

# ECO TAN-A

## Micro and nanoparticles of titanium dioxide with photocatalytic effect

Technical Data Sheet January 2016

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**PRESENTATION** **ECO TAN-A** is a very fine powder of **TiO<sub>2</sub> anatase**, whose particle size is within the range of active micro and nanoparticles. It has a photocatalytic effect when stimulated by sunlight or by appropriate lamps emitting UV rays.

**FEATURES** The main feature of **ECO TAN-A** is its ability to emit electronegative charges on the surface of its particles and in the surrounding environment when UV rays in direct light stimulate these particles.  
The electronegativity of surface promotes the oxidation (photocatalysis) of the organic and non-organic substances near the surface.  
It also constitutes an efficacious barrier to the adhesion of all particles, especially of dirt particles.  
Because of this, the surfaces treated with **ECO TAN-A** avoid the deposition of dirt and they are self-cleaning under the action of water.  
All these actions remain active as long as **ECO TAN-A** persists on the surface and it is stimulated by direct sunrays or by lamps emitting UV rays.

**USE** Thanks to its self-cleaning action, **ECO TAN-A**, is used with success in the preparation of external cement based plasters and smooth finishes, cement-based paint, and silicate and hydrated lime based paints. It can also be used in all synthetic resin based-paints, if they have been previously tested in terms of durability to the photocatalytic action.  
For the same reason, in the formulation of water-based paints, organic pigments cannot be used but only metal oxides.  
To obtain a better distribution of **ECO TAN-A** in the final mixture, it is advisable to pre-disperse the mixture in a part of one of the components of the mixture, and then to add **Pentaflow PC 5** if the mixture is in powder form or **Pentaflow PCL** if the mixture is in liquid or in paste form.  
Note: **ECO TAN-A** is not a pigment and it does not substitutes TiO<sub>2</sub> used as such. On the final product, it only has a photocatalytic and self-cleaning action.

	Data	Method
<b>Composition:</b>	TiO <sub>2</sub> anatase	
<b>State:</b>	Powder	Visual
<b>Colour:</b>	Ivory-white	Visual
<b>Specific gravity:</b>	≈ 0.5 kg/dm <sup>3</sup>	IST. 10.06
<b>Granulometry:</b>	Min. 95.0 % < 50 nm	IST. 10.09
<b>Humidity:</b>	Max. 4.0%	IST. 10.04
<b>Water solubility:</b>	Insoluble	IST. 10.21

**DOSAGE** The suggested dosage for **ECO TAN-A** is normally 0.5% on the total weight of solid

components of the mixture.

It is advisable to carry out preliminary tests on the specific mixtures in order to establish the optimum dosage depending on the expected results.

**STORAGE AND VALIDITY**

If it is stored in a dry place and in its original bags kept perfectly closed, **ECO TAN-A** has a 12 months validity.

Should moisture be absorbed by the product, this does not affect its efficaciousness, but it makes its dosage difficult and it causes a non-homogeneous distribution in the finished mixture.

It is therefore advisable to close the bags carefully after each collection.

**PRECAUTIONS**

In our present state of knowledge, there are no specific requirements in handling **ECO TAN-A**.

In any case, taking account of the particle size of **ECO TAN-A**, it is advisable to adopt all the precautions needed for the use of powdery products and to avoid direct contact with wet or sweaty skin.

**PACKAGING**

25 kg paper bags.

The specifications stated in this report have been got either through standardized tests and rules or their modifications following NCT systems. The methods applied can be requested to our technical service.

All the data stated in this technical sheet are based on our knowledge and experience. However, before using the item differently from indicated, it is advisable to carry out preventive tests. In any case, NCT does not assume any responsibility for any damage or defect caused by the use of our products, as the employment conditions are not under our control. We also inform that our technical service is at our customers' disposal for any information concerning the correct employment of our products