



LABORATORI
D'ENGINYERIA PAPERERA
I MATERIALS POLIMÈRICS



Product in accordance

with Recommendation XXXVI of german BfR about paper and board
designed for foodstuffs contact

The sample composition of AUTOADHESIVO SUPERTACK
manufactured by TORRASPAPEL, S.A. is **in accordance** with the
Recommendation XXXVI of German regulation BfR and passed the
suitability tests related to pentachlorophenol, antimicrobial constituents,
metallic elements (mercury, cadmium and lead), colourings and
brightening analysis and formaldehydes analysis to come into contact with
foodstuffs as described in actual fabrication.

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Service responsible

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Membre de:



R75.1-07.3 Rev.:02



ANALYSIS DESCRIPTION AND RESULTS

Sample: AUTOADHESIVO SUPERTACK

Experimental analysis and standard methods related:

| Analysis | Standard Method |
|--|------------------------|
| Determination of pentachlorophenol in an aqueous extract | UNE-EN ISO 15320 |
| Determination of Diisopropylnaphthalene (DIPN) content by solvent extraction | UNE-EN 14719 |
| Determination of transfer of antimicrobial constituents | UNE-EN 1104 |
| Determination of colour fastness of dyed paper and board | UNE-EN 646 |
| Determination of the fastness of fluorescent whitened paper and board | UNE-EN 648 |
| Determination of mercury in an aqueous extract | UNE-EN 12497 |
| Determination of cadmium and lead in an aqueous extract | UNE-EN 12498 |
| Determination of formaldehyde in an aqueous extract | UNE-EN 1541 |

**DETERMINATION OF PENTACHLOROPHENOL (PCP) IN AN AQUEOUS
EXTRACT, as standard UNE-EN 15320:2004**

1.- SAMPLE DESCRIPTION:

- Sample: AUTOADHESIVO SUPERTACK

2.- MANUFACTURER:

- TORRASPAPEL, S.A.

3.- DATE AND PLACE OF TESTING:

- April 13th, 2007

Grupo LEPAMAP. Universitat de Girona.

Av. Lluís Santaló s/n. 17071 GIRONA

4.- SAMPLE TREATMENT:

Preparation and extraction of sample has been done it as UNE-EN 645 standard. After that, a standard solution has been added, acidified and applied a solid phase concentration, acetylated and determination by means of GC.

5.- RESULTS:

Result obtained is:

| | | |
|--------------------------|-----------------------|-------------------------------|
| | | <u>Maximum value allowed*</u> |
| Pentachlorophenol | $31,3 \times 10^{-3}$ | 0,15 mg/Kg (ppm) |
| MDL 10 ng/g | | |

* Recommendation XXXVI . Paper and board for food contact.- April 1th 2006.

DETERMINATION OF TRANSFER OF ANTIMICROBIC CONSTITUENTS
according to UNE-EN 1104:2006

1.- SAMPLE DESCRIPTION:

- Sample: AUTOADHESIVO SUPERTACK

2.- MANUFACTURER:

- TORRASPAPEL, S.A.

3.- DATE AND PLACE OF TESTING:

– May 9th, 2007

Grupo LEPAMAP. Universitat de Girona.

Av. Lluís Santaló s/n. 17071 GIRONA

4.- SAMPLE TREATMENT:

The preparation of culture means is made following the indications given in mentioned method.

Plates of petri prepared with Bacillus Subtilis and Aspergillus Niger are incubated during 3 days to 30°C and 5 days to 25°C respectively. It is observed a growth of flora in all the surface and therefore evidence of zone of inhibition is not appreciated. So, the sample does not contain antimicrobial components that are water soluble.

**DETERMINATION OF MERCURY IN AN AQUEOUS EXTRACT, according to
UNE-EN 12497:2006**

1.- SAMPLE DESCRIPTION:

- Sample: AUTOADHESIVO SUPERTACK

2.- MANUFACTURER:

- TORRASPAPEL, S.A.

3.- DATE AND PLACE OF TESTING:

May 18th, 2007

4.- SAMPLE TREATMENT

Sample preparation and mercury extraction have been carried out according to UNE-EN 645 regulation and UNE-EN 12497

5.- RESULTS.

| | Results (ppm) | Maximum allowed value (ppm) |
|---------|---------------|-----------------------------|
| Mercury | <0,015 | 0,3 |

These results are expressed in µg/g.

Maximum value is those allowed in Recommendation XXXVI of german BfR for this specific metal referred to soluble part.

**DETERMINATION OF CADMIUM AND LEAD IN AN AQUEOUS EXTRACT,
according to UNE-EN 12498:2006**

1.- SAMPLE DESCRIPTION:

- Sample: AUTOADHESIVO SUPERTACK

2.- MANUFACTURER:

- TORRASPAPEL, S.A.

3.- DATE AND PLACE OF TESTING:

Cd, Pb analysis: May 18th, 2007

4.- SAMPLE TREATMENT

Sample preparation and cadmium and lead extraction have been carried out according to UNE-EN 645 and UNE-EN 12498 regulations

5.- RESULTS.

| | Results (ppm) | Maximum allowed value (ppm) |
|---------|---------------|-----------------------------|
| Cadmium | <0,0025 | 0,5 |
| Lead | <0,1250 | 3 |

These results are expressed in µg/g.

Maximum value is those allowed in Recommendation XXXVI of BfR for these specific metals referred to soluble part.

**DETERMINATION OF COLOUR FASTNESS OF DYED PAPERS AND
BOARDS according to UNE-EN 646:2001**

1.- SAMPLE DESCRIPTION:

- Sample: AUTOADHESIVO SUPERTACK

2.- MANUFACTURER:

- TORRASPAPEL, S.A.

3.- DATE AND PLACE OF TESTING:

– May 23th, 2007

Grupo LEPAMAP. Universitat de Girona.

Av. Lluís Santaló s/n. 17071 GIRONA

4.- SAMPLE TREATMENT AND RESULTS

Both faces of sample have been tried according to procedure A (long time contact) of UNE-EN 646 methodology with assayed fluids (water, acetic acid, saliva, isooctane and olive oil). Evaluation is made in accordance with EN 20105-A03 standard. Next values of colour fastness are obtained:

| | Autoadhesive | | | | |
|-----------------|-----------------------|-------------|---------------|------------------|------------|
| | H₂O | AcOH | Saliva | Isooctane | Oil |
| White | 91,12 | 91,14 | 91,14 | 93,49 | 85,75 |
| <i>Y trist.</i> | 90,26 | 90,59 | 91,26 | 91,48 | 84,64 |
| Dif. CIELAB | 0,86 | 0,55 | -0,12 | 2,01 | 1,11 |
| DEGREE | 5 | 5 | 5 | 4-5 | 5 |

Degree 1 means bad colour fastness and degree 5 means good colour fastness.

**DETERMINATION OF THE FASTNESS OF FLUORESCENT WHITENED
PAPERS AND BOARDS, according to UNE-EN 648:2003**

1.- SAMPLE DESCRIPTION:

- Sample: AUTOADHESIVO SUPERTACK

2.- MANUFACTURER:

- TORRASPAPEL, S.A.

3.- DATE AND PLACE OF TESTING:

May 23th, 2007

Grupo LEPAMAP. Universitat de Girona.

Av. Lluís Santaló s/n. 17071 GIRONA

4.- SAMPLE TREATMENT AND RESULTS

Both faces of sample have been tried according to procedure A (long time contact) of UNE-EN 648 methodology, with specified fluids. Results have been evaluated by means of ultraviolet lamp with UV-A (365 nm) filters. According to procedure A, results obtained are:

| Fluid | Autoadhesive |
|--------------|---------------------|
| Water | 4 |
| Acetic acid | 4 |
| Saliva | 4 |
| Oil | 4 |

The evaluation is made by comparison with papers witness prepared and treated with optical brightening FWAS, constitution number 40622. Class 1 means bad solidity and class 5 means good solidity.

There is observed a good solidity in all trials. So, the sample can be considered apt.

**DETERMINATION OF FORMALDEHYDE IN AQUEOUS EXTRACT,
according to UNE-EN 1541:2002**

1.- SAMPLE DESCRIPTION:

- Sample: AUTOADHESIVO SUPERTACK

2.- MANUFACTURER:

- TORRASPAPEL, S.A.

3.- DATE AND PLACE OF TESTING:

- May 17th, 2007

- Universitat de Girona. Chemical Engineering Department
Av. Lluís Santaló s/n. 17071 GIRONA

4.- SAMPLE TREATMENT AND RESULTS

Sample has extracted with cold water according to UNE-EN 645. Formaldehyde content was analysed as it is determined in UNE-EN 1541 standard.

Formaldehyde content is:

| | <u>Content</u> | <u>Maximum value allowed</u> |
|----------------------------|--------------------------|------------------------------|
| Formaldehyde | | |
| Cold water extract. | 0,180 mg/dm ² | 1 mg/dm ² |

Formaldehyde level in AUTOADHESIVO SUPERTACK is lower than maximum value allowed by Recommendation XXXVI of German BfR Reglamentation.