

Test Report

No.T52110240920TC

Date: MAR 25, 2021

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TLY TECHNOLOGY CO.,LTD.
ROOM 605,HUAIDE YINSHAN BUILDING, FUWEI COMMUNITY,
FUYONG STREET, BAOAN DISTRICT, SHENZHEN

The following samples were submitted and identified by/on behalf of the client as:

GREEN STEM INDUSTRIAL COTTON SWABS

Item No. : 758, 961, 743, 723, 761, 714, 742, 750, 757, 752, 740, 707, 710

Manufacturer : TLY TECHNOLOGY CO., LTD.

Sample Receiving Date : MAR 11, 2021

Testing Period : MAR 11, 2021 TO MAR 25, 2021

Test Requested		Conclusion
1.	European RoHS Directive 2015/863/EU amending Annex II to Directive 2011/65/EU – Certain hazardous substances (Selected test items as specified by the applicant, please refer to test result page(s) for details)	--
	Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE) Content Screening by X-ray fluorescence spectrometry and analysis by wet chemical	PASS
	Phthalate Content	PASS

FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S)

Signed for and on behalf of
SGS-CSTC Standards Technical
Services Co., Ltd. Shenzhen Branch Testing Center

scan to see the report



T52110240920TC

Qu Ping, Kiky
Dept. Manager



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Results:

1. European RoHS Directive 2015/863/EU amending Annex II to Directive 2011/65/EU – Certain hazardous substances

- Verification Method:
1. With reference to IEC 62321-2:2013, review was performed for the samples disjointed from the submitted articles.
 2. With reference to IEC 62321-1:2013, tests were performed for the samples indicated by the photos in this report
 - (1) With reference to IEC 62321-3-1:2013, screening by EDXRF spectroscopy
 - (2) Wet chemical test method
 - a. With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES
 - b. With reference to IEC 62321-5:2013, determination of Lead by ICP-OES
 - c. With reference to IEC 62321-4:2013+AMD1:2017, determination of Mercury by ICP-OES
 - d. With reference to IEC 62321-7-1:2015, IEC 62321-7-2:2017 & ISO 17075-1:2017, determination of Hexavalent chromium by Colorimetric method using UV-Vis.
 - e. With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS
 3. With reference to IEC 62321-8:2017, determination of phthalates by GC-MS.



In accordance with the result of material risk assessment, the following disjointed parts in the submitted sample have been verified.

Details on Verification

Part No	Part Description	Restricted Substances	Results of EDXRF(1)	Screening Result of PHTH(2)	Result of Wet Chemical Testing(3) (mg/kg)	Conclusion on EU RoHS	Resubmitted Date	
001	Dk. green plastic part 761	Pb	BL	---	---	Comply		
		Cd	BL	---	---	Comply		
		Hg	BL	---	---	Comply		
		Cr(VI)	BL	---	---	Comply		
		PBBs	BL	---	---	Comply		
		PBDEs	BL	---	---	Comply		
		DBP	---	---	---	ND		Comply
		BBP	---	---	---	ND		Comply
		DEHP	---	---	---	ND		Comply
		DIBP	---	---	---	ND		Comply
002	Green plastic part 714	Pb	BL	---	---	Comply		
		Cd	BL	---	---	Comply		
		Hg	BL	---	---	Comply		
		Cr(VI)	BL	---	---	Comply		
		PBBs	BL	---	---	Comply		
		PBDEs	BL	---	---	Comply		
		DBP	---	---	---	ND		Comply
		BBP	---	---	---	ND		Comply
		DEHP	---	---	---	ND		Comply
		DIBP	---	---	---	ND		Comply
003	Lt. green plastic part 723 743 758 961	Pb	BL	---	---	Comply		
		Cd	BL	---	---	Comply		
		Hg	BL	---	---	Comply		
		Cr(VI)	BL	---	---	Comply		
		PBBs	BL	---	---	Comply		
		PBDEs	BL	---	---	Comply		
		DBP	---	---	---	ND		Comply
		BBP	---	---	---	ND		Comply
		DEHP	---	---	---	ND		Comply
		DIBP	---	---	---	ND		Comply



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Part No	Part Description	Restricted Substances	Results of EDXRF(1)	Screening Result of PHTH(2)	Result of Wet Chemical Testing(3) (mg/kg)	Conclusion on EU RoHS	Resubmitted Date
004	White cloth 761 714 723 743 758 961	Pb	BL	---	---	Comply	
		Cd	BL	---	---	Comply	
		Hg	BL	---	---	Comply	
		Cr(VI)	BL	---	---	Comply	
		PBBs	BL	---	---	Comply	
		PBDEs	BL	---	---	Comply	
		DBP	---	---	ND	Comply	
		BBP	---	---	ND	Comply	
		DEHP	---	---	ND	Comply	
		DIBP	---	---	ND	Comply	

Remark

- (1) (a) There are the results on total Br while test items on restricted substances are PBBs and PBDEs . There is the result on total Cr while test item on restricted substances is Cr(VI).
- (b) Results are obtained by EDXRF for primary screening, and further chemical testing by ICP-OES (for Cd, Pb, Hg), UV-Vis (for Cr(VI)) and GC-MS (for PBBs, PBDEs) is recommended to be performed if the concentration exceeds the below warning value according to IEC62321-3-1:2013 (unit: mg/kg).

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

(c) BL = Below Limit, OL = Over Limit, IN = Inconclusive, LOD = Limit of Detection, -- = Not regulated .

(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.



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- (2) Screening results of PHTH are for primary screening, and further chemical testing by GC-MS (for DBP, BBP, DEHP and DIBP) are recommended to be performed if the concentration exceeds the below warning value (unit: mg/kg).

Compound	Polymer
DBP	BL ≤ 600< IN
BBP	BL ≤ 600< IN
DEHP	BL ≤ 600< IN
DIBP	BL ≤ 600< IN

- (3) (a) mg/kg = 0.0001%, MDL=Method detection Limit, ND = Not Detected (<MDL), --- = Not conducted, - = Without BOM.

(b) Unit and MDL in wet chemical test

Test Item	Pb	Cd	Hg	DBP	BBP	DEHP	DIBP
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MDL	10	10	10	100	100	100	100

The MDL for single compound of PBBs and PBDEs is 100 mg/kg,
MDL of Cr(VI) for polymer, composite and leather sample is 10 mg/kg.
MDL of Cr(VI) for metal sample is 0.10µg/cm² .

(c) ▼ =Metal sample

- The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm² .
The sample coating is considered to contain CrVI
- The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 µg/cm² .)
The coating is considered a non-CrVI based coating
- The result between 0.10 µg/cm² and 0.13 µg/cm² is considered to be inconclusive
- unavoidable coating variations may influence the determination

Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

- (4) Restricted substances and maximum concentration values tolerated by weight in homogeneous materials under RoHS Directive: Cd: 100mg/kg, Pb/Hg/Cr(VI)/PBBs/PBDEs/DEHP/DBP/BBP/DIBP: 1000mg/kg.

The limit is quoted from RoHS Directive (EU) 2015/863.

IEC 62321 series is equivalent to EN 62321 series

https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:125863_7,25

- (5) = Considering insufficient sample amount, the Method Detection Limit (MDL) is raised appropriately.



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Remark 2: The statement of conformity has considered the decision rule based on the Guarded acceptance (8.3.2 of ISO/IEC GUIDE 98-4:2012)- When the measured value falls within the guard band, only the test data and measurement uncertainty will be reported. The guard band is equal to the expanded measurement uncertainty with a 95% coverage probability($k=2$), $w = U_{95}$. The Probability of False Accept and the Probability of False Reject of the decision rule are 2.5%.

For Upper Tolerance Limit (T_U):

Pass - when the measurement result is below $T_U - U_{95}$

Fail - when the measurement result is above $T_U + U_{95}$

Inconclusive - when the measurement result is falling in guard band $T_U - U_{95}, T_U + U_{95}$

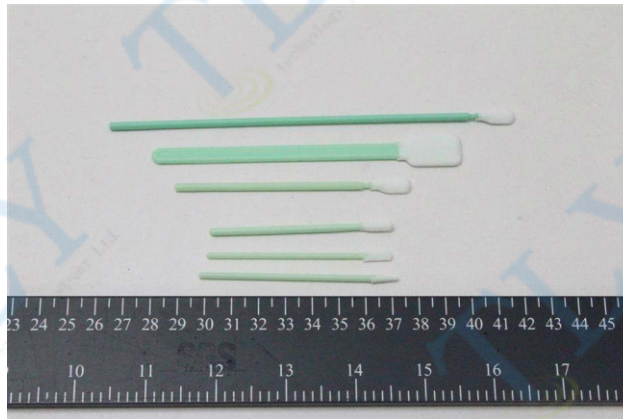
For Lower Tolerance Limit (T_L):

Pass - when the measurement result is above $T_L + U_{95}$

Fail - when the measurement result is below $T_L - U_{95}$

Inconclusive - when the measurement result is falling in guard band $T_L - U_{95}, T_L + U_{95}$

Sample Photo:



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End of Report



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