

No. SH9128646/CHEM

Date: Jul. 6, 2009

Page 1 of 4

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.

: 11973084-14

Part No.

: KR03NW

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.

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).

Test Results

: Please refer to next pages

Conclusion

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: (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

Sandy Hao Lab Manager

ices Co., Ltd.

Chemical Laboratory.

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No. SH9128646/CHEM

Date: Jul. 6, 2009

Page 2 of 4

Test results by chemical method (Unit: mg/kg)

(1) Cadmium, Lead, Mercury, Hexavalent Chromium and PBBs/PBBEs Content

Test Item(s):	Method (refer to)	1	MDL	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	1	1000
Monobromobiphenyl		ND	5 .	-
Dibromobiphenyl		ND	5	-
Tribromobiphenyl		ND	5	-
Tetrabromobiphenyl	1	ND	5	-
Pentabromobiphenyl	1	ND	5	-
Hexabromobiphenyl		ND	5	-
Heptabromobiphenyl		ND	5	-
Octabromobiphenyl	(1-5)	ND	5	-
Nonabromobiphenyl		ND	5	-
Decabromobiphenyl		ND	5	-
Sum of PBDEs		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) ##=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.
- (5) "-" = Not Regulated
- (6) The maximum permissible limit is quoted from the document 2005/618/EC amending RoHS directive 2002/95/EC

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No. SH9128646/CHEM

Date: Jul. 6, 2009

Page 3 of 4

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

IZ/ LIV / I T GRO. TO	J 1 - 7 (1 . A.	-000 · / (0.2002	Migration of Cortain Lighton			
<u>Element</u>		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)	(1)	ND	10	1000	
Soluble Cadmium	(Cd)	(1)	ND	5	75	
Soluble Chromium	(Cr)		ND	5	60	
Soluble Mercury	(Hg)		ND	6	60	
Soluble Selenium	(Se)		ND	10	500	

Note:

1. mg/kg = ppm

2. ND = Not Detected

3. MDL = Method Detection Limit

Test Part Description:

1. Transparent plastic pellet

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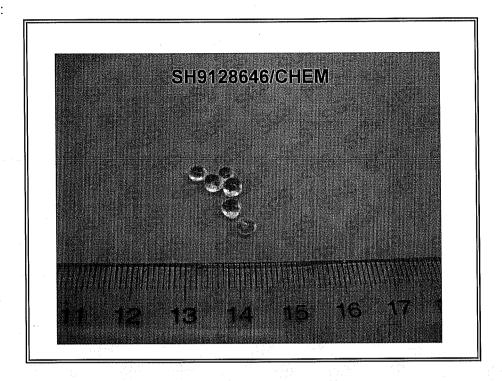


No. SH9128646/CHEM

Date: Jul. 6, 2009

Page 4 of 4

Sample photo:



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No. SH9128647/CHEM

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Page 1 of 4

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

: 11973084-14

型号

: KR03NW

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。

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。

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

要求相符。

(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

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实验室经理

本报告是发布日期为 2009 年 07 月 06 日编号为 SH9128646/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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No. SH9128647/CHEM

Date: Jul. 6, 2009

Page 2 of 4

化学方法的试验结果 (单位: mg/kg)

(1) 镉 铅 汞 六价铬和 PBBs(多溴联苯)和 PBDEs(多溴联苯醚)含量

棚(Cd) (1-1) ND 限值 铅(Pb) (1-2) ND 2 1000 汞(Hg) (1-3) ND 2 1000 汞(Hg) (1-3) ND 2 1000 水价铬(Cr VI) (1-4) ND 2 1000 多溴联苯之和(PBBs) ND 5 - 二溴联苯 ND 5 - 工溴联苯 ND 5 - 九溴联苯 ND 5 - 九溴联苯 ND 5 - 九溴联苯 ND 5 - 九溴联苯 ND 5 -	(1) 镉, 铅, 汞,六价铬和 PBBs(多溴联苯)和 PBDEs(多)		<u> </u>		D 110
報(内b)	测试项目:		1	<u>MDL</u>	RoHS 限值
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 - 四溴联苯 ND 5 - 九溴联苯 ND 5 - 九溴联苯 ND 5 - 九溴联苯 ND 5 -	镉(Cd)	(1-1)	ND	2	100
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 - 三溴联苯 ND 5 - 四溴联苯 ND 5 - 九溴联苯 ND 5 - 九溴联苯 ND 5 - 九溴联苯 ND 5 - 十溴联苯 ND 5 - 水溴二苯醛 ND 5 - 三溴二苯醛 ND 5 - 四溴二苯醛 ND 5 - ND 5 - - ND 5		(1-2)	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 - 三溴联苯 ND 5 - 四溴联苯 ND 5 - 九溴联苯 ND 5 - 九溴联苯 ND 5 - 九溴联苯 ND 5 - 水溴苯醚 ND 5 - 一溴二苯醚 ND 5 - 二溴二苯醚 ND 5 - ND 5 - ND 5 ND 5 - ND 5 - ND		(1-3)	ND	2	1000
多溴联苯之和(PBBs) ND - 1000 一溴联苯 ND 5 - ND		(1-4)	ND	2	1000
一溴联苯 ND 5 - 三溴联苯 ND 5 -			ND	-	1000
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三溴联苯 ND 5 - 五溴联苯 ND 5 - 六溴联苯 ND 5 - 八溴联苯 ND 5 - 九溴联苯 ND 5 - 水溴联苯 ND 5 - 水溴二苯醚之和(PBDEs) ND 5 - 一溴二苯醚 ND 5 - 三溴二苯醚 ND 5 - ND 5 - - ND 5 - <td></td> <td></td> <td>ND</td> <td>5</td> <td>-</td>			ND	5	-
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八溴联苯 ND 5 - 九溴联苯 ND 5 - 水泉二苯醚之和(PBDEs) ND 5 - 一溴二苯醚 ND 5 - 二溴二苯醚 ND 5 - ND 5 - ND		(1-5)	ND	5	-
九溴联苯 (1-5) ND 5 - +溴联苯 ND 5 - ND 5 - ND - 1000 ND 5 - ND 5<			ND	5	-
十溴联苯 (1-5) ND 5 - 多溴二苯醚 ND - 1000 一溴二苯醚 ND 5 - ND			ND		_
多溴二苯醚之和(PBDEs) (1-5) ND - 1000 一溴二苯醚 ND 5 - 三溴二苯醚 ND 5 - N			ND	5	-
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九溴二苯醚 ND 5 -			ND		
十溴二苯醚## ND 5 -			ND		-
	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) ##=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
- (5) 多溴二苯醚 = 多溴联苯醚
- (6) "-" = 未规定
- (7) 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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No. SH9128647/CHEM

Date: Jul. 6, 2009

Page 3 of 4

(2) EN 71 Part3:1994 + A1:2000+ AC:2002- 几种元素的转移

元素		<u>方法</u> (参见)	1	MDL	<u>上限</u>
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)	(1)	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

测试部件外观描述:

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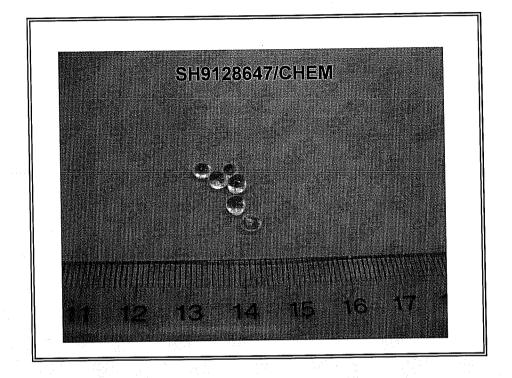


No. SH9128647/CHEM

Date: Jul. 6, 2009

Page 4 of 4

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