HELLENIC REPUBLIC
NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS
DEPARTMENT OF PHYSICS
DIVISION OF APPLIED PHYSICS
GROUP FOR STUDIES ON THE BUILT ENVIRONMENT
Physics Building 5, Postal Code 15784 University Campus, Athens
Tel. +30 210 7274092 +30 210 72 76 841 Fax: +30 210 72 95 282
msantam@phys.uoa.gr http://grbes.phys.uoa.gr

Report on Reflectance and Emittance Measurement by the Department of Physics of the University of Athens

The laboratory of the Group for Studies on the Built Environment, Department of Physics of the University of Athens, performed measurements of reflectance in the spectral range from 300-2500nm and measurements of infrared emittance, for the company NEOTEX S.A., under a contract signed between the National and Kapodistrian University of Athens – Special Account for Research Grants, and NEOTEX S.A. on 2.1.2013. The specimen examined measured 7cm x 7cm and had the following characteristics:

* Specimen of White Paint under the trade name NEODUR

The laboratory of the Group for Studies on the Built Environment hereby certifies that on 17.1.2013 the specimen was found to have:

Specimen	Solar reflectance (SR)	Infrared Emittance (±0.05)	Solar Reflectance Index (SRI)
NEODUR	0.88	0.86	111

The solar reflectance measurement was performed in accordance with international standards ASTM E903-96, using a spectrophotometer UV/VIS/NIR (Carry 5000) equipped with an integrating sphere (LABSPHERE).

The infrared emittance measurement was performed in accordance with international standard ASTM Standard E408-71 using Emissometer Model AE (Devices & Services).

The Solar Reflectance (SR) and Solar Reflectance Index (SRI) were calculated as per international standards ASTM G159-91 and ASTM E1980-01.

Date: 17.1.2013 Professor Santamouris Mattheos

(Signed)

(Seal: University of Athens – Department of Physics)

True photocopy attested by the Citizen Services Center of the City of Mandra-Idyllia, 21.2.2013 (Signed-Sealed)

==========

True translation of the attached certified copy in Greek.

Athens, 2.5.2013 M. Kontopidou – Translator

No. 38914

HELLENIC REPUBLIC
MINISTRY OF FINANCE
GENERAL SECRETARIAT OF TAX AND CUSTOMS AFFAIRS
GENERAL DIVISION OF THE
GENERAL STATE CHEMICAL LABORATORY
4th CHEMICAL SERVICE OF ATHENS
4th DEPARTMENT
16, An. Tsocha Street, Postal Code 11521 Athens
Enquiries: Mrs. Timoklia Togalidou
Tel. No.: 2102117337 e-mail: dxyath@gcsl.gr

Athens, 10.10.2012

Ref. No. 30/015/2540/28.9.2012

Sample No. 015/937/2012

TO: NEOTEX S.A.

SAMPLE EXAMINATION REPORT

Forwarding Organisation:	NEOTEX S.A.
Incoming Request date:	28.9.2012
Sampling date:	28.9.2012
Sampling Organisation:	NEOTEX S.A. [1], [2]
Type of Material:	Epoxy resin coating material
Sample received on:	28.9.2012
Examination Date:	From 17.9.2012 to 10.10.2012

RESULTS OF SAMPLE EXAMINATION

Parameter examined	Examination Method	Spec.No.	Result	Uncer-tainty	Legal Limit	Reference/ Recommended Limit	Analyst
Coating material identification	Coating material identification using spectroscopy (FT-IR spectroscopy)	1	Epoxy resin of the bisphenol-A-epichlorohydrin type				Timoklia Togalidou (4th Chemical Service of Athens)
Assessment of the Specific Migration of Additives Contained	Semi-quantitative assessment of the specific migration of chemical compounds from plastics using GC-FID (EM4_GCFID)	1	λ>3 (for benzyl alcohol). Specific migration is probably high				Timoklia Togalidou (4th Chemical Service of Athens)
Analysis of Additives Contained-Assessment of Specific Migration	Analysis of contained additives-semiquantitative analysis of the specific migration of chemical compounds from plastics using GC/MSD (EM4_GCMSD)	1	Benzyl alcohol is identified				Timoklia Togalidou (4th Chemical Service of Athens)
Overall migration in isooctane (mg/dm^2)	Determination of the overall migration from plastics in isooctane, weighted, with a standard or equivalent cell (OM7)	1	<1 (Conditions: 2 days at 20°C) (3)		10		Timoklia Togalidou (4th Chemical Service of Athens)

Overall migration in 3% acetic acid (mg/dm^2)	Determination of the overall migration from plastics in aqueous food simulants, weighted, with a standard or equivalent cell (OM1)	1	<1 (Conditions: 10 days at 40° C) [3]		10		Timoklia Togalidou (4th Chemical Service of Athens)
Overall migration in 96% ethanol (mg/dm^2)	Determination of the overall migration from plastics in 96% ethanol, weighted, with a standard or equivalent cell (OM7)	1	<1 (Conditions: 2 days at 20°C) [3]		10		Timoklia Togalidou (4th Chemical Service of Athens)
Bisphenol A (mg/kg)	Specific migration of Bisphenol A in 3% acetic acid, with HPLC (EM11)	1	0.015 [4] (Conditions: 10 days at 40°C) [3]		0.6	0.0025 [5]	Timoklia Togalidou (4th Chemical Service of Athens)
Bisphenol A (mg/kg)	Specific migration of Bisphenol A in oil, with HPLC (EM11)	1	< reference limit = 0.01 (Conditions: 10 days at 40°C) [3]		0.6	0.01 [5]	Timoklia Togalidou (4th Chemical Service of Athens)
Benzyl alcohol (mg/kg)	Specific migration of Benzyl alcohol in 3% acetic acid with HPLC	1	56.9 [4] (Conditions: 10 days at 40°C) [3]		60		Timoklia Togalidou (4th Chemical Service of Athens)
Benzyl alcohol (mg/kg)	Specific migration of Benzyl alcohol in oil, with HPLC	1	4.1 [4] (Conditions: 10 days at 40°C) [3]		60		Timoklia Togalidou (4th Chem. Service)

OPINION: The sample transmitted "specimen of epoxy paint – NEOPOX ALIMENTARY" is normal and meets the applicable conditions of Regulations (EC) No. 1935/2004, No. 1895/2005, and article 28 of the Code on Foods and Beverages, for the properties tested, with respect to its fitness for contact with food, and for its intended use(6).

Notes:

1. The sample was taken and submitted by the interested party. The remaining sample shall be destroyed by the competent laboratory if not requested by the interested party within one month.

2. The specimens had been immersed in water over a period of 24 hours by the interested party.

3. Migration tests are performed by bringing 1 dm^2 of the object in contact with 100ml of simulant.

4. The result was obtained by using the most strict approach with regard to the actual ratio of contact area to food quantity, for a 10000 lt tank. This ratio was calculated at 2.5dm^2/kg of food, for very low loading of the tank, in the order of 2%. With increasing tank filling percentage (or tank capacity), the ratio is significantly decreased and therefore specific migration decreases as well.

When employing the conventional assumption with respect to the ratio of contact area to food quantity (6dm^2/kg), the specific migration (S.M.) results would have been: S.M. of Bisphenol-A in 3% acetic acid: 0.036mg/kg, S.M. of benzyl alcohol in 3% acetic acid: 135.5mg/kg, S.M. of benzyl alcohol in oil: 9.8mg/kg.

5. The reference limit of the method for bisphenol-A in 3% acetic acid is 0.01mg/kg converted to 0.0025 mg/kg for test conditions as referred to in Note 3, and an area to volume ratio of

2.5 dm^2/kg (Note 4). Accordingly, the reference limit of the method for bisphenol-A in vegetable oil is 0.01 mg/kg.

6. The intended use is for food storage tanks having a capacity greater than 10000 liters, for long-term storage at ambient temperature.

The Chemical Service Head
Tsipi Despina (Signed)

(Seal of the 4th Chemical Service of Athens)

True photocopy attested by the Citizen Services Center of the City of Mandra-Idyllia, 21.2.2013 (Signed-Sealed)

==========

True translation of the attached certified copy in Greek.
Athens, 2.5.2013 M. Kontopidou – Translator