

Test Report

No. : CE/2008/43420 Date : 2008/04/21 Page : 1 of 12

3M TAIWAN LTD.
66, 800 LANE, CHUNG-SHAN SOUTH ROAD, YANG-MEI, TAOYUAN,
TAIWAN, R. O. C.



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

Sample Description : 3M 300LSE SERIES TAPE
Style/Item No. : 9453LE, 9471LE, 9472LE, 9653LE, 9671LE, 9672LE, 9698LE,
8132LE, 8153LE, 9495LE, 9474LE, 9490LE
Sample Receiving Date : 2008/04/11
Testing Period : 2008/04/11 TO 2008/04/21

=====
Test Result(s) : Please refer to next page(s).

Conclusion : Base on the performed tests on submitted samples, the results **comply with** the PAHs requirement according to (Category 1) of ZEK 01-08 of German ZLS and its amendments.



Chenyu Kung / Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory – Taipei

Test Report

No. : CE/2008/43420 Date : 2008/04/21 Page : 2 of 12

3M TAIWAN LTD.
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Test Result(s)

PART NAME NO.1 : TRANSPARENT DOUBLE ADHESIVE TAPE
(EXCLUDING THE RELEASE PAPER)

Test Item (s):	Unit	Method	MDL	Result
				No.1
Cadmium (Cd)	mg/kg	With reference to IEC 62321/2nd CDV (111/95/CDV) - Clause 8. Determination of Cadmium by ICP-AES.	2	n.d.
Lead (Pb)	mg/kg	With reference to IEC 62321/2nd CDV (111/95/CDV) - Clause 8. Determination of Lead by ICP-AES.	2	n.d.
Mercury (Hg)	mg/kg	With reference to IEC 62321/2nd CDV (111/95/CDV) - Clause 7. Determination of Mercury by ICP-AES.	2	n.d.
Hexavalent Chromium Cr(VI) by alkaline extraction	mg/kg	With reference to IEC 62321/2nd CDV (111/95/CDV) - Annex C. Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.	2	n.d.
Hexabromocyclododecane (HBCDD) (CAS No.: 025637-99-4)	mg/kg	With reference to US EPA 8270D method. Analysis was performed by GC/MS.	5	n.d.
PFOS	mg/kg	With reference to US EPA 3540C : 1996 method for PFOS Content. Analysis was performed by LC/MS.	1	n.d.
Tetrabromobisphenol A (TBBP-A) (CAS No.: 000079-94-7)	mg/kg	With reference to DIN 53313 and IEC 62321 ed.1. Analysis was performed by GC/MS.	10	n.d.
Halogen	---	With reference to BS EN 14582:2007. Analysis was performed by IC method for F , Cl , Br , I content.	---	---
Halogen-Fluorine (F) (CAS No.: 007782-41-4)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC method for Fluorine content.	50	n.d.

Test Report

No. : CE/2008/43420 Date : 2008/04/21 Page : 3 of 12

3M TAIWAN LTD.
66, 800 LANE, CHUNG-SHAN SOUTH ROAD, YANG-MEI, TAOYUAN,
TAIWAN, R. O. C.



Test Item (s):	Unit	Method	MDL	Result
				No.1
Halogen-Chlorine (Cl) (CAS No.: 007782-50-5)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC method for Chlorine content.	50	155
Halogen-Bromine (Br) (CAS No.: 007726-95-6)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC method for Bromine content.	50	n.d.
Halogen-Iodine (I) (CAS No.: 007553-56-2)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC method for Iodine content.	50	n.d.
Sum of PBBs	mg/kg	With reference to IEC 62321/2nd CDV (111/95/CDV) - Annex A. Determination of PBB and PBDE by GC/MS.	-	n.d.
Monobromobiphenyl			5	n.d.
Dibromobiphenyl			5	n.d.
Tribromobiphenyl			5	n.d.
Tetrabromobiphenyl			5	n.d.
Pentabromobiphenyl			5	n.d.
Hexabromobiphenyl			5	n.d.
Heptabromobiphenyl			5	n.d.
Octabromobiphenyl			5	n.d.
Nonabromobiphenyl			5	n.d.
Decabromobiphenyl			5	n.d.
Sum of PBDEs (Mono to Nona) (Note 4)			-	n.d.
Monobromodiphenyl ether			5	n.d.
Dibromodiphenyl ether			5	n.d.
Tribromodiphenyl ether			5	n.d.
Tetrabromodiphenyl ether			5	n.d.
Pentabromodiphenyl ether			5	n.d.
Hexabromodiphenyl ether			5	n.d.
Heptabromodiphenyl ether			5	n.d.
Octabromodiphenyl ether			5	n.d.
Nonabromodiphenyl ether			5	n.d.
Decabromodiphenyl ether	5	n.d.		
Sum of PBDEs (Mono to Deca)	-	n.d.		

Test Report

No. : CE/2008/43420 Date : 2008/04/21 Page : 4 of 12

3M TAIWAN LTD.
66, 800 LANE, CHUNG-SHAN SOUTH ROAD, YANG-MEI, TAOYUAN,
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Test Item (s):	Unit	Method	MDL	Result
				No.1
Polynuclear Aromatic Hydrocarbons (PAHs)	---	---	---	---
Phenanthrene (CAS No.: 000085-01-8)	mg/kg	With reference to ZLS standard ZEK 01-08 method. Analysis was performed by GC/MS.	0.2	n.d.
Pyrene (CAS No.: 000129-00-0)			0.2	n.d.
Naphthalene (CAS No.: 000091-20-3)			0.2	n.d.
Indeno[1,2,3-c,d] pyrene (CAS No.: 000193-39-5)			0.2	n.d.
Fluorene (CAS No.: 000086-73-7)			0.2	n.d.
Fluoranthene (CAS No.: 000206-44-0)			0.2	n.d.
Dibenzo[a,h]anthracene (CAS No.: 000053-70-3)			0.2	n.d.
Chrysene (CAS No.: 000218-01-9)			0.2	n.d.
Benzo[k]fluoranthene (CAS No.: 000207-08-9)			0.2	n.d.
Benzo[g,h,i]perylene (CAS No.: 000191-24-2)			0.2	n.d.
Benzo[b]fluoranthene (CAS No.: 000205-99-2)			0.2	n.d.
Benzo[a]pyrene (CAS No.: 000050-32-8)			0.2	n.d.
Benzo[a]anthracene (CAS No.: 000056-55-3)			0.2	n.d.
Anthracene (CAS No.: 000120-12-7)			0.2	n.d.
Acenaphthylene (CAS No.: 000208-96-8)			0.2	n.d.
Acenaphthene (CAS No.: 000083-32-9)			0.2	n.d.
Sum of 16 PAHs			0.2	n.d.

- Note :
1. mg/kg = ppm
 2. n.d. = Not Detected
 3. MDL = Method Detection Limit
 4. According to 2005/717/EC DecaBDE is exempt.
 5. " - " = Not Regulated
 6. " --- " = Not Conducted

Test Report

No. : CE/2008/43420 Date : 2008/04/21 Page : 5 of 12

3M TAIWAN LTD.
66, 800 LANE, CHUNG-SHAN SOUTH ROAD, YANG-MEI, TAOYUAN,
TAIWAN, R. O. C.



Reference information:

Requirement of ZEK 01-08 : Restraining maximum values for products

Parameter	Category 1	Category 2	Category 3
	Materials in contact with foodstuff or materials which are meant to put in the mouth as well as toys for children <36 months.	Materials with foreseeable skin contact >30 s (prolonged skin contact) and toys not covered by category 1.	Materials with foreseeable skin contact <30 s (short time skin contact) or without skin contact.
Benzo[a]pyrene (mg/kg)	<MDL (<0.2)**	1	20
Sum of 16 EPA-PAH (mg/kg)*	<MDL (<0.2)**	10	200

Remark : * = Only PAH substances >0.2 mg/kg are taken into account while calculating the sum of PAHs
 ** = In case that the maximum values exceed the limits of category 1, but are within the limits of category 2, one may confirm the suitability of the tested material for contact with foodstuff or oral mucosa by additional specific migration tests of PAH components based on DIN EN 1186ff and §64 LFGB 80.30-1. The conclusion of the migration test results must be made based on food law criteria.

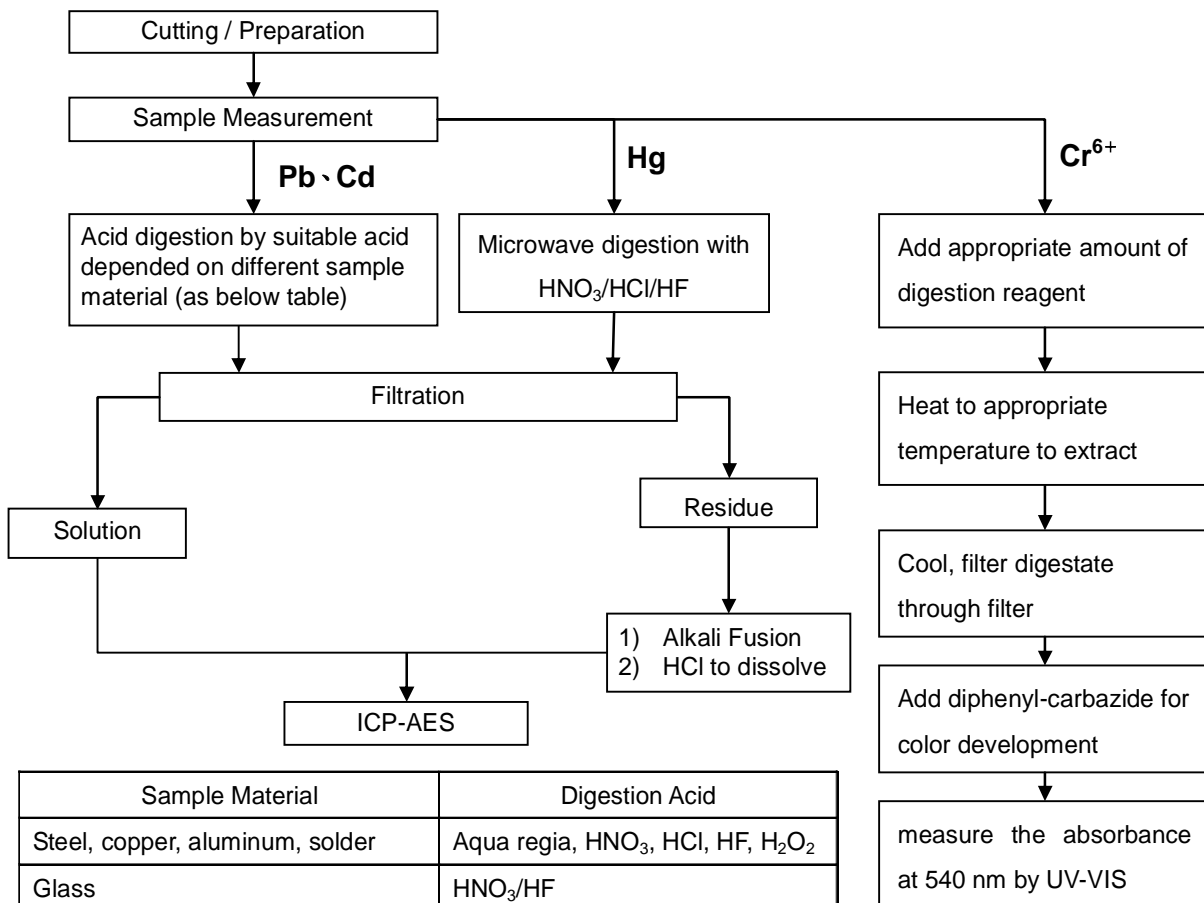
Test Report

No. : CE/2008/43420 Date : 2008/04/21 Page : 6 of 12

3M TAIWAN LTD.
66, 800 LANE, CHUNG-SHAN SOUTH ROAD, YANG-MEI, TAOYUAN,
TAIWAN, R. O. C.



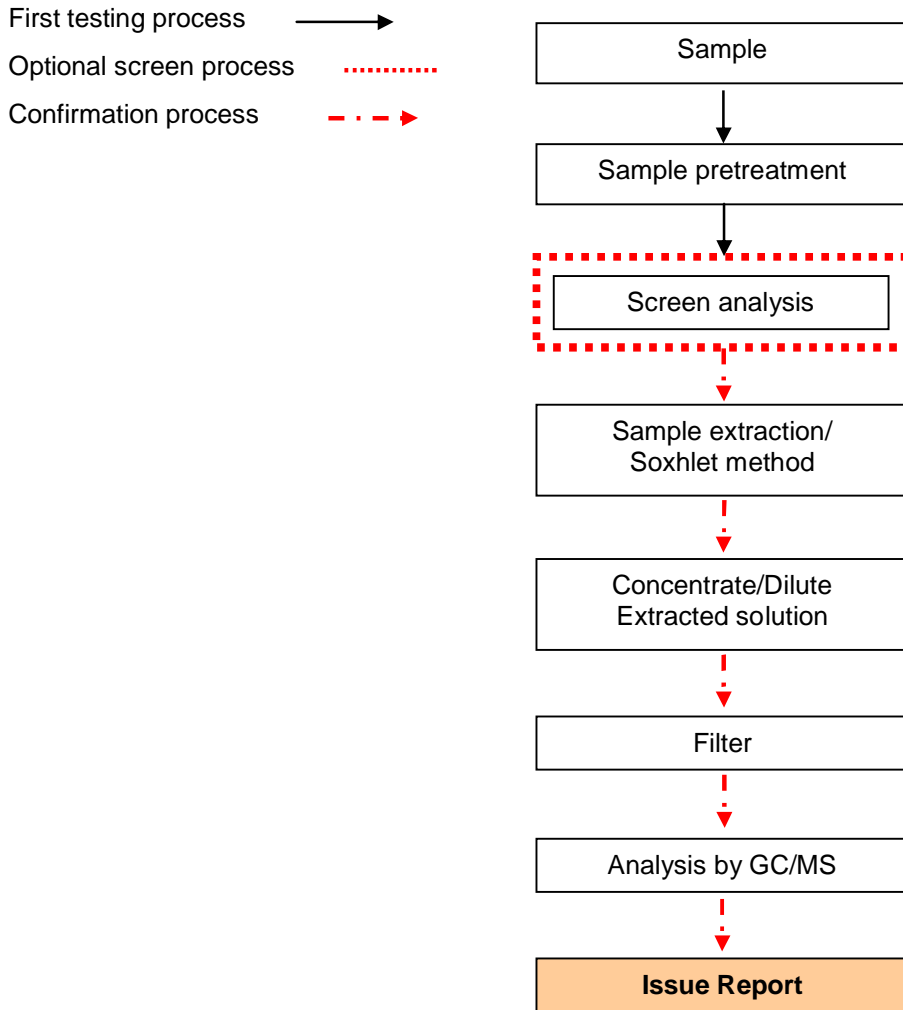
- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart.
(Cr⁶⁺ test method excluded)
- 2) Name of the person who made measurement: Troy Chang
- 3) Name of the person in charge of measurement: Chenyu Kung



Sample Material	Digestion Acid
Steel, copper, aluminum, solder	Aqua regia, HNO ₃ , HCl, HF, H ₂ O ₂
Glass	HNO ₃ /HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO ₃
Plastic	H ₂ SO ₄ , H ₂ O ₂ , HNO ₃ , HCl
Others	Any acid to total digestion



PBB/PBDE analytical FLOW CHART



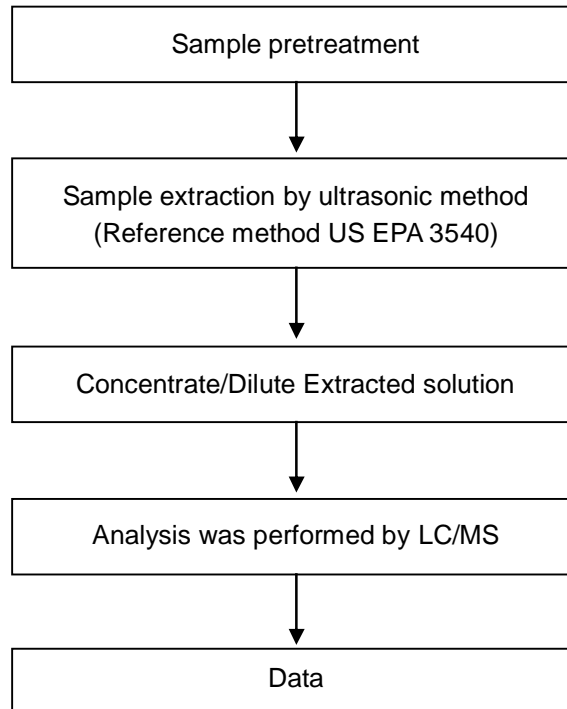
Test Report

No. : CE/2008/43420 Date : 2008/04/21 Page : 8 of 12

3M TAIWAN LTD.
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TAIWAN, R. O. C.



Analytical flow chart of PFOA/PFOS content



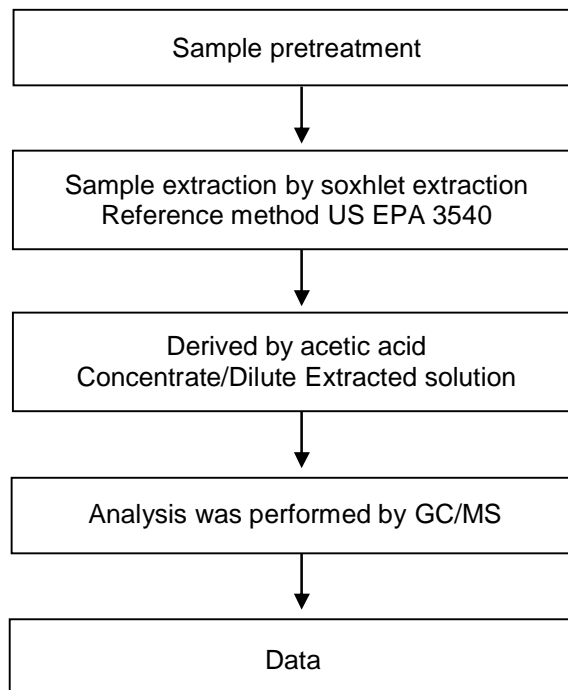
Test Report

No. : CE/2008/43420 Date : 2008/04/21 Page : 9 of 12

3M TAIWAN LTD.
66, 800 LANE, CHUNG-SHAN SOUTH ROAD, YANG-MEI, TAOYUAN,
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TBBP-A analytical flow chart



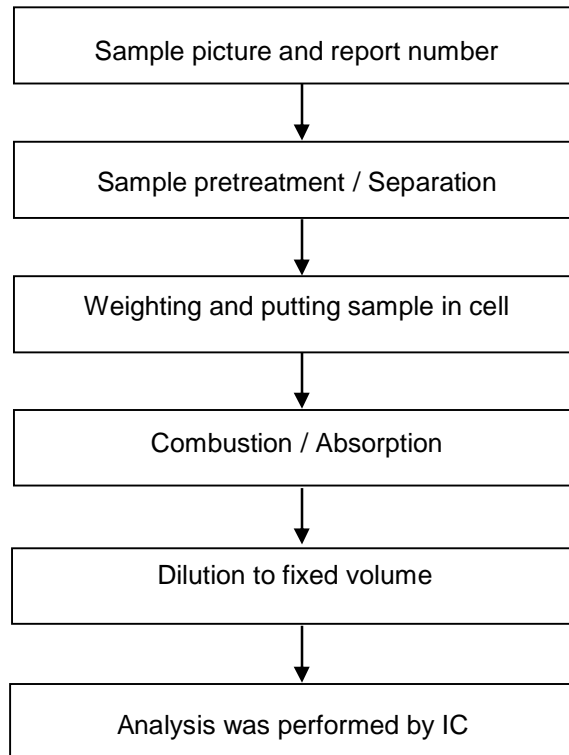
Test Report

No. : CE/2008/43420 Date : 2008/04/21 Page : 10 of 12

3M TAIWAN LTD.
66, 800 LANE, CHUNG-SHAN SOUTH ROAD, YANG-MEI, TAOYUAN,
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Analytical flow chart of halogen content



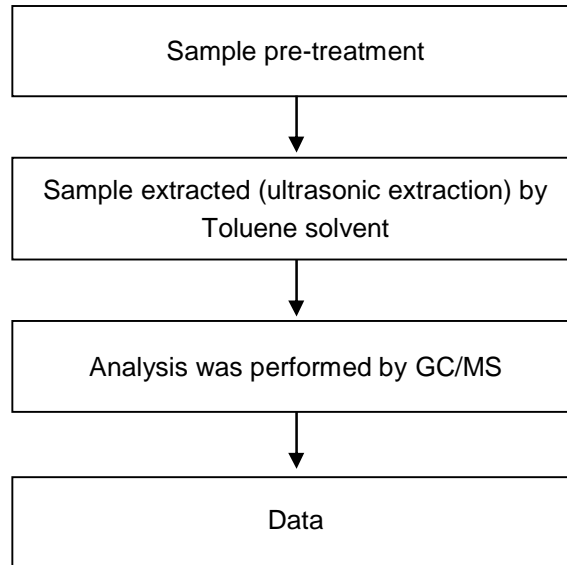
Test Report

No. : CE/2008/43420 Date : 2008/04/21 Page : 11 of 12

3M TAIWAN LTD.
66, 800 LANE, CHUNG-SHAN SOUTH ROAD, YANG-MEI, TAOYUAN,
TAIWAN, R. O. C.



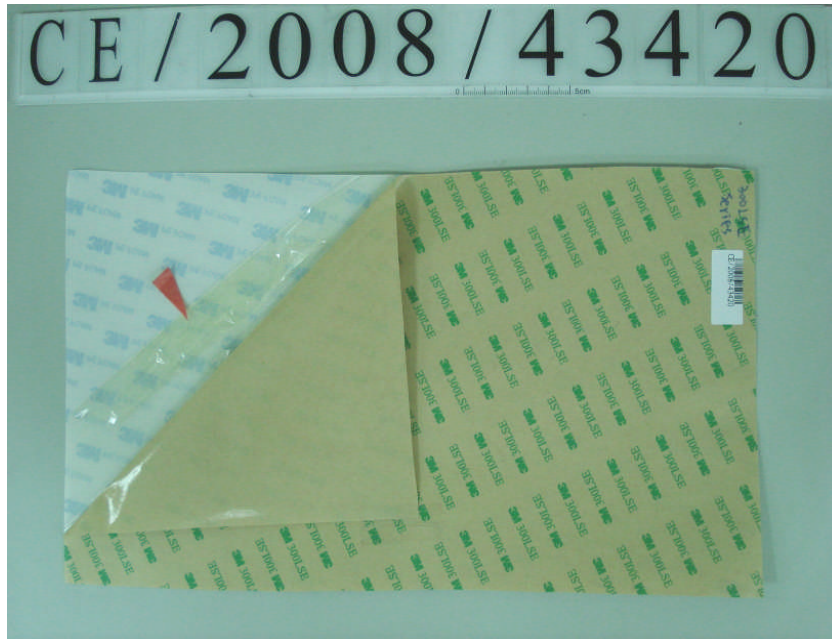
PAHs (Poly Aromatic Hydrocarbons) analytical flow chart



Test Report

No. : CE/2008/43420 Date : 2008/04/21 Page : 12 of 12

3M TAIWAN LTD.
66, 800 LANE, CHUNG-SHAN SOUTH ROAD, YANG-MEI, TAOYUAN,
TAIWAN, R. O. C.



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