

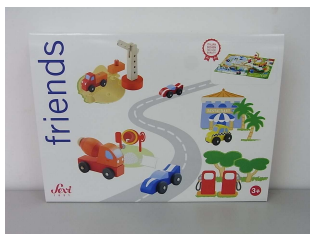


# Test Report

**APPLICANT** : **TRUDI SPA**  
Via Europa, 28  
22060 Cabiato (CO) – Italia

**CONTACT PERSON** : Ms. Carol Hoefken

**SAMPLE DESCRIPTION** : NEW TRAIN SET  
ITEM NO.: 82086  
SUPPLIER: SKY-BLUE GIFTS & TOYS CO., LTD.



**DATE OF SUBMISSION** : 2008-11-24, 2009-03-09

**TESTING PERIOD** : 2008-11-25 To 2009-01-05, 2009-03-10 To 2009-03-16

**LABELED AGE GRADING** : 36months+

**AGE GRADING FOR TESTING** : As declared by the client

**REMARK** : Retest of 09-24.



Rapporto revisionato e approvato da  
(Report revised and approved by  
*Elena Gavazza*  
Dott.ssa Elena Gavazza  
Direttore tecnico  
Technical Director  
Istituto Italiano Sicurezza dei Giocattoli  
Direttiva 88/378 Sicurezza dei Giocattoli  
Directive 88/378 on Toys Safety

Approval Laboratory Signature

Approval Laboratory Signature

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# Test Report

SUMMARY OF TEST RESULTS			
Test requested	Pass	Fail	Remark
EN71-1:2005 and amendment A6:2008 "Safety of toys – Part 1: Mechanical and physical properties"	X		
EN71-2:2006 and amendment A1:2007 "Safety of toys – Part 2: Flammability"	X		
Tests required to assess the safety of the magnetic part of the toy	X		
EN71-3:1994 and amendments A1:2000+AC:2002 "Safety of toys – Part 3: Migration of certain elements"	X		
Resistance to Saliva and Perspiration (DIN 53160)	X		
Cadmium on plastic (EN1122) according to Directive 91/338/EEC	X		
Cadmium on Synthetic fibres (EN1122) according to Directive 91/338/EEC	X		
Definition total Lead and cadmium on paint	X		
Total phthalates content according to European Directive 2005/84/EC	X		
Determination of certain Azo Dye Aromatic Amines according to European Directive 2002/61/EC	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 (EN71-1:2005 and Amendment A6:2008)

### 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	NA
4.21	Toys containing a non-electrical heat source	NA
4.22	Small balls	P
5	TOYS INTENDED FOR CHILDREN UNDER 36 MONTHS	NA
6	PACKAGING	NA



# Test Report

<u>SUBCLAUSE</u>	<u>REQUIREMENT</u>	<u>RESULT</u>
<b>7</b>	<b>WARNINGS AND INSTRUCTIONS FOR USE</b>	<b>P</b>
7.1	General	P
7.2	Toys not intended for children under 36 months	P
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

## 2. FLAMMABILITY PROPERTIES (EN71-2:2006 and Amendment A1:2007)

### RESULTS:

<u>SUBCLAUSE</u>	<u>REQUIREMENT</u>	<u>RESULT</u>
<b>4</b>	<b>REQUIREMENTS</b>	<b>P</b>
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

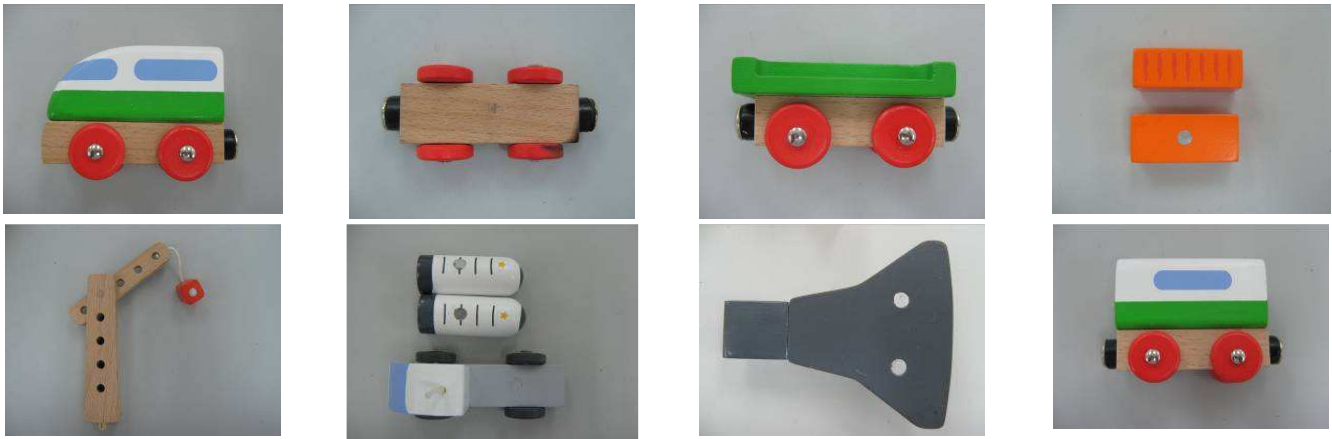


# Test Report

## 3. TESTS REQUIRED TO ASSESS THE SAFETY OF THE MAGNETIC PART OF THE TOY

### 1. Magnetic parts:

We have tested the following parts:



### 2. Toy classification:

Toy which consists of or contains embedded magnets or magnetic components (cl.3)

### 3. Abuse tests:

If the toy consists of or contains one or more embedded magnets or magnetic components which are not small parts (cl.4) it shall be tested to verify the accessibility of magnets under normal or reasonably foreseeable conditions of use by children, submitting the samples to the following tests in the listed sequence:



## Test Report

Sequence	Test	Description	Magnet detachment [yes/no/NA]
0	SOAKING TEST ( <i>only for Wooden toys, toys intended to be used in water, mouth actuated toys</i> ) (EN71-1)	According to § 8.9	NO
1	TORQUE TEST (EN71-1)	According to § 8.3	NO
2	TENSION TEST, GENERAL (EN71-1)	According to § 8.4.2.1	NO
3	TENSION TEST, SEAMS AND MATERIALS (EN71-1)	According to § 8.4.2.2	NA
4	DROP TEST (EN71-1)	According to § 8.5	NO
5	IMPACT TEST (EN71-1)	According to § 8.7	NO
6	COMPRESSION TEST (EN71-1)	According to § 8.8	NO
7	NON GRIPPABLE BUT ACCESSIBLE MAGNETS TEST	Try to detach the magnet with a 30mm nickel disk (single magnet toys) or with the most onerous magnet in the toy (multiple magnet toys) for 10 times	NO

#### 4. Measurement of the size of the loose as received magnets/magnetic components and of the detached magnets/magnetic components during the tests of cl. 3 (if any):

No magnets detach from the toy

#### 5. Warning for magnetic toys

The warning is not required (no small part magnets/magnetic components)

#### 6. Final evaluation

The toy complies with Commission decision 2008/329/EC:

Toy which consists of or contains embedded magnets or magnetic components which do not detach during the abuse tests.



# Test Report

IDENTIFICATION PARTS			
No.	Description	Position	Color
1	Paper and cardboard	Cover for cardboard	White paper with green/grey/blue/red printed
2	Paper and cardboard	Base for cardboard	Brown printed paper
3	Paper and cardboard	Cardboard	Brown cardboard
4	Polymeric material	Track	Beige
5	Coating material	Shuttle with Refueling Truck (82125)/ Machine(82129)/ School bus (82120)/ Crane with Truck (82126)	1505 orange (Transfer result from 08-3540 # 46)
6	Coating material	Shuttle with Refueling Truck (82125)/ Machine (82129)/ Crane with Truck (82126) / Machine (82129)	172 dk. orange (Transfer result from 08-3540 # 30)
7	Coating material	Cars (Assort 3 pcs.) (82128)	361 green (transfer result from 09-21 #3)
8	Coating material	Fire Engine (82119)/ F1 Cars (Ass. 2pcs.) (82124)/ Ambulance (82118)/ Machine (82129)/ Cars (Assort 3 pcs.) (82128)/ Crane with Truck (82126)/ Airplane (82122)/ Police Car (82117)/ Cruiselinier (82123)	485 red (Transfer result from 07-1097 # k)
9	Coating material	Fire Engine (82119)/ F1 Cars (Ass. 2pcs.) (82124)/ Shuttle with Refueling Truck (82125)/ Ambulance (82118)/ Machine (82129)/ Helicopter yellow (82121)/ Cars (Assort 3 pcs.) (82128)/ Crane with Truck (82126)/ Airplane (82122)/ Police Car (82117)/ Cruiselinier (82123)/ Cars (Assort 3 pcs.) (82128)	7451 It. blue (Transfer result from 07-1097 # g)
10	Coating material	Fire Engine (82119)/ Police Car (82117)/ Cruiselinier (82123)	7455 blue (transfer result form 09-21 #6)
11	Coating material	Shuttle with Refueling Truck (82125)	Cool grey 11 7451 It. blue (Transfer result from 07-1097 # f)
12	Coating material	Shuttle with Refueling Truck (82125)/ Machine (82129)/ Helicopter yellow (82121)/ Cars (Assort 3 pcs.) (82128)	1235 orange (Transfer result from 07-2933 # 7)
13	Coating material	School bus (82120)/ Helicopter yellow (82121)/ Police Car (82117)	116 yellow (Transfer result from 08-3540 # 23)
14	Coating material	Towing Truck with cars (82127)/ Machine (82129)	1375 orange (Transfer result from 08-3540 # 34)
15	Coating material	Fire Engine (82119)	7510 beige (Transfer result from 08-3540 # 45)
16	Coating material	Fire Engine (82119)/ F1 Cars (Ass. 2pcs.) (82124)/ Cruiselinier (82123)	White (Transfer result from 08-3540 # 26)
17	Coating material	Shuttle with Refueling Truck (82125)	420 It. grey (transfer result from 09-21 #13)



## Test Report

IDENTIFICATION PARTS			
No.	Description	Position	Color
18	Textile material	Cord (Shuttle with Refueling Truck (82125)/ Crane with Truck (82126))	White (Transfer result from 09-21 #14)
19	Other material	Wood (All styles)	Brown (Transfer result from 09-21 #15)
20	Polymeric material/ Textile material	Elastic band (Fire Engine)	White (Transfer result from 09-21 #16)
21	Polymeric material	Elastic band (Fire Engine)	White (Transfer result from 09-21 #17)
22	Textile material	Elastic band (Fire Engine)	White (Transfer result from 09-21 #18)
23	Polymeric material/ Textile material	Tape	White fabric with white glue at the base





# Test Report

## RESULTS:

### 4. Migration of certain elements

Method: European Standard EN 71- 3: 1994 + A1:2000 + 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	43	< 10	< 10	< 10	< 10
3		< 10	< 10	< 10	12	< 10	< 10	< 10	< 10
4		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
5		< 10	< 10	< 10	56	< 10	< 10	< 10	< 10
6		< 10	< 10	< 10	32	< 10	< 10	< 10	< 10
7	31.4	< 10	< 10	< 10	216	< 10	< 10	< 10	< 10
8		< 10	< 10	< 10	45	< 10	< 10	< 10	< 10
9		< 10	< 10	< 10	<10	< 10	< 10	< 10	< 10
10	33.9	< 10	< 10	< 10	62	< 10	< 10	< 10	< 10
11		< 10	< 10	< 10	<10	< 10	< 10	< 10	< 10
12		< 10	< 10	< 10	408	< 10	< 10	< 10	< 10
13		< 10	< 10	< 10	<10	< 10	< 10	< 10	< 10
14		< 10	< 10	< 10	172	< 10	< 10	< 10	< 10
15		< 10	< 10	< 10	179	< 10	< 10	< 10	< 10
16		< 10	< 10	< 10	<10	< 10	< 10	< 10	< 10
17	35.0	< 10	< 10	< 10	<10	< 10	< 10	< 10	< 10
18		< 10	< 10	< 10	<10	< 10	< 10	< 10	< 10
19		< 10	< 10	< 10	<10	< 10	< 10	< 10	< 10
20		< 10	< 10	< 10	24	< 10	< 10	< 10	< 10
23		< 10	< 10	< 10	<10	< 10	< 10	< 10	< 10
<b>Limits</b>		<b>90</b>	<b>75</b>	<b>60</b>	<b>1000</b>	<b>60</b>	<b>25</b>	<b>500</b>	<b>60</b>

Note: The results expressed are 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.



# Test Report

**5. 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
17	Grade 5	Grade 5
18	Grade 5	Grade 5
22	Grade 5	Grade 5
23	Grade 5	Grade 5
<b>Limits</b>	<b>Not less of Grade 4-5 Grey scale</b>	<b>Not less of Grade 4-5 Grey scale</b>

**6. Cadmium on plastic according to Directive 91/338/EEC**

Instrument: Inductively Coupled Argon Plasma Atomic Emission Spectrophotometer

Parts	Single measurement 1
4	<20 mg/kg
21	<20 mg/kg
23	<20 mg/kg
<b>Limit</b>	<b>100 mg/kg</b>



# Test Report

**7. Cadmium on synthetic fibre according to Directive 91/338/EEC**

Instrument: Inductively Coupled Argon Plasma Atomic Emission Spectrophotometer

Parts	Single measurement 1
18	<20 mg/kg
22	<20 mg/kg
<b>Limit</b>	<b>100 mg/kg</b>

**8. Definition of total Content of Lead and Cadmium on paint**

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
5	<20 mg/kg	<20 mg/kg
6	<20 mg/kg	<20 mg/kg
7	<20 mg/kg	<20 mg/kg
8	<20 mg/kg	<20 mg/kg
9	<20 mg/kg	<20 mg/kg
10	<20 mg/kg	<20 mg/kg
11	<20 mg/kg	<20 mg/kg
12	<20 mg/kg	<20 mg/kg
13	<20 mg/kg	<20 mg/kg
14	<20 mg/kg	<20 mg/kg
15	<20 mg/kg	<20 mg/kg
16	<20 mg/kg	<20 mg/kg
17	<20 mg/kg	<20 mg/kg
<b>Limit</b>	<b>Not Detectable</b>	<b>100mg/kg</b>

Note:  
 The results expressed are 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.



# Test Report

<b>9.</b>	<b>Plasticized material - Determination of plasticizers (Phthalates)</b>
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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
4	< 0.005%	< 0.005%	< 0.005%	< 0.005%	< 0.005%	< 0.005%
<b>Limits</b>	<b>0.1% (w/w) max for all plasticized material in Toys and childcare articles</b>			<b>0.1% (w/w) max for all plasticized material in Toys and Childcare articles which can be placed in the mouth by children</b>		

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



# Test Report

<b>10.</b>	<b>Determination of certain Azo-dyes</b>
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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.	23
1	4-Aminodiphenyl	92-67-1	ND
2	Benzidine	92-87-5	ND
3	4-Chloro-o-Toluidine	95-69-2	ND
4	2-Naphthylamine	91-59-8	ND
5	o-Aminoazotoluene	97-56-3	ND
6	2-Amino-4-Nitrotoluene	99-55-8	ND
7	p-Chloroaniline	106-47-8	ND
8	2,4-Diaminoanisole	615-05-4	ND
9	4,4'-Diaminodiphenylmethane	101-77-9	ND
10	3,3'-Dichlorobenzidine	91-94-1	ND
11	3,3'-Dimethoxybenzidine	119-90-4	ND
12	3,3'-Dimethylbenzidine	119-93-7	ND
13	3,3'-Dimethyl-4,4'-Diaminodiphenylmethane	838-88-0	ND
14	p-Cresidine	120-71-8	ND
15	4,4'-Methylene-bis-(2-Chloroaniline)	101-14-4	ND
16	4,4'-Oxydianiline	101-80-4	ND
17	4,4'-Thiodianiline	139-65-1	ND
18	o-Toluidine	95-53-4	ND
19	2,4'-Toluylenediamine	95-80-7	ND
20	2,4,5-Trimethylaniline	137-17-7	ND
21	o-Anisidine	90-04-0	ND
22	4-Aminoazobenzene	60-09-3	ND

<b>Limit</b>	<b>30 ppm</b>
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Note:  
Method detection limit = 10 ppm  
ppm denotes part(s) per million  
ND denotes Non Detected

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