

Test Report

No. : CE/2020/73879

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HITACHI CHEMICAL CO., LTD. YAMAZAKI WORKS
4-13-1, HIGASHI-CHO, HITACHI-SHI, IBARAKI, 317-8555, JAPAN

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


Sample Submitted By : HITACHI CHEMICAL CO., LTD. YAMAZAKI WORKS
Sample Description : DIE BONDING PASTE
Style/Item No. : EN-4900F
Sample Receiving Date : 2020/07/20
Testing Period : 2020/07/20 to 2020/07/27

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) As specified by client, to test PAHs and other item(s).

Test Result(s) : 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.
(2) Based upon the performed tests on the submitted sample(s), the test results of PAHs (15 items) comply with the limits of PAHs requirement (Category 1) as set by German Committee on Product Safety (AfPS) GS PAHs.


Troy Chang / Manager - Test
Signed for and behalf of
SGS TAIWAN LTD.
Chemical Laboratory - Taipei



PIN CODE: 0F821B42

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Test Result(s)

PART NAME No.1 : GRAY PASTE

Test Item(s)	Unit	Method	MDL	Result	Limit
				No.1	
Cadmium (Cd)	mg/kg	With reference to IEC 62321-5: 2013 and performed by ICP-OES.	2	n.d.	100
Lead (Pb)	mg/kg	With reference to IEC 62321-5: 2013 and performed by ICP-OES.	2	n.d.	1000
Mercury (Hg)	mg/kg	With reference to IEC 62321-4:2013+AMD1:2017 and performed by ICP-OES.	2	n.d.	1000
Hexavalent Chromium Cr(VI)	mg/kg	With reference to IEC 62321-7-2: 2017 and performed by UV-VIS.	8	n.d.	1000
Sum of PBBs	mg/kg	With reference to IEC 62321-6: 2015 and performed by GC/MS.	-	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 PBDEs	mg/kg		-	n.d.	1000
Monobromodiphenyl ether	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.	-	

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Test Item(s)	Unit	Method	MDL	Result	Limit
				No.1	
BBP (Butyl Benzyl phthalate) (CAS No.: 85-68-7)	mg/kg	With reference to IEC 62321-8: 2017. Analysis was performed by GC/MS.	50	n.d.	1000
DBP (Dibutyl phthalate) (CAS No.: 84-74-2)	mg/kg	With reference to IEC 62321-8: 2017. Analysis was performed by GC/MS.	50	n.d.	1000
DIBP (Di-isobutyl phthalate) (CAS No.: 84-69-5)	mg/kg	With reference to IEC 62321-8: 2017. Analysis was performed by GC/MS.	50	n.d.	1000
DEHP (Di- (2-ethylhexyl) phthalate) (CAS No.: 117-81-7)	mg/kg	With reference to IEC 62321-8: 2017. Analysis was performed by GC/MS.	50	n.d.	1000
DINP (Di-isononyl phthalate) (CAS No.: 28553-12-0; 68515-48-0)	mg/kg	With reference to IEC 62321-8: 2017. Analysis was performed by GC/MS.	50	n.d.	-
DIDP (Di-isodecyl phthalate) (CAS No.: 26761-40-0; 68515-49-1)	mg/kg	With reference to IEC 62321-8: 2017. Analysis was performed by GC/MS.	50	n.d.	-
DNOP (Di-n-octyl phthalate) (CAS No.: 117-84-0)	mg/kg	With reference to IEC 62321-8: 2017. Analysis was performed by GC/MS.	50	n.d.	-
DNHP (Di-n-hexyl phthalate) (CAS No.: 84-75-3)	mg/kg	With reference to IEC 62321-8: 2017. Analysis was performed by GC/MS.	50	n.d.	-
DEP (Di-ethyl phthalate) (CAS No.: 84-66-2)	mg/kg	With reference to IEC 62321-8: 2017. Analysis was performed by GC/MS.	50	n.d.	-
DNPP (Di-n-pentyl phthalate) (CAS No.: 131-18-0)	mg/kg	With reference to IEC 62321-8: 2017. Analysis was performed by GC/MS.	50	n.d.	-
DMEP (Bis (2-methoxyethyl) phthalate) (CAS No.: 117-82-8)	mg/kg	With reference to IEC 62321-8: 2017. Analysis was performed by GC/MS.	50	n.d.	-
DIPP (Di-iso-pentyl phthalate) (CAS No.: 605-50-5)	mg/kg	With reference to IEC 62321-8: 2017. Analysis was performed by GC/MS.	50	n.d.	-
DHNUP (1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters) (CAS No.: 68515-42-4)	mg/kg	With reference to IEC 62321-8: 2017. Analysis was performed by GC/MS.	50	n.d.	-
DMP (Di-methyl phthalate) (CAS No.: 131-11-3)	mg/kg	With reference to IEC 62321-8: 2017. Analysis was performed by GC/MS.	50	n.d.	-
DIHP (1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich) (CAS No.: 71888-89-6)	mg/kg	With reference to IEC 62321-8: 2017. Analysis was performed by GC/MS.	50	n.d.	-

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Test Item(s)	Unit	Method	MDL	Result	Limit
				No.1	
Halogen					
Halogen-Fluorine (F) (CAS No.: 14762-94-8)	mg/kg	With reference to BS EN 14582: 2016. Analysis was performed by IC.	50	n.d.	-
Halogen-Chlorine (Cl) (CAS No.: 22537-15-1)	mg/kg	With reference to BS EN 14582: 2016. Analysis was performed by IC.	50	n.d.	-
Halogen-Bromine (Br) (CAS No.: 10097-32-2)	mg/kg	With reference to BS EN 14582: 2016. Analysis was performed by IC.	50	n.d.	-
Halogen-Iodine (I) (CAS No.: 14362-44-8)	mg/kg	With reference to BS EN 14582: 2016. Analysis was performed by IC.	50	n.d.	-
Antimony (Sb)	mg/kg	With reference to US EPA 3052: 1996. Analysis was performed by ICP-OES.	2	n.d.	-
PFOS and its salts (CAS No.: 1763-23-1 and its salts)	mg/kg	With reference to CEN/TS 15968: 2010. Analysis was performed by LC/MS.	0.01	n.d.	-
PFOA and its salts (CAS No.: 335-67-1 and its salts)	mg/kg	With reference to CEN/TS 15968: 2010. Analysis was performed by LC/MS.	0.01	n.d.	-
Polyvinyl chloride (PVC)	**	Analysis was performed by FTIR and FLAME Test.	-	Negative	-
Phosphorus (P)	mg/kg	With reference to US EPA 3052: 1996. Analysis was performed by ICP-OES.	2	n.d.	-
TBBP-A-bis (CAS No.: 21850-44- 2)	mg/kg	With reference to US EPA 3550C: 2007. Analysis was performed by GC/MS.	5	n.d.	-
Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α - HBCDD, β - HBCDD, γ - HBCDD) (CAS No.: 25637-99-4 and 3194- 55-6 (134237-51-7, 134237-50-6, 134237-52-8))	mg/kg	With reference to IEC 62321: 2008. Analysis was performed by GC/MS.	5	n.d.	-
Asbestos					
Chrysotile (CAS No.: 12001-29-5)	%	With reference to EPA 600/R-93/116: 1993. Analysis was performed by Stereo Microscope (SM), Dispersion Staining Polarized Light Microscope (DS-PLM) and X-ray Diffraction Spectrometer (XRD).	-	Negative	-
Amosite (CAS No.: 12172-73-5)	%		-	Negative	-
Crocidolite (CAS No.: 12001-28-4)	%		-	Negative	-
Anthophyllite (CAS No.: 77536-67-5)	%		-	Negative	-
Tremolite (CAS No.: 77536-68-6)	%		-	Negative	-
Actinolite (CAS No.: 77536-66-4)	%		-	Negative	-

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Test Item(s)	Unit	Method	MDL	Result	Limit
				No.1	
Polycyclic Aromatic Hydrocarbons (PAHs)					
Anthracene (CAS No.: 120-12-7)	mg/kg	With reference to AfPS GS 2019:01 PAK. Analysis was performed by GC/MS.	0.2	n.d.	-
Benzo[a]anthracene (CAS No.: 56-55-3)	mg/kg		0.2	n.d.	-
Benzo[a]pyrene (CAS No.: 50-32-8)	mg/kg		0.2	n.d.	-
Benzo[b]fluoranthene (CAS No.: 205-99-2)	mg/kg		0.2	n.d.	-
Benzo[g,h,i]perylene (CAS No.: 191-24-2)	mg/kg		0.2	n.d.	-
Benzo[k]fluoranthene (CAS No.: 207-08-9)	mg/kg		0.2	n.d.	-
Chrysene (CAS No.: 218-01-9)	mg/kg		0.2	n.d.	-
Dibenzo[a,h]anthracene (CAS No.: 53-70-3)	mg/kg		0.2	n.d.	-
Fluoranthene (CAS No.: 206-44-0)	mg/kg		0.2	n.d.	-
Indeno[1,2,3-c,d] pyrene (CAS No.: 193-39-5)	mg/kg		0.2	n.d.	-
Naphthalene (CAS No.: 91-20-3)	mg/kg		0.2	n.d.	-
Phenanthrene (CAS No.: 85-01-8)	mg/kg		0.2	n.d.	-
Pyrene (CAS No.: 129-00-0)	mg/kg		0.2	n.d.	-
Benzo[j]fluoranthene (CAS No.: 205-82-3)	mg/kg		0.2	n.d.	-
Benzo[e]pyrene (CAS No.: 192-97-2)	mg/kg		0.2	n.d.	-
Sum of 15 PAHs	mg/kg	-	n.d.	Δ	
Acenaphthene (CAS No.: 83-32-9)	mg/kg	With reference to AfPS GS 2019:01 PAK. Analysis was performed by GC/MS.	0.2	n.d.	-
Acenaphthylene (CAS No.: 208-96-8)	mg/kg		0.2	n.d.	-
Fluorene (CAS No.: 86-73-7)	mg/kg		0.2	n.d.	-

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Test Item(s)	Unit	Method	MDL	Result	Limit
				No.1	
Tributyl Tin (TBT)	mg/kg	With reference to ISO 17353: 2004. Analysis was performed by GC/FPD.	0.03	n.d.	-
Triphenyl Tin (TphT)	mg/kg		0.03	n.d.	-
Dibutyl Tin (DBT)	mg/kg		0.03	n.d.	-
Diocetyl Tin (DOT)	mg/kg		0.03	n.d.	-
Bis(tributyltin)oxide (TBTO) (CAS No.: 56-35-9)	mg/kg	With reference to ISO 17353: 2004. Analysis was performed by GC/FPD. Calculated from the result of Tributyl Tin (TBT).	0.03 (▲)	n.d.	-
Polychlorinated Biphenyls (PCBs) (CAS No.: 1336-36-3)	mg/kg	With reference to US EPA 3550C: 2007. Analysis was performed by GC/MS.	0.5	n.d.	-
Polychlorinated Naphthalene (PCNs)	mg/kg	With reference to US EPA 3550C: 2007. Analysis was performed by GC/MS.	5	n.d.	-
Polychlorinated Terphenyls (PCTs)	mg/kg	With reference to US EPA 3550C: 2007. Analysis was performed by GC/MS.	0.5	n.d.	-
Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins) (CAS No.: 85535-84-8)	mg/kg	With reference to US EPA 3550C: 2007. Analysis was performed by GC/MS.	100	n.d.	-
Beryllium (Be)	mg/kg	With reference to US EPA 3052: 1996. Analysis was performed by ICP-OES.	2	n.d.	-
AZO					
1): 4-AMINODIPHENYL (CAS No.: 92-67-1)	mg/kg	With reference to LFGB 82.02-2: 2013. Analysis was performed by GC/MS.	3	n.d.	-
2): BENZIDINE (CAS No.: 92-87-5)	mg/kg	With reference to LFGB 82.02-2: 2013. Analysis was performed by GC/MS.	3	n.d.	-
3): 4-CHLORO-O-TOLUIDINE (CAS No.: 95-69-2)	mg/kg	With reference to LFGB 82.02-2: 2013. Analysis was performed by GC/MS.	3	n.d.	-
4): 2-NAPHTHYLAMINE (CAS No.: 91-59-8)	mg/kg	With reference to LFGB 82.02-2: 2013. Analysis was performed by GC/MS.	3	n.d.	-
5): O-AMINOAZOTOLUENE (CAS No.: 97-56-3)	mg/kg	With reference to LFGB 82.02-2: 2013. Analysis was performed by GC/MS.	3	n.d.	-
6): 2-AMINO-4-NITROTOLUENE (CAS No.: 99-55-8)	mg/kg	With reference to LFGB 82.02-2: 2013. Analysis was performed by GC/MS.	3	n.d.	-
7): P-CHLOROANILINE (CAS No.: 106-47-8)	mg/kg	With reference to LFGB 82.02-2: 2013. Analysis was performed by GC/MS.	3	n.d.	-
8): 2,4-DIAMINOANISOLE (CAS No.: 615-05-4)	mg/kg	With reference to LFGB 82.02-2: 2013. Analysis was performed by GC/MS.	3	n.d.	-

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Test Item(s)	Unit	Method	MDL	Result	Limit
				No.1	
9): 4,4'-DIAMINODIPHENYLMETHANE (CAS No.: 101-77-9)	mg/kg	With reference to LFGB 82.02-2: 2013. Analysis was performed by GC/MS.	3	n.d.	-
10): 3,3'-DICHLOROBENZIDINE (CAS No.: 91-94-1)	mg/kg	With reference to LFGB 82.02-2: 2013. Analysis was performed by GC/MS.	3	n.d.	-
11): 3,3'-DIMETHOXYBENZIDINE (CAS No.: 119-90-4)	mg/kg	With reference to LFGB 82.02-2: 2013. Analysis was performed by GC/MS.	3	n.d.	-
12): 3,3'-DIMETHYLBENZIDINE (CAS No.: 119-93-7)	mg/kg	With reference to LFGB 82.02-2: 2013. Analysis was performed by GC/MS.	3	n.d.	-
13): 3,3'-DIMETHYL-4,4'-DIAMINODIPHENYLMETHANE (CAS No.: 838-88-0)	mg/kg	With reference to LFGB 82.02-2: 2013. Analysis was performed by GC/MS.	3	n.d.	-
14): P-CRESIDINE (2-METHOXY-5-METHYLANILINE) (CAS No.: 120-71-8)	mg/kg	With reference to LFGB 82.02-2: 2013. Analysis was performed by GC/MS.	3	n.d.	-
15): 4,4'-METHYLENE-BIS-(2-CHLOROANILINE) (CAS No.: 101-14-4)	mg/kg	With reference to LFGB 82.02-2: 2013. Analysis was performed by GC/MS.	3	n.d.	-
16): 4,4'-OXYDIANILINE (CAS No.: 101-80-4)	mg/kg	With reference to LFGB 82.02-2: 2013. Analysis was performed by GC/MS.	3	n.d.	-
17): 4,4'-THIODIANILINE (CAS No.: 139-65-1)	mg/kg	With reference to LFGB 82.02-2: 2013. Analysis was performed by GC/MS.	3	n.d.	-
18): O-TOLUIDINE (CAS No.: 95-53-4)	mg/kg	With reference to LFGB 82.02-2: 2013. Analysis was performed by GC/MS.	3	n.d.	-
19): 2,4-TOLUYLENEDIAMINE (CAS No.: 95-80-7)	mg/kg	With reference to LFGB 82.02-2: 2013. Analysis was performed by GC/MS.	3	n.d.	-
20): 2,4,5-TRIMETHYLANILINE (CAS No.: 137-17-7)	mg/kg	With reference to LFGB 82.02-2: 2013. Analysis was performed by GC/MS.	3	n.d.	-
21): O-ANISIDINE (CAS No.: 90-04-0)	mg/kg	With reference to LFGB 82.02-2: 2013. Analysis was performed by GC/MS.	3	n.d.	-
22): 4-AMINOAZOBENZENE (CAS No.: 60-09-3)	mg/kg	With reference to LFGB 82.02-2: 2013. Analysis was performed by GC/MS.	3	n.d.	-
23): 2,4-XYLIDINE (CAS No.: 95-68-1)	mg/kg	With reference to LFGB 82.02-2: 2013. Analysis was performed by GC/MS.	3	n.d.	-
24): 2,6-XYLIDINE (CAS No.: 87-62-7)	mg/kg	With reference to LFGB 82.02-2: 2013. Analysis was performed by GC/MS.	3	n.d.	-

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Test Item(s)	Unit	Method	MDL	Result	Limit
				No.1	
CFC's (Chlorofluorocarbons)					
Group I					
Chlorofluorocarbon-11 (CAS No.: 75-69-4)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Chlorofluorocarbon-12 (CAS No.: 75-71-8)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Chlorofluorocarbon-113 (CAS No.: 76-13-1)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Chlorofluorocarbon-114 (CAS No.: 76-14-2)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Chlorofluorocarbon-115 (CAS No.: 76-15-3)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Group III					
Chlorofluorocarbon-13 (CAS No.: 75-72-9)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Chlorofluorocarbon-111 (CAS No.: 354-56-3)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Chlorofluorocarbon-112 (CAS No.: 76-12-0)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Chlorofluorocarbon-211 (CAS No.: 422-78-6)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Chlorofluorocarbon-212 (CAS No.: 3182-26-1)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Chlorofluorocarbon-213 (CAS No.: 2354-06-5)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Chlorofluorocarbon-214 (CAS No.: 29255-31-0)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Chlorofluorocarbon-215 (CAS No.: 4259-43-2)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Chlorofluorocarbon-216 (CAS No.: 661-97-2)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Chlorofluorocarbon-217 (CAS No.: 422-86-6)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-

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4-13-1, HIGASHI-CHO, HITACHI-SHI, IBARAKI, 317-8555, JAPAN

Test Item(s)	Unit	Method	MDL	Result	Limit
				No.1	
HCFCs (Hydrochlorofluorocarbons)					
HCFC-21 (CAS No.: 75-43-4)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-22 (CAS No.: 75-45-6)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-31 (CAS No.: 593-70-4)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-121 (CAS No.: 354-14-3)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-122 (CAS No.: 354-21-2)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-123 (CAS No.: 306-83-2)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-124 (CAS No.: 2837-89-0)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-131 (CAS No.: 359-28-4)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-132b (CAS No.: 1649-08-7)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-133a (CAS No.: 75-88-7)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-141b (CAS No.: 1717-00-6)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-142b (CAS No.: 75-68-3)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-221 (CAS No.: 422-26-4)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-222 (CAS No.: 422-49-1)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-223 (CAS No.: 422-52-6)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-224 (CAS No.: 422-54-8)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-

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Test Item(s)	Unit	Method	MDL	Result	Limit
				No.1	
HCFC-225ca (CAS No.: 422-56-0)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-225cb (CAS No.: 507-55-1)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-226 (CAS No.: 431-87-8)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-231 (CAS No.: 421-94-3)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-232 (CAS No.: 460-89-9)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-233 (CAS No.: 7125-84-0)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-234 (CAS No.: 425-94-5)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-235 (CAS No.: 460-92-4)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-241 (CAS No.: 666-27-3)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-242 (CAS No.: 460-63-9)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-243 (CAS No.: 460-69-5)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-244	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-251 (CAS No.: 421-41-0)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-252 (CAS No.: 819-00-1)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-253 (CAS No.: 460-35-5)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-261 (CAS No.: 420-97-3)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HCFC-262 (CAS No.: 421-02-03)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-

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Test Item(s)	Unit	Method	MDL	Result	Limit
				No.1	
HCFC-271 (CAS No.: 430-55-7)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Halons					
Halon-1211 (CAS No.: 353-59-3)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Halon-1301 (CAS No.: 75-63-8)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Halon-2402 (CAS No.: 124-73-2)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Bromomethane (CAS No.: 74-83-9)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFCs (Hydrobromofluorocarbons)					
HBFC-21B2 (CHFBr ₂) (CAS No.: 1868-53-7)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-22B1 (CHF ₂ Br) (CAS No.: 1511-62-2)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-31B1 (CH ₂ FBr) (CAS No.: 373-52-4)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-121B4 (C ₂ HFBr ₄)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-122B3 (C ₂ HF ₂ Br ₃)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-123B2 (C ₂ HF ₃ Br ₂)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-124B1 (C ₂ HF ₄ Br)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-131B3 (C ₂ H ₂ FBr ₃)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-132B2 (C ₂ H ₂ F ₂ Br ₂)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-133B1 (C ₂ H ₂ F ₃ Br)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-141B2 (C ₂ H ₃ FBr ₂)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-

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Test Item(s)	Unit	Method	MDL	Result	Limit
				No.1	
HBFC-142B1 (C2H3F2Br)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-151B1 (C2H4FBr)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-221B6 (C3HFBr6)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-222B5 (C3HF2Br5)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-223B4 (C3HF3Br4)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-224B3 (C3HF4Br3)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-225B2 (C3HF5Br2)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-226B1 (C3HF6Br)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-231B5 (C3H2FBr5)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-232B4 (C3H2F2Br4)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-233B3 (C3H2F3Br3)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-234B2 (C3H2F4Br2)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-235B1 (C3H2F5Br)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-241B4 (C3H3FBr4)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-242B3 (C3H3F2Br3)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-243B2 (C3H3F3Br2)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-244B1 (C3H3F4Br)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-

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Test Item(s)	Unit	Method	MDL	Result	Limit
				No.1	
HBFC-251B3 (C3H4FBr3)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-252B2 (C3H4F2Br2)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-253B1 (C3H4F3Br)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-261B2 (C3H5FBr2)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-262B1 (C3H5F2Br)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HBFC-271B1 (C3H6FBr)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HFCs (Hydrofluorocarbon)					
HFC-23 (CHF3) (CAS No.: 75-46-7)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HFC-32 (CH2F2) (CAS No.: 75-10-5)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HFC-41 (CH3F) (CAS No.: 593-53-3)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HFC-43-10mee (C5H2F10)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HFC-125 (C2HF5)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HFC-134 (C2H2F4)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HFC-134a (CH2FCF3) (CAS No.: 811-97-2)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HFC-143 (CH3F3)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HFC-143a (CH3F3)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HFC-152a (C2H4F2) (CAS No.: 75-37-6)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HFC-227ea (C3HF7) (CAS No.: 431-89-0)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-

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Test Item(s)	Unit	Method	MDL	Result	Limit
				No.1	
HFC-236fa (C3H2F6)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HFC-236ea (C3H2F6) (CAS No.: 431-63-0)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HFC-245ca (C3H3F5)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HFC-245fa (C3H3F5)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
HFC-365mfc (C4H5F5)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
PFCs (Perfluorocarbon)					
F14 (CAS No.: 75-73-0)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Fluorocarbon 116 (CAS No.: 76-16-4)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Freon 218 (CAS No.: 76-19-7)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Decafluorobutane (CAS No.: 355-25-9)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Freon C318 (CAS No.: 115-25-3)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Perfluor-1-butene (CAS No.: 357-26-6)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
perfluorisobutene (CAS No.: 382-21-8)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
1,4-dihydrooctafluorobutane (CAS No.: 377-36-6)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Nonafluor-2- (trifluoromethyl) butane (CAS No.: 594-91-2)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Perfluoro-n-pentane (CAS No.: 678-26-2)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
2-perfluoromethylpentane (CAS No.: 355-04-4)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Perfluorohexane (CAS No.: 355-42-0)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-

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HITACHI CHEMICAL CO., LTD. YAMAZAKI WORKS

4-13-1, HIGASHI-CHO, HITACHI-SHI, IBARAKI, 317-8555, JAPAN

Test Item(s)	Unit	Method	MDL	Result	Limit
				No.1	
CHCs (Chlorinate hydrocarbon)					
1,1,1,2-Tetrachloroethane (CAS No.: 630-20-6)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
1,1,1-Trichloroethane (CAS No.: 71-55-6)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
1,1,2,2-Tetrachloroethane (CAS No.: 79-34-5)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
1,1,2-Trichloroethane (CAS No.: 79-00-5)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
1,1-Dichloroethane (CAS No.: 75-34-3)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
1,1-Dichloroethene (CAS No.: 75-35-4)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
1,1-Dichloropropene (CAS No.: 563-58-6)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
1,2,3-Trichloropropane (CAS No.: 96-18-4)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
1,2-Dichloroethane (CAS No.: 107-06-2)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
1,2-Dichloropropane (CAS No.: 78-87-5)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
1,3-Dichloropropane (CAS No.: 142-28-9)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
2,2-Dichloropropane (CAS No.: 594-20-7)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Carbon tetrachloride (CAS No.: 56-23-5)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Chloroethane (CAS No.: 75-00-3)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Chloroform (CAS No.: 67-66-3)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Chloromethane (CAS No.: 74-87-3)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-

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HITACHI CHEMICAL CO., LTD. YAMAZAKI WORKS

4-13-1, HIGASHI-CHO, HITACHI-SHI, IBARAKI, 317-8555, JAPAN

Test Item(s)	Unit	Method	MDL	Result	Limit
				No.1	
cis-1,2-Dichloroethene (CAS No.: 156-59-2)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
cis-1,3-Dichloropropene (CAS No.: 10061-01-5)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Hexachlorobutadiene (CAS No.: 87-68-3)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Dichloromethane, Methylene chloride (CAS No.: 75-09-2)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Tetrachloroethene (CAS No.: 127-18-4)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
trans-1,2-Dichloroethene (CAS No.: 156-60-5)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
trans-1,3-Dichloropropene (CAS No.: 10061-02-6)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Trichloroethylene (CAS No.: 79-01-6)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Bromochloromethane (CAS No.: 74-97-5)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
Sulfur Hexafluoride (SF6) (CAS No.: 2551-62-4)	mg/kg	With reference to US EPA 5021A: 2014. Analysis was performed by GC/MS.	1	n.d.	-
2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320) (CAS No.: 3846-71-7)	mg/kg	With reference to US EPA 3550C: 2007. Analysis was performed by GC/MS.	5	n.d.	-

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4-13-1, HIGASHI-CHO, HITACHI-SHI, IBARAKI, 317-8555, JAPAN

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. ** = Qualitative analysis (No Unit)
6. Negative = Undetectable / Positive = Detectable
7. 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".
8. 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.
9. PFOA and its salts including CAS No.: 3825-26-1, 335-95-5, 2395-00-8, 335-93-3, 335-66-0.
10. The statement of compliance conformity is based on comparison of testing results and limits.
11. (▲) : The MDL was evaluated for element / tested substance.

Conversion Formula : $AX = A \times F$

AX	A	F
Bis(tributyltin)oxide (TBTO)	Tributyl Tin (TBT)	1.024

Parameter Conversion Table : https://twap.sgs.com/sgsrsts/chn/download-REACH_tw.asp

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Δ AfPS (German commission for Product Safety): GS PAHs requirements

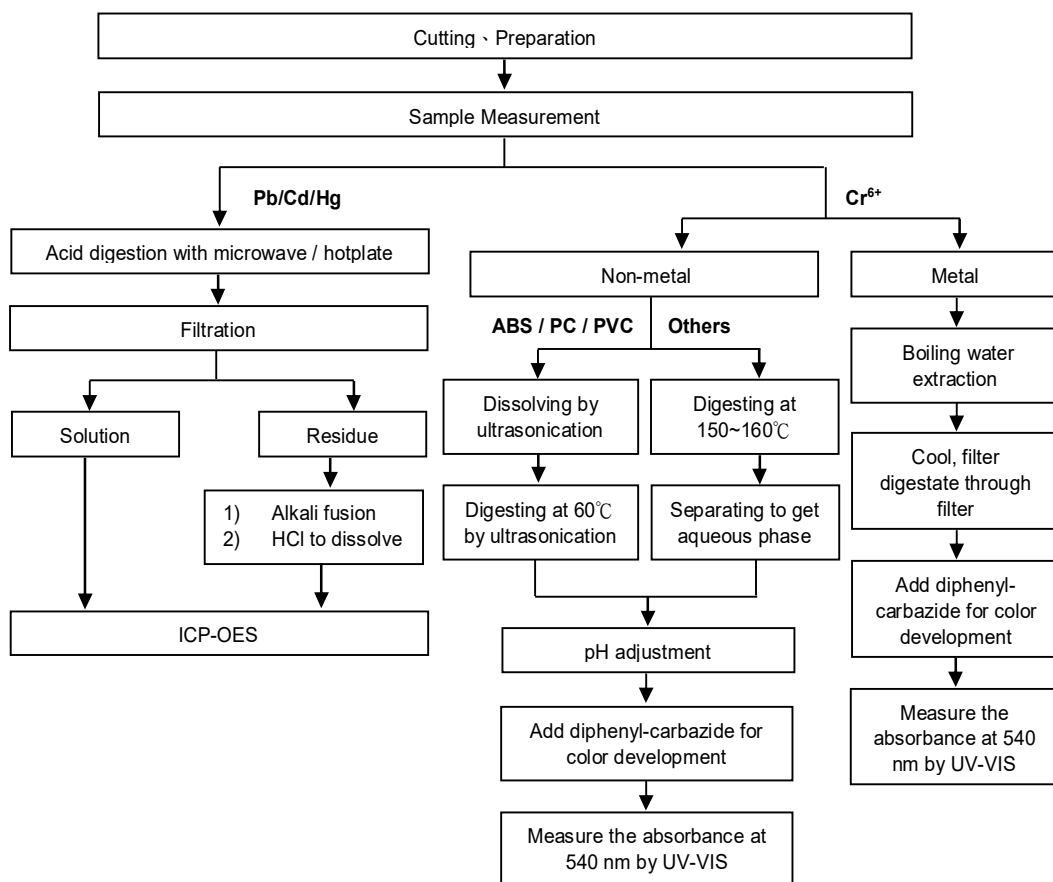
Parameter	Category 1	Category 2		Category 3	
	Materials intended to be placed in the mouth, or materials in toys (Directive 2009/48/EC) or articles for children up to 3 years of age with intended long-term skin contact (> 30 seconds).	Materials that are not in Category 1, with intended or foreseeable long-term skin contact (> 30 seconds) or short-term repetitive contact with the skin.		Materials not covered by Category 1 or 2, with intended or foreseeable short-term skin contact (≤ 30 seconds).	
		a. Use by children under	b. Other consumer	a. Use by children under	b. Other consumer
Naphthalene	< 1	< 2		< 10	
Phenanthrene	< 1 Sum	< 5 Sum	< 10 Sum	< 20 Sum	< 50 Sum
Anthracene					
Fluoranthene					
Pyrene					
Benzo[a]anthracene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Chrysene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo[b]fluoranthene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo[j]fluoranthene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo[k]fluoranthene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo[a]pyrene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo[e]pyrene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Indeno[1,2,3-c,d] pyrene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Dibenzo[a,h]anthracene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo[g,h,i]perylene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Sum of 15 PAH	< 1	< 5	< 10	< 20	< 50

Unit : mg/kg

HITACHI CHEMICAL CO., LTD. YAMAZAKI WORKS
4-13-1, HIGASHI-CHO, HITACHI-SHI, IBARAKI, 317-8555, JAPAN

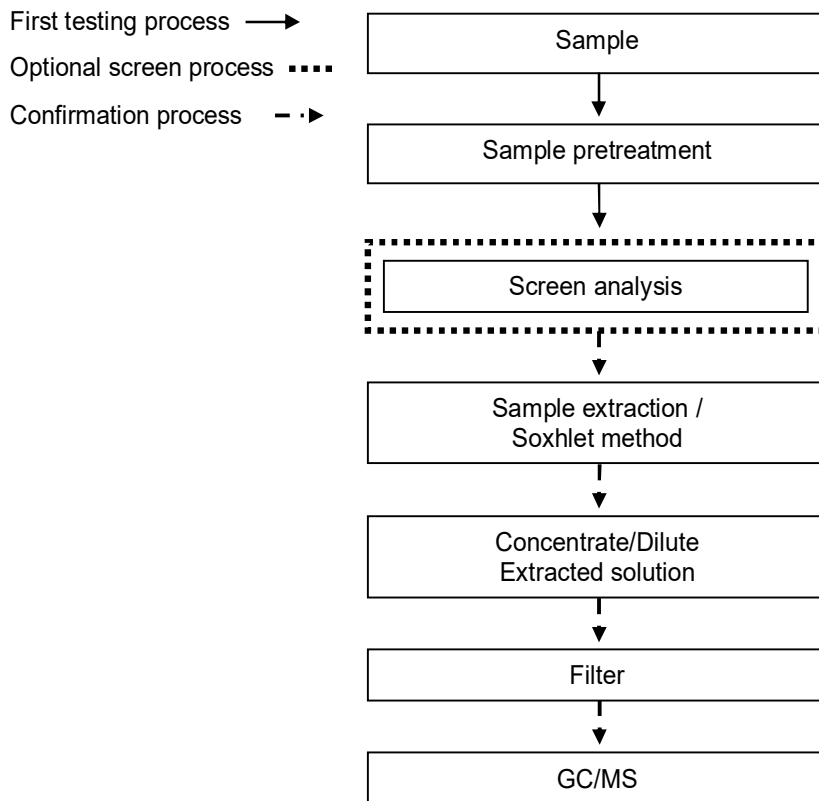
Analytical flow chart of Heavy Metal

These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ test method excluded)



HITACHI CHEMICAL CO., LTD. YAMAZAKI WORKS
 4-13-1, HIGASHI-CHO, HITACHI-SHI, IBARAKI, 317-8555, JAPAN

Analytical flow chart – PBB / PBDE

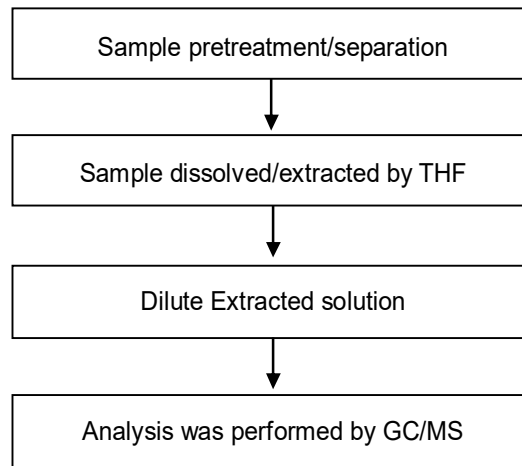


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HITACHI CHEMICAL CO., LTD. YAMAZAKI WORKS
4-13-1, HIGASHI-CHO, HITACHI-SHI, IBARAKI, 317-8555, JAPAN

Analytical flow chart - Phthalate

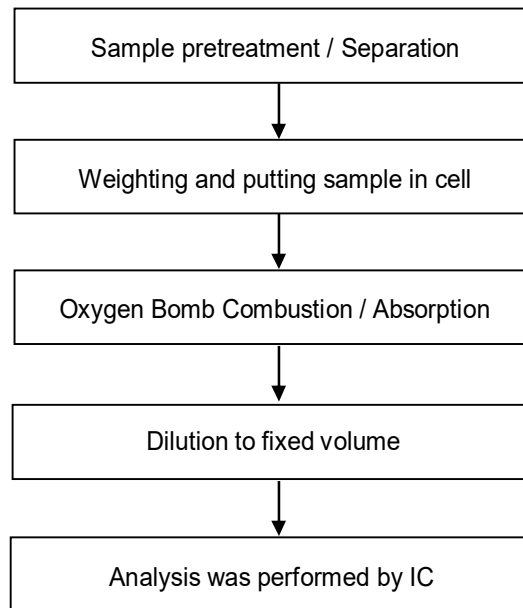
【Test method: IEC 62321-8】



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HITACHI CHEMICAL CO., LTD. YAMAZAKI WORKS
 4-13-1, HIGASHI-CHO, HITACHI-SHI, IBARAKI, 317-8555, JAPAN

Analytical flow chart - Halogen

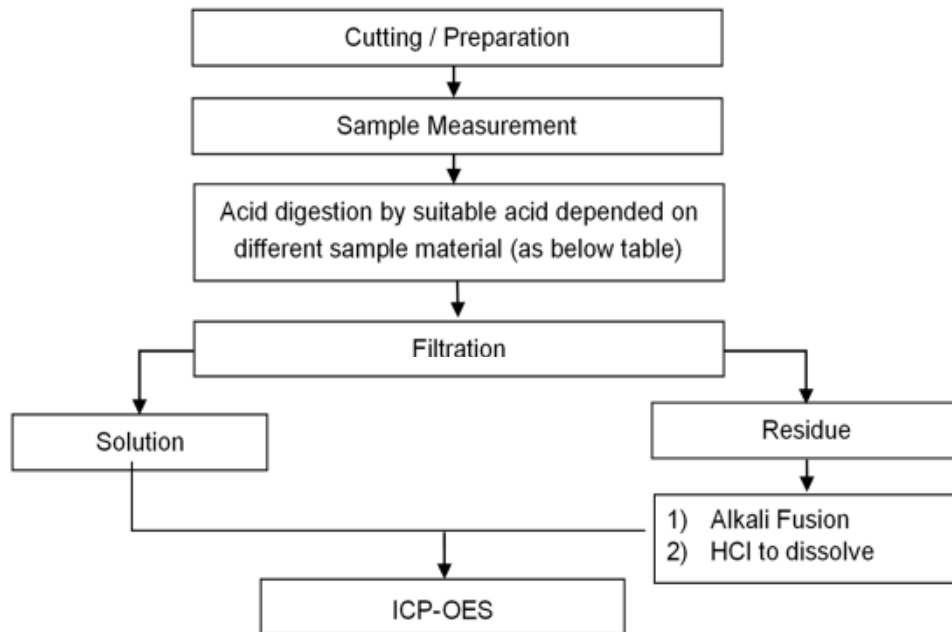


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HITACHI CHEMICAL CO., LTD. YAMAZAKI WORKS
4-13-1, HIGASHI-CHO, HITACHI-SHI, IBARAKI, 317-8555, JAPAN

Flow Chart of digestion for the elements analysis performed by ICP-OES

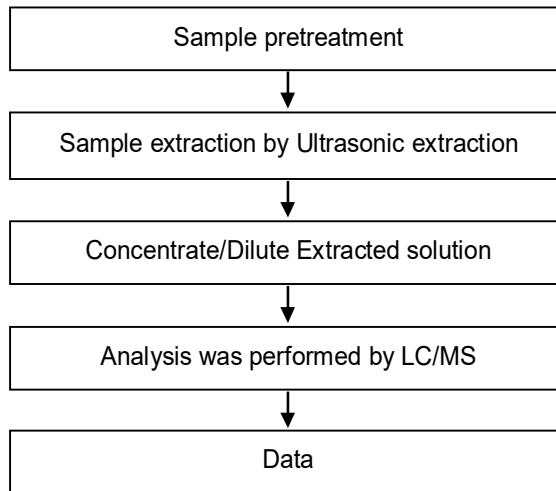
These samples were dissolved totally by pre-conditioning method according to below flow chart.



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	Added appropriate reagent to total digestion

HITACHI CHEMICAL CO., LTD. YAMAZAKI WORKS
4-13-1, HIGASHI-CHO, HITACHI-SHI, IBARAKI, 317-8555, JAPAN

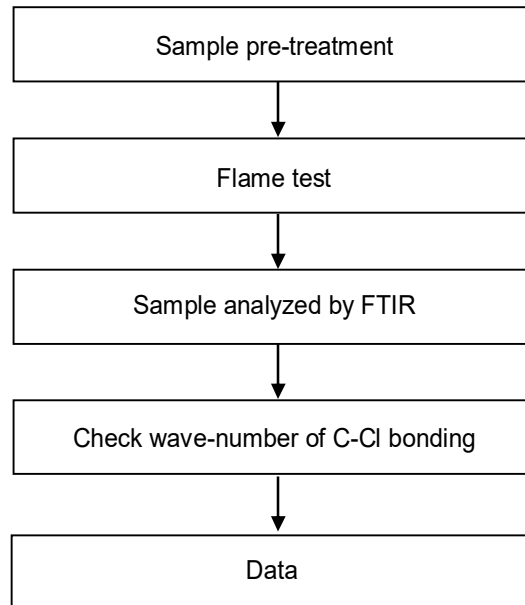
Analytical flow chart - PFOA/PFOS



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HITACHI CHEMICAL CO., LTD. YAMAZAKI WORKS
4-13-1, HIGASHI-CHO, HITACHI-SHI, IBARAKI, 317-8555, JAPAN




Analysis flow chart - PVC

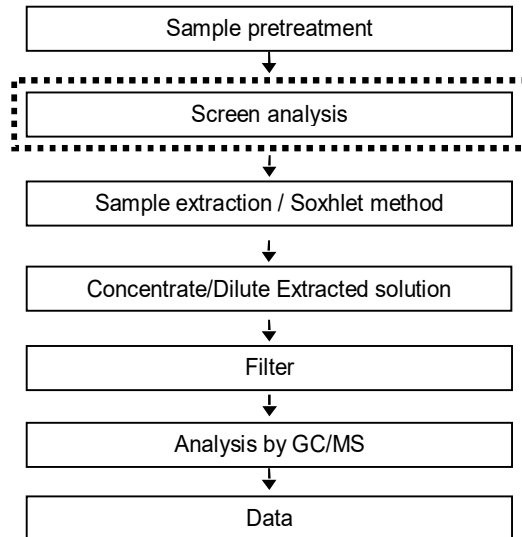


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HITACHI CHEMICAL CO., LTD. YAMAZAKI WORKS
 4-13-1, HIGASHI-CHO, HITACHI-SHI, IBARAKI, 317-8555, JAPAN

Analytical flow chart - TBBP-A-bis

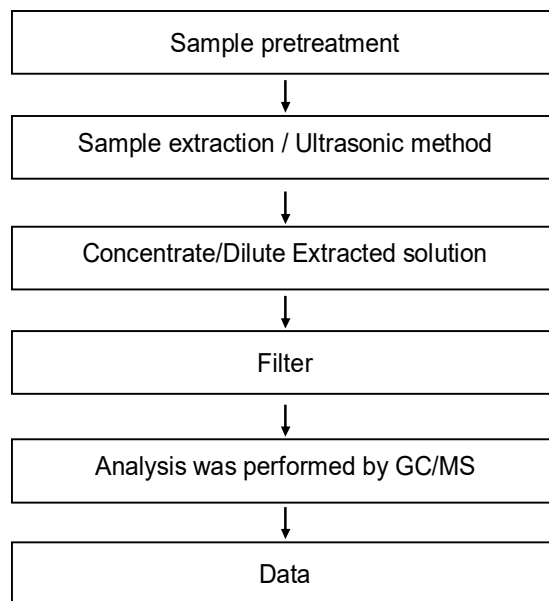
First testing process 
 Optional screen process 
 Confirmation process 



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HITACHI CHEMICAL CO., LTD. YAMAZAKI WORKS
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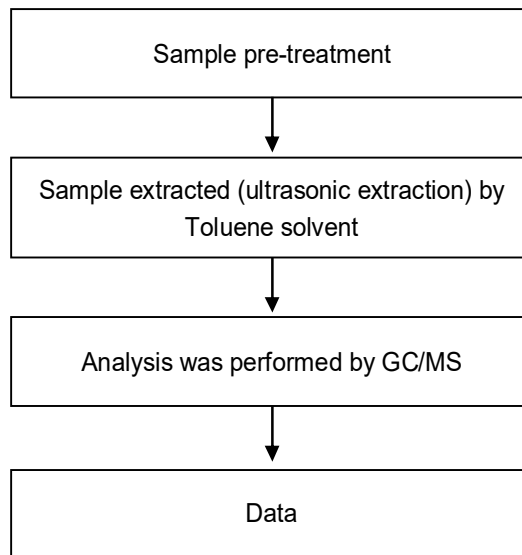
Analytical flow chart - HBCDD



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HITACHI CHEMICAL CO., LTD. YAMAZAKI WORKS
4-13-1, HIGASHI-CHO, HITACHI-SHI, IBARAKI, 317-8555, JAPAN

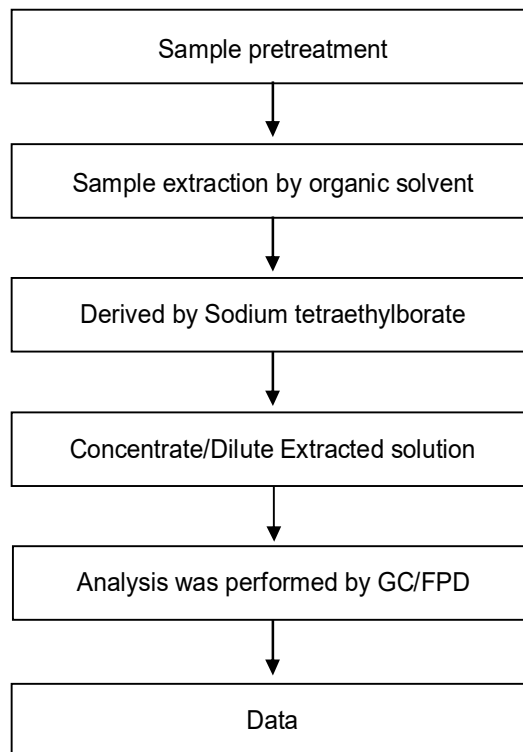
Analytical flow chart - PAHs (Polycyclic Aromatic Hydrocarbons)



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HITACHI CHEMICAL CO., LTD. YAMAZAKI WORKS
 4-13-1, HIGASHI-CHO, HITACHI-SHI, IBARAKI, 317-8555, JAPAN

Analytical flow chart - Organic-Tin

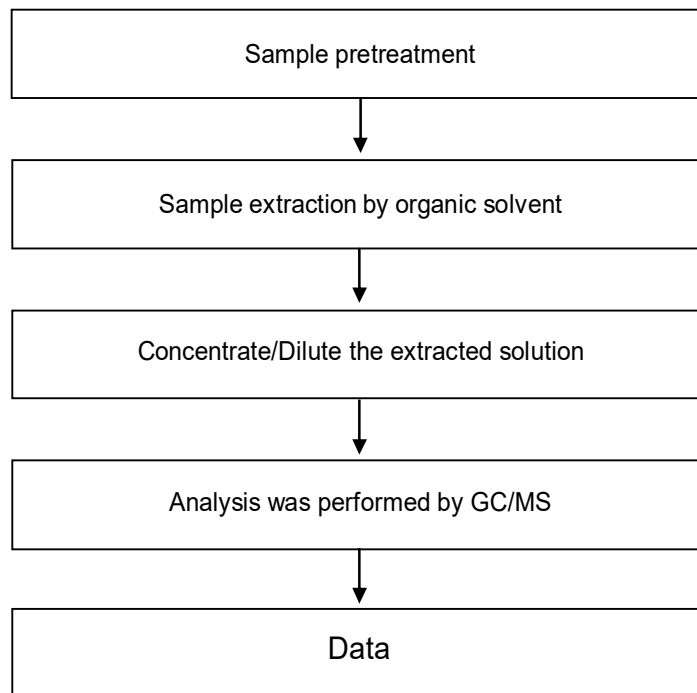


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HITACHI CHEMICAL CO., LTD. YAMAZAKI WORKS
 4-13-1, HIGASHI-CHO, HITACHI-SHI, IBARAKI, 317-8555, JAPAN

Analytical flow chart

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

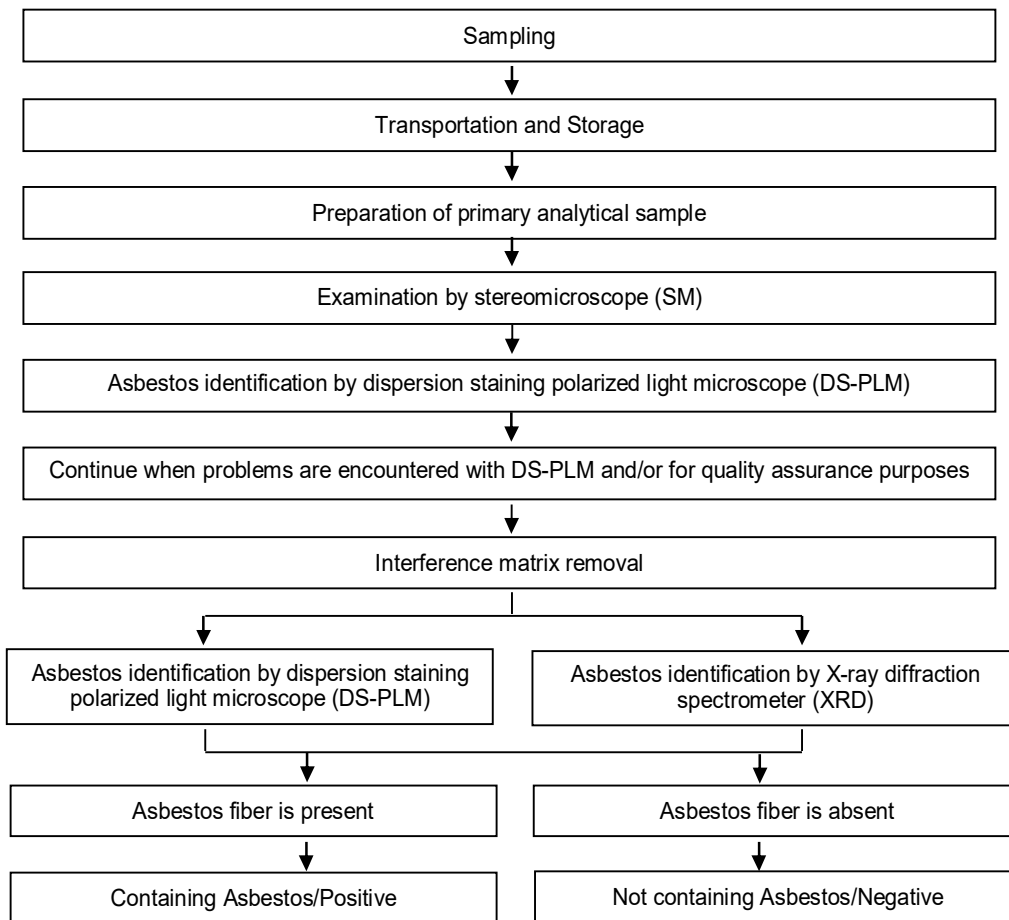


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HITACHI CHEMICAL CO., LTD. YAMAZAKI WORKS
 4-13-1, HIGASHI-CHO, HITACHI-SHI, IBARAKI, 317-8555, JAPAN

Analysis flow chart for determination of Asbestos

【 Reference method: EPA 600/R-93/116 】

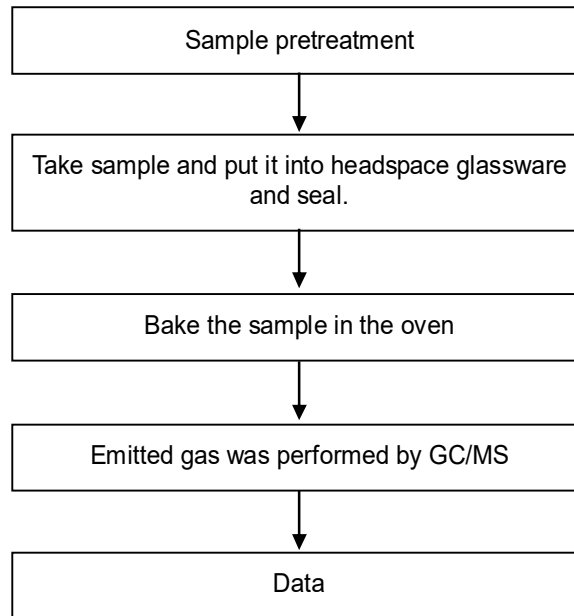


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Analytical flow chart - volatile organic compounds (VOCs)

【Reference method : US EPA 5021, 5021A】



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Test Report

No. : CE/2020/73879

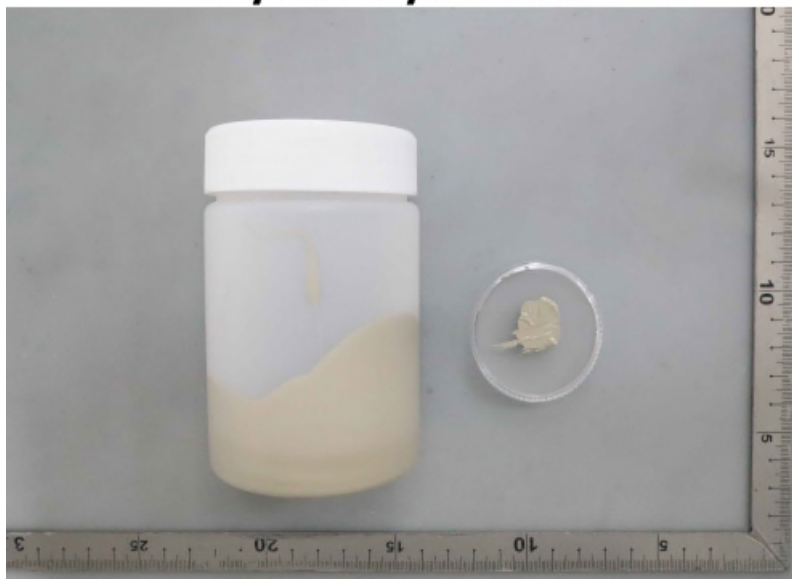
Date : 2020/07/27

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

CE/2020/73879



** End of Report **

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