

Test Report No.: ETR25703157 Date: 29-Jul-2025 Page: 1 of 18

SHIN-ETSU CHEMICAL CO., LTD.

MARUNOUCHI EIRAKU BLDG., 4-1, MARUNOUCHI 1-CHOME, CHIYODA-KU, TOKYO 100-0005, JAPAN

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

Sample Submitted By : SHIN-ETSU CHEMICAL CO., LTD.

Sample Name : SILICONE GREASE Style/Item No. : X-23-7772-4

Sample Receiving Date : 17-Jul-2025

Testing Period : 17-Jul-2025 to 29-Jul-2025

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.

Troy Chang / Department Malager
Signed for and on behalf of Alwah
SGS TAIWAN LTD.
Chemical Laboratory - Taipei



PIN CODE: CC22B14F



No.: ETR25703157 Date: 29-Jul-2025 Page: 2 of 18

SHIN-ETSU CHEMICAL CO., LTD.
MARUNOUCHI EIRAKU BLDG., 4-1, MARUNOUCHI 1-CHOME, CHIYODA-KU, TOKYO 100-0005, JAPAN

Test Part Description

No.1 : GRAY PASTE

Test Result(s)

Test Item(s)	Method	Unit	MDL	Result
				No.1
Cadmium (Cd)	With reference to IEC 62321-5: 2013, analysis was performed by ICP-OES.	mg/kg	2	n.d.
Lead (Pb)	With reference to IEC 62321-5: 2013, analysis was performed by ICP-OES.	mg/kg	2	2.41
Mercury (Hg)	With reference to IEC 62321-4: 2013+ AMD1: 2017, analysis was performed by ICP-OES.	mg/kg	2	n.d.
Hexavalent Chromium Cr(VI)	With reference to IEC 62321-7-2: 2017, analysis was performed by UV-VIS.	mg/kg	8	n.d.
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.
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.



No.: ETR25703157 Date: 29-Jul-2025 Page: 3 of 18

SHIN-ETSU CHEMICAL CO., LTD.
MARUNOUCHI EIRAKU BLDG., 4-1, MARUNOUCHI 1-CHOME, CHIYODA-KU, TOKYO 100-0005, JAPAN

Test Item(s)	Method	Unit	MDL	Result
				No.1
Butyl benzyl phthalate (BBP)		mg/kg	50	n.d.
Dibutyl phthalate (DBP)	With reference to IEC 62321-8: 2017,	mg/kg	50	n.d.
Di-(2-ethylhexyl) phthalate (DEHP)	analysis was performed by GC/MS.	mg/kg	50	n.d.
Diisobutyl phthalate (DIBP)		mg/kg	50	n.d.
Fluorine (F) (CAS No.: 14762-94-8)		mg/kg	50	n.d.
Chlorine (Cl) (CAS No.: 22537-15-1)	With reference to BS EN 14582: 2016,	mg/kg	50	n.d.
Bromine (Br) (CAS No.: 10097-32-2)	analysis was performed by IC.	mg/kg	50	n.d.
lodine (I) (CAS No.: 14362-44-8)		mg/kg	50	n.d.
Perfluorooctane sulfonates and its		mg/kg	0.01	n.d.
salts (PFOS and its salts) (CAS No.:	Modified EN 17681-1: 2022 & EN			
1763-23-1 and its salts)	17681-2: 2022, analysis was performed			
Perfluorooctanoic acid and its salts	by LC/MS/MS.	mg/kg	0.01	n.d.
(PFOA and its salts) (CAS No.: 335-	by EC/1113/1113.			
67-1 and its salts)				
Polychlorinated biphenyls (PCBs)	With reference to US EPA 3550C: 2007,	mg/kg	0.5	n.d.
	analysis was performed by GC/MS.			
Polychlorinated naphthalene (PCNs)	With reference to US EPA 3550C: 2007,	mg/kg	5	n.d.
	analysis was performed by GC/MS.			
Polychlorinated terphenyls (PCTs)	With reference to US EPA 3550C: 2007,	mg/kg	0.5	n.d.
	analysis was performed by GC/MS.			
Short Chain Chlorinated	With reference to ISO 18219-1: 2021,	mg/kg	50	n.d.
Paraffins(C10-C13) (SCCP) (CAS No.:	analysis was performed by GC/MS.			
85535-84-8)		//	0.00	,
Triphenyl tin (TPT)		mg/kg	0.03	n.d.
Tributyl tin (TBT)	With reference to ISO 17353: 2004,	mg/kg	0.03	n.d.
Dibutyl tin (DBT)	analysis was performed by GC/FPD.	mg/kg	0.03	n.d.
Dioctyl tin (DOT)		mg/kg	0.03	n.d.
Bis(tributyltin) oxide (TBTO) (CAS	Calculated from the result of Tributyl	mg/kg	0.03 ▲	n.d.
No.: 56-35-9)	Tin (TBT).	4	-	
Hexabromocyclododecane (HBCDD)	With reference to IEC 62321: 2008,	mg/kg	5	n.d.
and all major diastereoisomers	analysis was performed by GC/MS.			
identified (α- HBCDD, β- HBCDD, γ- HBCDD) (CAS No.: 25637-99-4,				
3194-55-6 (134237-51-7, 134237-				
50-6, 134237-52-8))				
30 0, 137237 32 0))				



No.: ETR25703157 Date: 29-Jul-2025 Page: 4 of 18

SHIN-ETSU CHEMICAL CO., LTD.
MARUNOUCHI EIRAKU BLDG., 4-1, MARUNOUCHI 1-CHOME, CHIYODA-KU, TOKYO 100-0005, JAPAN

Test Item(s)	Method	Unit	MDL	Result
				No.1
Polyvinyl chloride (PVC)	With reference to ASTM E1252: 2021, analysis was performed by FT-IR and Flame Test.	**	-	Negative
Antimony (Sb) (CAS No.: 7440-36-0)	With reference to US EPA 3052: 1996, analysis was performed by ICP-OES.	mg/kg	2	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.
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.

Note:

- 1. mg/kg = ppm; 0.1wt% = 0.1% = 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. ▲ : The MDL was evaluated for element / tested substance.

Conversion Formula : $AX = A \times F$

AX	Α	F
Bis(tributyltin)oxide (TBTO)	Tributyl Tin (TBT)	1.0276

Parameter Conversion Table: https://eecloud.sgs.com/Region_TW/DocDownload.aspx?name=Others



No.: ETR25703157 Date: 29-Jul-2025 Page: 5 of 18

SHIN-ETSU CHEMICAL CO., LTD. MARUNOUCHI EIRAKU BLDG., 4-1, MARUNOUCHI 1-CHOME, CHIYODA-KU, TOKYO 100-0005, JAPAN

PFAS Remark:

The quantitative technology of PFAS is to analyze the specific structure of PFAS substances. However, PFAS acid and its salts with the same carbon number group have the same specific structure that can be identified. The tested results of the analyzed specific structure cannot be distinguished to identify the contribution from PFAS acid or its salts. Therefore, the tested results display the sum of concentrations of PFAS acids and its salts with the same carbon number group. The concentration of PFAS substances in the below table have been included in the tested results, please refer to the table for relevant information: (The listed PFAS substances are examples only, it do not include all PFAS salts with the same carbon number group.)

Group Name	Substance Name	CAS No.
	Perfluorooctane sulfonates (PFOS)	1763-23-1
	Potassium perfluorooctanesulfonate (PFOS-K)	2795-39-3
	Perfluorooctanesulfonic acid, lithium salt (PFOS-Li)	29457-72-5
	Perfluorooctanesulfonic acid, ammonium salt (PFOS-NH ₄)	29081-56-9
	Perfluorooctane sulfonate diethanolamine salt (PFOS-NH(C2H4OH)2)	70225-14-8
	Perfluorooctanesulfonic acid, tetraethylammonium salt (PFOSN(C_2H_5) ₄)	56773-42-3
	N-decyl-N,N-dimethyldecan-1-aminium 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluorooctane-1- sulfonate (PFOS-DDA)	251099-16-8
	TetrabutylAmmonium perfluorooctanesulfonate (PFOS- $N(C_4H_9)_4$)	111873-33-7
	Perfluorooctane sulfonyl fluoride (POSF)	307-35-7
	Perfluorooctanesulfonic acid, magnesium salt (PFOS-Mg)	91036-71-4
PFOS, its salts & derivatives	Perfluorooctanesulfonic acid, sodium salt (PFOS-Na)	4021-47-0
	Piperidine 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8- heptadecafluorooctanesulfonate	71463-74-6
	Perfluorooctanesulfonate (anion)	45298-90-6
	1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-, compd. with N,N-diethylethanamine (1:1) (PFOS-N(C ₂ H ₅) ₃)	54439-46-2
	Methanaminium, N,N,N-trimethyl-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1-octanesulfonate (1:1) (PFOS-N(CH $_3$) $_4$)	56773-44-5
	1-Pentanaminium, N,N,N-tripropyl-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1- octanesulfonate (1:1) (PFOS-N(C ₃ H ₇) ₃ (C ₅ H ₁₁))	56773-56-9
	$\begin{array}{l} \hbox{1-Butanaminium, N,N-dibutyl-N-methyl-,} \\ \hbox{1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1-} \\ \hbox{octanesulfonate (1:1) (PFOS-N(C_4H_9)_3(CH_3))} \end{array}$	124472-68-0



No.: ETR25703157 Date: 29-Jul-2025 Page: 6 of 18

SHIN-ETSU CHEMICAL CO., LTD.
MARUNOUCHI EIRAKU BLDG., 4-1, MARUNOUCHI 1-CHOME, CHIYODA-KU, TOKYO 100-0005, JAPAN

Group Name	Substance Name	CAS No.
PFOS, its salts & derivatives	lodonium, bis[4-(1,1-dimethylethyl)phenyl]-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1- octanesulfonate (1:1)	213740-80-8
	Sulfonium, diphenyl(2,4,6-trimethylphenyl)-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1- octanesulfonate (1:1)	258341-99-0
	Pyridinium, 1-hexadecyl-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1-octanesulfonate (1:1)	334529-63-4
	1-Decanaminium, N,N,N-triethyl-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-1- octanesulfonate (1:1)	773895-92-4
	Tetrabutylphosphonium perfluorooctane sulfonate (PFOS-P(C ₄ H ₉) ₄))	2185049-59-4
	Perfluorooctanesulfonic acid diethylamine salt (PFOS-C ₄ H ₁₁ N)	2205029-08-7
	Heptyldimethyl{2-[(2-methylprop-2-enoyl)oxy]ethyl}azanium perfluorooctanesulfonate (PFOS-C ₁₅ H ₃₀ NO ₂)	1203998-97-3
	1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-, 1,1'-anhydride (PFOSAN)	423-92-7
	Perfluoro-1-octanesulfonyl chloride (PFOS-Cl)	423-60-9
	Perfluorooctanoic acid (PFOA)	335-67-1
	Sodium perfluorooctanoate (PFOA-Na)	335-95-5
	Potassium perfluorooctanoate (PFOA-K)	2395-00-8
	Silver perfluorooctanote (PFOA-Ag)	335-93-3
	Perfluorooctanoyl fluoride (PFOA-F)	335-66-0
	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1
	Lithium perfluorooctanoate (PFOA-Li)	17125-58-5
	Cobalt perfluorooctanoate (PFOA-Co)	35965-01-6
	Cesium perfluorooctanoate (PFOA-Cs)	17125-60-9
PFOA, its salts & derivatives	Octanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-,	68141-02-6
	chromium(3+) (PFOA-Cr(3 ⁺))	
	Pentadecafluorooctanoic acidpiperazine (2/1)PFOA-NH($C_4H_{10}N$)	423-52-9
	Pentadecafluorooctanoate (anion)	45285-51-6
	Perfluorooctanoic Anhydride	33496-48-9
	Ethanaminium, N,N,N-triethyl-, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctanoate (1:1)	98241-25-9
	Tetramethylammoniumperfluoroctanoat	32609-65-7
	1-Propanaminium, N,N,N-tripropyl-, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctanoate (1:1)	277749-00-5



No.: ETR25703157 Date: 29-Jul-2025 Page: 7 of 18

SHIN-ETSU CHEMICAL CO., LTD.
MARUNOUCHI EIRAKU BLDG., 4-1, MARUNOUCHI 1-CHOME, CHIYODA-KU, TOKYO 100-0005, JAPAN

Group Name	Substance Name	CAS No.
	Octanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-, potassium salt, hydrate (1:1:2) (PFOA-K(H ₂ O) ₂)	98065-31-7
	Octanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-, compd. with ethanamine (1:1) (PFOA-C ₂ H ₇ N)	1376936-03-6
	Octanoic acid, pentadecafluoro-, compd. with pyridine (1:1) (9CI) (PFOA- C_5H_5N)	95658-47-2
	Pentadecafluorooctanoic acid- 1-phenylpiperazine(1:1) (PFOA-C ₁₀ H ₁₄ N ₂)	1514-68-7
	1-Octanaminium, N,N,N-trimethyl-, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctanoate (1:1) (PFOA- $C_{11}H_{26}N$)	927835-01-6
	Pentadecafluorooctanoyl chloride (PFOA-Cl)	335-64-8



No.: ETR25703157 Date: 29-Jul-2025

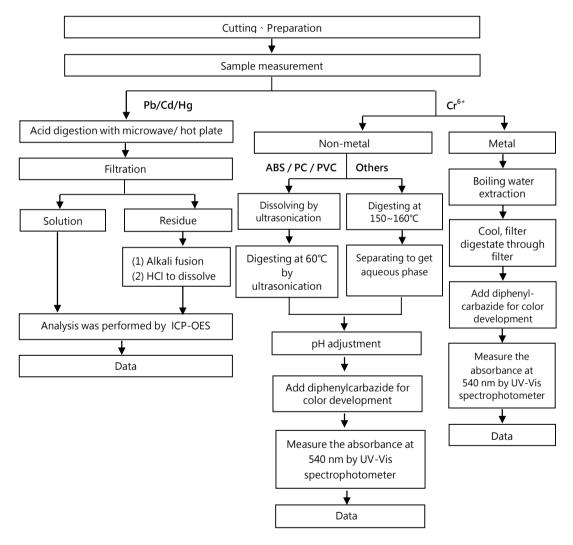
Page: 8 of 18

SHIN-ETSU CHEMICAL CO., LTD. MARUNOUCHI EIRAKU BLDG., 4-1, MARUNOUCHI 1-CHOME, CHIYODA-KU, TOKYO 100-0005, 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)





No.: ETR25703157 Date: 29-Jul-2025

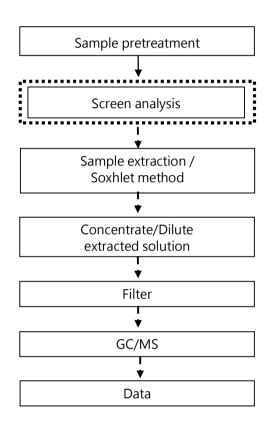
SHIN-ETSU CHEMICAL CO., LTD.
MARUNOUCHI EIRAKU BLDG., 4-1, MARUNOUCHI 1-CHOME, CHIYODA-KU, TOKYO 100-0005, JAPAN

Analytical flow chart - PBBs / PBDEs

First testing process

Optional screen process

Confirmation process



This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at https://www.sgs.com.tw/terms-of-service. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instruction, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced, except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

Page: 9 of 18

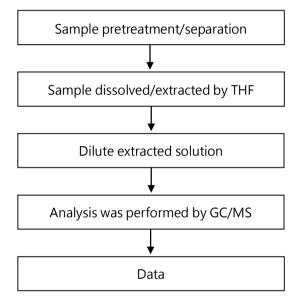


No.: ETR25703157 Date: 29-Jul-2025 Page: 10 of 18

SHIN-ETSU CHEMICAL CO., LTD.
MARUNOUCHI EIRAKU BLDG., 4-1, MARUNOUCHI 1-CHOME, CHIYODA-KU, TOKYO 100-0005, JAPAN

Analytical flow chart - Phthalate

【Test method: IEC 62321-8】

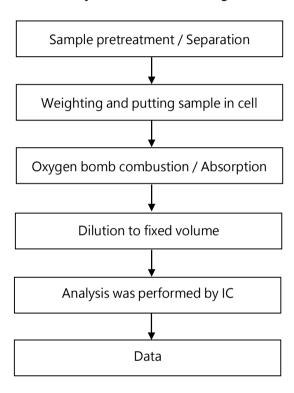




No.: ETR25703157 Date: 29-Jul-2025 Page: 11 of 18

SHIN-ETSU CHEMICAL CO., LTD.
MARUNOUCHI EIRAKU BLDG., 4-1, MARUNOUCHI 1-CHOME, CHIYODA-KU, TOKYO 100-0005, JAPAN

Analytical flow chart - Halogen

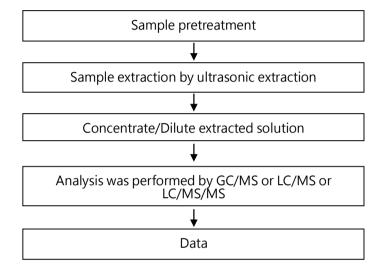




No.: ETR25703157 Date: 29-Jul-2025 Page: 12 of 18

SHIN-ETSU CHEMICAL CO., LTD.
MARUNOUCHI EIRAKU BLDG., 4-1, MARUNOUCHI 1-CHOME, CHIYODA-KU, TOKYO 100-0005, JAPAN

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



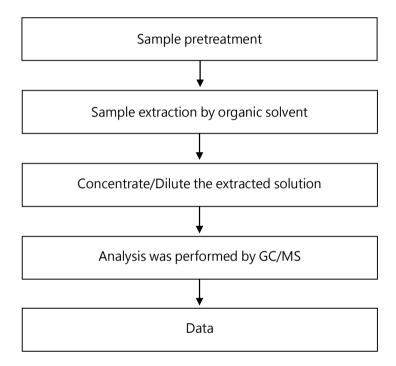


No.: ETR25703157 Date: 29-Jul-2025 Page: 13 of 18

SHIN-ETSU CHEMICAL CO., LTD.
MARUNOUCHI EIRAKU BLDG., 4-1, MARUNOUCHI 1-CHOME, CHIYODA-KU, TOKYO 100-0005, JAPAN

Analytical flow chart

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

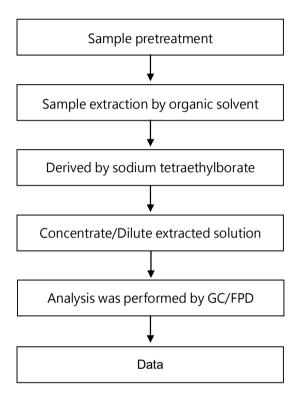




No.: ETR25703157 Date: 29-Jul-2025 Page: 14 of 18

SHIN-ETSU CHEMICAL CO., LTD.
MARUNOUCHI EIRAKU BLDG., 4-1, MARUNOUCHI 1-CHOME, CHIYODA-KU, TOKYO 100-0005, JAPAN

Analytical flow chart - Organic-Tin

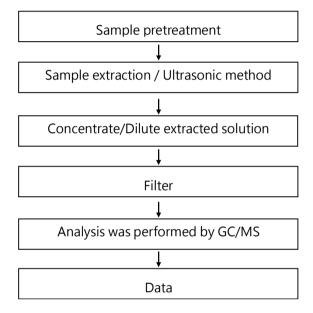




No.: ETR25703157 Date: 29-Jul-2025 Page: 15 of 18

SHIN-ETSU CHEMICAL CO., LTD.
MARUNOUCHI EIRAKU BLDG., 4-1, MARUNOUCHI 1-CHOME, CHIYODA-KU, TOKYO 100-0005, JAPAN

Analytical flow chart - HBCDD

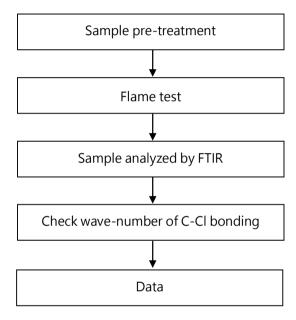




No.: ETR25703157 Date: 29-Jul-2025 Page: 16 of 18

SHIN-ETSU CHEMICAL CO., LTD.
MARUNOUCHI EIRAKU BLDG., 4-1, MARUNOUCHI 1-CHOME, CHIYODA-KU, TOKYO 100-0005, JAPAN

Analysis flow chart - PVC





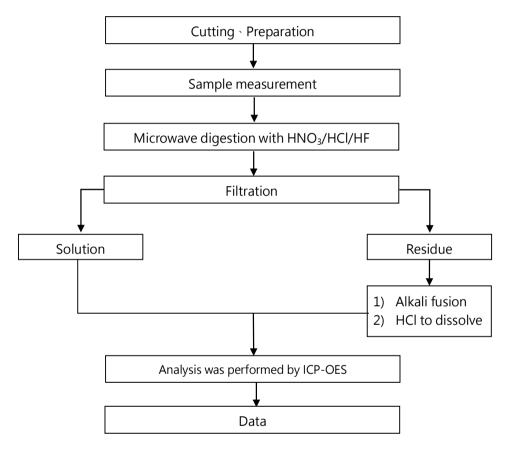
No.: ETR25703157 Date: 29-Jul-2025 Page: 17 of 18

SHIN-ETSU CHEMICAL CO., LTD.
MARUNOUCHI EIRAKU BLDG., 4-1, MARUNOUCHI 1-CHOME, CHIYODA-KU, TOKYO 100-0005, JAPAN

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.



No.: ETR25703157 Date: 29-Jul-2025 Page: 18 of 18

SHIN-ETSU CHEMICAL CO., LTD.
MARUNOUCHI EIRAKU BLDG., 4-1, MARUNOUCHI 1-CHOME, CHIYODA-KU, TOKYO 100-0005, JAPAN

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

ETR25703157



** End of Report **