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 1600-477 Lisboa - Portugal

Date of preparation: 10-01-2013	MATERIAL SAFETY DATA SHEET
Date of revisions: 20-09-2021	ZEOLITA NATURAL – ZEOVERDE

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier (Trade name of the product)	Zeolita Natural – ZEOVERDE
1.2 Relevant identified uses of the substance or mixture and uses advised against.	These products are granular natural zeolite which are used as filtration media for drinking water, waste water, organic liquids, and can be used for gas phase filtration to remove moisture, odours and volatile organic compounds. It is used for soil amendment and as a growing medium. It is used as an absorption material and carrier in fertilizer products and as a carrier for agrochemicals. It is also a general purpose absorbent material for animal bedding, and for liquid spillages.
1.3 Details of the supplier of the safety data sheet	SOILNEO - ESPAÇOS VERDES, LDA NIF: PT517882132 +351 218 383 876 Office: Rua Hermano Neves, Nº 18, Piso 2 - Escr. 4 1600-477 Lisboa - Portugal
1.4 Emergency telephone number (Toxicological information centre.)	INSTITUTO NACIONAL DE TOXICOLOGÍA Y CIENCIAS FORENSES Servicio de Información toxicológica C/ José Echegaray, 4 28232 Las Rozas de Madrid (Madrid) Tel. No. +34 915620420

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture.	ZN Agro and ZN Aqua are both clinoptilolite zeolite which can also be described as hydrated aluminosilicate of alkaline and alkaline earth metals. It is non flammable, non toxic, not harmful and not an irritant. It is not harmful to the environment in any way. It is an unmodified naturally occurring mineral in accordance with Annex V Regulation No. EC 1907/2006 of the European Parliament and of the Council (exemptions from the obligations to register in accordance with article 2(7)(b).
2.2 Label elements. According to Directive No. 67/548/EHS DSD According to Directive (EC) No. 1272/2008	<i>ES Classification:</i> This substance has no prescribed classification according to Directive No. 67/548/EHS DSD <i>GSH classification:</i> This substance has no prescribed classification according to Directive (EC) No. 1272/2008.



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3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances	Trade names: Zeolita Natural ZN AGRO and Zeolita Natural ZN AQUA Composition: 100% natural zeolite of clinoptilolite type (Hydrated calcium potassium sodium magnesium aluminosilicate) (Ca, K ₂ , Na ₂ , Mg) ₄ Al ₈ Si ₄₀ O ₉₆ ·24H ₂ O
3.2 Mixtures	CAS Number: 12173-10-3 EINECS No.: 215-283-8

4. FIRST AID MEASURES

4.1 Description of first aid measures.	Does not cause skin irritation. Wash skin with soap and water after skin contact. Can cause mild eye irritation. Wash the eyes with large amount of eye wash solution, saline solution or clean water. If dust is inhaled, move to fresh air environment, seek medical advice. If ingested, drink plenty of water.
4.2 Most important symptoms and effects, both acute and delayed.	If dust is inhaled, can cause dryness of respiratory tract. Can cause mild irritation to conjunctive membrane, and can have mild abrasive effect. Can cause mild dehydration if ingested.
4.3 Indication of any immediate medical attention and special treatment needed.	If dust is inhaled and irritation occurs, seek medical advice. If eye contact occurs, wash thoroughly with eye wash solution, saline solution or clean water.

5. FIREFIGHTING MEASURES

5.1 Extinguishing media	Material is NON-FLAMMABLE
5.2 Special hazards arising from substance.	No special hazards.
5.3 Advice for firefighters	None specified.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures.	Use personal protective equipment. Avoid inhalation of dust.
6.2 Environmental precautions.	Natural zeolite is not a hazardous waste. Zeolite is a registered soil auxiliary substance, and any spillage can be worked into the soil. Zeolite is an approved filter medium for use with drinking water, and it can be discharged into drains and sewage systems with no risk to the environment.



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6.3 Methods and material for containment and cleaning up.	The product can be worked into soil or washed away into drains with no risk at all to the environment. This product is frequently used to clean up spillages of potentially harmful substances.
6.4 Reference to other sections.	None.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling.	Employees should wear appropriate safety equipment for handling fine powders. General safety equipment should be worn, and care should be taken to avoid inhalation of dust.
7.2 Conditions for safe storage, including any incompatibilities.	This product should be stored in the original and undamaged closed packs, in a clean, dry, well ventilated covered warehouse. Due to the highly absorbent nature of this product, care should be taken to avoid unintended absorption of liquids and/or gases.
7.3 Specific end use(s)	Not specified.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters.	NPTEL of dust for the working environment is 5mg/m ³
8.2 Exposure Controls	Workplace should be ventilated in such a way to maintain dust levels below the limit. If this is not possible, a dust mask must be worn.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties.	<table border="0"> <tr> <td><i>State at 20°C</i></td> <td>Solid</td> </tr> <tr> <td><i>Colour</i></td> <td>Light grey</td> </tr> <tr> <td><i>Aroma</i></td> <td>Odourless</td> </tr> <tr> <td><i>pH</i></td> <td>7 (10% in water)</td> </tr> <tr> <td><i>Boiling temperature</i></td> <td>Not applicable</td> </tr> <tr> <td><i>Flash point/Ignition temp</i></td> <td>Non flammable</td> </tr> <tr> <td><i>Explosive limits</i></td> <td>Non-explosive</td> </tr> <tr> <td><i>Specific weight (kg/m³)</i></td> <td>2200-2440</td> </tr> <tr> <td><i>Bulk density (kg/m³)</i></td> <td>0.80 – 0.85</td> </tr> <tr> <td><i>Oxidation properties</i></td> <td>Not an oxidizing agent</td> </tr> <tr> <td><i>Steam pressure</i></td> <td>No information available</td> </tr> <tr> <td><i>Solubility</i></td> <td>Soluble in hydrofluoric acid</td> </tr> <tr> <td><i>Solubility in water</i></td> <td>Insoluble in water</td> </tr> </table>	<i>State at 20°C</i>	Solid	<i>Colour</i>	Light grey	<i>Aroma</i>	Odourless	<i>pH</i>	7 (10% in water)	<i>Boiling temperature</i>	Not applicable	<i>Flash point/Ignition temp</i>	Non flammable	<i>Explosive limits</i>	Non-explosive	<i>Specific weight (kg/m³)</i>	2200-2440	<i>Bulk density (kg/m³)</i>	0.80 – 0.85	<i>Oxidation properties</i>	Not an oxidizing agent	<i>Steam pressure</i>	No information available	<i>Solubility</i>	Soluble in hydrofluoric acid	<i>Solubility in water</i>	Insoluble in water
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10. STABILITY AND REACTIVITY

10.1 Reactivity	No information available.
10.2 Chemical stability	Highly stable.
10.3 Possibility of hazardous reactions	No information available.
10.4 Conditions to avoid	No information available.
10.5 Incompatible materials	No information available.
10.6 Hazardous decomposition products	None.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects.	Generally considered to be non-toxic.
<i>Acute toxicity for substance</i>	
LD50	Not possible to determine. In Oral LD ₅₀ test, doses of 20000mg/kg do not produce any fatality in animal population. In Dermal LD ₅₀ test, application of 5000mg/kg did not produce any fatalities in the animal population. Substance it therefore considered non-toxic.
<i>Eye irritability</i>	Causes mild, short lasting irritation of the conjunctiva mucosa. After 24 hours, no inflammation or changes observed in conjunctiva mucosa.
<i>Skin irritability</i>	Does not cause any inflammation in either intact or damaged skin, even after multiple applications.
<i>Influence on live organisms</i>	Classified as harmless and non-toxic. Does not cause skin irritation. Can cause mild irritation to conjunctiva mucosa.
<i>Respiratory or skin sensitization</i>	No information available.
<i>Germ cell mutagenicity</i>	No information available.
<i>Carcinogenicity</i>	No information available.
<i>Reproductive toxicity</i>	No information available.
<i>STOT-single exposure</i>	No information available.
<i>STOT-repeated exposure</i>	No information available.
<i>Aspiration hazard</i>	No information available.
<i>Other information</i>	Although considered harmless and non-toxic, this substance should be handled with due caution and general personal protective equipment should be used when handling.



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12. ECOLOGICAL INFORMATION

12.1 Toxicity:

Natural zeolite is not considered eco-toxic: There is no information to suggest that zeolite is toxic to birds, fish, vertebrates or invertebrates, micro-organisms or plants.

The results obtained by testing clinoptilolite zeolite did not define the LC 50 for fish and daphnia, because the tested animals survived the maximum concentrations, therefore exceeding the limits for classification. The substance is therefore considered to be non toxic to fish and other animals.

Based on the 96-hour static and acute toxicity tests on fish (*Cyprinus carpio* L., *Poecilia reticulata* Peters) and 24-hour acute and immobilization test on daphnia (*Daphnia magna* Straus), clinoptilolite zeolite was classified as almost non toxic for fish and daphnia (Final Report of research No. 53/NRL/T-102).

Clinoptilolite zeolite is registered as an animal feedstuff and is assigned additive number 1g568.

12.2 Persistence and degradability	No information available.
12.3 Bioaccumulative potential	No information available.
12.4 Mobility in soil	No information available.
12.5 Results of PBT and vPvB assessment	No information available.
12.6 Other adverse effects	None identified.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

Method of waste disposal – mechanical (landfill).

Zeolite residues (if not mixed with other substances) can be mixed with soil as it is a registered soil auxiliary substance.

Zeolite does not contaminate water, and is used in water treatment, so it can be washed away into drains or sewage systems.

If it contains absorbed substances, it must be disposed of in accordance with disposal considerations for the absorbed substance.

14. INFORMATION ABOUT TRANSPORT

14.1 UN No.: 14.2 UN Proper shipping name: 14.3 Transport hazard class(es): 14.4 Packing group: 14.5 Environmental hazards: 14.6 Special precautions for user: 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:	No information available.
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15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture.	According to Directive No. 67/548/EHS DSD <i>ES Classification:</i> This substance has no prescribed classification according to Directive No. 67/548/EHS DSD According to Directive (EC) No. 1272/2008 <i>GSH classification:</i> This substance has no prescribed classification according to Directive (EC) No. 1272/2008.
15.2 Chemical safety assessment	No information available

16. OTHER INFORMATION

This safety data sheet contains the data necessary for ensuring the safety and health protection in the workplace and for ensuring environmental protection. The data given corresponds to the present knowledge and understanding, and they are given in conformity with the legal regulations. The application/use of this product by the customer or consumer, however, takes place beyond control of the product supplier. The customer/consumer is responsible for his/her own safety and for observance of safety provisions.

This data sheet has been revised and reworked according to the Regulation of the European Parliament and Council (EC) No. 1907/2006 on Registration, Evaluation, Authorization and limitation of Chemical substances (REACH).