

Test Report (SVHC)	No.:	SHAPH24013272221	Date:	Jul 25, 2024	Page 1 of 15
Client Name: JIAN	GSU XINS	HUN MICROELECTRON	ICS CO.,LTD		
Client Address: NO.7	78 CHANG	SSHAN RD., JIANGYIN CI	FY,JIANGSU	PRO.,CHINA	
Sample Name:	ep	itaxy NPN chip			
The above sample(s)	and inform	nation were provided by th	e client.		
SGS Job No.:	SI	HIN2406004632PL11			
Sample Receiving Da	ate: Ju	ın 18, 2024			
Testing Period:	Ju	ın 18, 2024 ~ Jun 26, 2024	ŀ		
Test Requested: Test Method(s):	As (i Su Eu Re (i of (E cc (i nc (i Li: (E PI	s requested by client, SVH) Two hundred and forty (2 ubstances of Very High Co uropean Chemicals Agency egulation (EC) No 1907/20 i) Two (2) substances in th Very High Concern (SVH0 CHA) on and before Mar 1 oncerning the REACH. ii) One (1) potential Substant otification of WTO on Jun 1 v) Six (6) potential Substant st published by European (C) No 1907/2006 concern ease refer to next page(s).	C screening is (40) substance ncern (SVHC y (ECHA) on a 06 concerning e Public Cons c) published b 1, 2024 regard ances of Very , 2021. nces of Very H Chemicals Ag ing the REAC	e performed accor es in the Candida) for authorization and before Jan 23 g the REACH. Sultation List of po y European Cher ing Regulation (E High Concern (SV ency (ECHA) rega H.	rding to: te List of published by 3, 2024 regarding otential Substances micals Agency EC) No 1907/2006 VHC) in the YHC) in the Intention arding Regulation
Test Result(s):	PI	ease refer to next page(s).			

Summary:

According to the specified scope and evaluation screening, the test results of SVHC are 0.1% (w/w) in the submitted sample.	Pass
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Signed for and on behalf of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

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Mei Shen Approved Signatory



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Remark :

1. The chemical analysis of specified SVHC is performed by means of currently available analytical techniques against the following SVHC related documents published by ECHA: http://echa.europa.eu/web/guest/candidate-list-table

These lists are under evaluation by ECHA and may subject to change in the future.

2. REACH obligation:

2.1 Concerning article(s):

Communication:

Article 33 of Regulation (EC) No 1907/2006 requires supplier of an article containing a substance meeting the criteria in Article 57 and identified in accordance with Article 59(1) in a concentration above 0.1% weight by weight (w/w) shall provide the recipient of the article with sufficient information, available to the supplier, to allow safe use of the article including, as a minimum, the name of that substance in the Candidate List.

Notification:

In accordance with Regulation (EC) No 1907/2006, any EU producer or importer of articles shall notify ECHA, in accordance with paragraph 4 of Article 7, if a substance meets the criteria in Article 57 and is identified in accordance with Article 59(1) of the Regulation, if (a) the substance in the Candidate List is present in those articles in quantities totaling over one tonne per producer or importer per year; and (b) the substance in the Candidate List is present in those articles above a concentration of 0.1% weight by weight (w/w).

Companies supplying articles containing substances of very high concern (SVHCs) on the Candidate List in a concentration above 0.1% weight by weight (w/w) on the EU market must comply with the Waste Framework Directive 2008/98/EC requirement and submit SCIP notifications on these articles to ECHA, as from 5 January 2021.

2.2 Concerning material(s):

Test results in this report are based on the tested sample. This report refers to testing result of tested sample submitted as homogenous material(s). In case such material is being used to compose an article, the results indicated in this report may not represent SVHC concentration in such article. If this report refers to testing result of composite material group by equal weight proportion, the material in each composite test group may come from more than one article.

If the sample is a substance or mixture, and it directly exports to EU, client has the obligation to comply with the supply chain communication obligation under Article 31 of Regulation (EC) No. 1907/2006 and the conditions of Authorization of substance of very high concern included in the Annex XIV of the Regulation (EC) No. 1907/2006.

2.3 Concerning substance and preparation:

If a SVHC is found over 0.1% (w/w) and/or the specific concentration limit which is set in Regulation (EC) No 1272/2008 and its amendments, client is suggested to prepare a Safety Data Sheet (SDS) against the SVHC to comply with the supply chain communication obligation under Regulation (EC) No 1907/2006, in which:

- a substance that is classified as hazardous under the CLP Regulation (EC) No 1272/2008.

- a mixture that is classified as hazardous under the CLP Regulation (EC) No 1272/2008, when it contains a substance with concentration equal to, or greater than the classification limit as set in Regulation (EC) No. 1272/2008; or

- a mixture is not classified as hazardous under the CLP Regulation (EC) No 1272/2008, but contains either:

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(a) a substance posing human health or environmental hazards in an individual concentration of 1 % by weight for mixtures that are solid or liquids (i.e., non-gaseous mixtures) or 0.2 % by volume for gaseous mixtures; or

(b) a substance that is PBT, or vPvB in an individual concentration of 0.1 % by weight for mixtures that are solid or liquids (i.e., non-gaseous mixtures); or

(c) a substance on the SVHC candidate list (for reasons other than those listed above), in an individual concentration of 0.1 % by weight for non-gaseous mixtures; or

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- (d) a substance for which there are Europe-wide workplace exposure limits
- 3. If a SVHC is found over the reporting limit, client is suggested to identify the composite component which contains the SVHC and the exact concentration of the SVHC by requesting further quantitative analysis from the laboratory.

Test Sample:

Testing Group:

Test Result ID

Description



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Test Results: (Substances in the Candidate List of SVHC)

Batch	Substance Name	CAS No.	001 Concentration (%)	RL (%)
	Diarsenic pentaoxide*	1303-28-2	NA^	0.005
I	Diarsenic trioxide*	1327-53-3	NA^	0.005
I	Triethyl arsenate*	15606-95-8	NA^	0.005
VI	Arsenic acid*	7778-39-4	NA^	0.005
VI	Calcium arsenate*	7778-44-1	NA^	0.005
-	Other tested SVHC in Candidate list	-	ND	-

Test Results: (Potential SVHC)

Batch	Substance Name	CAS No.	001 Concentration (%)	RL (%)
/	All tested Potential SVHC	-	ND	-

Notes:

- (1) The table above only shows detected SVHC, and SVHC that below RL are not reported. Please refer to Appendix for the full list of tested SVHC.
- (2) RL = Reporting Limit (Test data will be shown if it RL. RL is not regulatory limit.)
- ND = Not detected (lower than RL), ND is denoted on the SVHC substance.
- (3) * The result is based on the calculation of selected element(s) under the worst-case scenario, and the evaluation of substance usage and material properties.

** The test result is based on the calculation of selected marker(s) and to the worst-case scenario. Calculated concentration of boric compounds are based on water extractive boron detected by ICP-OES. Calculated concentration of Barium diboron tetraoxide is based on water extractive boron and barium detected by ICP-OES.

RL = 0.005% is evaluated for element (i.e. cobalt, arsenic, lead, chromium (VI), aluminum, zirconium, boron, strontium, zinc, antimony, titanium, barium, cadmium respectively), except molybdenum RL=0.0005%, boron RL=0.0025% (only for Lead bis(tetrafluoroborate)), fluorine RL=0.050%.

- (4) § The substance is proposed for the identification as SVHC only where it contains Michler's ketone (CAS Number: 90-94-8) or Michler's base (CAS Number: 101-61-1) 0.1% (w/w).
- (5) / and XXXI = Potential SVHC

Remark:

NA[^] = Upon further test verification on the specific detected elements or substances of SVHC and also information provided from client, the possibility that the elements or substances content originate from SVHC is very unlikely, even though their presence cannot be exclude entirely. It may be assumed that the detected elements or substances have a non-SVHC source.

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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Appendix Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
I	1	4,4'-Diaminodiphenylmethane(MDA)	101-77-9	0.050
I	2	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	0.050
I	3	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	0.050
I	4	Anthracene	120-12-7	0.050
I	5	Benzyl butyl phthalate (BBP)	85-68-7	0.050
I	6	Bis(2-ethylhexyl)phthalate (DEHP)	117-81-7	0.050
I	7	Bis(tributyltin)oxide (TBTO)	56-35-9	0.050
I	8	Cobalt dichloride*	7646-79-9	0.005
I	9	Diarsenic pentaoxide*	1303-28-2	0.005
	. 10	Diarsenic trioxide*	1327-53-3	

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Batch	No.	Substance Name	CAS No.	RL (%)
	33	Potassium dichromate*	7778-50-9	0.005
	34	Sodium chromate*	7775-11-3	0.005
	35	Tetraboron disodium heptaoxide, hydrate*	12267-73-1	0.005
	36	Trichloroethylene	79-01-6	0.050
IV	37	2-Ethoxyethanol	110-80-5	0.050
IV	38	2-Methoxyethanol	109-86-4	0.050
11/	20	Chromic acid, Oligomers of chromic acid and	13530-68-2	0.005
IV	dichromic acid, Dichromic aci	dichromic acid, Dichromic acid*	/7738-94-5	0.005
IV	40	Chromium trioxide*	1333-82-0	0.005
IV	41	Cobalt(II) carbonate*	513-79-1	0.005
IV	42	Cobalt(II) diacetate*	71-48-7	0.005

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	Batch	No.		Substance Name		CAS No.	RL (%)	
			2,5-0	dien-1-ylidene] dimethylamm chloride (C.I. Basic Blue 26)	onium §			
	VII	73	ben: ylider	[4-[4,4'-bis(dimethylamino) zhydrylidene]cyclohexa-2,5-d ne]dimethylammonium chlorid Basic Violet 3) §	ien-1- de (C.I.	548-62-9	0.050	
	VII	74	1,2-bis	(2-methoxyethoxy)ethane (TI triglyme)	EGDME;	112-49-2	0.050	
	VII	75	1,2-dim	ethoxyethane; ethylene glyco ether (EGDME)	l dimethyl	110-71-4	0.050	
	VII	76	4,4'-	bis(dimethylamino) benzophe	enone			

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Test (S	t Report SVHC)		No.: SHAPH24013272221 Da	ate:	Jul 25, 2024	Page 8 of 15
	Batch	No.	Substance Name		CAS No.	RL (%)
	VIII	101	Diazene-1,2-dicarboxamide (C,C'- azodi(formamide))		123-77-3	0.050
	VIII	102	Dibutyltin dichloride (DBTC)		683-18-1	0.050
	VIII	103	Diethyl sulphate		64-67-5	0.050
	VIII	104	Diisopentylphthalate		605-50-5	0.050
	VIII	105	Dimethyl sulphate		77-78-1	0.050
	VIII	106	Dinoseb		88-85-7	0.050
	VIII	107	Dioxobis(stearato)trilead*		12578-12-0	0.005
	VIII	108	Fatty acids, C16-18, lead salts*	•	91031-	





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Batch	No.	Substance Name	CAS No.	RL (%)
IX	140	Ammonium pentadecafluorooctanoate (APFO)**	3825-26-1	0.050
IX	141	Cadmium oxide*	1306-19-0	0.005
IX	142	Cadmium	7440-43-9	0.005
IX	143	Dipentyl phthalate (DPP)	131-18-0	0.050
IX	144	Pentadecafluorooctanoic acid (PFOA)	335-67-1	0.050
Х	145	Cadmium sulphide*	1306-23-6	0.005
Х	146	Dihexyl phthalate	84-75-3	0.050
x	147	Disodium 3,3'-[[1,1'-biphenyl]-4,4'- diylbis(azo)]bis(4-aminonaphthalene-1- sulphonate) (C.I. Direct Red 28)	573-58-0	0.050
x	148	Disodium 4-amino-3-[[4'-[(2,4- diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo] -5- hydroxy-6-(phenylazo)naphthalene-2,7- disulphonate (C.I. Direct Black 38)	1937-37-7	0.050
Х	149	Imidazolidine-2-thione; (2-imidazoline-2-thiol)	96-45-7	0.050
Х	150	Lead di(acetate)*	301-04-2	0.005
Х	151	Trixylyl phosphate	25155-23	•





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Batch	No.	Substance Name	CAS No.	RL (%)
XIV	164	1,3-propanesultone	1120-71-4	0.050
XIV	165	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl) phenol (UV-327)	3864-99-1	0.050
XIV	166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec- butyl) phenol (UV-350)	36437-37-3	0.050
XIV	167	Nitrobenzene	98-95-3	0.050
XIV	168	Perfluorononan-1-oic-acid and its sodium and ammonium salts	375-95-1	0.050
XV	169	Benzo[def]chrysene (Benzo[a]pyrene)	50-32-8	0.050
XVI	170	4,4'-isopropylidenediphenol (bisphenol A)	80-05-7	0.050
XVI	171	4-Heptylphenol, branched and linear	-	0.050
XVI	172	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	3108-42-7 /335-76-2 /3830-45-3	0.050
XVI	173	p-(1,1-dimethylpropyl)phenol	80-46-6	0.050
XVII	174	Perfluorohexane-1-sulphonic acid and its salts	-	0.050
XVIII	175	1,6,7,8,9,14,15,16,17,17,18,18- Dodecachloropentacyclo[12.2.1.16,9.02,13.05 ,10]octadeca-7,15-diene ("Dechlorane Plus"™) [covering any of its individual anti- and syn-isomers or any combination thereof]	-	0.050
XVIII	176	Benz[a]anthracene	56-55-3	0.050
XVIII	177	Cadmium nitrate*	10325-94-7	0.005
XVIII	178	Cadmium carbonate*	513-78-0	0.005
XVIII	179	Cadmium hydroxide*	21041-95-2	0.005
XVIII	180	Chrysene	218-01-9	0.050
XVIII	181	Reaction products of 1,3,4-thiadiazolidine-2,5- dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP) [with 0.1% w/w 4-heptylphenol, branched and linear]	-	0.050
XIX	182	Benzene-1,2,4-tricarboxylic acid 1,2 anhydride (trimellitic anhydride) (TMA)	552-30-7	0.050
XIX	183	Benzo[ghi]perylene	191-24-2	0.050
XIX	184	Decamethylcyclopentasiloxane (D5)	541-02-6	0.050
XIX	185	Dicyclohexyl phthalate (DCHP)	84-61-7	0.050
XIX	186	Disodium octaborate*	12008-41-2	0.005
XIX	187	Dodecamethylcyclohexasiloxane (D6)	540-97-6	0.050
XIX	188	Ethylenediamine (EDA)	107-15-3	0.050
XIX	189	Lead	7439-92-1	0.005
XIX	190	Octamethylcyclotetrasiloxane (D4)	556-67-2	0.050
XIX	191	Terphenyl, hydrogenated	61788-32-7	0.050
xx	192	1,7,7-trimethyl-3- (phenylmethylene)bicyclo[2.2.1]heptan-2-one (3-benzylidene camphor)	15087-24-8	0.050
XX	193	2,2-bis(4'-hydroxyphenvl)-4-methylpentane	6807-17-6	0.050
XX	194	Benzo[k]fluoranthene	207-08-9	0.050
XX	195	Fluoranthene	206-44-0	0.050
XX	196	Phenanthrene	85-01-8	0.050



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Batch	No.	Substance Name	CAS No.	RL (%)
XX	197	Pyrene	129-00-0	0.050
XXI	198	2,3,3,3-tetrafluoro-2- (heptafluoropropoxy)propionic acid, its salts and its acyl halides (covering any of their individual isomers and combinations thereof)	-	0.050
XXI	199	2-methoxyethyl acetate	110-49-6	0.050
XXI	200	4-tert-butylphenol (PTBP)	98-54-4	0.050
XXI	201	Tris(4-nonylphenyl, branched and linear) phosphite (TNPP) with 0.1% w/w of 4- nonylphenol, branched and linear (4-NP)	-	0.050
XXII	202	2-benzyl-2-dimethylamino-4'- morpholinobutyrophenone	119313-12-1	0.050
XXII	203	2-methyl-1-(4-methylthiophenyl)-2- morpholinopropan-1-one	71868-10-5	0.050
XXII	204	Diisohexyl phthalate	71850-09-4	0.050
XXII	205	Perfluorobutane sulfonic acid (PFBS) and its salts	-	0.050
XXIII	206	1-vinylimidazole	1072-63-5	0.050
XXIII	207	2-methylimidazole	693-98-1	0.050
XXIII	208	Butyl 4-hydroxybenzoate	94-26-8	0.050
XXIII	209	Dibutylbis(pentane-2,4-dionato-O,O')tin**	22673-19-4	0.050
XXIV	210	bis(2-(2-methoxyethoxy)ethyl) ether	143-24-8	0.050
XXIV	211	Dioctyltin dilaurate, stannane, dioctyl-, bis(coco acyloxy) derivs., and any other stannane, dioctyl-, bis(fatty acyloxy) derivs. wherein C12 is the predominant carbon number of the fatty acyloxy mojety**	-	0.050
XXV	212	1.4-Dioxane	123-91-1	0.050
xxv	213	2,2-bis(bromomethyl)propane1,3-diol (BMP); 2,2-dimethylpropan-1-ol, tribromo derivative/3- bromo-2,2-bis(bromomethyl)-1-propanol (TBNPA); 2,3-dibromo-1-propanol (2,3-DBPA)	1522-92-5 /3296-90-0 /36483-57-5 /96-13-9	0.050
XXV	214	2-(4-tert-butylbenzyl)propionaldehyde and its individual stereoisomers	-	0.050
XXV	215	4,4'-(1-methylpropylidene)bisphenol; (bisphenol B)	77-40-7	0.050
XXV	216	Glutaral	111-30-8	0.050
XXV	217	Medium-chain chlorinated paraffins (MCCP) [UVCB substances consisting of more than or equal to 80% linear chloroalkanes with carbon chain lengths within the range from C14 to C17]	85535-85-9	0.050
XXV	218	Orthoboric acid, sodium salt*	13840-56-7	0.005
XXV	219	Phenol, alkylation products (mainly in para position) with C12-rich branched or linear alkyl chains from oligomerisation, covering any individual isomers and/ or combinations thereof (PDDP)	-	0.050

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Batch	No.	Substance Name	CAS No.	RL (%)
XXVI	220	(±)-1,7,7-trimethyl-3-[(4- methylphenyl)methylene]bicyclo[2.2.1]heptan- 2-one covering any of the individual isomers and/or combinations thereof (4-MBC)	-	0.050
XXVI	221	6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol (DBMC)	119-47-1	0.050
XXVI	222	S-(tricyclo[5.2.1.0'2,6]deca-3-en-8(or 9)-yl) O- (isopropyl or isobutyl or 2-ethylhexyl) O- (isopropyl or isobutyl or 2-ethylhexyl) phosphorodithioate	255881-94-8	0.050
XXVI	223	Tris(2-methoxyethoxy)vinylsilane	1067-53-4	0.050
XXVII	224	N-(hydroxymethyl)acrylamide	924-42-5	0.050
XXVIII	225	1,1'-[ethane-1,2-diylbisoxy]bis[2,4,6- tribromobenzene]	37853-59-1	0.050
XXVIII	226	2,2',6,6'-tetrabromo-4,4'- isopropylidenediphenol	79-94-7	0.050
XXVIII	227	4,4'-sulphonyldiphenol	80-09-1	0.050
XXVIII	228	Barium diboron tetraoxide*	13701-59-2	0.005
XXVIII	229	Bis(2-ethylhexyl) tetrabromophthalate covering any of the individual isomers and/or combinations thereof	26040-51-7	0.050
XXVIII	230	Isobutyl 4-hydroxybenzoate	4247-02-3	0.050
XXVIII	231	Melamine	108-78-1	0.050
XXVIII	232	Perfluoroheptanoic acid and its salts	-	0.050
XXVIII	233	reaction mass of 2,2,3,3,5,5,6,6-octafluoro-4- (1,1,1,2,3,3,3-heptafluoropropan-2- yl)morpholine and 2,2,3,3,5,5,6,6-octafluoro-4- (heptafluoropropyl)morpholine*	-	0.050
XXIX	234	Bis(4-chlorophenyl) sulphone	80-07-9	0.050
XXIX	235	Diphenyl(2,4,6-trimethylbenzoyl)phosphine exide	75980-60-8	0.050
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	Batch	No.		Substance Name		CAS No.	RL (%)	
	/	249		Hexamethyldisiloxane		107-46-0	0.050	

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Test Report (SVHC) ATTACHMENTS

Testing Flow Chart



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Sample photos:



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