



# Test Report

Report No.: SZC11030880901

Date: Mar. 14, 2011

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**Substance Information:**

Test Items	Method/Equipment	Substance Classification	Report Limit(%)
Anthracene	Refer to ZEK 01.2-08,GC-MS	PBT	0.005
4,4'-Diaminodiphenylmethane	Refer to US EPA 8270D: 2007,GC-MS	Carcinogen, Cat.2	0.005
Dibutyl phthalate(DBP)	Refer to US EPA 3540C:1996, GC-MS	Toxic for reproduction, Cat.2	0.005
Cobalt dichloride*	Refer to US EPA 3052:1996 and EN 14582:2007,ICP-AES and IC	Carcinogen, Cat.2	0.01
Diarsenic pentaoxide*	In-house method,ICP-AES	Carcinogen, Cat.1	0.01
Diarsenic trioxide*		Carcinogen, Cat.1	0.01
Sodium dichromate*	In-house method,ICP-AES	Carcinogen, Cat.2 Mutagen, cat.2 Toxic for reproduction, Cat.2	0.01
5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	Refer to US EPA 3540C:1996, GC-MS	vPvB	0.005
Bis(2-ethyl hexyl)phthalate (DEHP)	Refer to US EPA 3540C:1996,GC-MS	Toxic for reproduction, Cat.2	0.005
Hexabromocyclododecane and all major diastereoisomers identified:(HBCDD)	Refer to US EPA 3540C:1996, GC-MS	PBT	0.005
Short Chain Chlorinated Paraffins(SCCPs)	Refer to US EPA 3540C:1996, GC-MS	PBT, vPvB	0.01
Bis(tributyltin)oxide(TBTO)*	Refer to US EPA 3052:1996 and DIN 38407:2003, ICP-AES and GC-MS	PBT	0.005
Lead hydrogen arsenate*	In-house method,ICP-AES	Carcinogen, Cat.1 Toxic for reproduction, Cat.1	0.01
Benzyl butyl phthalate(BBP)	Refer to US EPA 3540C:1996, GC-MS	Toxic for reproduction, Cat.2	0.005
Triethyl arsenate*	In-house method,ICP-AES	Carcinogen, Cat.1	0.01

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<sup>①</sup> Anthracene oil	In-house method,GC-MS	PBT	0.05
<sup>①</sup> Anthracene oil, anthracene paste, distn. Lights****	In-house method,GC-MS	PBT	0.05
<sup>①</sup> Anthracene oil, anthracene paste, anthracene fraction	In-house method,GC-MS	PBT	0.05
<sup>①</sup> Anthracene oil, anthracene-low	In-house method,GC-MS	PBT	0.05
<sup>①</sup> Anthracene oil, anthracene paste	In-house method,GC-MS	PBT	0.05
<sup>①</sup> Pitch, coal tar, high temperature	In-house method,GC-MS	PBT,Carcinogen, Cat.2	0.05
<sup>①</sup> Aluminosilicate, Refractory Ceramic Fibres	In-house method,ICP-AES	Carcinogen, Cat.2	0.05
<sup>①</sup> Zirconia Aluminosilicate, Refractory Ceramic Fibres	In-house method,ICP-AES	Carcinogen, Cat.2	0.05
2,4-Dinitrotoluene	In-house method,GC-MS	Carcinogen, Cat.2	0.01
Diisobutyl phthalate (DIBP)	Refer to US EPA 3540C:1996, GC-MS	Toxic for reproduction, Cat.2	0.005
<sup>②</sup> Lead chromate	In-house method,ICP-AES	Carcinogen, Cat.2, Toxic for reproduction, Cat.1	0.05
<sup>②</sup> Lead chromate molybdate sulphate red (C.I. Pigment Red 104) ***		Carcinogen, Cat.2, Toxic for reproduction, Cat.1	0.05
<sup>②</sup> Lead sulfochromate yellow(C.I. Pigment Yellow 34) ***		Carcinogen, Cat.2, Toxic for reproduction, Cat.1	0.05
Tris(2-chloroethyl)phosphate (TCEP)	In-house method,GC-MS	Toxic for reproduction, Cat.2	0.01
Acrylamide	In-house method,HPLC	Carcinogen, Cat.2, Mutagen,cat.2	0.01

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Test Items	Method/Equipment	Substance Classification	Report Limit(%)
Trichloroethylene	Refer to US EPA8260C:2006, GC-MS	Carcinogen, Cat.2	0.01
Boric acid*	In-house method,ICP-AES	Toxic for reproduction, Cat.2	0.01
Disodium tetraborate, anhydrous*	In-house method,ICP-AES	Toxic for reproduction, Cat.2	0.05
Tetraboron disodium heptaoxide, hydrate*	In-house method,ICP-AES	Toxic for reproduction, Cat.2	0.05
Sodium chromate*	In-house method,ICP-AES	Carcinogen, Cat.2 Mutagen, cat.2 Toxic for reproduction, Cat.2	0.01
Potassium chromate*	In-house method,ICP-AES	Carcinogen, Cat.2 Mutagen, cat.2 Toxic for reproduction, Cat.2	0.01
Ammonium dichromate*	In-house method,ICP-AES	Carcinogen, Cat.2 Mutagen, cat.2 Toxic for reproduction, Cat.2	0.01
Potassium dichromate*	In-house method,ICP-AES	Carcinogen, Cat.2 Mutagen, cat.2 Toxic for reproduction, Cat.2	0.01



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**Substance Information:**

Test Items	Method/Equipment	Substance Classification	Report Limit(%)
Cobalt(II) sulphate	In-house method,ICP-AES	carcinogen, cat. 2;toxic for reproduction,cat. 2	0.01
Cobalt(II) dinitrate	In-house method,ICP-AES	carcinogen, cat. 2; toxic for reproduction,cat. 2	0.01
Cobalt(II) carbonate	In-house method,ICP-AES	carcinogen, cat. 2; toxic for reproduction,cat. 2	0.01
Cobalt(II) diacetate	In-house method,ICP-AES	carcinogen, cat. 2; toxic for reproduction,cat. 2	0.01
2-Methoxyethanol	Refer to US EPA8260C: 2006,GC-MS	toxic for reproduction,cat. 2	0.01
2-Ethoxyethanol	Refer to US EPA8260C: 2006,GC-MS	toxic for reproduction,cat. 2	0.01
Chromium trioxide	In-house method,ICP-AES	carcinogen, cat. 1;mutagen, cat. 2	0.01
Acids generated from chromium trioxide and their oligomers: Chromic acid Dichromic acid Oligomers of chromic acid and dichromic acid	In-house method,ICP-AES	carcinogen, cat. 2	0.01

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Test result(s):

Substance Name(s)	CAS No.	EC No.	Concentration (%)
Anthracene	120-12-7	204-371-1	N.D.
4,4'-Diaminodiphenylmethane	101-77-9	202-974-4	N.D.
Dibutyl phthalate(DBP)	84-74-2	201-557-4	N.D.
Cobalt dichloride*	7646-79-9	231-589-4	N.D.
Diarsenic pentaoxide*	1303-28-2	215-116-9	N.D.
Diarsenic trioxide*	1327-53-3	215-481-4	N.D.
Sodium dichromate*	10588-01-9	234-190-3	N.D.
5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	201-329-4	N.D.
Bis(2-ethylhexyl)phthalate(DEHP)	117-81-7	204-211-0	N.D.
Hexabromocyclododecane and all major diastereoisomers identified:( $\alpha$ -HBCDD, $\beta$ -HBCDD, $\gamma$ -HBCDD)	25637-99-4,3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8)	247-148-4, 221-695-9	N.D.
Short Chain Chlorinated Paraffins(SCCPs)	85535-84-8	287-476-5	N.D.
Bis(tributyltin)oxide (TBTO)*	56-35-9	200-268-0	N.D.
Lead hydrogen arsenate*	7784-40-9	232-064-2	N.D.
Benzyl butyl phthalate(BBP)	85-68-7	201-622-7	N.D.
Triethyl arsenate*	15606-95-8	427-700-2	N.D.
<sup>①</sup> Anthracene oil	90640-80-5	292-602-7	N.D.
<sup>①</sup> Anthracene oil, anthracene paste, distn. Lights	91995-17-4	295-278-5	N.D.
<sup>①</sup> Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	295-275-9	N.D.
<sup>①</sup> Anthracene oil, anthracene-low	90640-82-7	292-604-8	N.D.
<sup>①</sup> Anthracene oil, anthracene paste	90640-81-6	292-603-2	N.D.
<sup>①</sup> Pitch, coal tar, high temperature	65996-93-2	266-028-2	N.D.
<sup>②</sup> Aluminosilicate, Refractory Ceramic Fibres	—	650-017-00-8**	N.D.



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Test result(s):

Substance Name(s)	CAS No.	EC No.	Concentration (%)
<sup>2</sup> Zirconia Aluminosilicate, Refractory Ceramic Fibres	—	650-017-00-8**	N.D.
2,4-Dinitrotoluene	121-14-2	204-450-0	N.D.
Diisobutyl phthalate (DIBP)	84-69-5	201-553-2	N.D.
<sup>2</sup> Lead chromate	7758-97-6	231-846-0	N.D.
<sup>2</sup> Lead chromate molybdate sulphate red (C.I. Pigment Red 104) ***	12656-85-8	235-759-9	N.D.
<sup>2</sup> Lead sulfochromate yellow(C.I. Pigment Yellow 34) ***	1344-37-2	215-693-7	N.D.
Tris(2-chloroethyl)phosphate (TCEP)	115-96-8	204-118-5	N.D.
Acrylamide	79-06-1	201-173-7	N.D.
Trichloroethylene	79-01-6	201-167-4	N.D.
Boric acid*	10043-35-3, 11113-50-1	233-139-2, 234-343-4	N.D.
Disodium tetraborate, anhydrous*	1330-43-4, 12179-04-3, 1303-96-4	215-540-4	N.D.
Tetraboron disodium heptaoxide, hydrate*	12267-73-1	235-541-3	N.D.
Sodium chromate*	7775-11-3	231-889-5	N.D.
Potassium chromate*	7789-00-6	232-140-5	N.D.
Ammonium dichromate*	7789-09-5	232-143-1	N.D.
Potassium dichromate*	7778-50-9	231-906-6	N.D.
Cobalt(II) sulphate*	10124-43-3	233-334-2	N.D.
Cobalt(II) dinitrate*	10141-05-6	233-402-1	N.D.
Cobalt(II) carbonate*	513-79-1	208-169-4	N.D.
Cobalt(II) diacetate*	71-48-7	200-755-8	N.D.
2-Methoxyethanol	109-86-4	203-713-7	N.D.

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**Test result(s):**

Substance Name(s)	CAS No.	EC No.	Concentration (%)
2-Ethoxyethanol	110-80-5	203-804-1	N.D.
Chromium trioxide*	1333-82-0	215-607-8	N.D.
Acids generated from chromium trioxide* and their oligomers: Chromic acid, Dichromic acid Oligomers of chromic acid and dichromic acid	7738-94-5 13530-68-2	231-801-5 236-881-5	N.D.

**Note:**

-N.D.=Not Detected (<report limit)

-0.1%=1000mg/kg=1000ppm

-PBT=Persistent,Bioaccumulative,Toxic;vPvB=very Persistent very Bioaccumulative

-\*: The concentration of Cobalt dichloride is converted by the testing results of Cobalt(Co) and Chlorine(Cl).

The concentrations of Diarsenic pentaoxide, Diarsenic trioxide,Sodium dichromate, Sodium dichromate, Bis(tributyltin)oxide, Lead hydrogen arsenate, Sodium chromate, Potassium chromate, Ammonium dichromate, Potassium dichromate , Cobalt(II) sulphate , Cobalt(II) dinitrate , Cobalt(II) carbonate , Cobalt(II) carbonate , Chromium trioxide , Acids generated from chromium trioxide\* and their oligomers are converted by the testing results of the element(s) in the substance .

The concentrations of Boric acid, Disodium tetraborate, anhydrous, Tetraboron disodium heptaoxide, hydrate are converted by the testing results of the element(s) in the substance, and confirmed with proper solvent extract, at the same time, we advice customers should check chemical formula sheets and get further confirmation whether the sample contain above substances.

-\*\*:All refractory ceramic fibres are covered by index number 650-017-00-8 in Annex VI of the Regulation on Classification,Labeling and Packaging of chemical substances and mixtures,the so called CLP Regulation (Regulation(EC) No 1272/2008).

-\*\*\*:C.I.:Colour Index

-\*\*\*\*:Light fractions from distillation

-① :In view of the substances are established as UVCB substances(substances of unknown or variable composition, complex reaction products or biological materials) consisting of different and variable constituents,the test results are calculated based on the main constituents of the representative compounds for substances.

-② :In view of the substance contain variable substances,the test results are calculated based on main constituents of the representative compounds for the substances,and the test results of the representative compounds are calculated based on the result of specified heavy metal elements.





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The admixture of specimen is tested as a whole (part) which according to the applicant's request. The testing of specimen may have the obvious difference, and the result may exceed the number in this report. The applicant will undertake all differences and risks.

**Remarks:**

1. As the concentration of above substance that identified is based on the worst case scenario. Further investigation is required for confirmation of the presence of the substance in the sample.
2. The report limit is evaluated based on the representative substances.

### The photo of the sample



# Test Report

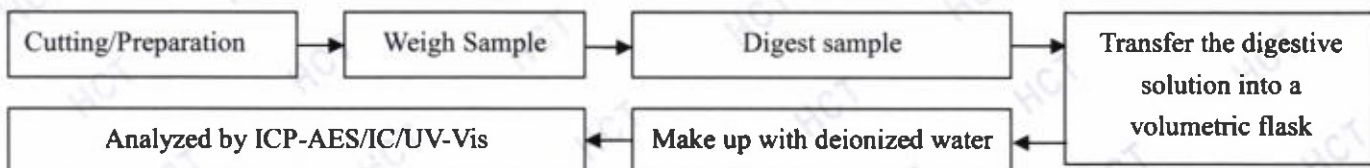
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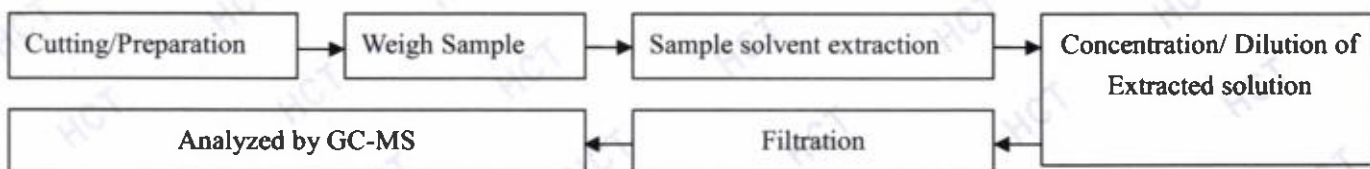
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## Test Flow Chart

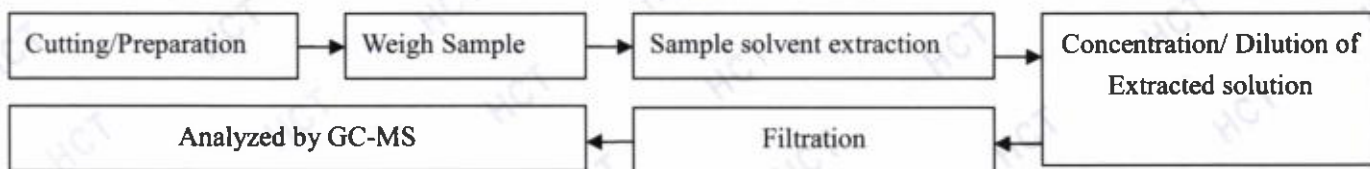
1. Test for Cobalt dichloride/Diarsenic pentaoxide/Diarsenic trioxide/Sodium Dichromate/Lead hydrogen arsenate/Triethyl arsenate/ Lead chromate/ Lead chromate molybdate sulfate red (C.I. Pigment Red 104)/Lead sulfochromate yellow(C.I. Pigment Yellow 34)/Aluminosilicate, Refractory Ceramic Fibres/ Zirconia Aluminosilicate, Refractory Ceramic Fibres/Boric acid/Disodium tetraborate, anhydrous/Tetraboron disodium heptaoxide, hydrate/ Sodium chromate/ Potassium chromate/Ammonium dichromate/Potassium dichromate /Cobalt(II) sulphate/Cobalt(II) dinitrate/Cobalt(II) carbonate/Cobalt(II) diacetate/Chromium trioxide/Acids generated from chromium trioxide and their oligomers: Chromic acid Dichromic acid Oligomers of chromic acid and dichromic acid Content



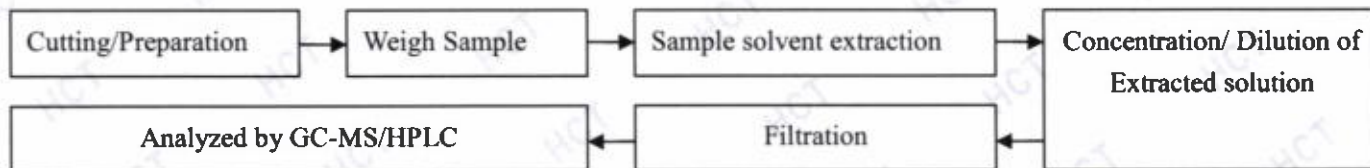
2. Test for 4,4'-diaminodiphenylmethane/Bis(tributyltin)oxide Content



3. Test for Musk xylene/HBCDD/DBP/BBP/DEHP/DIBP/Trichloroethylene/2-Methoxyethanol/2-Ethoxyethanol Content



4. Test for SCCP/Anthracene/tris(2-chloroethyl)phosphate (TCEP)/2,4-Dinitrotoluene/Acrylamide/Anthracene oil/ Anthracene oil, anthracene paste, distn. Lights/Anthracene oil, anthracene paste, anthracene fraction/Anthracene oil, anthracene-low/Anthracene oil, anthracene paste/Pitch, coal tar, high temperature Content



Testing by: Gang Wang/Huagen Wang

Checked by: Zhong Wang

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## Appendix:

### 1. According to the Article 33 of the Regulation (EC) No 1907/2006(REACH)-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 a 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 any supplier of an article containing a substance meeting the criteria in Article 57 and identified in accordance with Article 59(1) in a concentration above 0.1% weight by weight(w/w) shall provide the consumer with sufficient information, available to the supplier, to allow safe use of the article including, as a minimum, the name of that substance. The relevant information shall be provided, free of charge, within 45 days of receipt of the request.

### 2. According to the Article 33 of the Regulation (EC) No 1907/2006(REACH)-Notification of the Substance in Article.

—If a substance meets the criteria in Article 57 and is identified in accordance with Article 59(1), EU and EEA producers or importers of articles have to notify ECHA when their article contains a substance on the Candidate List. This obligation applies if the substance is present above 0.1%(w/w) and its quantities in the produced/imported articles are above 1 tonne in total per year.

### 3. According to the other articles of the Regulation(EC) No 1907/2006(REACH), The relevant obligation for the substance on its own or in preparation.

#### —OBLIGATIONS:SUBSTANCES

From 28 October 2008, EU&EEA suppliers of a substance have to provide a safety data sheet to their customers when the substance is on the Candidate List.

#### —OBLIGATIONS:PREPARATIONS

From 28 October 2008, EU&EEA suppliers of a preparation not classified as dangerous according to Directive 1999/45/EC have to provide the recipients, at their request, with a safety data sheet if the preparation contains at least one substance on the Candidate List and its individual concentration is at least 0.1%(w/w) for non gaseous preparations and at least 0.2% by volume for gaseous preparations.

\*\*\*End \*\*\*

This report is considered invalidated without the Special Seal for Inspection of the HCT, This report shall not be altered, increased or deleted. The results shown in this test report refer only to the sample(s) tested. Without written approval of HCT, this report shall not be copied except in full and published as advertisement.