

No.: ETR21C05348M01 Date: 10-Jan-2022

TOWER SEMICONDUCTOR LTD.

20 SHAUL AMOR ST. MIGDAL HAEMEK ISRAEL

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

Sample Submitted By : TOWER SEMICONDUCTOR LTD.

Sample Name : SILICON WAFERS

Style/Item No. : 0.13µ 8" TOWER SEMICONDUCTOR MH FAB2

Sample Receiving Date : 27-Dec-2021

Testing Period : 27-Dec-2021 to 05-Jan-2022

Test Requested : (1) As specified by client, with reference to RoHS 2011/65/EU Annex II and amending

Directive (EU) 2015/863 to determine Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs,

DBP, BBP, DEHP, DIBP contents in the submitted sample(s).

(2) Please refer to next pages for the other item(s).

**Test Results** : Please refer to following pages.

**Conclusion** : (1) Based on the performed tests on submitted sample(s), the test results of Cadmium,

Lead, Mercury, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.





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PIN CODE: 64605BD5

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#### **Test Part Description**

No.1 : SILICON WAFERS - ETR21C05342 No.2 : SILICON WAFERS - ETR21C05348

Test Result(s)

Test Item(s)	Method	Unit	MDL	Res	sult	Limit
				No.1	No.2	
Cadmium (Cd) (CAS No.: 7440-43-9)	With reference to IEC 62321-5: 2013, analysis was performed by ICP-OES.	mg/kg	2		n.d.	100
Lead (Pb) (CAS No.: 7439-92-1)	With reference to IEC 62321-5: 2013, analysis was performed by ICP-OES.	mg/kg	2		n.d.	1000
Mercury (Hg) (CAS No.: 7439-97-6)	With reference to IEC 62321-4: 2013+AMD1: 2017, analysis was performed by ICP-OES.	mg/kg	2		n.d.	1000
Hexavalent Chromium Cr(VI) (CAS No.: 18540-29-9)	With reference to IEC 62321-7-2: 2017, analysis was performed by UV- VIS.	mg/kg	8		n.d.	1000
Monobromobiphenyl		mg/kg	5		n.d.	_
Dibromobiphenyl		mg/kg	5		n.d.	-
Tribromobiphenyl		mg/kg	5		n.d.	-
Tetrabromobiphenyl		mg/kg	5		n.d.	-
Pentabromobiphenyl		mg/kg	5		n.d.	-
Hexabromobiphenyl		mg/kg	5		n.d.	-
Heptabromobiphenyl		mg/kg	5		n.d.	-
Octabromobiphenyl		mg/kg	5		n.d.	-
Nonabromobiphenyl		mg/kg	5		n.d.	-
Decabromobiphenyl		mg/kg	5		n.d.	-
Sum of PBBs	With reference to IEC 62321-6: 2015,	mg/kg	-		n.d.	1000
Monobromodiphenyl ether	analysis was performed by GC/MS.	mg/kg	5		n.d.	-
Dibromodiphenyl ether		mg/kg	5		n.d.	-
Tribromodiphenyl ether		mg/kg	5		n.d.	-
Tetrabromodiphenyl ether		mg/kg	5		n.d.	-
Pentabromodiphenyl ether		mg/kg	5		n.d.	-
Hexabromodiphenyl ether		mg/kg	5		n.d.	_
Heptabromodiphenyl ether	] [	mg/kg	5		n.d.	_
Octabromodiphenyl ether		mg/kg	5		n.d.	-
Nonabromodiphenyl ether		mg/kg	5		n.d.	-
Decabromodiphenyl ether		mg/kg	5		n.d.	-
Sum of PBDEs		mg/kg	-		n.d.	1000

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Test Item(s)	Method	Unit	MDL	Res	sult	Limit
				No.1	No.2	
Butyl benzyl phthalate (BBP) (CAS No.:	With reference to IEC 62321-8: 2017,	mg/kg	50		n.d.	1000
85-68-7)	analysis was performed by GC/MS.					
Dibutyl phthalate (DBP) (CAS No.: 84-	With reference to IEC 62321-8: 2017,	mg/kg	50		n.d.	1000
74-2)	analysis was performed by GC/MS.					
Di-(2-ethylhexyl) phthalate (DEHP)	With reference to IEC 62321-8: 2017,	mg/kg	50		n.d.	1000
(CAS No.: 117-81-7)	analysis was performed by GC/MS.					
Diisobutyl phthalate (DIBP) (CAS No.:	With reference to IEC 62321-8: 2017,	mg/kg	50		n.d.	1000
84-69-5)	analysis was performed by GC/MS.					
Diisodecyl phthalate (DIDP) (CAS No.:	With reference to IEC 62321-8: 2017,	mg/kg	50		n.d.	-
26761-40-0, 68515-49-1)	analysis was performed by GC/MS.					
Diisononyl phthalate (DINP) (CAS No.:	With reference to IEC 62321-8: 2017,	mg/kg	50		n.d.	-
28553-12-0, 68515-48-0)	analysis was performed by GC/MS.					
Di-n-octyl phthalate (DNOP) (CAS No.:	With reference to IEC 62321-8: 2017,	mg/kg	50		n.d.	-
117-84-0)	analysis was performed by GC/MS.					
Bis(2-methoxyethyl) phthalate (DMEP)	With reference to IEC 62321-8: 2017,	mg/kg	50		n.d.	-
(CAS No.: 117-82-8)	analysis was performed by GC/MS.	J. J.				
1,2-Benzenedicarboxylic acid, di-C7-	With reference to IEC 62321-8: 2017,	mg/kg	50		n.d.	-
11-branched and linear alkyl esters	analysis was performed by GC/MS.	J. J.				
(DHNUP) (CAS No.: 68515-42-4)						
1,2-Benzenedicarboxylic acid, di-C6-8-	With reference to IEC 62321-8: 2017,	mg/kg	50		n.d.	-
branched alkyl esters, C7-rich (DIHP)	analysis was performed by GC/MS.					
(CAS No.: 71888-89-6)						
Hexabromocyclododecane (HBCDD)	With reference to IEC 62321: 2008,	mg/kg	5		n.d.	_
and all major diastereoisomers	analysis was performed by GC/MS.	J. J.				
identified (α- HBCDD, β- HBCDD, γ-						
HBCDD) (CAS No.: 25637-99-4, 3194-						
55-6 (134237-51-7, 134237-50-6,						
134237-52-8))						
Polychlorinated biphenyls (PCBs)	With reference to US EPA 3550C:	mg/kg	0.5		n.d.	-
	2007, analysis was performed by	J. J.				
	GC/MS.					
Polychlorinated naphthalene (PCNs)	With reference to US EPA 3550C:	mg/kg	5		n.d.	-
, , , ,	2007, analysis was performed by					
	GC/MS.					

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Test Item(s)	Method	Unit	MDL	Res	sult	Limit
				No.1	No.2	,
Polychlorinated terphenyls (PCTs)	With reference to US EPA 3550C: 2007, analysis was performed by GC/MS.	mg/kg	0.5		n.d.	-
Short Chain Chlorinated Paraffins(C10-C13) (SCCP) (CAS No.: 85535-84-8)  AZO Dyes	With reference to ISO 18219: 2015, analysis was performed by GC/MS.	mg/kg	50		n.d.	-
4-aminodiphenyl (CAS No.: 92-67-1)	With reference to EN ISO 14362-1: 2017, analysis was performed by GC/MS and HPLC/DAD.	mg/kg	3		n.d.	-
Benzidine (CAS No.: 92-87-5)	With reference to EN ISO 14362-1: 2017, analysis was performed by GC/MS and HPLC/DAD.	mg/kg	3		n.d.	-
4-chloro-o-toluidine (CAS No.: 95-69- 2)	With reference to EN ISO 14362-1: 2017, analysis was performed by GC/MS and HPLC/DAD.	mg/kg	3		n.d.	-
2-naphthylamine (CAS No.: 91-59-8)	With reference to EN ISO 14362-1: 2017, analysis was performed by GC/MS and HPLC/DAD.	mg/kg	3		n.d.	-
o-aminoazotoluene (CAS No.: 97-56-3)	With reference to EN ISO 14362-1: 2017, analysis was performed by GC/MS and HPLC/DAD.	mg/kg	3		n.d.	-
5-nitro-o-toluidine (CAS No.: 99-55-8)	With reference to EN ISO 14362-1: 2017, analysis was performed by GC/MS and HPLC/DAD.	mg/kg	3		n.d.	-
4-chloroaniline (CAS No.: 106-47-8)	With reference to EN ISO 14362-1: 2017, analysis was performed by GC/MS and HPLC/DAD.	mg/kg	3		n.d.	-
2,4-diaminoanisole (CAS No.: 615-05-4)	With reference to EN ISO 14362-1: 2017, analysis was performed by GC/MS and HPLC/DAD.	mg/kg	3		n.d.	-
4,4'-diaminodiphenylmethane (MDA) (CAS No.: 101-77-9)	With reference to EN ISO 14362-1: 2017, analysis was performed by GC/MS and HPLC/DAD.	mg/kg	3		n.d.	-
3,3'-dichlorobenzidine (CAS No.: 91-94-1)	With reference to EN ISO 14362-1: 2017, analysis was performed by GC/MS and HPLC/DAD.	mg/kg	3		n.d.	-

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				No.1	No.2	,
3,3'-dimethoxybenzidine (CAS No.: 119-90-4)	With reference to EN ISO 14362-1: 2017, analysis was performed by GC/MS and HPLC/DAD.	mg/kg	3		n.d.	-
3,3'-dimethylbenzidine (CAS No.: 119-93-7)	With reference to EN ISO 14362-1: 2017, analysis was performed by GC/MS and HPLC/DAD.	mg/kg	3		n.d.	-
3,3'-dimethyl-4,4'- diaminodiphenylmethane (CAS No.: 838-88-0)	With reference to EN ISO 14362-1: 2017, analysis was performed by GC/MS and HPLC/DAD.	mg/kg	3		n.d.	-
2-methoxy-5-methylaniline (CAS No.: 120-71-8)	With reference to EN ISO 14362-1: 2017, analysis was performed by GC/MS and HPLC/DAD.	mg/kg	3		n.d.	-
4,4'-methylene-bis-(2-chloroaniline) (CAS No.: 101-14-4)	With reference to EN ISO 14362-1: 2017, analysis was performed by GC/MS and HPLC/DAD.	mg/kg	3		n.d.	-
4,4'-oxydianiline (CAS No.: 101-80-4)	With reference to EN ISO 14362-1: 2017, analysis was performed by GC/MS and HPLC/DAD.	mg/kg	3		n.d.	-
4,4'-thiodianiline (CAS No.: 139-65-1)	With reference to EN ISO 14362-1: 2017, analysis was performed by GC/MS and HPLC/DAD.	mg/kg	3		n.d.	-
o-toluidine (CAS No.: 95-53-4)	With reference to EN ISO 14362-1: 2017, analysis was performed by GC/MS and HPLC/DAD.	mg/kg	3		n.d.	-
2,4-diaminotoluene (CAS No.: 95-80-7)	With reference to EN ISO 14362-1: 2017, analysis was performed by GC/MS and HPLC/DAD.	mg/kg	3		n.d.	-
2,4,5-trimethylaniline (CAS No.: 137-17-7)	With reference to EN ISO 14362-1: 2017, analysis was performed by GC/MS and HPLC/DAD.	mg/kg	3		n.d.	-
o-anisidine (CAS No.: 90-04-0)	With reference to EN ISO 14362-1: 2017, analysis was performed by GC/MS and HPLC/DAD.	mg/kg	3		n.d.	-

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Test Item(s)	Method	Unit	MDL	Re	sult	Limit
				No.1	No.2	
4-aminoazobenzene (CAS No.: 60-09-3)	With reference to EN ISO 14362-1: 2017 or/and EN ISO 14362-3: 2017, analysis was performed by GC/MS & HPLC/DAD.	mg/kg	3		n.d.	-
2,4-xylidine (CAS No.: 95-68-1)	With reference to EN ISO 14362-1: 2017, analysis was performed by GC/MS and HPLC/DAD.	mg/kg	3		n.d.	-
2,6-xylidine (CAS No.: 87-62-7)	With reference to EN ISO 14362-1: 2017, analysis was performed by GC/MS and HPLC/DAD.	mg/kg	3		n.d.	-
Formaldehyde (CAS No.: 50-00-0)	With reference to ISO 17226-1: 2021, analysis was performed by LC/DAD.	mg/kg	3		n.d.	-
Asbestos						
Actinolite (CAS No.: 77536-66-4)		% (w/w)	-		Negative	-
Amosite (CAS No.: 12172-73-5)	With reference to EPA 600/R-93/116:	% (w/w)	-		Negative	-
Anthophyllite (CAS No.: 77536-67-5)	1993, analysis was performed by Stereo Microscope (SM), Dispersion	% (w/w)	-		Negative	-
Chrysotile (CAS No.: 12001-29-5)	Staining Polarized Light Microscope (DS-PLM) and X-ray Diffraction	% (w/w)	-		Negative	-
Crocidolite (CAS No.: 12001-28-4)	Spectrometer (XRD).	% (w/w)	-		Negative	-
Tremolite (CAS No.: 77536-68-6)		% (w/w)	-		Negative	-
Dimethyl fumarate (DMFu) (CAS No.: 624-49-7)	With reference to US EPA 3550C: 2007, analysis was performed by GC/MS.	mg/kg	0.1		n.d.	-
Polyvinyl chloride (PVC)	With reference to ASTM E1252: 2013, analysis was performed by FT-IR and Flame Test.	**	-		Negative	-

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Test Item(s)	Method	Unit	MDL	Res	sult	Limit
				No.1	No.2	
Chlorofluorocarbons (CFCs)						
CFC-13 (CAS No.: 75-72-9)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
CFC-111 (CAS No.: 354-56-3)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
CFC-112 (CAS No.: 76-12-0)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
CFC-211 (CAS No.: 422-78-6)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
CFC-212 (CAS No.: 3182-26-1)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
CFC-213 (CAS No.: 2354-06-5)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
CFC-214 (CAS No.: 29255-31-0)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
CFC-215 (CAS No.: 4259-43-2)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
CFC-216 (CAS No.: 661-97-2)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
CFC-217 (CAS No.: 422-86-6)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
CFC-12 (CAS No.: 75-71-8)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-

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Test Item(s)	Method	Unit	MDL	IDL Result		Limit
				No.1	No.2	,
CFC-11 (CAS No.: 75-69-4)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
CFC-115 (CAS No.: 76-15-3)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	1
CFC-114 (CAS No.: 76-14-2)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
CFC-113 (CAS No.: 76-13-1)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
Hydrochlorofluorocarbons (HCFCs)						
HCFC-21 (CAS No.: 75-43-4)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-22 (CAS No.: 75-45-6)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-31 (CAS No.: 593-70-4)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-121 (CAS No.: 354-14-3)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-122 (CAS No.: 354-21-2)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-123 (CAS No.: 306-83-2)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-124 (CAS No.: 2837-89-0)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-

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Test Item(s)	Method	Unit	MDL	Res	sult	Limit
				No.1	No.2	1
HCFC-131 (CAS No.: 359-28-4)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-132b (CAS No.: 1649-08-7)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	1
HCFC-133a (CAS No.: 75-88-7)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-142b (CAS No.: 75-68-3)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-221 (CAS No.: 422-26-4)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-222 (CAS No.: 422-49-1)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-223 (CAS No.: 422-52-6)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-224 (CAS No.: 422-54-8)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-225ca (CAS No.: 422-56-0)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-225cb (CAS No.: 507-55-1)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-226 (CAS No.: 431-87-8)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-231 (CAS No.: 421-94-3)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-

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TOWER SEMICONDUCTOR LTD.
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Test Item(s)	Method	Unit	MDL	Res	sult	Limit
				No.1	No.2	,
HCFC-232 (CAS No.: 460-89-9)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-233 (CAS No.: 7125-84-0)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-234 (CAS No.: 425-94-5)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-235 (CAS No.: 460-92-4)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-241 (CAS No.: 666-27-3)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-242 (CAS No.: 460-63-9)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-244	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-251 (CAS No.: 421-41-0)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-252 (CAS No.: 819-00-1)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-261 (CAS No.: 420-97-3)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-262 (CAS No.: 421-02-03)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-271 (CAS No.: 430-55-7)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-

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TOWER SEMICONDUCTOR LTD. 20 SHAUL AMOR ST. MIGDAL HAEMEK ISRAEL

Test Item(s)	Method	Unit	MDL	IDL Result		Limit
				No.1	No.2	,
HCFC-141b (CAS No.: 1717-00-6)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-243 (CAS No.: 460-69-5)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-253 (CAS No.: 460-35-5)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-141	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-142	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-151	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HCFC-225	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
Halons						
Halon-1211 (CAS No.: 353-59-3)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
Halon-1301 (CAS No.: 75-63-8)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
Halon-2402 (CAS No.: 124-73-2)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
Bromomethane (CAS No.: 74-83-9)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-

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Test Item(s)	Method	Unit	MDL	Res	sult	Limit
				No.1	No.2	
Hydrobromofluorocarbons (HBFCs)						
HBFC-271B1 (C3H6FBr)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-262B1 (C3H5F2Br)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-261B2 (C3H5FBr2)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-253B1 (C3H4F3Br)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-252B2 (C3H4F2Br2)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-251B3 (C3H4FBr3)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-244B1 (C3H3F4Br)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-243B2 (C3H3F3Br2)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-242B3 (C3H3F2Br3)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-241B4 (C3H3FBr4)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-235B1 (C3H2F5Br)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-

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Test Item(s)	Method	Unit	MDL	Res	Limit	
				No.1	No.2	,
HBFC-234B2 (C3H2F4Br2)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-233B3 (C3H2F3Br3)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-232B4 (C3H2F2Br4)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-231B5 (C3H2FBr5)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-226B1 (C3HF6Br)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-225B2 (C3HF5Br2)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-224B3 (C3HF4Br3)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-223B4 (C3HF3Br4)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-222B5 (C3HF2Br5)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-221B6 (C3HFBr6)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-151B1 (C2H4FBr)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-142B1 (C2H3F2Br)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-

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Test Item(s)	Method	Unit	MDL	Res	sult	Limit
				No.1	No.2	1
HBFC-141B2 (C2H3FBr2)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-133B1 (C2H2F3Br)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-132B2 (C2H2F2Br2)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-131B3 (C2H2FBr3)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-124B1 (C2HF4Br)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-123B2 (C2HF3Br2)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-122B3 (C2HF2Br3)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-121B4 (C2HFBr4)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-31B1 (CH2FBr) (CAS No.: 373-52-4)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-22B1 (CHF2Br) (CAS No.: 1511-62-2)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HBFC-21B2 (CHFBr2) (CAS No.: 1868- 53-7)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-

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Test Item(s)	Method	Unit	MDL	Res	sult	Limit
				No.1	No.2	,
Chlorinate hydrocarbon (CHCs)						
1,1-Dichloropropene (CAS No.: 563-58-6)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	1
1,2-Dichloroethane (CAS No.: 107-06-2)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
2,2-Dichloropropane (CAS No.: 594-20-7)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
Carbon tetrachloride (CAS No.: 56-23-5)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
Chloromethane (CAS No.: 74-87-3)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
cis-1,2-Dichloroethene (CAS No.: 156-59-2)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
cis-1,3-Dichloropropene (CAS No.: 10061-01-5)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
Hexachlorobutadiene (CAS No.: 87-68-3)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
trans-1,2-Dichloroethene (CAS No.: 156-60-5)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
trans-1,3-Dichloropropene (CAS No.: 10061-02-6)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
Dichloromethane, Methylene chloride (CAS No.: 75-09-2)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-

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Test Item(s)	Method	Unit	MDL	Res	sult	Limit
				No.1	No.2	,
1,2-Dichloropropane (CAS No.: 78-87-5)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
1,1,1,2-Tetrachloroethane (CAS No.: 630-20-6)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
1,1,1-Trichloroethane (CAS No.: 71-55-6)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
1,1,2-Trichloroethane (CAS No.: 79-00-5)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
1,1,2,2-Tetrachloroethane (CAS No.: 79-34-5)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
1,1-Dichloroethylene (CAS No.: 75-35-4)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
1,1-Dichloroethane (CAS No.: 75-34-3)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
Chloroethane (CAS No.: 75-00-3)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
Tetrachloroethene (CAS No.: 127-18-4)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
Trichloroethylene (CAS No.: 79-01-6)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
1,3-Dichloropropane (CAS No.: 142-28-9)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
Chloroform (CAS No.: 67-66-3)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-

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Test Item(s)	Method	Unit	MDL	Res	sult	Limit
				No.1	No.2	
1,2,3-Trichloropropane (CAS No.: 96- 18-4)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
Hydrofluorocarbon (HFCs)						
HFC-23 (CHF3) (CAS No.: 75-46-7)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HFC-32 (CH2F2) (CAS No.: 75-10-5)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HFC-41 (CH3F) (CAS No.: 593-53-3)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HFC-43-10mee (C5H2F10)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HFC-125 (C2HF5)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HFC-134 (C2H2F4)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HFC-134a (CH2FCF3) (CAS No.: 811- 97-2)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HFC-143 (CH3F3)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HFC-143a (CH3F3)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HFC-152a (C2H4F2) (CAS No.: 75-37-6)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	1

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Test Item(s)	Method	Unit	MDL	Res	sult	Limit
				No.1	No.2	
HFC-227ea (C3HF7) (CAS No.: 431-89- 0)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HFC-236fa (CAS No.: 431-63-0)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HFC-245ca (C3H3F5)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HFC-245fa (C3H3F5)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HFC-365mfc (C4H5F5)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
HFC-236ea (C3H2F6) (CAS No.: 431-63- 0)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
Perfluorocarbon (PFCs)						
1,4-dihydrooctafluorobutane (CAS No.: 377-36-6)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
2-Perfluoromethylpentane (CAS No.: 355-04-4)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
Decafluorobutane (CAS No.: 355-25-9)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
F14 (CAS No.: 75-73-0)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
Fluorocarbon 116 (CAS No.: 76-16-4)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-

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TOWER SEMICONDUCTOR LTD. 20 SHAUL AMOR ST. MIGDAL HAEMEK ISRAEL

Test Item(s)	Method	Unit	MDL	Res	sult	Limit
				No.1	No.2	
Freon 218 (CAS No.: 76-19-7)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
Freon C318 (CAS No.: 115-25-3)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
Nonafluor-2- (trifluoromethyl)butane (CAS No.: 594-91-2)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
Perfluorisobutene (CAS No.: 382-21-8)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
Perfluorohexane (CAS No.: 355-42-0)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
Perfluoro-n-pentane (CAS No.: 678-26-2)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
Perfluor-1-butene (CAS No.: 357-26-6)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
Sulfur hexafluoride (CAS No.: 2551-62-4)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
Bromochloromethan (CAS No.: 74-97-5)	With reference to US EPA 5021A: 2014, analysis was performed by GC/MS.	mg/kg	1		n.d.	-
Fluorine (F) (CAS No.: 14762-94-8)	With reference to BS EN 14582: 2016, analysis was performed by IC.	mg/kg	50		n.d.	-
Chlorine (Cl) (CAS No.: 22537-15-1)	With reference to BS EN 14582: 2016, analysis was performed by IC.	mg/kg	50		n.d.	-
Bromine (Br) (CAS No.: 10097-32-2)	With reference to BS EN 14582: 2016, analysis was performed by IC.	mg/kg	50		n.d.	-
lodine (I) (CAS No.: 14362-44-8)	With reference to BS EN 14582: 2016, analysis was performed by IC.	mg/kg	50		n.d.	-

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TOWER SEMICONDUCTOR LTD. 20 SHAUL AMOR ST. MIGDAL HAEMEK ISRAEL

Test Item(s)	Method	Unit	MDL	Res	sult	Limit
				No.1	No.2	'
Triphenyl tin (TPT)	With reference to ISO 17353: 2004,	mg/kg	0.03		n.d.	-
	analysis was performed by GC/FPD.					
Tributyl tin (TBT)	With reference to ISO 17353: 2004,	mg/kg	0.03		n.d.	-
	analysis was performed by GC/FPD.					
Dioctyl tin (DOT)	With reference to ISO 17353: 2004,	mg/kg	0.03		n.d.	-
	analysis was performed by GC/FPD.					
Dibutyl tin (DBT)	With reference to ISO 17353: 2004,	mg/kg	0.03		n.d.	-
	analysis was performed by GC/FPD.					
Bis(tributyltin) oxide (TBTO) (CAS No.:	Calculated from the result of Tributyl	mg/kg	0.03 🛦		n.d.	-
56-35-9)	Tin (TBT).					
Hexabromobenzene (CAS No.: 87-82-	With reference to US EPA 3550C:	mg/kg	5		n.d.	-
1)	2007, analysis was performed by					
	GC/MS.					
Brominated styrene	With reference to US EPA 3550C:	mg/kg	5		n.d.	-
·	2007, analysis was performed by					
	GC/MS.					
TBBP-A-bis (CAS No.: 21850-44-2)	With reference to US EPA 3550C:	mg/kg	5		n.d.	-
	2007, analysis was performed by					
	GC/MS.					
Tetrabromobisphenol A (TBBP-A) (CAS	With reference to RSTS-E&E-121,	mg/kg	10		n.d.	-
No.: 79-94-7)	analysis was performed by LC/MS.					
Monomethyl dibromodiphenyl	With reference to US EPA 3550C:	mg/kg	0.5		n.d.	-
methane (DBBT) (CAS No.: 99688-47-8)	2007, analysis was performed by					
	GC/MS.					
Monomethyl dichlorodiphenyl	With reference to US EPA 3550C:	mg/kg	0.5		n.d.	-
methane (Ugilec121) (CAS No.: 81161-	2007, analysis was performed by					
70-8)	GC/MS.					
Monomethyl tetrachlorodiphenyl	With reference to US EPA 3550C:	mg/kg	0.5		n.d.	-
methane (Ugilec141) (CAS No.: 76253-	2007, analysis was performed by					
60-6)	GC/MS.					
Red Phosphorus	Analysis was performed by Pyrolyzer-	**	-		Negative	-
·	GC/MS.					
Uranium (U) (Radioactive element)	With reference to US EPA 3052: 1996	mg/kg	1		n.d.	-
(CAS No.: 7440-61-1)	& 6020B: 2014, analysis was					
	performed by ICP-MS.					

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TOWER SEMICONDUCTOR LTD. 20 SHAUL AMOR ST. MIGDAL HAEMEK ISRAEL

Test Item(s)	Method	Unit	MDL	Res	sult	Limit
				No.1	No.2	,
Thorium (Th) (Radioactive element) (CAS No.: 7440-29-1)	With reference to US EPA 3052: 1996 & 6020B: 2014, analysis was performed by ICP-MS.	mg/kg	1		n.d.	-
Strontium (Sr) (Radioactive element) (CAS No.: 7440-24-6)	With reference to US EPA 3052: 1996 & 6020B: 2014, analysis was performed by ICP-MS.	mg/kg	1		n.d.	-
Caesium (Cs) (Radioactive element) (CAS No.: 7440-46-2)	With reference to US EPA 3052: 1996 & 6020B: 2014, analysis was performed by ICP-MS.	mg/kg	1		n.d.	-
Perchlorate (CAS No.: 14797-73-0)	Analysis was performed by IC.	μg/g	0.006		n.d.	-
PFOS and its salts (CAS No.: 1763-23-1 and its salts)	With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.	mg/kg	0.01		n.d.	-
2-benzotriazol-2-yl-4,6-di-tert- butylphenol (UV-320) (CAS No.: 3846- 71-7)	With reference to US EPA 3550C: 2007, analysis was performed by GC/MS.	mg/kg	5		n.d.	-
Arsenic (As) (CAS No.: 7440-38-2)	With reference to US EPA 3052: 1996, analysis was performed by ICP-OES.	mg/kg	2		n.d.	-
Diarsenic trioxide (As <sub>2</sub> O <sub>3</sub> ) (CAS No.: 1327-53-3)	Calculated from the result of Arsenic.	mg/kg	2▲		n.d.	-
Diarsenic pentaoxide (As <sub>2</sub> O <sub>5</sub> ) (CAS No.: 1303-28-2)	Calculated from the result of Arsenic.	mg/kg	2▲		n.d.	-
Beryllium (Be) (CAS No.: 7440-41-7)	With reference to US EPA 3052: 1996, analysis was performed by ICP-OES.	mg/kg	2		n.d.	-
Boron (B) (CAS No.: 7440-42-8)	With reference to US EPA 3052: 1996, analysis was performed by ICP-OES.	mg/kg	2		n.d.	-
Cobalt (Co) (CAS No.: 7440-48-4)	With reference to US EPA 3052: 1996, analysis was performed by ICP-OES.	mg/kg	2		15.0	-
Cobalt dichloride (CoCl <sub>2</sub> ) (CAS No.: 7646-79-9)	Analysis was performed by ICP-OES, IC. Calculated from the results of Cobalt, Chlorine.	mg/kg	50▲		n.d.	-
Tris(2-chloroethyl) phosphate (TCEP) (CAS No.: 115-96-8)	With reference to US EPA 3550C: 2007, analysis was performed by GC/MS.	mg/kg	5		n.d.	-

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TOWER SEMICONDUCTOR LTD.
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Test Item(s)	Method	Unit	MDL	Res	sult	Limit
				No.1	No.2	
4-Tert-octylphenol (CAS No.: 140-66-9)	With reference to US EPA 3550C:	mg/kg	10		n.d.	-
	2007, analysis was performed by					
	LC/MS.					
N,N-Dimethylacetamide (DMAC) (CAS	With reference to US EPA 3550C:	mg/kg	10		n.d.	-
No.: 127-19-5)	2007, analysis was performed by					
	GC/MS.					
Antimony (Sb) (CAS No.: 7440-36-0)	With reference to US EPA 3052: 1996,	mg/kg	2	n.d.		-
	analysis was performed by ICP-OES.					

#### Note:

- 1. mg/kg = ppm; 0.1wt% = 1000ppm
- 2. MDL = Method Detection Limit
- 3. n.d. = Not Detected (Less than MDL)
- 4. "-" = Not Regulated
- 5. "---" = Not Conducted
- 6. \*\*= Qualitative analysis (No Unit)
- 7. Negative = Undetectable; Positive = Detectable
- 8. Testing range of asbestos qualitative analysis is from less than 0.1% to 100%. The judgment criterion: asbestos fibers being found is shown as "Positive"; asbestos fibers not being found is shown as "Negative".
- 9. PFOS and its salts including:
  - CAS No.: 29081-56-9, 2795-39-3, 29457-72-5, 70225-14-8, 56773-42-3, 251099-16-8, 307-35-7.
- 10. ▲ : The MDL was evaluated for element / tested substance.

Conversion Formula :  $AX = A \times F$ 

AX	Α	F						
Diarsenic pentaoxide	Arsenic	1.5339						
Diarsenic trioxide	Arsenic	1.3203						
Bis(tributyltin)oxide (TBTO)	Tributyl Tin	1.024						

Parameter Conversion Table: https://eecloud.sgs.com/Region\_TW/DocDownload.aspx#otherDoc

- 11. The statement of compliance conformity is based on comparison of testing results and limits.
- 12. 本報告為合併ETR21C05342及ETR21C05348之報告。(This report is combined with reports of ETR21C05342 and ETR21C05348.)

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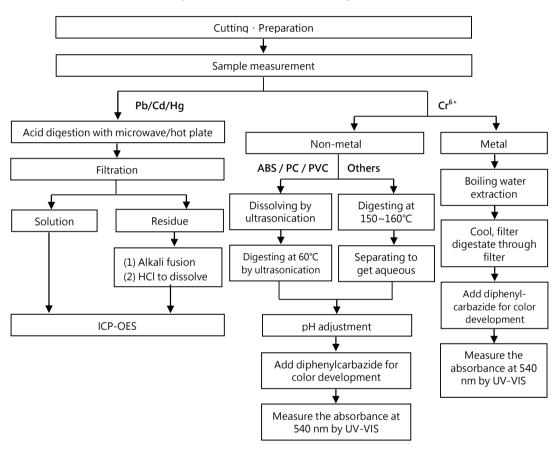
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#### Analytical flow chart of Heavy Metal

These samples were dissolved totally by pre-conditioning method according to below flow chart.

( Cr<sup>6+</sup> test method excluded )



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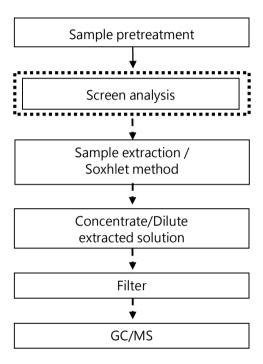
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#### Analytical flow chart - PBBs / PBDEs

First testing process

Optional screen process

Confirmation process



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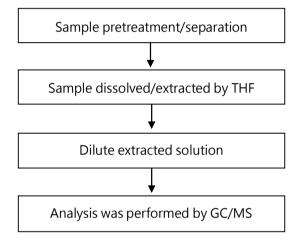


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Analytical flow chart - Phthalate

[Test method: IEC 62321-8]



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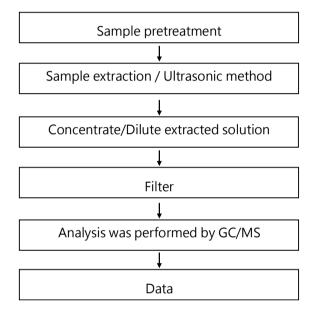
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#### Analytical flow chart - HBCDD



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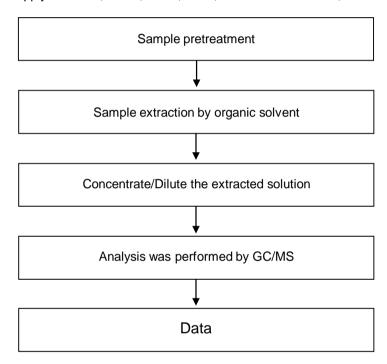


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#### **Analytical flow chart**

\* Apply to: PCBs, PCNs, PCTs, Mirex, Chlorinated Paraffins, DBBT



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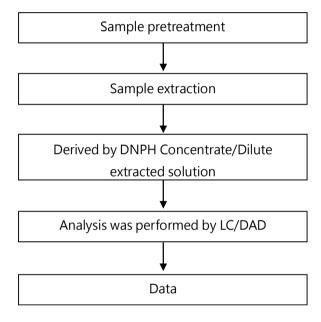
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#### Analytical flow chart - Formaldehyde



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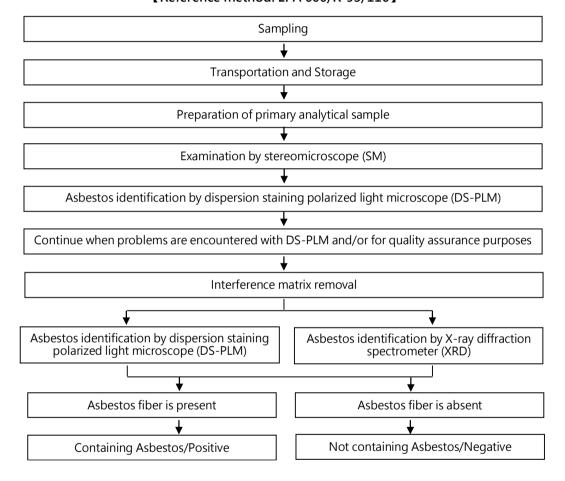


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#### Analysis flow chart for determination of Asbestos 【Reference method: EPA 600/R-93/116】



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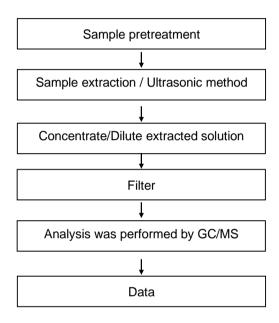
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#### **Analytical flow chart - Dimethyl Fumarate**



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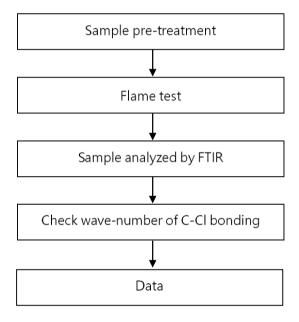
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#### Analysis flow chart - PVC



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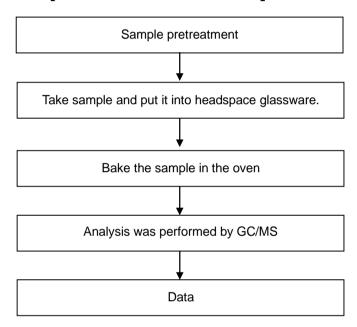


No.: ETR21C05348M01 Date: 10-Jan-2022

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#### Analytical flow chart of volatile organic compounds (VOCs)

[Reference method: US EPA 5021A]



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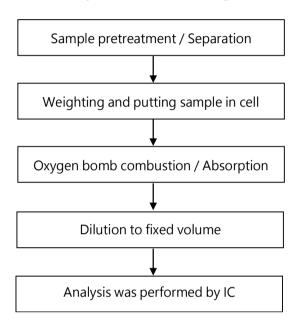
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#### Analytical flow chart - Halogen



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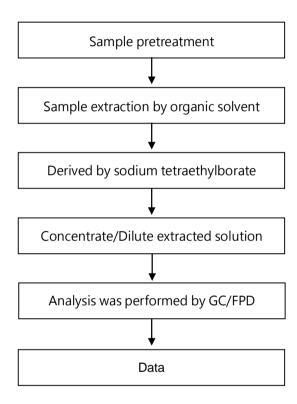
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#### Analytical flow chart - Organic-Tin



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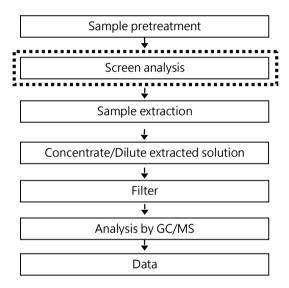


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#### Analytical flow chart - TBBP-A-bis

First testing process
Optional screen process
Confirmation process



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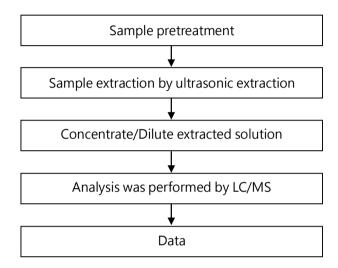
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#### Analytical flow chart - TBBP-A



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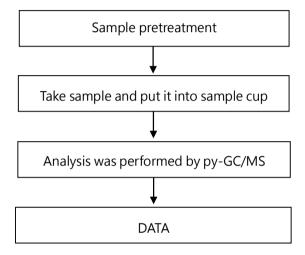
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#### Analytical flow chart - Red phosphorus



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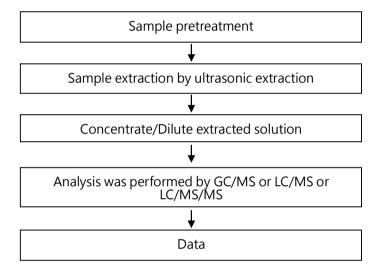
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#### Analytical flow chart – PFAS (including PFOA/PFOS/its related compound, etc.)



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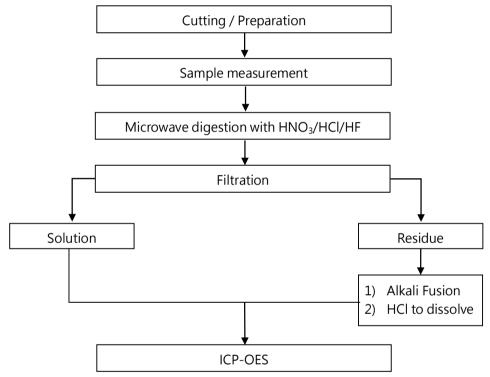
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#### Analytical flow chart of Elements (Heavy Metal included)

These samples were dissolved totally by pre-conditioning method according to below flow chart.

【Reference method: US EPA 3051A、US EPA 3052】



\* US EPA 3051A method does not add HF.

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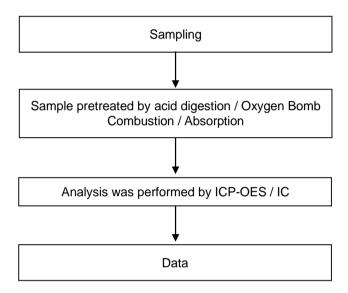
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#### Analytical flow chart - Cobalt dichloride



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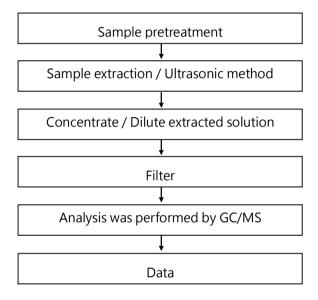
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#### Analytical flow chart - Organic phosphorus compounds



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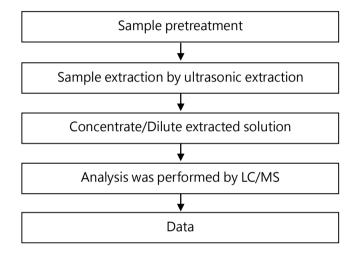
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#### Analytical flow chart - NP \ OP \ 4-t-OP \ NPEO \ OPEO



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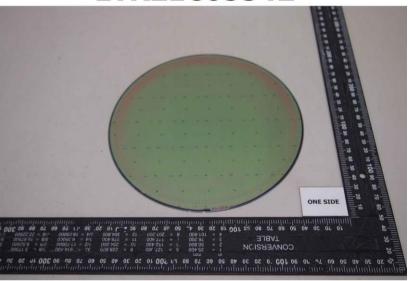
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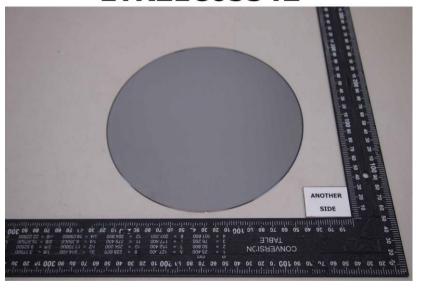
\* The tested sample / part is marked by an arrow if it's shown on the photo. \*

No.1

### ETR21C05342



### ETR21C05342



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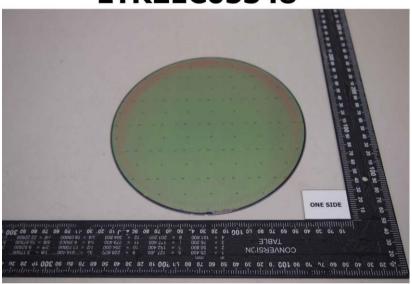


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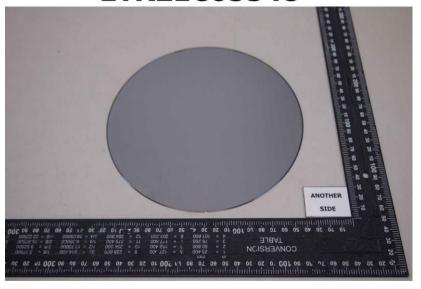
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No.2

### ETR21C05348



### ETR21C05348



\*\* End of Report \*\*

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