



UNIVERSITÀ DEGLI STUDI DI MILANO

Dipartimento di Chimica

Laboratorio di Processi e Impianti chimici per la Chimica Industriale

Test Report N. GF/1.2015

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Test: testing of degradation of ethanol in air on **Calacatta Active™ 300x150 cm**

Milan 23/09/2015

Date of receipt	10/09/2015
Analysis start date	14/09/2015
Analysis end date	21/09/2015
Material	Ceramic Materials
Product	Ceramic slabs in porcelain gres
Sample	Calacatta Active 300x150 cm
Test information	<ul style="list-style-type: none">• Test of photodegradation of ethanol in air, chosen as model molecule for pollution caused by volatile organic compounds, VOCs¹.• Tested sample: collected and cut in a 10x10 cm sample from an original slab, intact in all its parts, randomly chosen from a production batch.• Pre-treatment methods: in accordance with ISO 22197-2, the sample was UV-A irradiated for 6 hours and then immersion in deionized water for 2 hours in order to remove any residues present at the surface.• Light source: UV-A Jelosil 500, intensity 3.0 mW/cm².• Exposure time: 6 h.• Initial concentration of ethanol: 200 ± 10 ppm in synthetic air.• Type of reactor: for research purposes. Results published in international scientific journals ^{1,2,3}.• Analytical method: micro-gas chromatograph

¹ RSC Advances, 5 (2015) 53419-53425

² Energy and Environment Focus, 4 (2015) 226-231

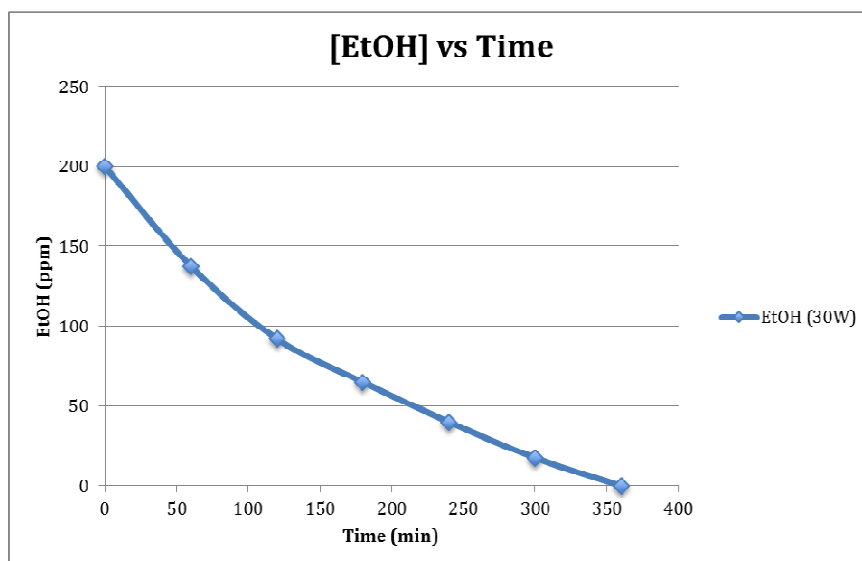
³ Applied Catalysis B: Env., 146 (2014) 123-130



	(Agilent 3000A). <ul style="list-style-type: none">• Reproducibility: the measurement was repeated on no. 5 samples, cut and randomly chosen from # 5 different slabs.
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Results

The performance towards the degradation of ethanol (EtOH) for the material under test is here reported.



Conclusions

The slab of porcelain grès **Calacatta Active™ 300x150 cm** appears to be very active in the photocatalytic degradation of ethanol in air. In reference to the experimental data obtained after 6 hours of testing, the percentage of degradation of ethanol is equal to **100%**.

The Scientific Director

Prof. Claudia Letizia Bianchi