



Test Report

APPLICANT : **TRUDI S.p.A.**
Via A. Angeli, 150
33017 Tarcento (Udine) - Italia

CONTACT PERSON : Ms. Carol Hoefken

SAMPLE DESCRIPTION : 81844 MINI PULL ALONG ZEBRA, 81845 MINI PULL ALONG GIRAFFE,
81848 MINI PULL ALONG COW
ITEM NO.: 81844, 81845, 81848
SUPPLIER: TAIZHOU GONGMEI GIFTS CO. LTD.
DIMENSIONS: X=135mm; Y=75mm; Z=150mm



DATE OF SUBMISSION : 2010-11-29

TESTING PERIOD : 2010-11-30 To 2010-12-28

LABELED AGE GRADING : 1+

AGE GRADING FOR TESTING : 10months+

Dr. Ing. Alain Curti
Director

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Test Report

SUMMARY OF TEST RESULTS			
Test requested	Pass	Fail	Remark
EN 71-1:2005+A9:2009 "Safety of toys – Part 1: Mechanical and physical properties"		X	
EN 71-2:2006+A1:2007 "Safety of toys – Part 2: Flammability"	X		
EN71-3:1994/ A1:2000/ AC:2000/ AC:2002 "Safety of toys – Part 3: Migration of certain elements"	X		
Resistance to Saliva and Perspiration in accordance with DIN 53160	X		
Cadmium on plastic and its compounds in accordance with point 23 of the Annex XVII of the Regulation (EC) no. 1907/2006 (REACH) and further amendments	X		
Lead and Cadmium and its compounds in accordance with points 16, 17 and 23 of the Annex XVII of the Regulation (EC) no. 1907/2006 (REACH) and further amendments	X		
Phthalates content in accordance with points 51 and 52 of the Annex XVII of the Regulation (EC) no. 1907/2006 (REACH) and further amendments	X		
Diisobutyl phthalate (DIBP) content in accordance with European Directive 88/378/EEC regarding Safety Toys	X		
Azodyes in accordance with point 43 of the Annex XVII of the Regulation (EC) no. 1907/2006 (REACH) and further amendments	X		
EN 71-9 "Safety of Toys – Part: 9 Organic chemical compounds – requirements requested for the following Specific Toy / Toy Component - Determination of Formaldehyde release on wood components	X		
Determination of pentachlorophenol in accordance with point 22 of the Annex XVII of the Regulation (EC) no. 1907/2006 (REACH) and further amendments	X		

EXPLANATION OF THE ABBREVIATIONS FOR EN71 PART 1 AND 2

SYMBOL	EXPLANATION	SYMBOL	EXPLANATION
F	The samples are NOT IN COMPLIANCE with the requirement of this subclause	NE	Not Evaluated
P	The samples are IN COMPLIANCE with the requirement of this subclause	NPR	Not Present
NA	Not Applicable	PR	Present
NR	Not Requested	R	Refer to the Comment Section



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1. MECHANICAL & PHYSICAL PROPERTIES (EN 71-1:2005+A9:2009)

RESULTS:

SUBCLAUSE	REQUIREMENT	RESULT
4	GENERAL REQUIREMENTS	P
4.1	Material	P
4.2	Assembly	NA
4.3	Flexible plastic sheeting	NA
4.4	Toy Bags	NA
4.5	Glass	NA
4.6	Expanding materials	NA
4.7	Edges	P
4.8	Points and metallic wires	P
4.9	Protruding parts	P
4.10	Parts moving against each other	NA
4.11	Mouth actuated toys	NA
4.12	Balloons	NA
4.13	Cords of toy kites and other flying toys	NA
4.14	Enclosures	NA
4.15	Toys intended to bear the mass of a child	NA
4.16	Heavy immobile toys	NA
4.17	Projectiles	NA
4.18	Aquatic toys	NA
4.19	Percussion caps specifically designed for use in toys and toys using percussion caps	NA
4.20	Acoustics	p* ¹
4.21	Toys containing a non-electrical heat source	NA
4.22	Small balls	P
4.23	Magnets	NA



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*1=	C-weighted peak emission sound pressure level of mini pull along zebra = 87.2dB (Maximum allowed 115dB) C-weighted peak emission sound pressure level of mini pull along giraffe = 88.4dB (Maximum allowed 115dB) C-weighted peak emission sound pressure level of mini pull along cow = 88.6dB (Maximum allowed 115dB)
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SUBCLAUSE	REQUIREMENT	RESULT
5	TOYS INTENDED FOR CHILDREN UNDER 36 MONTHS	F
5.1	General Requirements	F* ²
5.2	Filling materials	NA
5.3	Plastic sheeting	NA
5.4	Cords on toys	P
5.5	Liquid-filled toys	NA
5.6	Speed limitation of electrically driven toys	NA
5.7	Glass and porcelain	NA
5.8	Shape and size of certain toys	NA
5.9	Toys comprising monofilament fibres	NA
5.10	Small balls	P
5.11	Play figures	NA
5.12	Hemispheric-shaped toys	NA
5.13	Suction cups	NA
6	PACKAGING	NA



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SUBCLAUSE	REQUIREMENT	RESULT
7	WARNINGS AND INSTRUCTIONS FOR USE	P
7.1	General	P
7.2	Toys not intended for children under 36 months	NA
7.3	Latex balloons	NA
7.4	Aquatic toys	NA
7.5	Functional toys	NA
7.6	Hazardous sharp functional edges and points	NA
7.7	Projectiles	NA
7.8	Imitation protective masks and helmets	NA
7.9	Toy kites	NA
7.10	Roller skates, inline skates and toy skateboards	NA
7.11	Toys intended to be strung across a cradle, cot, or perambulator	NA
7.12	Liquid-filled teethingers	NA
7.13	Percussion caps specifically designed for use in toys	NA
7.14	Acoustics	NA
7.15	Toy bicycles	NA
7.16	Toys intended to bear the mass of a child	NA
7.17	Toys comprising monofilament fibres	NA
7.18	Toy scooters	NA
7.19	Rocking horses and similar toys	NA
7.20	Magnetic/electrical experimental sets	NA

NON-COMPLIANCES concerning physical and mechanical requirements of EN71-1

^{*)} Cl.5.1 General Requirements

After the soaking test, the painting of the samples were released at 8N during tension test that presenting a small parts.



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2. FLAMMABILITY PROPERTIES (EN 71-2:2006+A1:2007)

RESULTS:

SUBCLAUSE	REQUIREMENT	RESULT
4	REQUIREMENTS	P
4.1	General	P
4.2	Toys to be worn on the head	NA
4.3	Toy disguise costumes and toys intended to be worn by child in play	NA
4.4	Toys intended to be entered by a child	NA
4.5	Soft-filled toys with a piled or textile surface	NA

IDENTIFICATION PARTS			
No.	Description	Position	Color
1	Polymeric material	On wheel (81844/81845/81848)	Transparent O-ring (Silicone Rubber)
2	Polymeric material	Washer - between the wheel & body (81844/81845/81848)	Plastic washer 0.5mm, White (Plastic)
3	Textile material	On zebra (81844); on giraffe (81845)	Cord 3mm, 1505c Orange (Nylon) (result transfer from 09-5515#1)
4	Textile material	On cow (81848)	Cord 3mm, 203c Lt.pink (Nylon)
5	Textile material	Ear / on neck (81845)	Felt 1.5mm, 1235c Orange (Polyester)
6	Textile material	On neck (81845)	Felt 1.5mm , 1375c Orange (Polyester) (EN71-3 result transfer form IISG09-53588, Saliva and Sweat/ azo dye result transfer from IISG09-53589)
7	Textile material	On neck (81844)	Felt 1.5mm, Black (Polyester)
8	Textile material	Ear / on neck (81844); on neck (81848)	Felt 1.5mm, White (Polyester) (EN71-3 result transfer form IISG09-53588, azo dye result transfer from IISG09-53589)
9	Textile material	Ear / on neck (81848)	Felt 1.5mm, 211c Pink (Polyester)
10	Textile material	Horn (81845)	Felt 3mm, 1505c Orange (Polyester) (EN71-3/ azo dye result transfer from 10-7959#3)
11	Textile material	Tail (81845)	String 5mm , 116c Dk.yellow (Nylon)
12	Textile material	Tail (81844)	String 5mm, Black (Nylon)
13	Textile material	Tail (81848)	String 5mm, Natural (Nylon)
14	Coating material	Face/ body (81845)	107c Yellow (NC varnish) (result transfer from 09-22#7)
15	Coating material	Face/ body (81845)	1235c Orange (NC varnish) (EN71-3 result transfer from IISG09-

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IDENTIFICATION PARTS			
No.	Description	Position	Color
			12079#15; Total lead and cadmium result transfer from 09-4927R#9)
16	Coating material	Face/ body (81845)	1375c Orange (NC varnish)
17	Coating material	Cheek/ face/ wheel (81844/81845) & Cheek (81848)	1505c Orange (NC varnish) (EN71-3 result transfer from IISG10-12315#9)
18	Coating material	Wheel (81845)	172c Dk.orange (NC varnish) (EN71-3 result transfer from IISG10-12315#10)
19	Coating material	Face (81848)	203c Lt.pink (NC varnish) (result transfer from 10-7957#11)
20	Coating material	Face/ wheel (81848)	211c Pink (NC varnish) (EN71-3 result transfer from IISG10-12315#12)
21	Coating material	Wheel (81848)	213c Dk.pink (NC varnish) (EN71-3 result transfer from IISG10-12315#13)
22	Coating material	Eye (81844/81845/81848)	428c Lt.grey (NC varnish) (result transfer from 09-22#16)
23	Coating material	Mouth / wheel (81844) & Mouth (81845/81848)	485c Red (NC varnish) (result transfer from 10-7957#18)
24	Coating material	Eye/face /body (81844); Eye (81845) & Eye/ code at the bottom (81848)	Black (NC varnish) (EN71-3 result transfer from IISG09-28204#17)
25	Coating material	Eye/ face / body (81844/81848) & Eye (81845)	White (NC varnish) (result transfer from 09-22#4)
26	Other material	All (81844/81845/81848)	Lt. brown (Birch wood) (EN71-3 result transfer from IISG09-53588; Formaldehyde/ PCP result transfer from IISG09-53589)



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RESULTS:

3. Migration of certain elements

Method: European Standard EN71-3:1994/ A1:2000/ AC:2000/ AC:2002

Instrument: ICP-Plasma Spectrometer

Principle: The soluble elements are extracted by hydrochloric acid 0.07N and determined spectrometrically

Parts	mg	Pb	Cd	Cr	Ba	Sb	As	Se	Hg
1		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
3	29.5	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
5		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
6		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
7		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
8		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
9		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
10		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
11		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
12		< 10	< 10	< 10	15	< 10	< 10	< 10	< 10
13		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
14		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
15		< 10	< 10	< 10	61	< 10	< 10	< 10	< 10
16	17.3	< 10	< 10	< 10	100	< 10	< 10	< 10	< 10
17		< 10	< 10	< 10	72	< 10	< 10	< 10	< 10
18		< 10	< 10	< 10	18	< 10	< 10	< 10	< 10
19		< 10	< 10	< 10	100	< 10	< 10	< 10	< 10
20		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
21		< 10	< 10	< 10	14	< 10	< 10	< 10	< 10
22		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
23	17.0	< 10	< 10	< 10	58	< 10	< 10	< 10	< 10
24		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
25		< 10	< 10	< 10	16	< 10	< 10	< 10	< 10
26		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Limits		90	75	60	1000	60	25	500	60

Note: The results are expressed in mg/kg. The symbol < followed by a number indicates that the concentration of the element is less than the detection limit expressed by that number. The value in mg following a part indicates the part quantity used for the test. It is indicated only if the part present in the sample is less than 100 mg (See EN 71/3 - Par. 10) The elements determined are: Pb - Soluble Lead; Cr - Soluble Chromium; Hg - Soluble Mercury; Sb - Soluble Antimony; Cd - Soluble Cadmium; Ba - Soluble Barium; Se - Soluble Selenium; As - Soluble Arsenic.



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4.	Saliva and Perspiration Resistance
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Method: DIN 53160-1 & DIN 53160-2 (German Test Method, Section 35 LMBG 82.10-1 June 1985)

Instrument: Usual Laboratory Equipment

Principle: The sample is put in contact with artificial saliva and perspiration (2 hrs at 40°C), considered the discoloration of the sample and the possible colour migration is observed.

Parts	Saliva	Perspiration
3	Grade 5	Grade 5
4	Grade 5	Grade 5
5	Grade 5	Grade 5
6	Grade 5	Grade 5
7	Grade 5	Grade 5
9	Grade 5	Grade 5
10	Grade 5	Grade 5
11	Grade 5	Grade 5
12	Grade 5	Grade 5
13	Grade 5	Grade 5
14	Grade 5	Grade 5
15	Grade 5	Grade 5
16	Grade 5	Grade 5
17	Grade 5	Grade 5
18	Grade 5	Grade 5
19	Grade 5	Grade 5
20	Grade 5	Grade 5
21	Grade 5	Grade 5
22	Grade 5	Grade 5
23	Grade 5	Grade 5
24	Grade 5	Grade 5
25	Grade 5	Grade 5
Limits	Not less of Grade 4-5 Grey scale	Not less of Grade 4-5 Grey scale



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5. Total Cadmium Content on plastic

Method: EN 1122:2001 (method B)

Instrument: Inductively Coupled Argon Plasma Atomic Emission Spectrophotometer

Principle: The sample was dissolved by sulfuric acid and hydrogen peroxide treatment and analyzed by ICP-Inductively Coupled Plasma

Parts	Single measurement 1
1	< 20 mg/kg
2	< 20 mg/kg
Limits	100 mg/kg

Note: The results are expressed in mg/kg. The symbol < followed by a number indicates that the concentration is less than the detection limit expressed by that number.

6. Total Lead and Cadmium Content

Method: EN 1122:2001 (method B)

Instrument: Inductively Coupled Argon Plasma Atomic Emission Spectrophotometer

Principle: The sample was dissolved by sulfuric acid and hydrogen peroxide treatment and analyzed by ICP-Inductively Coupled Plasma

Parts	Lead	Cadmium
14	< 20 mg/kg	< 20 mg/kg
15	< 20 mg/kg	< 20 mg/kg
16+17	< 20 mg/kg	< 20 mg/kg
18+21	< 20 mg/kg	< 20 mg/kg
19	< 20 mg/kg	< 20 mg/kg
20+24	< 20 mg/kg	< 20 mg/kg
22	< 20 mg/kg	< 20 mg/kg
23	< 20 mg/kg	< 20 mg/kg
25	< 20 mg/kg	< 20 mg/kg
Limits	Not Detectable (< 20 mg/kg)	100 mg/kg

Note: The results are expressed in mg/kg. The symbol < followed by a number indicates that the concentration is less than the detection limit expressed by that number.



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7. Plasticized material - Determination of plasticizers (Phthalates)

Method: EN 14372:2004 (point 6.3.2)
 Instrument: Gaschromatograph with mass detector
 Principle: Solvent extraction, followed by gaschromatograph analysis

Parts	DEHP	DBP	BBP	DINP	DNOP	DIDP
1	< 0.01%	< 0.01%	< 0.01%	< 0.01%	< 0.01%	< 0.01%
2	< 0.01%	< 0.01%	< 0.01%	< 0.01%	< 0.01%	< 0.01%
Limits	0.1% (w/w) max for all plasticized material in Toys and childcare articles			0.1% (w/w) max for all plasticized material in Toys and Childcare articles which can be placed in the mouth by children		

Note: The results are expressed in % (percentage weight). The symbol < followed by a number indicates that the concentration of the element is less than detection limit expressed by that number. The phthalates determined are:
 DINP: Diisononylphthalate DEHP: Bis(2-ethylhexyl)phthalate DBP: dibutylphthalate DIDP: Diisodecylphthalate
 DNOP: Dioctylphthalate BBP: Benzylbutylphthalate.

8. Determination of Diisobutyl phthalate (DIBP)

Method: EN 14372:2004 (point 6.3.2)
 Instrument: Gaschromatograph with mass detector
 Principle: Solvent extraction, followed by gaschromatograph analysis

Parts	DIBP
1	< 0.01%
2	< 0.01%
Limits	0.1% (w/w) max for all plasticized material in Toys and childcare articles

Note: The results are expressed in % (percentage weight). The symbol < followed by a number indicates that the concentration of the element is less than the detection limit expressed by that number. The phthalates determined are:
 DIBP: Diisobutyl phthalate.



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9. Determination of certain Azo-dyes

Method: EN 14362-1/2:2003

Instrument: H.P.L.C. with DAD detector - GC with MS detector.

Principle: The sample is treated pH 6, 70°C and analyzed by H.P.L.C. with DAD detector and GC with MS detector

			Parts			
N.	Name of Amines	CAS N.	3	4+11+13	5+7	6
1	4-Aminodiphenyl	92-67-1	ND	ND	ND	ND
2	Benzidine	92-87-5	ND	ND	ND	ND
3	4-Chloro-o-Toluidine	95-69-2	ND	ND	ND	ND
4	2-Naphthylamine	91-59-8	ND	ND	ND	ND
5	o-Aminoazotoluene	97-56-3	ND	ND	ND	ND
6	2-Amino-4-Nitrotoluene	99-55-8	ND	ND	ND	ND
7	p-Chloroaniline	106-47-8	ND	ND	ND	ND
8	2,4-Diaminoanisole	615-05-4	ND	ND	ND	ND
9	4,4'-Diaminodiphenylmethane	101-77-9	ND	ND	ND	ND
10	3,3'-Dichlorobenzidine	91-94-1	ND	ND	ND	ND
11	3,3'-Dimethoxybenzidine	119-90-4	ND	ND	ND	ND
12	3,3'-Dimethylbenzidine	119-93-7	ND	ND	ND	ND
13	3,3'-Dimethyl-4,4'-Diaminodiphenylmethane	838-88-0	ND	ND	ND	ND
14	p-Cresidine	120-71-8	ND	ND	ND	ND
15	4,4'-Methylene-bis-(2-Chloroaniline)	101-14-4	ND	ND	ND	ND
16	4,4'-Oxydianiline	101-80-4	ND	ND	ND	ND
17	4,4'-Thiodianiline	139-65-1	ND	ND	ND	ND
18	o-Toluidine	95-53-4	ND	ND	ND	ND
19	2,4'-Toluylenediamine	95-80-7	ND	ND	ND	ND
20	2,4,5-Trimethylaniline	137-17-7	ND	ND	ND	ND
21	o-Anisidine	90-04-0	ND	ND	ND	ND
22	4-Aminoazobenzene	60-09-3	ND	ND	ND	ND

Limit

30 ppm

Note:
 Method detection limit = 10 ppm
 ppm denotes part(s) per million
 ND denotes Non Detected

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			Parts			
N.	Name of Amines	CAS N.	8	9	10	12
1	4-Aminodiphenyl	92-67-1	ND	ND	ND	ND
2	Benzidine	92-87-5	ND	ND	ND	ND
3	4-Chloro-o-Toluidine	95-69-2	ND	ND	ND	ND
4	2-Naphthylamine	91-59-8	ND	ND	ND	ND
5	o-Aminoazotoluene	97-56-3	ND	ND	ND	ND
6	2-Amino-4-Nitrotoluene	99-55-8	ND	ND	ND	ND
7	p-Chloroaniline	106-47-8	ND	ND	ND	ND
8	2,4-Diaminoanisole	615-05-4	ND	ND	ND	ND
9	4,4'-Diaminodiphenylmethane	101-77-9	ND	ND	ND	ND
10	3,3'-Dichlorobenzidine	91-94-1	ND	ND	ND	ND
11	3,3'-Dimethoxybenzidine	119-90-4	ND	ND	ND	ND
12	3,3'-Dimethylbenzidine	119-93-7	ND	ND	ND	ND
13	3,3'-Dimethyl-4,4'-Diaminodiphenylmethane	838-88-0	ND	ND	ND	ND
14	p-Cresidine	120-71-8	ND	ND	ND	ND
15	4,4'-Methylene-bis-(2-Chloroaniline)	101-14-4	ND	ND	ND	ND
16	4,4'-Oxydianiline	101-80-4	ND	ND	ND	ND
17	4,4'-Thiodianiline	139-65-1	ND	ND	ND	ND
18	o-Toluidine	95-53-4	ND	ND	ND	ND
19	2,4'-Toluylenediamine	95-80-7	ND	ND	ND	ND
20	2,4,5-Trimethylaniline	137-17-7	ND	ND	ND	ND
21	o-Anisidine	90-04-0	ND	ND	ND	ND
22	4-Aminoazobenzene	60-09-3	ND	ND	ND	ND
Limit			30 ppm			
Note: Method detection limit = 10 ppm ppm denotes part(s) per million ND denotes Non Detected						



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10. Determination of Formaldehyde release

Method: EN 717-3:1996

Instrument: Spectrophotometer (Wavelength 412 nm)

Principle: A weighed wood based panel specimen is suspended over water in a closed container. The container is placed in an oven at a controlled temperature for a specified length of time. The amount of formaldehyde absorbed by the water is then determined colorimetrically.

Parts	Extracted Formaldehyde (mg/kg)
26	< 20 mg/kg
Limits	80 mg/kg

Note: The results are expressed in mg/kg. The symbol < followed by a number indicates that the concentration of the substance is less than the detection limit expressed by that number.

11. Determination of pentachlorophenol

Method: UNI 11057 : 2003 mod.

Instrument: Gas Chromatograph - Mass Detector (MS)

Principle: Solvent extraction followed by chromatographic analysis

Parts	Pentachlorophenol
26	< 1 mg/kg
Limits	1000 mg/kg

Note: The results are expressed in mg/kg. The symbol < followed by a number indicates that the concentration of the Pentachlorophenol content is less than the detection limit expressed by that number.

*****END OF TEST REPORT*****