retention capacity	65 - 75%
Bulk density	0.80 - 0.90 g/cm ³	Porosity	35 - 40%
Specific gravity	2 - 2.1 g/cm ³	Melting point	1,150 °C
Thermal stability	Stable up to 840 °C	Surface area (BET)	40 - 44 m ² /g

5. CATION EXCHANGE CAPACITY

160 - 200 meq/100g⁺ NH₄ - Ammonium (Kjeldah distillation method)

Main Exchangeable Cations

NH₄, Cs, Pb, As, K, Na, Ca, Ag, Cd, Zn, Ba, Sr, Cu, Hg, Mg, Fe, Co, Al, Cr
(Selectivity is a function of hydrated molecular size and relative concentrations)

6. PARTICLE SIZE DISTRIBUTION

> 1.5 mm	0-5 %
1.5 - 1.0 mm	50-60 %
1.0 - 0.8 mm	5-10 %
0.8 - 0.5 mm	25-35 %
< 0.5 mm	0-5 %