

Test Report

No.: CANEC25019768423

Date: Aug 19, 2025

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Client Name: FOSHAN BLUE ROCKET ELECTRONICS CO.,LTD.

Client Address: NO.45 GUXIN ROAD,CHANCHENG DISTRICT,FOSHAN,GUANGDONG,P.R.C.

Sample Name: SOT-23 Semiconductor Device

Model No.: SOT-23

Client Ref. Information: SOT-323,SOD-123,SOD-323,SOD-123FL,SOT-89,SOP-8,SOP-7,ESOP-8,SOT-363,SOT-223,SOT23-6,SOT23-5,SOT23-3,SOT-523,SOD-523,TO-92,TO-92LM

Signed for and on behalf of
SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

Allie Chen

Allie Chen
Approved Signatory

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Test Result(s):

Test Part Description

SN ID	Sample No.	SGS Sample ID	Description
SN1	A1	CAN25-0197684-0001.C001	"SOT-23 Semiconductor Device"

Remarks:

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected (< MDL)
- (4) "-" = Not Regulated

European Regulation POPs (EU) 2019/1021 Annex I and its amendments

Test Method: SGS In-House method, analysis was performed by GC-MS or GC-MS/MS, GC-NCI-MS, GC-ECD and HPLC-DAD/MS or LC-MS/MS.

Test Item(s)	CAS No.	Limit	Unit(s)	MDL	A1
Tetrabromodiphenyl ether	40088-47-9 and others	-	mg/kg	5	ND
Pentabromodiphenyl ether	32534-81-9 and others	-	mg/kg	5	ND
Hexabromodiphenyl ether	36483-60-0 and others	-	mg/kg	5	ND
Heptabromodiphenyl ether	68928-80-3 and others	-	mg/kg	5	ND
Decabromodiphenyl ether (decaBDE)	1163-19-5	-	mg/kg	5	ND
Sum of PBDEs*	-	500	mg/kg	-	ND
Perfluorooctane sulfonic acid (PFOS), its salts^	1763-23-1	0.025	mg/kg	0.010	ND
N-ethylperfluoro-1-octanesulfonamide (N-EtFOSA)	4151-50-2	-	mg/kg	0.010	ND
N-methylperfluoro-1-octanesulfonamide (N-MeFOSA)	31506-32-8	-	mg/kg	0.010	ND
2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol (N-EtFOSE)	1691-99-2	-	mg/kg	0.010	ND
2-(N-methylperfluoro-1-octanesulfonamido)-ethanol (N-MeFOSE)	24448-09-7	-	mg/kg	0.010	ND
Perfluorooctane sulfonamide (PFOSA), its salts^	754-91-6	-	mg/kg	0.010	ND
Perfluorooctane sulfonamidoacetic Acid (FOSAA), its salts^	2806-24-8	-	mg/kg	0.010	ND
N-Methylperfluoro-1-octanesulfonamidoacetic Acid (N-MeFOSAA), its salts^	2355-31-9	-	mg/kg	0.010	ND
N-Ethylperfluorooctane sulfonamidoacetic Acid (N-EtFOSAA), its salts^	2991-50-6	-	mg/kg	0.010	ND
Sum of PFOS-related compounds	-	1	mg/kg	-	ND



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Test Item(s)	CAS No.	Limit	Unit(s)	MDL	A1
1H,1H,2H,2H-Perfluorodecyl acrylate (8:2 FTA)					

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Test Item(s)	CAS No.	Limit	Unit(s)	MDL	A1
2-[methyl[(tridecafluorohexyl) sulphonyl]amino]ethyl acrylate)) (N-MeFHSEA)	67584-57-0	1	mg/kg	0.200	ND
2-Propenoic acid, 2-methyl-, 2-[methyl[(1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluorohexyl)sulfonyl]amino]ethyl ester	67584-61-6	1	mg/kg	0.200	ND
2-Propenoic acid, 2-methyl-, 2-[ethyl[(1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluorohexyl)sulfonyl]amino]ethyl ester	67906-70-1	1	mg/kg	0.200	ND
1-Hexanesulfonamide, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-N-(2-hydroxyethyl)-N-methyl-(MeFHxSE)	68555-75-9	1	mg/kg	0.010	ND
Glycine, N-ethyl-N-[(1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluorohexyl)sulfonyl] (EtFHxSAA), its salts^	68957-32-4	1	mg/kg	0.010	ND
Sum of PFHxS-related compounds	-	1	mg/kg	-	ND
Methoxychlor	72-43-5 and others	0.01	mg/kg	0.01	ND
2-(2H-benzotriazol-2-yl)-4,6-di-tert-pentylphenol (UV-328)	25973-55-1	100	mg/kg	1	ND
Conclusion					Pass

Notes:

- (1) Substances in Annex I of European Regulation POPs (EU) 2019/1021 Annex I are prohibited in preparations and constituents of articles unless otherwise specified.
- (2) Exemptions: Tetrabromodiphenyl ether, pentabromodiphenyl ether, hexabromodiphenyl ether, heptabromodiphenyl ether and decabromodiphenyl ether are ≤ 10 mg/kg for substances, and Sum of tetra-, penta-, hexa-, hepta- and decaBDE ≤ 500 mg/kg for mixtures or articles, this restriction is subject to subject to review and assessment by the European by 16 July 2021.
- (3) Exemption: Tetrabromodiphenyl ether, pentabromodiphenyl ether, hexabromodiphenyl ether, heptabromodiphenyl ether and decabromodiphenyl ether in electrical and electronic equipment within the scope of Directive 2011/65/EU are exempted.
- (4) Exemption: Alkanes C10-13, chloro (short chain-chlorinated paraffins) (SCCPs) $< 1.0\%$ (w/w) in preparation, $< 0.15\%$ (w/w) for articles.
- (5) Exemptions: HBCDD no more than 75 mg/kg as an unintentional trace contaminant in substances, mixtures, articles or flame-retarded parts of articles, the exemptions laid down shall be reviewed and assessed by the Commission by 1 January 2026.
- (6) Sum of PBDEs* Means Sum of Tetrabromodiphenyl ether, Pentabromodiphenyl ether, Hexabromodiphenyl ether, Heptabromodiphenyl ether and Decabromodiphenyl ether.
- (7) According to Regulation (EU) 2025/718 amending Regulation (EU) 2019/1021 Annex I, the concentrations of PFOS or any of its salts equal to or below 0,025 mg/kg (0,000025 % by weight) and all PFOS-related compounds equal to or below 1 mg/kg (0,0001 % by weight) where they are present in substances, mixtures or in articles. Date of applicability: From 3 December 2025.
- (8) ^=Substances of PFOS, PFOA and PFOA-related compounds refer to their salts/derivatives listed in below

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N-[(Perfluorooctyl)sulfonyl]glycine potassium salt (1:1) (FOSAA-K)	75260-69-4
N-[(Perfluorooctyl)sulfonyl]glycine sodium salt (1:1) (FOSAA-Na)	115716-87-5
N-MeFOSAA, its salts	
N-Methylperfluoro-1-octanesulfonamidoacetic Acid (N-MeFOSAA)	2355-31-9
2-(N-Methylperfluorooctanesulfonamido)acetate (N-Me-FOSAA(anion))	909405-48-7
Potassium N-((heptadecafluorooctyl)sulphonyl)-N-methylglycinate (N-Me-FOSAA-K)	70281-93-5
N-EtFOSAA, its salts	
N-Ethylperfluorooctane sulfonamidoacetic Acid (N-EtFOSAA)	2991-50-6
Glycine, N-ethyl-N-[(heptadecafluorooctyl)sulfonyl]-, potassium salt (N-Et-FOSAA-K)	2991-51-7
2-(N-Ethyl-perfluorooctanesulfonamido)acetate (N-Et-FOSAA(anion))	909405-49-8
Ammonium 2-(N-ethylperfluorooctanesulfonamido)acetate (N-Et-FOSAA-NH ₄)	2991-52-8
Sodium 2-(N-ethylperfluorooctanesulfonamido)acetate (N-Et-FOSAA-Na)	3871-50-9
PFOSA, its salts	
Perfluorooctane Sulfonamide (PFOSA)	754-91-6
Perfluorooctanesulfonamide lithium salt (1:1) (PFOSA-Li)	76752-79-9
Perfluorooctanesulfonamide Sodium salt (1:1) (PFOSA-Na)	76752-78-8
Perfluorooctanesulfonamide Potassium salt (1:1) (PFOSA-K)	76752-70-0
Perfluorooctanesulfonamide Ammonium salt (1:1) (PFOSA-NH ₄)	76752-72-2
Heptadecafluorooctane-1-sulphonamide, compound with triethylamine (1:1) (PFOSA-C ₆ H ₁₅ N)	76752-82-4
PFOA, its salts & derivatives	
Perfluorooctanoic acid (PFOA)	335-67-1
Sodium perfluorooctanoate (PFOA-Na)	335-95-5
Potassium perfluorooctanoate (PFOA-K)	2395-00-8
Silver perfluorooctanoate (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
Octanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-, chromium(3+) (PFOA-Cr(3+))	68141-02-6
Pentadecafluorooctanoic acid--piperazine (2/1) (PFOA-NH(C ₄ H ₁₀ N))	423-52-9
Pentadecafluorooctanoate (anion)	45285-51-6
Perfluorooctanoic Anhydride	33496-48-9
N,N,N-Triethylethanaminium perfluorooctanoate	98241-25-9
Perfluorooctanoate N,N,N-Trimethylmethanaminium	32609-65-7

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8:2 Fluorotelomer diammonium phosphate	93857-44-4
Disodium 1H,1H,2H,2H-perfluorodecylphosphate	438237-75-3
Ammonium bis[2-(perfluorohexyl)ethyl] phosphate	1764-95-0
3,3,4,4,5,5,6,6,7,7,8,8,8-Tridecafluorooctanol phosphate ammonium salt	92401-44-0
Sodium 1H,1H,2H,2H-perfluorooctylphosphate	144965-22-0
Monopotassium monoperfluorohexyl ethylphosphate	150033-28-6
Ammonium 2-(perfluorohexyl)ethyl hydrogen phosphate	2353-52-8

(9) PFHxS, its salts and PFHxS related compounds:

- (a) Commission Delegated Regulation (EU) 2023/1608 of May 30, 2023, amending Annex I to Regulation (EU) 2019/1021 Annex I as regards the listing of perfluorohexane sulfonic acid (PFHxS), its salts and PFHxS-related compounds, Official Journal of the EU, August 8, 2023.

Substance	Scope	Specific exemption on intermediate use or other specification
PFHxS and its salts	Substances, mixtures or articles	≤ 0.025 mg/kg
PFHxS-related compounds	Substances, mixtures or articles	≤ 1 mg/kg (individual or sum of all)
PFHxS, its salts and PFHxS-related compounds	Concentrated firefighting foam	≤ 0.1 mg/kg (to be reviewed within three years after entry into force of this amending regulation with a view to lower the limit)

- (b) The tested perfluorohexane sulfonic acid (PFHxS), its salts and PFHxS-related compounds in this report comes from the "Listed under the POPs Regulation" of ECHA, please find more information via below weblink: [List of substances proposed as POPs - ECHA \(europa.eu\)](https://echa.europa.eu/en/chemicals/pop-restriction)

- (c) ^=Substances of PFHxS refer its salts/derivative listed in below table.

PFHxS, its salts & derivatives	
Perfluorohexanesulfonic acid (PFHxS)	355-46-4
Perfluorohexanesulfonate Na-salt (PFHxS-Na)	82382-12-5
Perfluorohexanesulfonate K-salt (PFHxS-K)	3871-99-6
1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, lithium salt (1:1) (PFHxS-Li)	55120-77-9
Ammonium perfluorohexane-1-sulphonate (PFHxS-NH ₄)	68259-08-5
Phosphonium, triphenyl(phenylmethyl)-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-BTPP)	1000597-52-3
N,N,N-tributylbutan-1-aminium tridecafluorohexane-1-sulfonate(PFHxS-N(C ₄ H ₉) ₄)	108427-54-9
N,N,N-triethylethanaminium tridecafluorohexane-1-sulfonate(PFHxS-N(C ₂ H ₅) ₄)	108427-55-0
1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, compd. With pyrrolidine (1:1) (PFHxS-NC ₄ H ₉)	1187817-57-7
Ethanaminium, N-[4-[[4-(diethylamino)phenyl][4-(ethylamino)-1-	1310480-24-0



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1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic(PFHxS-I (C ₆ H ₄) ₂ (C ₅ H ₁₁))	
Perfluorohexane sulphonyl fluoride(PFHxS-F)	423-50-7
Sulfonium, tris[4-(1,1-dimethylethyl)phenyl]-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)(PFHxS-S(C ₆ H ₄) ₃ (C ₄ H ₉) ₃)	425670-70-8
1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, zinc salt (PFHxS-Zn)	70136-72-0
Tridecafluorohexanesulphonic acid, compound with 2,2'-iminodiethanol (1:1)(PFHxS-NH(C ₂ H ₅ O) ₂)	70225-16-0
1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, compd. with N,N-diethylethanamine (1:1)(PFHxS-N(C ₂ H ₅) ₃)	72033-41-1
Iodonium, bis[(1,1-dimethylethyl)phenyl]-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid (1:1) (9CI) (PFHxS-I(C ₆ H ₄) ₂ (C ₄ H ₉) ₂)	866621-50-3
Sulfonium, (4-methylphenyl)diphenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)(PFHxS-S(C ₆ H ₅) ₂ C ₇ H ₇)	910606-39-2
Sulfonium, [4-[(2-methyl-1-oxo-2-propen-1-yl)oxy]phenyl]diphenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6,7tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-S(C ₆ H ₅) ₂ 8 ₁₀ H ₉ O ₂)	911027-68-4
1-Hexanesulfonic acid, 9,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, cesium salt (1:1) (PFHxS-Cs) (PFHxS-Cs)	92011-17-1
Dibenzo[k,n][1,4,7,10,13]tetraoxathiacyclopentadecinium, 19-[4-(1,1-dimethylethyl)phenyl]-6,7,9,10,12,13-hexahydro-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1) (PFHxS-SC ₂₈ H ₃₁ O ₄)	928049-42-7
Perfluorohexylsulfonyl chloride (PFHxS-Cl)	55591-23-6
Sulfonium, [4-[(2-methyl-1-oxo-2-propenyl)oxy]phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid (1:1), polymer with 2-ethyltricyclo[3.3.1.1 ^{3,7}]dec-2-yl 2-methyl-2-propenoate, 3-hydroxytricyclo[3.3.1.1 ^{3,7}]dec-1-yl 2-methyl-2-propenoate and tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate (PFHxS-Sulfonium, propenoate polymer)	911027-69-5
Perfluorohexane sulfonate (anion)	108427-53-8
Tetrabutylphosphonium perfluorohexane sulfonate (PFHxS-P (C ₄ H ₉) ₄))	2310194-12-6
EtFHxSAA, its salts	
Glycine, N-ethyl-N-[(1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluorohexyl)sulfonyl] (EtFHxSAA)	68957-32-4
Potassium N-ethyl-n-[(tridecafluorohexyl)sulfonyl]glycinate (EtFHxSAA-K)	67584-53-6
Sodium N-ethyl-N-((tridecafluorohexyl)sulphonyl)glycinate (EtFHxSAA-Na)	68555-70-4



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against substances laid down in Test Requested.

(15) The conclusion is only applicable to the substance list in the report.

Remark: Results & photo(s) of this report refer to test report CANEC25019768405.

Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule ($w=0$) stated in ILAC-G8:09/2019.



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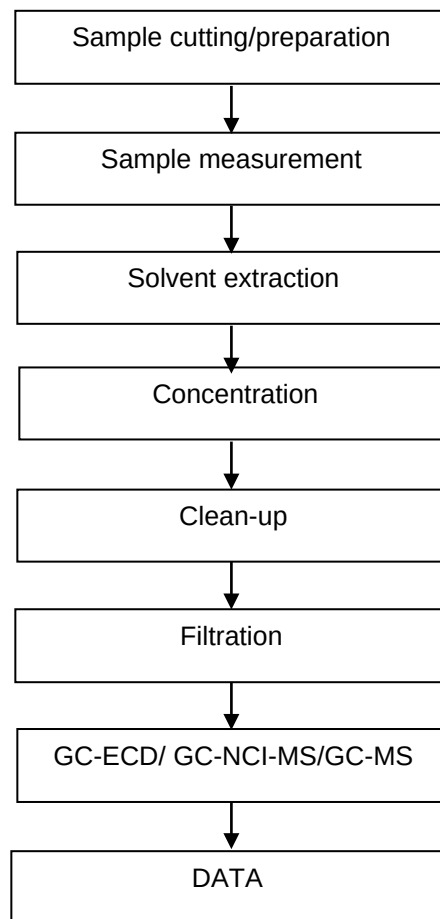
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Chlorinated Paraffin Testing Flow Chart





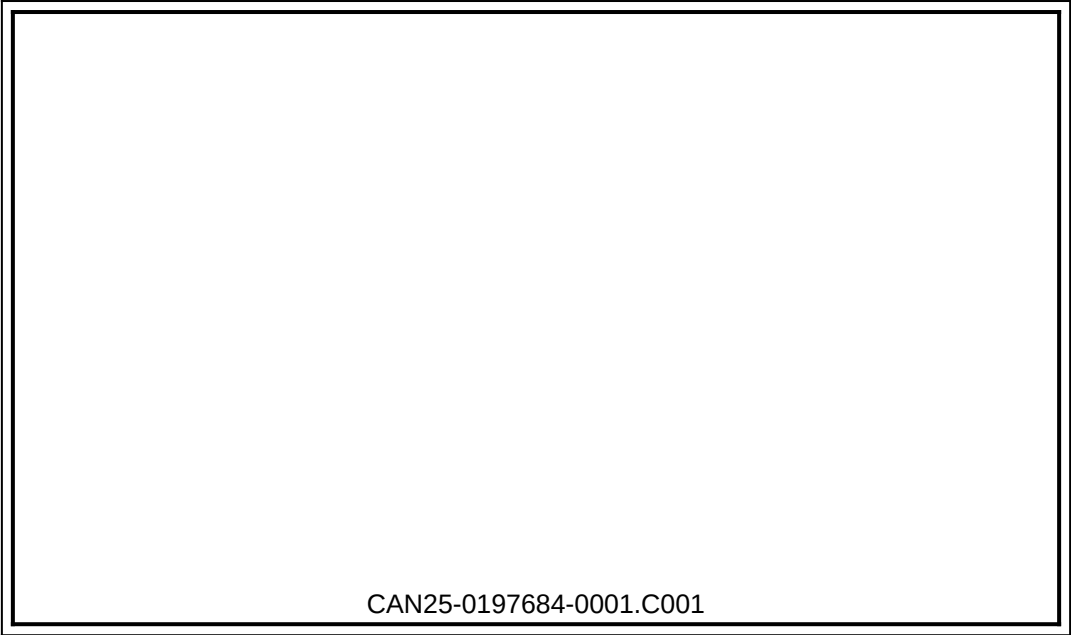
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Sample Photo:



SGS authenticate the photo on original report only
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