



Test Report

APPLICANT : **TRUDI S.p.A.**
Via A. Angeli, 120
33017 Tarcento (Udine) - Italia

CONTACT PERSON : Ms. Carol Hoefken

SAMPLE DESCRIPTION : SORTING CUBE ANIMALS
ITEM NO.: 82283
SUPPLIER: ZHEJIANG HEXIN TOYS CO. LTD
DIMENSIONS: X=180mm; Y=180mm; Z=115mm



DATE OF SUBMISSION : 2009-11-16

TESTING PERIOD : 2009-11-17 To 2009-12-07

LABELED AGE GRADING : 1year+

AGE GRADING FOR TESTING : 10months+



Approval Laboratory Signature

Dr. Ing. Alain Curti
Director

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Test Report

SUMMARY OF TEST RESULTS

Test requested	Pass	Fail	Remark
EN 71-1:2005+A8:2009 "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		
Total lead and cadmium content in accordance with European Regulation (EC) No 1907/2006 (REACH) Annex XVII, Point 16, 17 and 23	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



Test Report

1. MECHANICAL & PHYSICAL PROPERTIES (EN 71-1:2005+A8:2009)

RESULTS:

<u>SUBCLAUSE</u>	<u>REQUIREMENT</u>	<u>RESULT</u>
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	NA
4.21	Toys containing a non-electrical heat source	NA
4.22	Small balls	NA
4.23	Magnets	NA



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SUBCLAUSE	REQUIREMENT	RESULT
5	TOYS INTENDED FOR CHILDREN UNDER 36 MONTHS	P
5.1	General Requirements	P
5.2	Filling materials	NA
5.3	Plastic sheeting	NA
5.4	Cords on toys	NA
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	NA
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 teethers	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



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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	Coating material	Lion/ block	1235C Orange (result transfer from 09-312#13)
2	Coating material	Lion/ zebra	1375C Orange (result transfer from ICQG08-3540#34)
3	Coating material	Lion/ zebra/ block	1505C Dk. orange (result transfer from ICQG08-3540#46)
4	Coating material	Lion/ zebra	172C Dk. orange (result transfer from ICQG08-3540#30)
5	Coating material	Hippo	1985C Pink
6	Coating material	Hippo	210C Pink
7	Coating material	Hippo/ block	213C Dk. pink (result transfer from 09-5931 #5)
8	Coating material	Base board	2727C Blue
9	Coating material	Crocodile	360C Green
10	Coating material	Crocodile	374C Lt. green
11	Coating material	Crocodile	375C Green
12	Coating material	Top board	382C Lt. green
13	Coating material	Block	485C Red (result transfer from 09-312#23)
14	Coating material	Hippo/ lion/ crocodile/ zebra	Black
15	Coating material	Zebra	Cool Grey 9C
16	Coating material	Hippo/ lion/ crocodile/ zebra	White (result transfer from 09-312#10)
17	Other material	All	Light brown wood (result transfer from 09-761#16)



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RESULTS:

3.	Migration of certain elements
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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	27.1	< 10	< 10	< 10	214	< 10	< 10	< 10	< 10
2		< 10	< 10	< 10	172	< 10	< 10	< 10	< 10
3		< 10	< 10	< 10	56	< 10	< 10	< 10	< 10
4		< 10	< 10	< 10	32	< 10	< 10	< 10	< 10
5	38.1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
6	10.6	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
7		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
8	81.2	< 10	< 10	< 10	13	< 10	< 10	< 10	< 10
9	23.6	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
11	14.1	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
12		< 10	< 10	< 10	68	< 10	< 10	< 10	< 10
13	14.4	< 10	< 10	< 10	38	< 10	< 10	< 10	< 10
14	10.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
15	16.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
16		< 10	< 10	< 10	285	< 10	< 10	< 10	< 10
17		< 10	< 10	< 10	23	< 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.

The following coatings were insufficient to form testing material of 10mg; hence, they were not tested in accordance with the Standard:
Crocodile: 374C Lt. green



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4. Saliva and Perspiration Resistance

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
1	Grade 5	Grade 5
2	Grade 5	Grade 5
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
8	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
Limits	Not less of Grade 4-5 Grey scale	Not less of Grade 4-5 Grey scale



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5.	Total Lead and Cadmium Content
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Instrument: Inductively Coupled Argon Plasma Atomic Emission Spectrophotometer

Parts	Lead	Cadmium
1	< 20 mg/kg	< 20 mg/kg
2	< 20 mg/kg	< 20 mg/kg
3	< 20 mg/kg	< 20 mg/kg
4	< 20 mg/kg	< 20 mg/kg
5	< 20 mg/kg	< 20 mg/kg
6+8	< 20 mg/kg	< 20 mg/kg
7	< 20 mg/kg	< 20 mg/kg
9+10	< 20 mg/kg	< 20 mg/kg
11+12	< 20 mg/kg	< 20 mg/kg
13	< 20 mg/kg	< 20 mg/kg
14+15	< 20 mg/kg	< 20 mg/kg
16	< 20 mg/kg	< 20 mg/kg
Limits	Not Detectable	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.

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