

QINGYI HEAT TRANSFER SCIENCE AND TECHNOLOGY CO., LTD
FUJIAN PROVINCE JINJIANG CITY IN THE FIVE INDUSTRIAL ZONE

The following sample(s) was/were submitted and identified on behalf of the client as:

Sample Description : HEAT TRANSFER PET RELEASE FILM
 SGS Ref No. : XMN16-002144
 Sample Receiving Date : Mar. 9, 2016
 Test Performing Date : Mar. 9, 2016 to Mar. 17, 2016
 Test Performed : Selected test(s) as requested by applicant
 Test Result(s) : For further details, please refer to the following page(s)

Test Requested	Result
To determine Total Lead and Soluble Elements Contents in the selected parts on the submitted sample(s) with reference to ASTM F 963-11 (Clause 4.3.5).	PASS
To determine the Organic tin compounds content in the submitted sample(s).	See Results
To determine Phthalates(DBP, BBP, DEHP, DINP, DNOP, DIDP) in the submitted sample(s) with reference to the Entry 51/52 of Regulation (EC) No. 552/2009 amending Annex XVII of REACH Regulation (EC) No. 1907/2006 (previously restricted under Directive 2005/84/EC).	PASS
To determine the Cadmium Content in the selected part(s) of submitted sample(s) with reference to Commission Regulation (EU) 2016/217 amending Annex XVII of REACH Regulation (EC) No 1907/2006.	PASS
To determine Polynuclear Aromatic Hydrocarbons (PAHs) in the submitted sample(s) with reference to GS requirements.	See Results
Determination of Azodyes in the submitted sample(s) with reference to the Entry 43 of Regulation (EC) No. 552/2009 amending Annex XVII of REACH Regulation (EC) No. 1907/2006 (previously restricted under Directive 2002/61/EC).	PASS

Signed for and on behalf of
Xiamen Branch, SGS-CSTC Co., Ltd.



Sharky Xia
Approved Signatory



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 中国·福建·厦门·火炬(翔安)产业区翔虹路31号 邮编: 361101 t (86-592) 5766537 f (86-592) 5766460 e sgs.china@sgs.com

Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	XMN16-002144.001	Transparent sheet

Remarks :

- (1) 1 mg/kg = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected (< MDL)
- (4) "-" = Not Regulated

ASTM F 963-11

A. Test Method :With reference to CPSC Test Method: CPSC-CH-E1002-08.3. Analysis was performed by ICP-OES.

<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Total Lead (Pb)	100	mg/kg	20	ND

B. Test Method: With reference to ASTM F 963-11(Clause 8.3), analysis was performed by ICP-OES.

<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Soluble Lead (Pb)	90	mg/kg	5	ND
Soluble Antimony (Sb)	60	mg/kg	5	ND
Soluble Arsenic (As)	25	mg/kg	2.5	ND
Soluble Barium (Ba)	1000	mg/kg	10	ND
Soluble Cadmium (Cd)	75	mg/kg	5	ND
Soluble Chromium (Cr)	60	mg/kg	5	ND
Soluble Mercury (Hg)	60	mg/kg	5	ND
Soluble Selenium (Se)	500	mg/kg	10	ND

Notes :

- (1) Results shown are of the adjusted analytical results

Organic-tin compounds

Test Method : With reference to ISO 17353: 2004 , analysis was performed by GC-MS.



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Test Item(s)	Unit	MDL	001
Diocetyl tin (DOT)	mg/kg	0.02	ND
Tributyl tin (TBT)	mg/kg	0.02	ND
Dibutyl tin (DBT)	mg/kg	0.02	ND
Triphenyl tin (TPhT)	mg/kg	0.02	ND

Entry 51 & 52 of Regulation (EC) No 552/2009 amending Annex XVII of REACH Regulation (EC) No 1907/2006 (previously restricted under Directive 2005/84/EC)

Test Method : With reference to EN 14372: 2004, analysis was performed by GC-MS.

Test Item(s)	CAS NO.	Limit	Unit	MDL	001
Dibutyl Phthalate (DBP)	84-74-2	-	% (w/w)	0.003	ND
Benzylbutyl Phthalate (BBP)	85-68-7	-	% (w/w)	0.003	ND
Bis-(2-ethylhexyl) Phthalate (DEHP)	117-81-7	-	% (w/w)	0.003	ND
Total (DBP+BBP+DEHP)		0.1	% (w/w)	-	ND
Diisononyl Phthalate (DINP)	28553-12-0 / 68515-48-0	-	% (w/w)	0.010	ND
Di-n-octyl Phthalate (DNOP)	117-84-0	-	% (w/w)	0.003	ND
Diisodecyl Phthalate (DIDP)	26761-40-0 / 68515-49-1	-	% (w/w)	0.010	ND
Total (DINP+DNOP+DIDP)		0.1	% (w/w)	-	ND

Notes :

European Parliament adopted new phthalate Entry 51 & 52 of Regulation (EC) No 552/2009 amending Annex XVII of REACH Regulation (EC) No 1907/2006 (previously restricted under Directive 2005/84/EC);

(1-1) DBP, BBP and DEHP are totally banned for use in any toys on childcare articles where their concentration exceeds 0.1% by mass.

(1-2) DINP, DNOP, DIDP are totally banned for use in toys and childcare articles that can be mouthed where their concentration exceeds 0.1% by mass.

Cadmium (Cd)

Test Method : With reference to EN 1122: 2001 method B. Analysis was performed by ICP-OES.

Test Item(s)	Limit	Unit	MDL	001
Cadmium (Cd)	0.01	% (w/w)	0.0005	ND

Conclusion

PASS



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Polycyclic Aromatic Hydrocarbons (PAHs)

Test Method : With reference to AfPS GS 2014:01 PAK, analysis was performed by GC-MS.

<u>Test Item(s)</u>	<u>CAS NO.</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Naphthalene(NAP)	91-20-3	mg/kg	0.1	ND
Acenaphthylene(ANY)	208-96-8	mg/kg	0.1	ND
Acenaphthene(ANA)	83-32-9	mg/kg	0.1	ND
Fluorene(FLU)	86-73-7	mg/kg	0.1	ND
Phenanthrene(PHE)	85-01-8	mg/kg	0.1	ND
Anthracene(ANT)	120-12-7	mg/kg	0.1	ND
Fluoranthene(FLT)	206-44-0	mg/kg	0.1	ND
Pyrene(PYR)	129-00-0	mg/kg	0.1	ND
Benzo(a)anthracene(BaA)	56-55-3	mg/kg	0.1	ND
Chrysene(CHR)	218-01-9	mg/kg	0.1	ND
Benzo(b)fluoranthene(BbF)	205-99-2	mg/kg	0.1	ND
Benzo(j)fluoranthene(BjF)	205-82-3	mg/kg	0.1	ND
Benzo(k)fluoranthene(BkF)	207-08-9	mg/kg	0.1	ND
Benzo(a)pyrene(BaP)	50-32-8	mg/kg	0.1	ND
Benzo(e)pyrene(BeP)	192-97-2	mg/kg	0.1	ND
Indeno(1,2,3-c,d)pyrene(IPY)	193-39-5	mg/kg	0.1	ND
Dibenzo(a,h)anthracene(DBA)	53-70-3	mg/kg	0.1	ND
Benzo(g,h,i)perylene(BPE)	191-24-2	mg/kg	0.1	ND
Sum of Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Pyrene, Anthracene, Fluoranthene		mg/kg	-	ND
Sum of 18 PAHs		mg/kg	-	ND



AfPS (German commission for Product Safety) : GS PAHs requirements

Parameter	Category 1	Category 2		Category 3	
	Material indented to be put in the mouth or toys with intended skin contact (longer than 30 s).	Materials not falling under category 1 with foreseeable contact to skin for longer than 30 s (long-term skin) or frequent contact.		Materials not falling under category 1 or 2 with foreseeable contact to skin for less than 30 s (short-term skin contact).	
		Toy under 2009/48/EC	Other products under ProdSG	Toy under 2009/48/EC	Other products under ProdSG
Benzo(a)pyrene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(e)pyrene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(a)anthracene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(b)fluoranthene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(j)fluoranthene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(k)fluoranthene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Chrysene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Dibenzo(a,h)anthracene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(g,h,i)perylene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Indeno(1,2,3-cd)pyrene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Acenaphthylene, Acenaphthene, fluorene, phenanthrene, pyrene, anthracene, fluoranthene, mg/kg	< 1 Sum	< 5 Sum	< 10 Sum	< 20 Sum	< 50 Sum
Naphthalene, mg/kg	< 1	< 2		< 10	
Sum of 18 PAHs	< 1	< 5	< 10	< 20	< 50

Azo Dyes

Test Method : With reference to EN 14362-1: 2012, analysis was performed by GC-MS/HPLC-DAD.

Test Item(s)	CAS NO.	Limit	Unit	MDL	001
4-Aminobiphenyl	92-67-1	30	mg/kg	5	ND
Benzidine	92-87-5	30	mg/kg	5	ND



4-chloro-o-toluidine	95-69-2	30	mg/kg	5	ND
2-naphthylamine	91-59-8	30	mg/kg	5	ND
o-aminoazotoluene	97-56-3	30	mg/kg	5	ND
5-nitro-o-toluidine / 2-Amino-4-nitrotoluene	99-55-8	30	mg/kg	5	ND
4-chloroaniline	106-47-8	30	mg/kg	5	ND
4-methoxy-m-phenylenediamine / 2,4-Diaminoanisole	615-05-4	30	mg/kg	5	ND
4,4'-diaminodiphenylmethane	101-77-9	30	mg/kg	5	ND
3,3'-dichlorobenzidine	91-94-1	30	mg/kg	5	ND
3,3'-dimethoxybenzidine	119-90-4	30	mg/kg	5	ND
3,3'-dimethylbenzidine	119-93-7	30	mg/kg	5	ND
3,3'-Dimethyl-4,4'-diaminodiphe nylmethane / 4,4'-methylenedi-o-toluidine	838-88-0	30	mg/kg	5	ND
p-cresidine	120-71-8	30	mg/kg	5	ND
4,4'-methylene-bis- (2-chloroaniline)	101-14-4	30	mg/kg	5	ND
4,4'-oxydianiline	101-80-4	30	mg/kg	5	ND
4,4'-thiodianiline	139-65-1	30	mg/kg	5	ND
o-toluidine	95-53-4	30	mg/kg	5	ND
4-methyl-m-phenylenediamine / 2,4-Toluylendiamine	95-80-7	30	mg/kg	5	ND
2,4,5-trimethylaniline	137-17-7	30	mg/kg	5	ND
4-aminoazobenzene	60-09-3	30	mg/kg	5	ND
O-Anisidine	90-04-0	30	mg/kg	5	ND

Conclusion

PASS

Notes :

- (1) Test specimen was taken randomly from the sample submitted by client/applicant.
- (2) Whenever 4-aminodiphenyl (CAS number 92-67-1), 2-naphthylamine (CAS number 91-59-8) and 4-methoxy-m-phenylene-diamine (CAS number 615-05-4) is found, the use of banned azo colorants cannot be reliably ascertained without additional information, e.g. the chemical structure of the colorants used.
- (3) In case polyurethane materials are used, e.g. PU foams and coatings and in prints, it cannot be ruled out that certain amines, e.g. 4,4'-methylene-dianiline (MDA, CAS number 101-77-9) and 2,4-toluylendiamine (TDA, CAS number 95-80-7) are released from the PU component and not from a banned azo colorant.
- (4) In case of pigment prints care has to be taken that 4,4'-methylene-dianiline (MDA, CAS number 101-77-9) is not released from a source of banned azo colorants but from e.g. a chemical fixing agent.

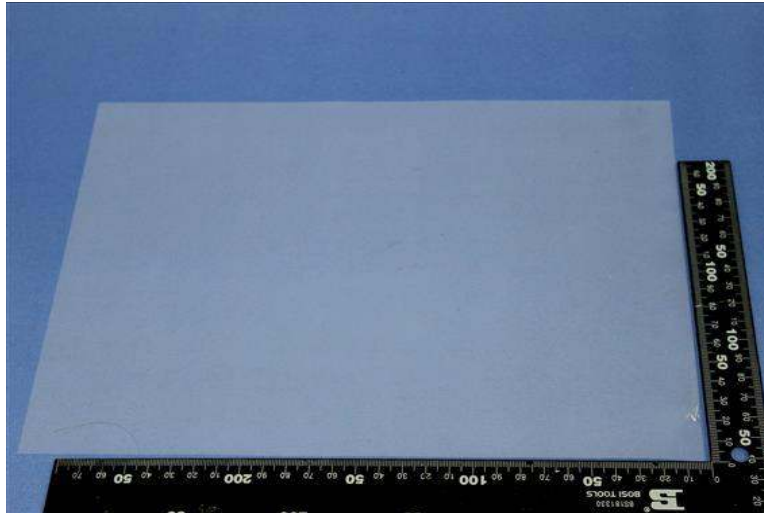
Requirement : ≤ 30 mg/kg for each of aromatic amine according to Requirement of Entry 43 of Regulation (EC) No. 552/2009 amending Annex XVII of REACH Regulation (EC) No. 1907/2006 (previously restricted under Directive 2002/61/EC).



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Sample photo(s):



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End of Report