TEST REPORT

Report No. 010223020035

DATED: 20 FEBRUARY 2023

Buyer	:	/
Sample Description	:	RUBBER BAND 100%, 80%, 55%
Item No.	:	/
SKU No.	:	/
Model / Style	:	/
Age Grade	:	/
Manufacturer	:	/
Country of Origin	:	THAILAND
Country of Destination	:	/
Test Sample Received	:	RECEIVED ON 13/02/2023
Test Period	:	FROM 13/02/2023 TO 17/02/23

TEST REQUESTED	CONCLUSION	REMARK
HEAVY METALS AND FLAME RETARDANTS CONTENT – EUROPEAN PARLIAMENT AND COUNCIL DIRECTIVE 2011/65/EU ON THE RESTRICTION OF THE USE OF CERTAIN HAZARDOUS SUBSTANCES IN ELECTRICAL AND ELECTRONIC EQUIPMENT (ROHS) WITH ITS AMENDMENTS	PASS	-
PHTHALATES CONTENT – DIRECTIVE 2015/863/EU AMENDMENT OF EUROPEAN PARLIAMENT AND COUNCIL DIRECTIVE 2011/65/EU ON THE RESTRICTION OF THE USE OF CERTAIN HAZARDOUS SUBSTANCE IN ELECTRICAL AND ELECTRONIC EQUIPMENT (ROHS)	PASS	-

For technical enquiries or any other concerns, please contact:

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SAMPLE PHOTO


TEST RESULT(S):

Heavy Metals and Flame Retardants Content - European Parliament and Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) with its Amendments

Test Item(s)	Item / Component Description(s)	Conclusion
1	RUBBER BAND 100%	PASS
2	RUBBER BAND 80%	PASS
3	RUBBER BAND 55%	PASS

Compounds	Tested Item (ppm)			RoHS Limits (ppm)
	1	2	3	
Lead (Pb)	ND	ND	2.7	1000
Mercury (Hg)	ND	ND	ND	1000
Cadmium (Cd)	ND	ND	ND	100
Chromium VI (Cr VI)	5.2	ND	ND	1000
Polybrominated Biphenyls (PBBs) :				
Bromobiphenyls	ND	ND	ND	
Dibromobiphenyls	ND	ND	ND	
Tribromobiphenyls	ND	ND	ND	
Tetrabromobiphenyls	ND	ND	ND	
Pentabromobiphenyls	ND	ND	ND	
Hexabromobiphenyls	ND	ND	ND	
Heptabromobiphenyls	ND	ND	ND	
Octabromobiphenyls	ND	ND	ND	
Nonabromobiphenyls	ND	ND	ND	
Decabromobiphenyl	ND	ND	ND	
Sum of PBBs	ND	ND	ND	1000
Polybrominated Diphenyl Ethers (PBDEs) :				
Bromodiphenyl ethers	ND	ND	ND	
Dibromodiphenyl ethers	ND	ND	ND	
Tribromodiphenyl ethers	ND	ND	ND	
Tetrabromodiphenyl ethers	ND	ND	ND	
Pentabromodiphenyl ethers	ND	ND	ND	
Hexabromodiphenyl ethers	ND	ND	ND	
Heptabromodiphenyl ethers	ND	ND	ND	
Octabromodiphenyl ethers	ND	ND	ND	
Nonabromodiphenyl ethers	ND	ND	ND	
Decabromodiphenyl ether	ND	ND	ND	
Sum of PBDEs	ND	ND	ND	1000

Note / Key:

ND:	Not Detected	>:	Greater than	%:	Percent
NR:	Not Requested	1%:	10,000ppm		

mg/kg: milligram(s) per kilogram = ppm = parts per million
Detection Limit (mg/kg): Pb, Cd, Hg, Cr & Cr VI: 2
Each (PBBs & PBDEs): 5

Remarks:

- The list of analytes is summarized in table of Appendix.
- The test flowchart of heavy metals and flame retardants content is listed in table of Appendix.
- Result(s) of Cr VI for metallic material(s) was (were) expressed in term of positive and negative. Negative means the absence of Cr VI on the tested areas and the result(s) was (were) regarded as in compliance with European Parliament and Council Directive 2011/65/EU, Article 4(1). While, positive means the presence of Cr VI on tested areas and the result(s) was (were) regarded as in conflict with European Parliament and Council Directive 2011/65/EU, Article 4(1).
- According to European Parliament and Council Directive 2011/65/EU, Article 5 "Adaptation of the Annexes to scientific and technical progress", exemption(s) should be granted to the materials and components of Test Item(s) in the lists in Annexes III and IV of this directive.

TEST RESULT(S): (Continued)

Phthalates Content – Directive 2015/863/EU Amendment of European Parliament and Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS)

Test Item(s)	Item / Component Description(s)
1	RUBBER BAND 100%
2	RUBBER BAND 80%
3	RUBBER BAND 55%

-	Abbrev.	Unit	Limit	Result		
Test Item(s)	-	-	-	1	2	3
Di-(2-ethylhexyl) phthalate	DEHP	%	0.1	ND	ND	ND
Di-butyl phthalate	DBP	%	0.1	ND	ND	ND
Benzyl butyl phthalate	BBP	%	0.1	ND	ND	ND
Di-iso-butyl phthalate	DIBP	%	0.1	ND	ND	ND
Conclusion	-	-	-	**PASS**	**PASS**	**PASS**

Note:
- Reporting limit (Each): 0.01 %
- ND = Not Detected

ANNEX					
Compound	Abbrev.	CASRN	Compound	Abbrev.	CASRN
Di-(2-ethylhexyl) phthalate	DEHP	117-81-7	Di-iso-butyl phthalate	DIBP	84-69-5
Di-butyl phthalate	DBP	84-74-2	Benzyl butyl phthalate	BBP	85-68-7

CASRN: Chemical Abstracts Service Registry Number

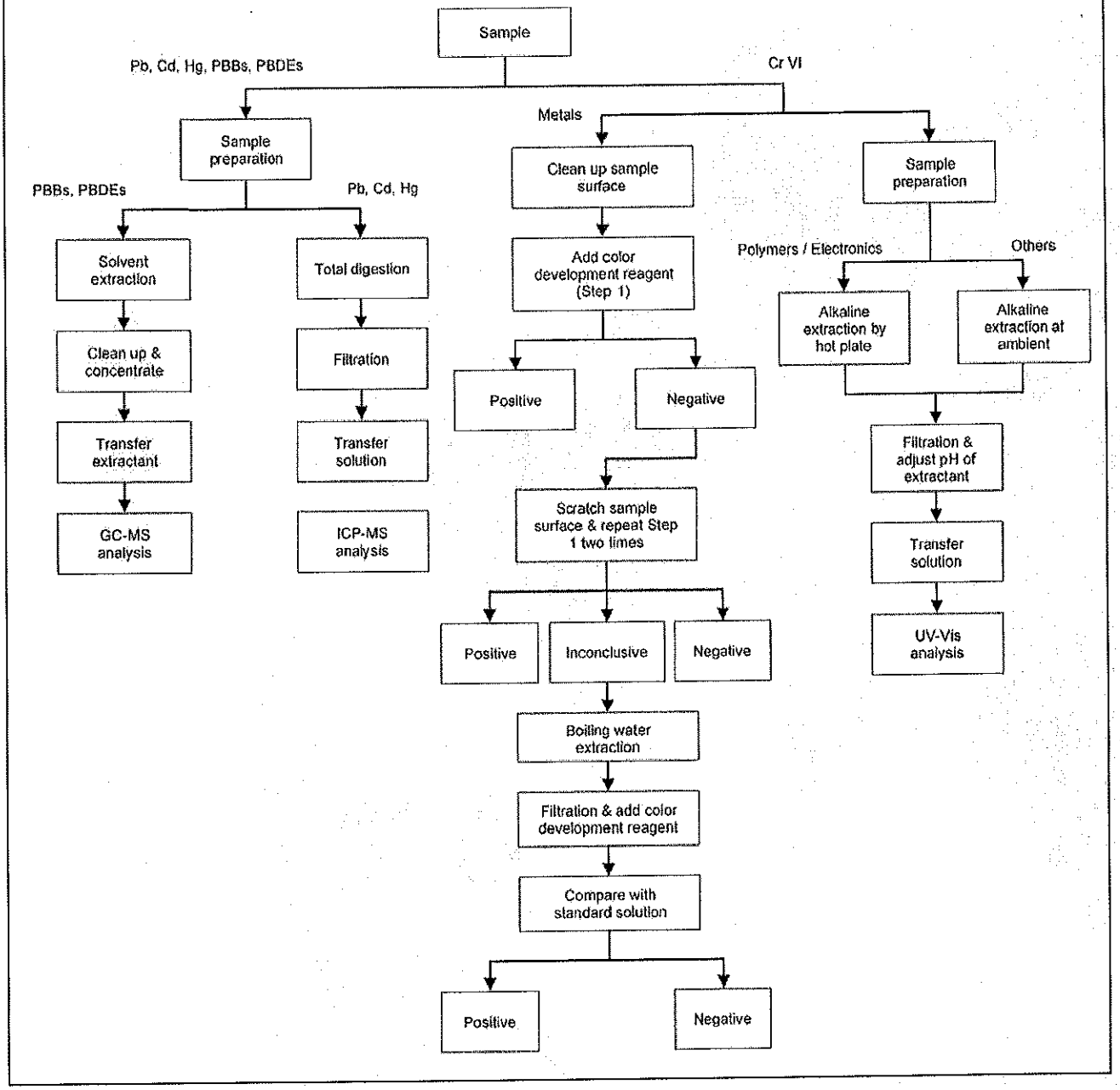
TEST RESULT(S): (Continued)

APPENDIX

List of Analytes and their Corresponding Test Methods [European Parliament and Council Directive 2011/65/EU]		
No.	**Name of Analyte(s)**	**Test Method(s)**
1	Lead (Pb)	With reference to International Standard IEC 62321-5: 2013.
2	Cadmium (Cd)	
3	Mercury (Hg)	With reference to International Standard IEC 62321-4: 2013.
4	Chromium VI (Cr VI)	Metal: With reference to IEC 62321-7-1:2015. Polymers & Electronics: With reference to EN 62321: 2009, Annex C. Leather: International Standard ISO 17075: 2007 Other than Metal, Polymers, Electronics & Leather: With reference to ISO 17075: 2007
5	Polybromobiphenyls (PBBs) - Bromobiphenyl (MonoBB) - Dibromobiphenyl (DiBB) - Tribromobiphenyl (TriBB) - Tetrabromobiphenyl (TetraBB) - Pentabromobiphenyl (PentaBB) - Hexabromobiphenyl (HexaBB) - Heptabromobiphenyl (HeptaBB) - Octabromobiphenyl (OctaBB) - Nonabromobiphenyl (NonaBB) - Decabromobiphenyl (DecaBB)	With reference to IEC 62321-6: 2015.
6	Polybromodiphenyl ethers (PBDEs) - Bromodiphenyl ether (MonoBDE) - Dibromodiphenyl ether (DiBDE) - Tribromodiphenyl ether (TriBDE) - Tetrabromodiphenyl ether (TetraBDE) - Pentabromodiphenyl ether (PentaBDE) - Hexabromodiphenyl ether (HexaBDE) - Heptabromodiphenyl ether (HeptaBDE) - Octabromodiphenyl ether (OctaBDE) - Nonabromodiphenyl ether (NonaBDE) - Decabromodiphenyl ether (DecaBDE)	
7	Phthalates - Di-(2-ethylhexyl) phthalate (DEHP) - Di-butyl phthalate (DBP) - Benzyl butyl phthalate (BBP) - Di-iso-butyl phthalate (DIBP)	With reference to IEC 62321-8: 2017.
[a]	The principle of this method was evaluated and supported by two studies organized by IEC TC 111 WG3. These studies were focused on detecting the presence of Cr VI in the corrosion protection coatings on metallic samples.	

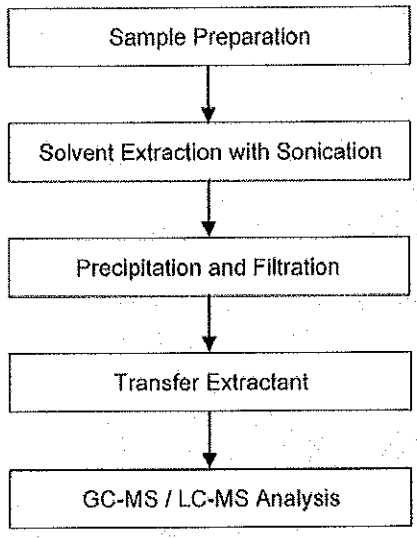
TEST RESULT(S): (Continued)

Test Flowchart of Heavy Metals and Flame Retardants Content
[European Parliament and Council Directive 2011/65/EU]



TEST RESULT(S): (Continued)

Test Flowchart of Phthalates Content



END OF REPORT

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Test Period	:	FROM 13/02/2023 TO 17/02/23

TEST REQUESTED	CONCLUSION	REMARK
CANDIDATE LIST OF SUBSTANCES OF VERY HIGH CONCERN FOR AUTHORIZATION PUBLICHED BY EUROPEON CHEMICALS AGENCY (ECHA) REGARDING REGULATION (EC) NO.1907/2006 CONCERNING REACH (9 CANDIDATES)	PASS	-

For technical enquiries or any other concerns, please contact:

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SAMPLE PHOTO

Report No. 010223020034

DATED: 20 FEBRUARY 2023

TEST RESULT(S):

Candidate List of Substances of Very High Concern for Authorization Published by European Chemicals Agency (ECHA) Regarding Regulation (EC) No. 1907/2006 Concerning REACH

Test Item(s)	Item / Component Description(s)
1	RUBBER BAND 100% + 80% + 55%

No.	Substance name	CAS No.	EC No.	Result %	Reporting Limit %	Basis for identification as a SVHC
				1		
1	1,1'-[ethane-1,2-diylbisoxy]bis[2,4,6-tribromobenzene]	37853-59-1	253-692-3	ND	0.03	vPvB
2	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol	79-94-7	201-236-9	ND	0.03	C
3	4,4'-sulphonyldiphenol	80-09-1	201-250-5	ND	0.03	R, EDE, EDH
4	Barium diboron tetraoxide*10	13701-59-2	237-222-4	ND	0.03	R
5	Bis(2-ethylhexyl) tetrabromophthalate covering any of the individual isomers and/or combinations thereof	-	-	ND	0.03	vPvB
6	Isobutyl 4-hydroxybenzoate	4247-02-3	224-208-8	ND	0.03	EDH
7	Melamine	108-78-1	203-615-4	ND	0.03	ELCH, ELCE
8	Perfluoroheptanoic acid and its salts	-	-	ND	0.03	R, PBT, vPvB, ELCH, ELCE
9	reaction mass of 2,2,3,3,5,5,6,6-octafluoro-4-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)morpholine and 2,2,3,3,5,5,6,6-octafluoro-4-(heptafluoropropyl)morpholine	-	473-390-7	ND	0.03	vPvB

Note 1:
ND = Not Detected
1 % (w/w) = 10000 parts per million = 10000 milligrams/kilogram

Note 2:
*1 The concentration of the substance is calculated on the basis of the content of specific elements, such as B, Na.
*2 The concentration of the substance is calculated on the basis of the content of specific elements, such as Co, Cl.
*3 The concentration of the substance is calculated on the basis of the content of specific elements, such as Cd, Cl.
*4 The concentration of the substance is calculated on the basis of the content of specific elements, such as Pb, As, B, Ti and Zr.
*5 The concentration of the substance is calculated on the basis of the content of specific elements, such as Pb, Cr and Cr6+.
*6 The concentration of the substance is calculated on the basis of the content of specific elements, such as As, Ca, Cr, Cr6+, K, Na, Sr and Zn.
*7 The existence of RCFs would be checked using the PLM after screening test of inorganic elements such as Al, Zr and Si. If positive, the concentration of the substances would be calculated on the basis of the content of specific elements.
*8 The concentration of the various anthracene oils is based on screening test result of anthracene.
*9 The concentration of coal tar pitch, high temp. is calculated on sum total of 12 PAHs.
*10 The concentration of the substance is calculated on the basis of the content of specific elements, such as Ba, B.

Note to Basis for Identification as a SVHC:

C	Carcinogenic (Article 57a)
M	Mutagenic (Article 57b)
R	Toxic for reproduction (Article 57c)
PBT	Persistent, Bio-accumulative and Toxic (Article 57d)
vPvB	very Persistent and very Bio-accumulative (Article 57e)
EDE	Endocrine disrupting properties (Article 57(f) - environment)
EDH	Endocrine disrupting properties (Article 57(f) - human health)
ELCE	Equivalent level of concern having probable serious effects to the environment (Article 57(f) - environment)
ELCH	Equivalent level of concern having probable serious effects to human health (Article 57(f) - human health)
OT	Specific target organ toxicity after repeated exposure (Article 57(f) - human health)
RS	Respiratory sensitising properties (Article 57(f) - human health)

TEST RESULT(S): (Continued)

Remarks:

1. The limit of 0.1% (w/w) applies to an article. The results were calculated assuming as the submitted sample was an article. However, the results may not be applicable if the intended use of the sample is a substance or mixture. According to REACH, definition of an article, substance and mixture are:
   i. Article - An object during production is given a special shape, surface or design which determines its function to a greater degree than does its chemical composition
   ii. Substance - A chemical element and its compound in the natural state or obtained by any manufacturing process
   iii. Mixture (Previously known as "Preparation") - A mixture or solution composed of two or more substances
2. In accordance of Article 7 of Regulation (EC) No. 1907/2006 (REACH regulation) – Registration and notification of substances in articles, any producer or importer of articles shall notify ECHA, if a substance meets in criteria in Article 57 and is identified in accordance with Article 59(1), if both (1) the substance is present in those articles in quantities totalling over 1 tonne per producer or importer per year & (2) the substance is present in those articles above a concentration of 0.1% weight by weight (w/w) are met. The information to be notified shall include (a) identity and contact details of the producer or importer, (b) the registration numbers, (c) the identity of the substance and (d) the classification of the substance, (e) a brief description of the use of the substance and (f) the tonnage range of the substance.
3. In accordance of Article 33 of Regulation (EC) No. 1907/2006 (REACH regulation) – Duty to communicate information on substances in articles, any supplier of an article containing a substance meeting the criteria in Article 57 and identified in accordance with Article 59(1) in concentration above 0.1% weight by weight (w/w) shall provide the recipient of the article with sufficient information, available to the supplier, to allow safe use of the article including, as a minimum, the name of that substance. On request by a consumer the relevant information shall be provided by any supplier of an article free of charge, within 45 days of receipt of the request.

END OF REPORT