

No. SH9128622/CHEM

Date: Jul. 6, 2009

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CHEVRON PHILLIPS CHEMICALS (SHANGHAI) CORPORATION ROOM 1811, SHANGHAI MART, 2299 YANAN ROAD (W) SHANGHAI, P.R.C.

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

Sample Name

: K-RESIN

SGS Ref No.

: 11973084-2

Part No.

: KR03

Main substance

: STYRENE, BUTADIENE

Sample Receiving Date: Jul.02, 2009

Testing Period

: Jul.02 - 06, 2009

Test Requested

: (1) In accordance with the RoHS Directive 2002/95/EC, and its amendment

directives

(2) As specified by client, to test the specified material for compliance with the European Standard on Safety of Toys, EN 71 Part 3:1994+ A1:2000 + AC:2002

- Migration of Certain Elements.

(3) As per client's request, to determination DBP, BBP, DEHP, DINP, DNOP and

DIDP content of the submitted samples.

Test Method

: (1) With reference to IEC 62321:2008

(1-1) Determination of Cadmium by ICP.

(1-2) Determination of Lead by ICP.

(1-3) Determination of Mercury by ICP.

(1-4) Determination of Hexavalent Chromium by Colorimetric Method.

(1-5) Determination of PBBs and PBDEs by GC/MS.

(2) With reference to EN 71 Part 3:1994 + A1:2000+ AC:2002 - Migration of Certain Elements, Analysis was performed by Inductively Coupled Argon Plasma -Atomic Emission Spectrometer (ICP-AES).

(3) With reference to EN 14372: 2004. Analysis was performed by Gas

Chromatograph / Mass Spectrometer (GC/MS).

Test Results

: Please refer to next pages

Conclusion

: (1) Based on the performed tests on submitted samples, the results comply with the

RoHS Directive 2002/95/EC and its subsequent amendments.

(2) When tested as specified, the specified material of the submitted samples comply with the stated requirements of the European Standard EN 71 Part3:1994 +

A1:2000+ AC:2002.

Signed for and on behalf of SGS-CSTC Chemical Laboratory

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Where is otherwise and the results shown in this test report refer only to the sample(s) tested. results shown in this test report refer only to the sample(s) tested.



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Test results by chemical method

(1) Cadmium, Lead, Mercury, Hexavalent Chromium and PBBs/PBBEs Content(Unit: mg/kg)

(1) Cadmium, Lead, Mercury, Hexavalent Chromium and PBBs/PBBEs Content(Unit: mg/kg)					
Test Item(s):	Method (refer to)	1	<u>MDL</u>	RoHS Limit	
Cadmium(Cd)	(1-1)	ND	2	100	
Lead (Pb)	(1-2)	ND	2	1000	
Mercury (Hg)	(1-3)	ND	2	1000	
Hexavalent Chromium (CrVI)	(1-4)	ND	2	1000	
Sum of PBBs		ND	-	1000	
Monobromobiphenyl		ND	5	-	
Dibromobiphenyl		ND	5	-	
Tribromobiphenyl		ND	5	-	
Tetrabromobiphenyl		ND	5	-	
Pentabromobiphenyl		ND	5	-	
Hexabromobiphenyl		ND	5	-	
Heptabromobiphenyl		ND	5	-	
Octabromobiphenyl		ND	5	-	
Nonabromobiphenyl		ND	5	-	
Decabromobiphenyl	(1-5)	ND	5	-	
Sum of PBDEs	(1-3)	ND	-	1000	
Monobromodiphenyl ether		ND	5	-	
Dibromodiphenyl ether		ND	5	-	
Tribromodiphenyl ether	-	ND	5	-	
Tetrabromodiphenyl ether		ND	5	-	
Pentabromodiphenyl ether		ND	5	-	
Hexabromodiphenyl ether		ND	5	-	
Heptabromodiphenyl ether		ND	5	-	
Octabromodiphenyl ether		ND	5	-	
Nonabromodiphenyl ether		ND	5	-	
Decabromodiphenyl ether##		ND	5	-	

Note:

(1) mg/kg = ppm

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- (2) ND = Not Detected
- (3) MDL = Method Detection Limit
- (4) % = percentage by weight
- (5) ##=The exemption of DecaBDE in polymeric application according 2005/717/EC was overruled by the European Court of Justice by its decision of 01.04.2008. Subsequently DecaBDE is included in the sum of PBDE after 01.07.2008.
- (6) "-" = Not Regulated
- (7) The maximum permissible limit is quoted from the document 2005/618/EC amending RoHS directive 2002/95/EC

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(2) EN 71 Part3:1994+ A1:2000 + AC:2002 - Migration of Certain Element(Unit: mg/kg)

(2) EN 71 Part3:1994+ A1:2000 + AC:2002 - Migration of Certain Element(Onit: mg/kg)					
Element		Method (refer to)	1	<u>MDL</u>	<u>Limit</u>
Soluble Lead	(Pb)		ND	5	90
Soluble Antimony	(Sb)		ND	5	60
Soluble Arsenic	(As)		ND	2.5	25
Soluble Barium	(Ba)		ND	10	1000
Soluble Cadmium	(Cd)	(1)	ND	5	75
Soluble Chromium	(Cr)	1	ND	5	60
Soluble Mercury	(Hg)		ND	6	60
Soluble Selenium	(Se)	†	ND	10	500
Coldate Color					

Note:

mg/kg = ppm1.

ND = Not Detected 2.

MDL = Method Detection Limit

(3) Phthalates Content (Unit: %)

(3) Phthalates Content (Unit: %)			
<u>Item</u>	Method (refer to)	<u>1</u>	<u>MDL</u>
Dibutyl Phthalate (DBP) Content		ND	0.003
Benzylbutyl Phthalate (BBP) Content		ND	0.003
Bis-(2-ethylhexyl) Phthalate (DEHP) Content	(3)	ND	0.003
Diisononyl Phthalate (DINP) Content	(3)	ND	0.010
Di-n-octyl Phthalate (DNOP) Content		ND	0.003
Diisodecyl Phthalate (DIDP) Content		ND_	0.010
- · · · · · · · · · · · · · · · · · · ·			

Note:

- (1) mg/kg = ppm
- (2) ND = Not Detected
- (3) MDL = Method Detection Limit

Test Part Description:

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Transparent plastic pellet

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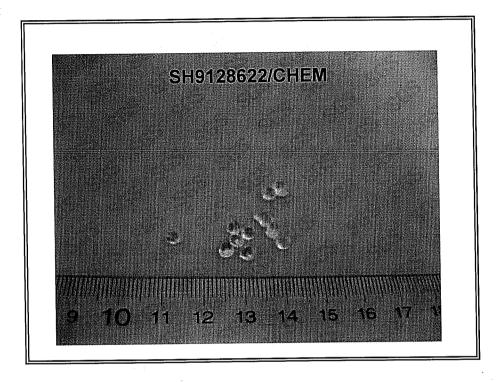
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雪佛龙菲利普斯化工贸易(上海)有限公司 上海市延安西路 2299 号上海世贸商城 1811 室

委托检验的样品及客户对样品的说明如下:

样品名称

: K-树脂

SGS 相关号

: 11973084-2

型号

: KR03

主要成份

: 苯乙烯, 丁二烯

样品收到日期

: 2009-07-02

样品试验日期

: 2009-07-02-2009-07-06

试验要求

: (1) 参照 RoHS 指令 2002/95/EC 及后续修正指令.

(2) 应客户要求,为通过欧洲标准中玩具安全要求,根据 EN 71 Part 3:1994+ A1:2000 +

AC:2002 测定指定样品的几种元素的转移量。

(3) 按客人要求, 测定委托样品的 DBP, BBP, DEHP, DINP, DNOP 和 DIDP 含量

试验方法

: (1) 参照 IEC 62321:2008:

(1-1) 用 ICP 测定镉的含量

(1-2) 用 ICP 测定铅的含量

(1-3) 用 ICP 测定汞的含量

(1-4) 用比色法测定六价铬的含量

(1-5) 用 GC/MS 测定 PBBs(多溴联苯)和 PBDEs(多溴二苯醚) 的含量

(2) 参照 EN 71 Part 3:1994+ A1:2000 + AC:2002 采用电感耦合等离子发射光谱法(ICP- AES)

进行分析测定重金属元素含量。

(3) 参照 EN 14372: 2004 的方法, 采用 GC/MS 进行分析.

试验结果

: 见后续页

试验结论

: (1) 基于所送样品进行的测试, 测试结果与欧盟 RoHS 指令 2002/95/EC 以及后续修正指令的

. 电水和效

(2) 按检测要求, 委托的指定样品遵从欧洲标准 EN71 Part 3:1994+ A1:2000+

AC:2002 的要求。

SGS-CSTC 化学实验室授权签字

胡金

郝金玉 实验室经理

本报告是发布日期为 2009 年 07 月 06 日编号为 SH9128622/CHEM 英文检测报告的中文译本。如有异议,以英文版本为准。

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化学方法的试验结果

(1) 镉, 铅, 汞,六价铬和 PBBs(多溴联苯)和 PBDEs(多溴联苯醚)含量(单位: mg/kg)

(1) 拥, 切, 水,八川铅和 FDDS(多类联本)和 FDDL3(多类联本即/百里(平位: IIIg/ng/						
<u>测试项目:</u>	<u>方法</u> (参见)	1	MDL	<u>RoHS</u> <u>限值</u>		
镉(Cd)	(1-1)	ND	2	100		
铅(Pb)	(1-2)	ND	2	1000		
汞(Hg)	(1-3)	ND	2	1000		
六价铬(Cr VI)	(1-4)	ND	2	1000		
多溴联苯之和(PBBs)		ND	-	1000		
一溴联苯		ND	5	-		
二溴联苯		ND	5	-		
三溴联苯		ND	5	1		
四溴联苯		ND	5	_		
五溴联苯		ND	5	-		
六溴联苯		ND	5	_		
七溴联苯	(1-5)	ND	5	-		
八溴联苯		ND	5	-		
九溴联苯		ND	5	_		
十溴联苯		ND	5	-		
多溴二苯醚之和(PBDEs)		ND	-	1000		
一溴二苯醚		ND	5	-		
二溴二苯醚		ND	5	- ,		
三溴二苯醚		ND	5	-		
四溴二苯醚		ND	5	-		
五溴二苯醚		ND	5	-		
六溴二苯醚		ND	5	-		
七溴二苯醚]	ND	5	-		
八溴二苯醚		ND	5	-		
九溴二苯醚		ND	5	-		
十溴二苯醚##		ND	5	_		

备注:

- (1) 毫克每千克=百万分之一(mg/kg=ppm)
- (2) ND =未检出
- (3) MDL =检测极限值
- (4) %=百分比重量
- (5) ##=根据欧洲法庭 2008 年 4 月 1 日的决议, 2005/717/EC 中关于聚合物样品中十溴二苯醚的豁免被否决。自 2008 年 7 月 1 日起,十溴二苯醚已被包含于多溴二苯醚的总和计算之中
- (6) 多溴二苯醚 = 多溴联苯醚
- (7) "-" = 未规定
- (8) 最大允许极限值引用自 2002/95/EC RoHS 指令和后继修正指令 2005/618/EC。

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(2) FN 71 Part3:1994 + A1:2000+ AC:2002- 几种元素的转移(单位: mg/kg)

元素		<u>方法</u> (参见)	1	MDL	上限
可溶性铅	(Pb)		ND	5	90
可溶性锑	(Sb)		ND	5	60
可溶性砷	(As)		ND	2.5	25
可溶性钡	(Ba)	(4)	ND	10	1000
可溶性镉	(Cd)	(1)	ND	5	75
可溶性铬	(Cr)		ND	5	60
可溶性汞	(Hg)		ND	6	60
可溶性硒	(Se)		ND	10	500

备注:

- (1) 毫克每千克=百万分之一(mg/kg=ppm)
- (2) ND =未检出
- (3) MDL =检测极限值

(3) 邻苯二甲酸盐(或酯)的含量(单位:%)

(0) (1) (4) (4) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1						
<u>项目</u>	<u>方法</u> (参见)	1	MDL			
邻苯二甲酸二丁酯(DBP)含量		ND	0.003			
邻苯二甲酸丁酯苄酯 (BBP)含量	- ·	ND	0.003			
邻苯二甲酸二(2-乙基已基) 酯(DEHP)含量	(3)	ND	0.003			
邻苯二甲酸二异壬酯(DINP)含量	(3)	ND	0.010			
邻苯二甲酸二正辛酯(DNOP)含量		ND	0.003			
邻苯二甲酸二异癸酯(DIDP)含量		ND	0.010			

备注:

- (1) 毫克每千克=百万分之一(mg/kg=ppm)
- (2) ND =未检出
- (3) MDL =检测极限值

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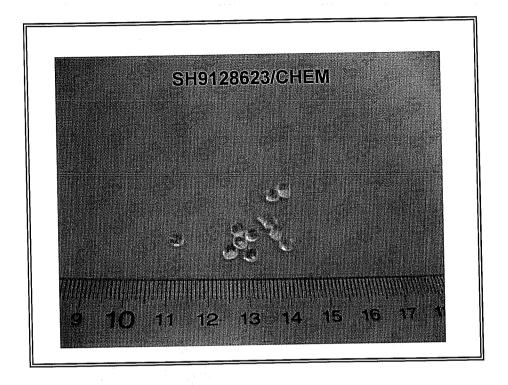


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