

TEST REPORT (RAPPORTO DI PROVA)

Doc. n° REPLA330
Output data: 07/24/2008

Chemical and physical characterization of plastic products

Performed for : QBS Trade s.r.l.

Samples analysed: small shot for toy gun

Analysis Laboratory Manager:

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Sign : 

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Sign : 

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Sign : 

Rivalta S. : 07/24/2008

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INDEX

1 IDENTIFICATION	3
3.1 Consultancy suppliers.....	3
3.2 Costumer.....	3
3.3 Object of the Consultancy.....	3
1.4 Sampling.....	3
2 PERFORMED ANALYSES DESCRIPTION:	4
2.1 International standards or referring methods.....	4
2.2 Analyses.....	4
3 RESULTS:	4



1 IDENTIFICATION**3.1 Consultancy suppliers**

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3.2 Costumer

Organisation: QBS Trade s.r.l.
 Address: C.so Mazzini, 13
 City: 27100 Pavia (PV)
 Phone :
 Fax : 0382 583640

3.3 Object of the Consultancy

Sample type : small shot for toy gun
 Material polystiren + barium sulfate
 Material data sheet: absent
 Material producer: --
 Sample receiving date 07/10/2008
 Referring MOD_LAB_01 08-84
 Offer n°: 141/LA edited on 07/10/2008
 Test period: 07/14 – 07/24/2008

1.4 Sampling

Sampling mode Unknown

2 PERFORMED ANALYSES DESCRIPTION:

2.1 International standards or referring methods

Standard or referring methods	Apparatus used	Apparatus identifying code	Calibrations
Method T.A. Instruments ¹ " 30 to 230 10°Cmin doppio "	DSC Q1000 di T.A. Instruments	1000-0182	Calibrations "-90 to 400°C a 10°C/min" done 05/15/2008
Method Perkin Elmer ²	μ-ATR for Spotlight200	80392	Field Serv. Report n° 340294115 del 05/05/08
Method T.A. Instruments ³ " determinazione ceneri 10°Cmin "	TGA Q500 di T.A. Instruments	0500-0017	Calibrations "10°C/min" del 23/04/2008"
SOP – MET018	ICP	REDOX s.n.c. property	

2.2 Analyses

As required by the customer we performed tests in order to check the quality of the samples you gave us; the objects sent to us were so identified:

- Small shot for toy gun

The performed tests were:

- Differential scanning calorimetry (DSC)
- Infrared spectroscopy coupled with the total attenuated reflection (FTIR μ-ATR)
- Thermogravimetric analysis for ash content
- Heavy metal tests

3 RESULTS:

The DSC analyses gave the following results:

Sample	Test Code	Tg	T _m	Annex n°
Small shot for toy gun	DSCTA080271	105,83	143,8	1

¹ from "Q Series Advantage™ Software Suite" – by TA Instruments

² from "Multiscope System – Microscope User's Reference" – by Perkin Elmer

³ from "Q Series Advantage™ Software Suite" – by TA Instruments

TEST REPORT

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doc. n°: REPLA330

Revision 0

Looking at the graph (annex 1) we can see the polystiren glass transition temperature and the melt temperature of an organic unknown additive.

The FTIR μ -ATR tests gave the following results:

Sample	Test Code	Annex N°
Small shot for toy gun	FTIR08_0272a	2

As determined by DSC measurements, the sample spectra (annex 2) the spectrum is linkable to the PS and to the barium sulphate (BaSO₄)⁴.

The TGA measurement on the sample gave the following results:

Sample	Test code	Residue	Annex n°
Small shot for toy gun	TGATA080321	73,72 %	3

The TGA test confirms the percentage of inorganic fillers.

The Heavy Metals tests gave the following results:

Sample	Test code	Results
Small shot for toy gun	TGATA080321	< 10ppm

The amount of heavy metals found is under the limits listed in the European Standard UNI EN 71-3.

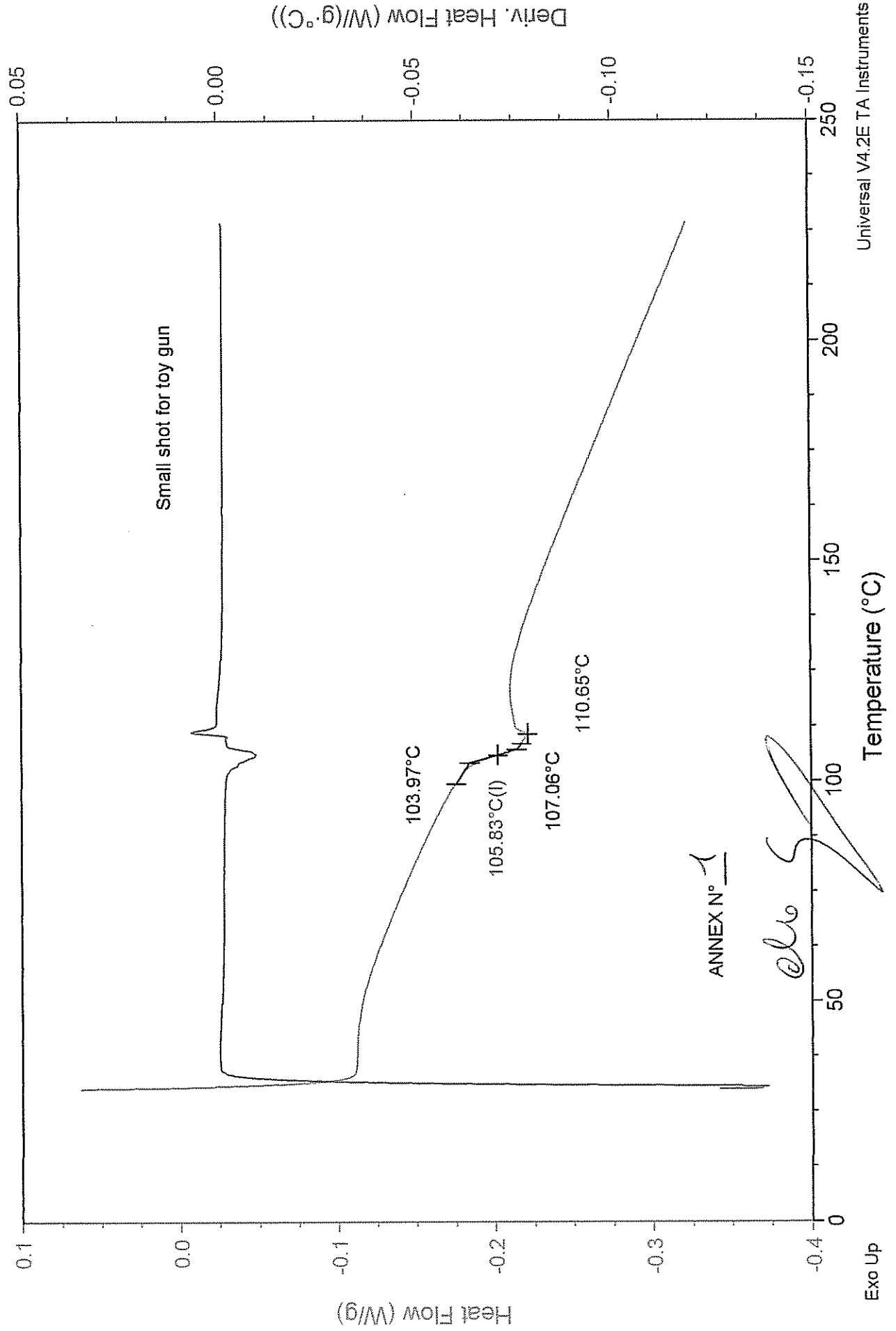
TEST	OPERATOR	SIGN
DSCTA080271;	Arrobbio E.	
FTIR08_0272a	Sarra A.	
TGATA080321	Arrobbio E.	
TEST REPORT 2008002778/LAB	REDOX S.n.c.	

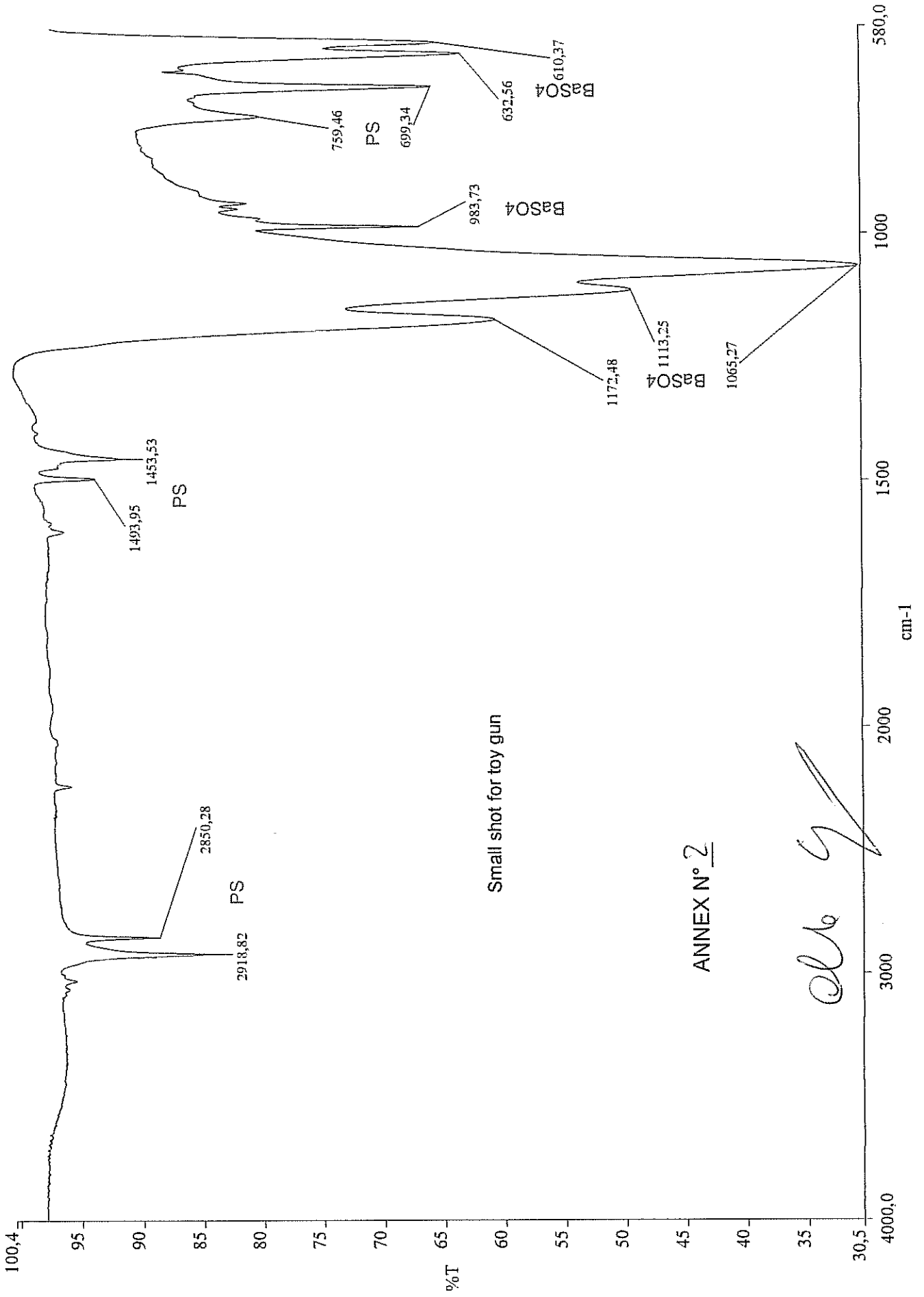
⁴ From database <http://webbook.nist.gov>

Sample: DSCTA080271
Size: 6.7000 mg
Method: 30 to 230 ; 10Cmin ; doppio
Comment: REPLA330_QBS TRADE_Pallini per pistola giocattolo

DSC

File: \\...IDSC TA080271_AN_2ND_HEAT.001
Operator: Arrobbio
Run Date: 15-Jul-2008 15:13
Instrument: DSC Q2000 V24.2 Build 107





File: \\... \repla330\TGATA080321_AN.001
Operator: Arrobbio
Run Date: 15-Jul-2008 10:07
Instrument: TGA Q500 V6.7 Build 203

TGA

Sample: TGATA080321
Size: 16.3500 mg
Method: determinazione ceneri 10C min
Comment: REPLA330_Pallini per pistola giocattolo

