



LABORATORI  
D'ENGINYERIA PAPERERA  
I MATERIALS POLIMÈRICS



Universitat  
de Girona

## Product in accordance

with requirements of Directive 2004/12/CE that modifies Directive 94/62/CE  
about packaging related in European standard EN 13427:2000

Paper sample referenced as METALVAC E WS IR, manufactured by  
SARRIOPAPEL SA is **agree** with the evaluation requirements designed for  
packaging, detailed in table 1.

Conformity number: Dir 07008\_cp05/LB

Issued: February, 20<sup>th</sup> 2007

Service responsible

Mª Àngels Pelach

Laboratory responsible

Laura Barberà

R75.1-07.4 Rev.:01

Membre de:



XARXA DE CENTRES  
DE SUPORT  
A LA INNOVACIÓ  
TECNOLOGICA

## DIRECTIVE 2004/12/CE and DIRECTIVE 94/62/CE REQUIREMENTS

Paper sample: METALVAC E WS IR

Evaluation abstract:

<b>Evaluation criteria</b>	<b>Evaluation requirement</b>	<b>Declaration</b>
Requirements for measuring and verifying the four heavy metals present in packaging and their release into the environment	To guarantee levels lower than maximum allowed for components (UNE CR 13695-1)	Conform
Requirements for measuring and verifying dangerous substances present in packaging and their release into the environment	To guarantee conformity with EN 13428:2000 Standard (UNE-CR 13695-2; Directive 67/548/CE ; Directive 92/32/CEE ; Directive 2001/59/CE (28 <sup>a</sup> Adaptation)	Conform
Requirements for packaging waste valorisation by means of energy recovery.	To guarantee that calorific gain of waste packaging is suitable (EN 13431:2000)	Conform

**PACKAGING. Requirements for measuring and verifying the four heavy metals  
present in packaging (UNE-CR 13695-1)**

**1.- SAMPLE DESCRIPTION**

- METALVAC E WS IR paper sample

**2.- FACTORY**

- SARRIOPAPEL, S.A.

**3.- TEST CONDITIONS**

Total digestion of sample by means of laboratory microwave MILESTONE previously treated with acids (HNO<sub>3</sub>:H<sub>2</sub>O<sub>2</sub>:HF:H<sub>2</sub>O) in proportion 3:2:1:2.

Treatment program: total time: 115 min. Increase to 120°C and 5 min stabilization; increase to 150°C and 5 min stabilization; increase to 180°C and 5 min stabilization; increase to 200°C and 5 min stabilization and at last, increase to a 210°C and 5 min stabilization.

Determination of heavy metals have been made by ICP-Mass spectrometry.

**4.- RESULTS**

Testing date: 16/02/2007

<b>Metals</b>	<b>Content (ppm)</b>
Mercury	< 0,024
Cadmium	< 0,123
Chromium (total)	2,27 ± 0,01
Lead	0,79 ± 0,01
<b>TOTAL</b>	<b>&lt; 100 ppm</b>

Results expressed in mg element/Kg material

Analysis results indicate than heavy metal content is lower than 100 ppm.

5.- CONCLUSION.

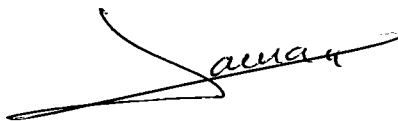
Paper sample analysed referenced as METALVAC E WS IR is agree with Article 11 of Directive 2004/12/CE and Directive 94/627CE about concentration levels of heavy metals in packaging and packaging wastes.

Service responsible



Dra. M. Àngels Pèlach Serra

Laboratory responsible



Laura Barberà Rodríguez



LABORATORI  
D'ENGINYERIA PAPERERA  
I MATERIALS POLIMERICS



Universitat  
de Girona

**PACKAGING. Requirements for measuring and verifying dangerous substances  
present in packaging (UNE-CR 13695-2)**

**1.- SAMPLE DESCRIPTION**

- METALVAC E WS IR paper sample

**2.- FACTORY**

- SARRIOPAPEL, S. A.

**3.- CONFORMITY ANALYSIS**

Paper sample doesn't present substances classified as dangerous for environment, or if presents, their concentration are lower than 0.1%, as indicated in Directive 67/548/CE, its modifications (Directive 92/32/CEE) and corresponding adaptations (Directive 2001/59/CE and Directive 1999/45/CE).

Analysis realized in February, 14<sup>th</sup> 2007

**4.- CONCLUSION.**

Paper sample analysed referenced as METALVAC E WS IR **is agree** with EN 13428:2000 related in Directive 2004/12/CE and Directive 94/62/CE about presence of dangerous substances in packaging.

Service responsible

Dra. M.Àngels Pélach Serra

Laboratory responsible

Laura Barberà Rodriguez

**PACKAGING. Requirements for packaging recoverable in the form of energy recovery,  
including specification of minimum inferior calorific value (UNE-EN 13431)**

**1.- OBJECTIVE**

The main requirement for packaging to be considered recoverable is that it provides the thermodynamic requirements to allow the incineration with energy recovery of packaging waste.

**2.- SAMPLE DESCRIPTION**

- METALVAC E WS IR paper sample

**3.- FACTORY**

- SARRIOPAPEL, S. A.

**4.- TEST CONDITIONS**

Conformity declaration with this standard has to be reinforced by next requirements:

- Material composition. Packaging composed of more than 50% (by weight) of organic content, provides calorific gain and meets the requirements to be considered recoverable
- Calorific value, when necessary, i.e., if inorganic constituents are higher than 50% (by weight).

So, first determination is the ash content as indicated in international standard ISO 1171:1997.

Sample are conditioned and 1 g of sample are weighed to the nearest 0.1 mg. Insert the sample in the furnace at room temperature. Raise the furnace temperature to 105 °C over a period of 30 min. to dry the sample. Continue heating to 525±10°C, maintaining this temperature for at least 60 min. When the incineration period is complete, remove the dish from the furnace and allow cooling until the weight is possible.

## 5.- RESULTS

Testing date: 14/02/2007

Ash content (%)	Standard deviation
20,14	0,25

Results indicate than organic matter content is 79,86 % with a confidence interval of 0.35.  
This sample is considered energy recoverable.

## 6.- CONCLUSION.

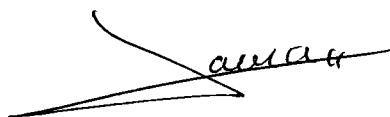
Paper simple analysed, referenced as METALVAC E WS IR is **considered energy recoverable**, in agree with Directive 2004/12/CE and Directive 94/62/CE.

Service responsible



Mª Angels Pélach  
Dr. Chemistry Science

Laboratory responsible



Laura Barberà Rodríguez  
Chemistry Science Degree