

## Test Report

No. LPCI/26595/10  
CTS Ref. CTS/10/4876/Toray

Date : 03/01/2011

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**TORAY PLASTICS (MALAYSIA) SDN BHD**  
**2628, MK. 1, SPT., LORONG PERUSAHAAN 4, PRAI FREE INDUSTRIAL ZONE**  
**13600 PRAI, PENANG, MALAYSIA**

**The following merchandise was (were) submitted and identified by the client as:**

Sample Description	:	"TOYOLAC" 920 555
Sample Receiving Date	:	21/12/2010
Testing Period	:	21/12/2010 to 29/12/2010
Date reported	:	03/01/2011

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Test Requested	:	In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.
Test Method	:	Please refer to next page(s).
Test Results	:	Please refer to next page(s).
Analysts	:	Ng Mei Kheng & Loi Woan Yee

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Test results:

## Test Part Description :

Sample Description : "TOYOLAC" 920 555

## RoHS Directive 2002/95/EC

Test Item(s):	Unit	Test Method	Results	MDL
Cadmium(Cd)	mg/kg	With reference to EPA Method 3051A, and performed by ICP-OES	N.D.	2
Lead (Pb)	mg/kg	With reference to EPA Method 3051A, and performed by ICP-OES	N.D.	2
Mercury (Hg)	mg/kg	With reference to EPA Method 3051A, and performed by ICP-OES	N.D.	2
Hexavalent Chromium (CrVI)	mg/kg	With reference to EPA Method 3060A & 7196A, and performed by UV-VIS Spectrophotometry	N.D.	2
<b>Sum of PBBs</b>	mg/kg	With reference to EPA Method 3540C/3550C, and performed by GC-MS	N.D.	-
Monobromobiphenyl	mg/kg	With reference to EPA Method 3540C/3550C, and performed by GC-MS	N.D.	5
Dibromobiphenyl	mg/kg	With reference to EPA Method 3540C/3550C, and performed by GC-MS	N.D.	5
Tribromobiphenyl	mg/kg	With reference to EPA Method 3540C/3550C, and performed by GC-MS	N.D.	5
Tetrabromobiphenyl	mg/kg	With reference to EPA Method 3540C/3550C, and performed by GC-MS	N.D.	5
Hexabromobiphenyl	mg/kg	With reference to EPA Method 3540C/3550C, and performed by GC-MS	N.D.	5
Pentabromobiphenyl	mg/kg	With reference to EPA Method 3540C/3550C, and performed by GC-MS	N.D.	5
Heptabromobiphenyl	mg/kg	With reference to EPA Method 3540C/3550C, and performed by GC-MS	N.D.	5
Octabromobiphenyl	mg/kg	With reference to EPA Method 3540C/3550C, and performed by GC-MS	N.D.	5
Nonabromobiphenyl	mg/kg	With reference to EPA Method 3540C/3550C, and performed by GC-MS	N.D.	5
Decabromobiphenyl	mg/kg	With reference to EPA Method 3540C/3550C, and performed by GC-MS	N.D.	5

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Test Item(s):	Unit	Test Method	Results	MDL
<b>Sum of PBDEs</b>	mg/kg	With reference to EPA Method 3540C/3550C, and performed by GC-MS	N.D.	-
Monobromodiphenyl ether	mg/kg	With reference to EPA Method 3540C/3550C, and performed by GC-MS	N.D.	5
Dibromodiphenyl ether	mg/kg	With reference to EPA Method 3540C/3550C, and performed by GC-MS	N.D.	5
Tribromodiphenyl ether	mg/kg	With reference to EPA Method 3540C/3550C, and performed by GC-MS	N.D.	5
Tetrabromodiphenyl ether	mg/kg	With reference to EPA Method 3540C/3550C, and performed by GC-MS	N.D.	5
Pentabromodiphenyl ether	mg/kg	With reference to EPA Method 3540C/3550C, and performed by GC-MS	N.D.	5
Hexabromodiphenyl ether	mg/kg	With reference to EPA Method 3540C/3550C, and performed by GC-MS	N.D.	5
Heptabromodiphenyl ether	mg/kg	With reference to EPA Method 3540C/3550C, and performed by GC-MS	N.D.	5
Octabromodiphenyl ether	mg/kg	With reference to EPA Method 3540C/3550C, and performed by GC-MS	N.D.	5
Nonabromodiphenyl ether	mg/kg	With reference to EPA Method 3540C/3550C, and performed by GC-MS	N.D.	5
Decabromodiphenyl ether ##	mg/kg	With reference to EPA Method 3540C/3550C, and performed by GC-MS	N.D.	5

Note : (a) mg/kg = ppm ; (0.1wt% = 1000ppm)  
 (b) N.D. = Not Detected  
 (c) MDL = Method Detection Limit  
 (d) ## = 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  
 (e) - = Not regulated

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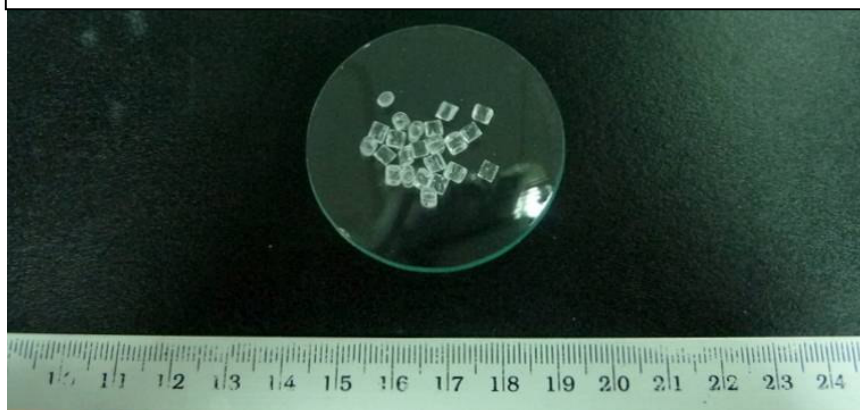
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### Test Part Description :

Sample Description : "TOYOLAC" 920 555

**TORAY PLASTICS (MALAYSIA) SDN BHD**  
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## 1. DETERMINATION OF HEXAVALENT CHROMIUM BY METHOD US EPA 3060A/7196A

Sample Preparation  
↓  
Add colour-developing reagent  
↓  
Acidify with H<sub>2</sub>SO<sub>4</sub>  
↓  
Let stand for 5-10 min  
↓  
Analyses by UV- Spectrophotometer (540 nm)

## 2. MICROWAVE ASSISTED ACID DIGESTION OF ORGANICALLY BASED METRICES (US EPA 3051A)


Cut sample in small pieces  
↓  
Weight sample (0.2-0.5g) into digestion vessel  
↓  
Acid digestion (HNO<sub>3</sub>) – Microwave  
↓  
"Totally Dissolved"  
↓  
Filtration  
↓  
Analyses by ICP

## 3. DETERMINATION OF PBB/PBDE WITH GC-MS

Cut sample in small pieces  
↓  
Weight sample (0.5-4g) into extraction thimble  
↓  
Ultrasonic / Soxhlet Extraction with Toluene  
↓  
Filter through 0.45 um membrane filter  
↓  
Analyses by GC-MS (with appropriate dilution)

\*\*\*\* End of Report \*\*\*\*

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