



# TEST REPORT

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**Applicant** : STEAM Academy PRO PBC  
**Address** : 16192 Coastal Highway, Lewes, DE 19958  
**Manufacturer's name** : Shenzhen Sunbloom Technology Company Limited  
**Address** : Room 801A, 8F, A7 Building, Tianrui Industrial Park, No. 35 Fuyuangyi Rd, Baoan district, Shenzhen City, Guangdong, China 518103

Report on the submitted samples said to be:

**Sample Name** : Revolution Robotics Challenge Kit  
**Trade Mark** : Revolution Robotics 88129312  
**Tested Style No.** : SA-RR-CK 2.0  
**Series models** : N/A  
**Labeled Age Grading** : 4~12 Years old  
**Requested Age Grading** : 4~12 Years old  
**Age Group Applied in Testing** : 4~12 Years old  
**Sample reception time** : August 14, 2024  
**Testing Period** : August 14, 2024 ~ August 20, 2024  
**Test request** : European Standard on Safety of Toys Directive 2009/48/EC and Directive (EU) 2019/1922  
**Test method** : Please refer to next page(s).  
**Results** : Please refer to next page(s).

## CONCLUSION

- A. For compliance with the Toy Safety-Directive 2009/48/EC and Directive (EU) 2019/1922
- (1) EN 71-1:2014+A1:2018-Mechanical and Physical Properties
  - (2) EN 71-2:2020-Flammability
  - (3) EN 71-3:2019+A1:2021-Migration of Certain Elements

Redact By

Yetta

Reviewed By

lala

Issued By

Sophia

Date of issue

September 03, 2024





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## Results:

### A.1. EN 71-1:2014+A1:2018 - Mechanical and Physical Properties

Section	Description	Result
4	General Requirements	
4.1	Material cleanliness	Pass
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	Pass
4.8	Points and metallic wires	Pass
4.9	Protruding parts	Pass
4.10	Parts moving against each other	
4.10.1	Folding and sliding mechanisms	NA
4.10.2	Driving mechanisms	NA
4.10.3	Hinges	NA
4.10.4	Springs	NA
4.11	Mouth-actuated toys and other toys intended to be put in the mouth	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 and inflatable 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
4.24	Yo-yo balls	NA
4.25	Toys attached to food	NA
4.26	Toy Disguise Costumes	NA
4.27	Flying toys	NA
5	Toys intended for children under 36 months	NA
5.1	General requirements	NA
5.2	Soft-filled toys and soft-filled parts of a toy	NA
5.3	Plastic sheeting	NA



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Section	Description	Result
5.4	Cords, chains and electrical cables in toys	Pass
5.5	Liquid-filled toys	NA
5.6	Speed limitation of electrically-driven ride-on 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
5.14	Straps intended to be worn fully or partially around the neck	NA
5.15	Sledges with cords for pulling	NA
6	Packaging	NA
7	Marking and instructions for use	NA

## USE AND ABUSE TESTS

The samples were undergo the tests in accordance with section 8.3 through 8.13, whichever is applicable

Clause	Test parameters
8.3 Torque test	0.34N.m
8.4 Tension test	90N
8.5 Drop test	5*850mm

Remark:

NA = Not Applicable;

As per client's requirement, the sample(s) was evaluated for use by children 36 Months.

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## A.2. EN 71-2:2020- Flammability of Toys

Clause	Description	Result
4	Requirements	
4.1	General	Pass
4.2	Toys to be worn on the head	NA
4.2.1	General	NA
4.2.2	Beards, moustaches, wigs, etc, made from hair, pile or material with similar features (e.g. freehanging ribbons, paper or cloth strands), which protrude more than or equal to 50 mm from the surface of the toy	NA
4.2.3	Beards, moustaches, wigs etc. made from hair, pile or material with similar features (e.g. freehanging ribbons, paper or cloth strands etc.), which protrude less than 50 mm from the surface of the toy	NA
4.2.4	Full or partial moulded head masks	NA
4.2.5	Flowing elements of toys to be worn on the head (except those covered by 4.2.2 and 4.2.3), hoods, head-dresses etc. and fabric masks which partially or fully cover the head, but excluding those items covered by 4.3	NA
4.3	Toys disguise costumes and other toys intended to be worn by a child in play	NA
4.4	Toys intended to be entered by a child	NA
4.5	Soft Filled Toys (animals and dolls, etc) with a piled or textile surface	NA

NA = Not Applicable

## A.3. Labeling requirement ( Washing / Cleaning Label , CE mark , importer / manufacturer mark( name , address ) , product identification ) according to the Directive 2009 / 48 / ec-safety of toys

Summary table:

	On product	On packaging
Washing/Cleaning instruction	Absent	Absent
CE mark	Absent	Absent
Manufacturer's name	Absent	Absent
Manufacturer's address	Absent	Absent
Importer's name	Absent	Absent
Importer's address	Absent	Absent
Product ID	Absent	Absent

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## Remark:

1. Washing/Cleaning label According to Directive 2009/48/EC the following safety requirements apply regarding cleaning and washing: A toy intended for use by children under 36 months must be designed and manufactured in such a way that it can be cleaned. A textile toy must, to this end, be washable, except if it contains a mechanism that may be damaged if soaked. The toy must fulfill the safety requirements also after having been cleaned in accordance with this point and the manufacturer's instructions. The manufacturer should, if applicable, provide instructions on how the toy has to be cleaned.
2. Toys made available on the market must bear the CE marking. The CE marking must be subject to the general principles set out in Article 30 of Regulation (EC) No 765/2008. The CE marking must be affixed visibly, legibly and indelibly to the toy, to an affixed label or to the packaging. In the case of small toys and toys consisting of small parts, the CE marking may alternatively be affixed to a label or an accompanying leaflet. Where, in the case of toys sold in counter displays, that is not technically possible, and on condition that the counter display was originally used as packaging for the toy, the CE marking may be affixed to the counter display. Where the CE marking is not visible from outside the packaging, if any, it shall as a minimum be affixed to the packaging. Where specific legislation does not impose specific dimensions, the CE marking must be at least 5 mm high.
3. The manufacturer's name, registered trade name or registered trade mark and the address at which the manufacturer can be contacted must be indicated on the toy or, where that is not possible, on its packaging or in a document accompanying the toy. This requirement applies also to the name and address etc. of any importer.
4. Manufacturers must ensure that their toys bear a type, batch, serial or model number or other element allowing their identification, or where the size or nature of the toy does not allow it, that the required information is provided on the packaging or in a document accompanying the toy.

## **A.4. EN 71-3:2019+A1:2021-Migration of Certain Elements**

### Tested part(s):

(1)	Blue plastic	(4)	White plastic	(7)	Green line skin
(2)	Yellow plastic	(5)	Black plastic	(8)	Blue thread skin
(3)	Green plastic	(6)	transparent plastic	(9)	Black thread skin

Category I: Dry, brittle, powder, like or pliable materials

Test method: With reference to EN 71-3:2019+A1:2021. Analysis was performed by inductively coupled plasma atomic emission spectrometer (ICP-OES)

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Test Item(s)	Results (mg/kg)			MDL (mg/kg)	Permissible Limit(mg/kg)
	1+2+3	4+5+6	7+8+9		
Soluble Aluminum (Al)	N.D.	N.D.	N.D.	10	SEE REMARK
Soluble Antimony (Sb)	N.D.	N.D.	N.D.	1	
Soluble Arsenic (As)	N.D.	N.D.	N.D.	0.1	
Soluble Barium (Ba)	N.D.	N.D.	N.D.	10	
Soluble Boron (B)	N.D.	N.D.	N.D.	10	
Soluble Cadmium (Cd)	N.D.	N.D.	N.D.	1	
Soluble Chromium III (Cr(III))	N.D.	N.D.	N.D.	1	
Soluble Chromium VI (Cr(VI))	N.D.	N.D.	N.D.	0.001	
Soluble Cobalt (Co)	N.D.	N.D.	N.D.	1	
Soluble Copper (Cu)	N.D.	N.D.	N.D.	1	
Soluble Lead (Pb)	N.D.	N.D.	N.D.	1	
Soluble Manganese (Mn)	N.D.	N.D.	N.D.	10	
Soluble Mercury (Hg)	N.D.	N.D.	N.D.	1	
Soluble Nickel (Ni)	N.D.	N.D.	N.D.	1	
Soluble Selenium (Se)	N.D.	N.D.	N.D.	1	
Soluble Strontium (Sr)	N.D.	N.D.	N.D.	10	
Soluble Tin (Sn)	N.D.	N.D.	N.D.	5	
Soluble Organic Tin	N.D.	N.D.	N.D.	0.1	
Soluble Zinc (Zn)	N.D.	N.D.	N.D.	10	

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Remark: Migration limit

Element	Category I Dry, brittle, powder, like or pliable materials	Category II Liquid or sticky materials	Category III Scraped-off materials
Soluble Aluminum (Al)	2250	560	28130
Soluble Antimony (Sb)	45	11.3	560
Soluble Arsenic (As)	3.8	0.9	47
Soluble Barium (Ba)	1500	375	18750
Soluble Boron (B)	1200	300	15000
Soluble Cadmium (Cd)	1.3	0.3	17
Soluble Chromium III (Cr(III))	37.5	9.4	460
Soluble Chromium VI (Cr(VI))	0.02	0.005	0.053
Soluble Cobalt (Co)	10.5	2.6	130
Soluble Copper (Cu)	622.5	156	7700
Soluble Lead (Pb)	2.0	0.5	23
Soluble Manganese (Mn)	1200	300	15000
Soluble Mercury (Hg)	7.5	1.9	94
Soluble Nickel (Ni)	75	18.8	930
Soluble Selenium (Se)	37.5	9.4	460
Soluble Strontium (Sr)	4500	1125	56000
Soluble Tin (Sn)	15000	3750	180000
Soluble Organic Tin	0.9	0.2	12
Soluble Zinc (Zn)	3750	938	46000

Note:

- N.D. = Not Detected or less than MDL
- MDL = Method Detection Limit
- mg/kg = ppm
- --- = Not Regulated
- Flow chart appendix is included.
- Photo appendix is included.
- As specified by client, the test part is used for the mixed testing

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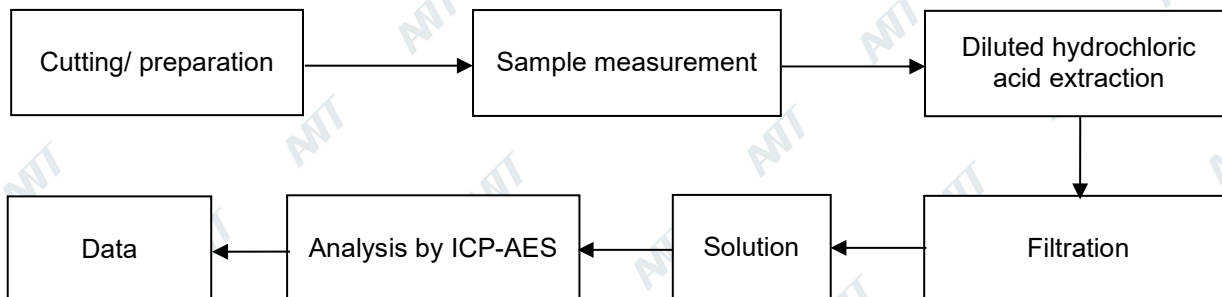
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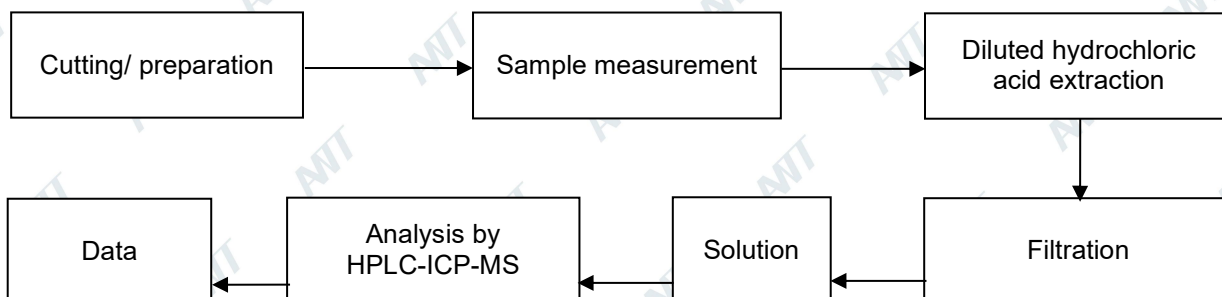
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## Appendix

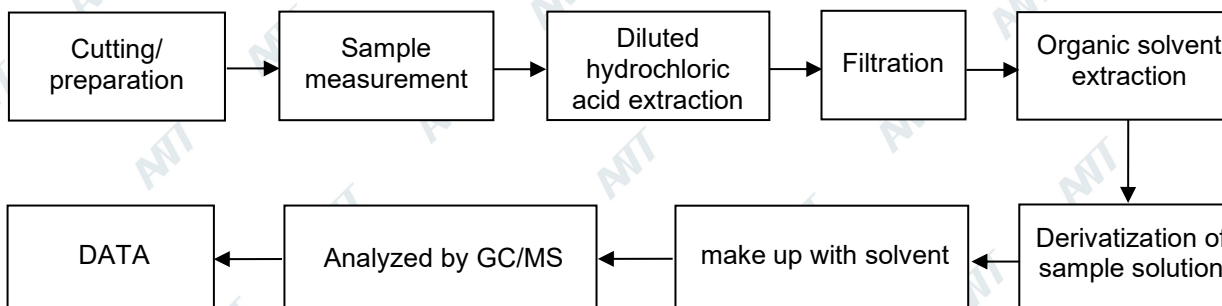
(1) Test Flow Chart for Migration of 19 Heavy Metals- Lead, Cadmium, Chromium, Mercury, Antimony, Barium, Arsenic, Selenium, Aluminum, Boron, Cobalt, Copper, Manganese, Nickel, Strontium, Zinc and Tin.



(2) Test Flow Chart for Migration of Chromium(III) and Chromium(VI):



(3) Test Flow Chart for Migration of Organic Tin Compounds:



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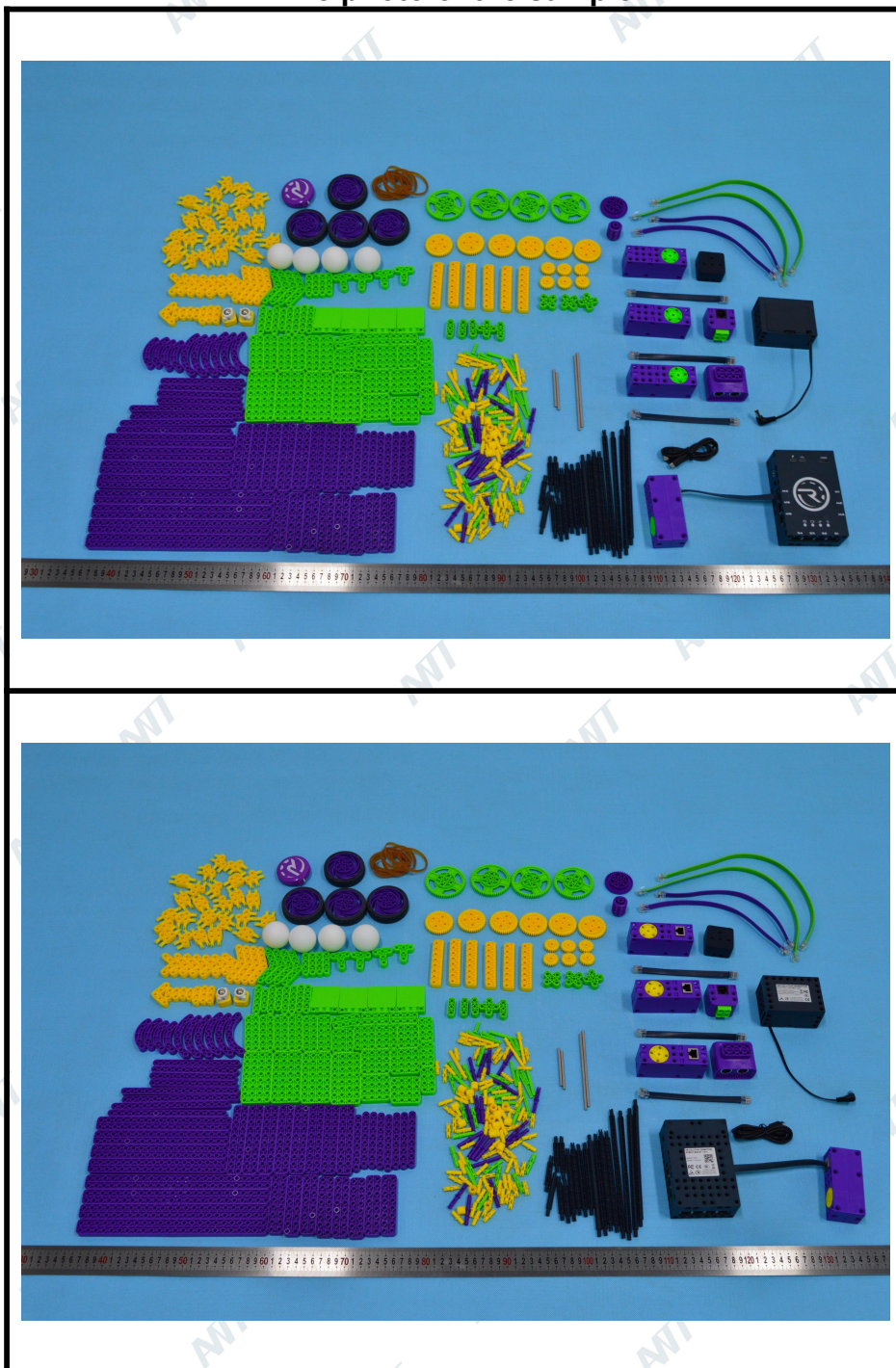


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The photo of the sample





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## Statement:

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\*\*\* End of Report \*\*\*