

Test Report

No. E100317021C-04

SHENZHEN ART-TECH R/C HOBBY CO.,LTD
3/F,NO.1 D4 LIYUAN INDUSTRIAL AREA, LANG XIN COMMUNITY, SHIYAN STR, BAOAN DISTRICT, SHENZHEN
CITY CHINA

Report on the submitted sample said to be Alpha Jet
M/N : Art-tech standard version
Item No./Lot No. : 1201217301
Sample Received Date : Mar.17.2010
Testing Completed Date : Apr.03.2010

Test Requested : For compliance with RoHS directive 2002/95/EC and its amended directives

Test Method : 1. Review was performed for the samples disjointed from the submitted articles and the related test reports submitted by the Applicant.
2. Tests was performed for the samples indicated by the photos in the report with test methods according to IEC 62321:2008 Ed.1: Procedures for the Determination of Levels of Six Regulated substances in Electrotechnical Products.
(1) Screening by XRF Spectroscopy.
(2) Wet Chemical Test
a. Determination of Lead & Cadmium & Mercury by ICP & AAS.
b. Determination of Hexavalent Chromium by UV-VIS.
c. Determination of PBBs and PBDEs by GC/MS.

Test Results : Please refer to next page.

Signed for and on behalf of
Dong Guan EMTEK Co., Ltd .

Apr.03.2010

Manager



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Test Results:

No.	Name of the Sample	Part name	Sample Description	Pb (ppm)	Cd (ppm)	Hg (ppm)	Cr (ppm)	Br (ppm)
1-1	Shell	Body of plane	Foam w/blue and black coating	BL	BL	BL	BL	BL
1-2			White foam	BL	BL	BL	BL	BL
2-1		Window	Gray transparent plastic	BL	BL	BL	BL	BL
2-2			Plastic w/white coating	BL	BL	BL	BL	BL
3-1		Front wings	White foam w/blue and red coating	BL	BL	BL	BL	BL
3-2			Blue tape	BL	BL	BL	BL	BL
3-3			Blue plastic pole	BL	BL	BL	BL	IN
3-4			White plastic	BL	BL	BL	BL	BL
4		Empennage	White foam w/blue and red coating	BL	BL	BL	BL	BL
5		Seat	Foam w/black coating	BL	BL	BL	BL	BL

Note : ppm = mg/kg=parts per million N.A.=Not Applicable
IN= Inconclusive,chemical analysis necessary
Testing results are only used for reference.

BL= Below Limit

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Test Results:

Test Item	Result(ppm)	Detection Limit	Law Limit
	3-3		
Polybrominated Biphenyls (Mono – Deca) (PBBs)	N.D.	--	1000 ppm
Monobromobiphenyl	N.D.	5 ppm	--
Dibromobiphenyl	N.D.	5 ppm	--
Tribromobiphenyl	N.D.	5 ppm	--
Tetrabromobiphenyl	N.D.	5 ppm	--
Pentabromobiphenyl	N.D.	5 ppm	--
Hexabromobiphenyl	N.D.	5 ppm	--
Heptabromobiphenyl	N.D.	5 ppm	--
Octabromobiphenyl	N.D.	5 ppm	--
Nonabromobiphenyl	N.D.	5 ppm	--
Decabromobiphenyl	N.D.	5 ppm	--
Polybrominated Diphenylethers (Mono – Deca) (PBDEs)	N.D.	--	1000 ppm
Monobromodiphenyl ether	N.D.	5 ppm	--
Dibromodiphenyl ether	N.D.	5 ppm	--
Tribromodiphenyl ether	N.D.	5 ppm	--
Tetrabromodiphenyl ether	N.D.	5 ppm	--
Pentabromodiphenyl ether	N.D.	5 ppm	--
Hexabromodiphenyl ether	N.D.	5 ppm	--
Heptabromodiphenyl ether	N.D.	5 ppm	--
Octabromodiphenyl ether	N.D.	5 ppm	--
Nonabromodiphenyl ether	N.D.	5 ppm	--
Decabromodiphenyl ether	N.D.	5 ppm	--

Note : ppm = mg/kg=parts per million

N.D.= Not Detected (Not detected is reported when the reading is less than detection limit value.)

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Remark :

- (1) (a) It is the result on total Br while test item on restricted substances is PBBs/PBDEs. It is the result on total Cr while test item on restricted substances is Cr⁶⁺.
- (b) Results are obtained by EDXRF for primary screening, and further chemical testing by ICP (for Cd, Pb, Hg), UV-VIS (for CrVI) and GC-MS (for PBBs, PBDEs) is recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321:2008 Ed.1 (unit: mg/kg)

Element	Polymer	Metal	Composite Materials
Cd	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$LOD < X < (150+3\sigma) \leq OL$
Pb	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Hg	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Br	$BL \leq (300-3\sigma) < X$	---	$BL \leq (250-3\sigma) < X$
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$

(c) OL = Over Limit, BL = Below Limit, LOD = Limit of Detection, --- = not conducted.

(d) The XRF screening test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition

- (2) (a) mg/kg = ppm=0.0001%, N.D. = not detected,
(b) Unit and Detection Limit in wet chemical test

Test Items	Pb	Cd	Hg
Units	mg/kg	mg/kg	mg/kg
Detection Limit	2	2	2

The Detection Limit for single compound of PBBs & PBDEs is 5 mg/kg and Detection Limit of Cr⁶⁺ for polymer & composite sample is 2 mg/kg.

(c) According to IEC 62321:2008 Ed.1, result on Cr⁶⁺ for metal sample is shown as Positive/Negative.

Negative = Absence of Cr⁶⁺ coating, Positive = Presence of Cr⁶⁺ coating

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Photo Appendix

