



1. Chemical and physical properties:

Form (at 20 °C): Solid. Very fine powder

Density (20 °C): 2.0-2.4 g/cm³

Color: White-to-pale greenish

Odor: Odorless-to-almost odorless

Melting point: >1000 °C (decomposition)

Thermal decomposition: >1000 °C

Bulk density: 400-450 kg/m³

Solubility in water (20 °C): Not soluble

Conditions to be avoided: No information available

Substances to be avoided: Violent reactions with fluorine

Other information: Stable under normal conditions of use

pH value (at 100 g/L of water): 7.0-8.0 (slurry)

- VitaXORB is a functional **animal feed additive** in the form of natural zeolite mineral rock primarily consisting of the active substance clinoptilolite:

[Ca/Mg/(K/Na)₂Al₂Si₇O₁₈•xH₂O]

CAS-No. (clinoptilolite): 12173-10-3

CAS-No. (zeolites): 1318-02-1

Chemical name: calcium, magnesium, potassium, sodium aluminosilicate hydrate

Chemical family: zeolites; aluminosilicates

2. Product composition

	<u>Parameter</u>	<u>Value</u>		<u>Parameter</u>	<u>Value</u>
1	Uniformity of packaging	500 ± 2 g (498.00-502.00 g)	10	Arsenic – As (mg/kg)	< 0.100
2	Physical appearance	white-to-greenish fine powder	11	Fluor – F (mg/kg)	0.29
3	Silicon Dioxide – SiO ₂ (%)	64.97	12	Moisture – 103°C	≤ 4.98
4	Aluminum Oxide – Al ₂ O ₃ (%)	10.86	13	Particles size	10% < 1 µm min. min. 95% < 4.5 µm
5	Calcium Oxide – CaO (%)	1.39	<u>Microbiological controls</u>		
6	Magnesium Oxide – MgO (%)	18.86	14	Total Plate Count	< 1000 cfu/g
7	Sodium Oxide – Na ₂ O (%)	0.23	15	Total Yeast and Mold	< 100 cfu/g
8	Iron ₃ Oxide – Fe ₂ O ₃ (%)	4.27	16	E. coli	negative
9	Lead – Pb (mg/kg)	< 0.025	17	Salmonella	negative
10	Mercury – Hg (mg/kg)	< 0.100	18	Staphylococcus	negative
11	Cadmium – Cd (mg/kg)	< 0.025			



3. General description:

Vita**XORB** is a functional feed additive for livestock production from the category of technological additives (functional group g-Binders and i-Anticaking agents). Our innovative Enhanced Dynamic Activation (EDA) technology micronizes Vita**XORB** to an average particle size of 10 - 50 μm by acting on its primary component zeolite clinoptilolite mineral. The activated exit material is thereby endowed with reduced particle size and increased mesoporosity, which leads to stronger interaction with animal tissues.

Vita**XORB** enables efficiency in nutrition of animals (does not degrade; acts as a carrier of nutrients instead), efficacious feed energy uptake (facilitates a slower passage of food through the digestive tract = longer window for the resorption of feed nutrients), and reduced ammonia & heavy metal levels in the animal gastrointestinal tract (originating from food and water).

Vita**XORB** with enhanced biological activity modulates the animal immune system, formation of enzymes, and performing detoxification by acting on intestinal epithelial cells (villi) and probiotic bacteria, therefore leading to **higher production efficiency at lower costs**. The product complies with legislative requirements applicable to animal feed in the EU and also adheres to the provisions governing organic animal husbandry.

4. Scope and methodology of use

Vita**XORB** is directly incorporated into the complete feed mixture at the recommended dose of:

- 6 – 10 g / kg of feed for swine
- 7 g / kg of feed for poultry
- 150 g / head / day for cattle

Vita**XORB** can be used as a carrier (base component) for production of premixes. On account of zeolite properties (ion-exchange, reversible hydration & dehydration), the final zeolite-based premix is, after incorporation into feed, equipped with beneficial properties, i.e., binding free water, ammonia, etc.

Vita**XORB** is also suitable as a technological additive / anti-caking agent. Its anti-caking properties decrease the tendency for the adhesion of the individual feed particles. Once used, the feed is more malleable, dry, and loose, preventing volume and weight loss during feed production. Can be added into calves' colostrum.

5. Product benefits

- Supplementation of the essential minerals, i.e., calcium, magnesium, and silicon (Si) manifest in:
 - Faster lean muscle growth and bone mineralization
 - Collagen and elastin synthesis
 - Improved tendon strength (lower injury incidence)
 - Accelerated growth, thicker & luster hair, healthier teeth
- Efficient nutrient uptake and digestion
- Prevention of respiratory diseases, bacterial toxins, and parasites
- Reduced ammonia levels and neutralization of heavy metal ions
- Promotion of oxygen transport in the blood

The information given in this document is based on the present state of our knowledge. It characterizes the product regarding the appropriate safety precautions. It does not represent a guarantee of the properties of the product.