

Test Report (SVHC)

No.: SHAEC23000812819

Date: Feb 15, 2023

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Client Name: MindMotion Microelectronics Co.,Ltd.

Client Address: Room 301, No. 54, Lane 565, Shengxia Road, China (Shanghai) Pilot Free Trade Zone

Sample Name: TSSOP

Lot No.: A122242N005

The above sample(s) and information were provided by the client.

SGS Job No.: SP23-000407

Sample Receiving Date: Feb 02, 2023

Testing Period: Feb 02, 2023 - Feb 08, 2023

Test Requested: As requested by client, SVHC screening is performed according to:
(i) Two hundred and thirty-three (233) substances in the Candidate List of Substances of Very High Concern (SVHC) for authorization published by European Chemicals Agency (ECHA) on and before Jan 17, 2023 regarding Regulation (EC) No 1907/2006 concerning the REACH.
(ii) One (1) potential Substances of Very High Concern (SVHC) in the notification of WTO on Jun 1, 2021.
As requested by client, SVHC screening is performed according to:
(i) Sixty two (62) inorganic substances and additional eleven (11) organic metallic substances in the Candidate List of Substances of Very High Concern (SVHC) for authorization published by European Chemicals Agency (ECHA) on and before Jan 17, 2023 regarding Regulation (EC) No 1907/2006 concerning the REACH.

Test Method(s): Please refer to next page(s).

Test Result(s): Please refer to next page(s).

Summary:

According to the specified scope and evaluation screening, the test results of SVHC are $\leq 0.1\%$ (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.



Carol Luo

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).

SGS adopts the ruling of the Court of Justice of the European Union on the definition of an article under REACH unless indicated otherwise. Detail explanation is available at the following link:
<http://www.sgs.com/-/media/global/documents/technical-documents/technical-bulletins/sgs-crs-position-statement-on-svhc-in-articles-a4-en-16-06.pdf?la=en>

- 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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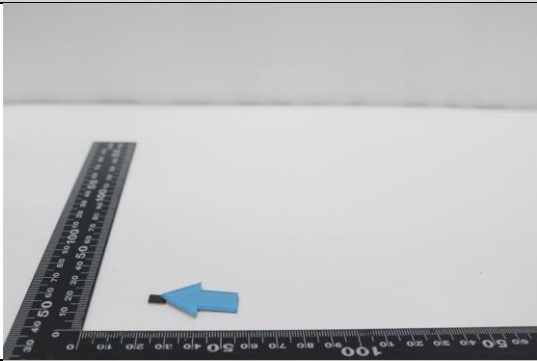
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- (a) a substance posing human health or environmental hazards in an individual concentration of $\geq 1\%$ by weight for mixtures that are solid or liquids (i.e., non-gaseous mixtures) or $\geq 0.2\%$ by volume for gaseous mixtures; or
- (b) a substance that is PBT, or vPvB in an individual concentration of $\geq 0.1\%$ 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 $\geq 0.1\%$ by weight for non-gaseous mixtures; or
- (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:

Sample Photo and Description:

Test Part ID	Description	Photograph
A3	Black body	
A4	Silver metal pin	

SGS authenticate the photo on original report only

Testing Group:

Test Result ID	Description	Test Part ID	SGS Sample ID
001	Black body	A3	SHA23-0008128-0001.C003
002	Silver metal pin	A4	SHA23-0008128-0001.C004



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Test Method:

With reference to SGS In-House method, analysis was performed by ICP-OES, UV-VIS, GC-MS, HPLC-DAD/MS and Colorimetric Method.

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

Batch	Substance Name	CAS No.	001 Concentration (%)	RL (%)
-	All tested SVHC in Candidate list	-	ND	-

Test Results: (Potential SVHC)

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

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

Batch	Substance Name	CAS No.	002 Concentration (%)	RL (%)
-	All tested SVHC in Candidate list	-	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 $\geq$ RL. RL is not regulatory limit.)
ND = Not detected (lower than RL), ND is denoted on the SVHC substance.
- (3) * The test result is based on the calculation of selected element(s) and to the worst-case scenario.
** 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) $\geq 0.1\%$ (w/w).
- (5) / = Potential SVHC

Results & photo(s) of this report refer to test report SHAEC23000812807

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

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Batch	No.	Substance Name	CAS No.	RL (%)
III	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
IV	39	Chromic acid, Oligomers of chromic acid and dichromic acid, Dichromic acid*	-	0.005
IV	40	Chromium trioxide*	1333-82-0	0.005
IV	41	Cobalt(II) carbonate*	513-79-1	0.005
IV	42		71-48-7	0.005
IV	43	Cobalt(II) dinitrate*	10141-05-6	0.005
	44	Cobalt(II) sulphate*	10124-43-3	0.005

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Batch	No.	Substance Name	CAS No.	RL (%)
VII	73	[4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3) §	548-62-9	0.050
VII	74	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	0.050
VII	75	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	0.050
VII	76	4,4'-bis(dimethylamino) benzophenone (Michler's Ketone)	90-94-8	0.050
VII	77	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol§	561-41-1	0.050
VII	78	Diboron trioxide*	1303-86-2	0.005
VII	79	Formamide	75-12-7	0.050
VII	80	Lead(II) bis(methanesulfonate)*	17570-76-2	0.005
VII	81	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1	0.050
VII	82	TGIC (1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione)	2451-62-9	0.050
VII	83	α,α-Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) §	6786-83-0	0.050
VII	84	β-TGIC (1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione)	59653-74-6	0.050
VIII	85	[Phthalato(2-)]dioxotrilead*	69011-06-9	0.005
VIII	86	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	0.050
VIII	87	1,2-Diethoxyethane	629-14-1	0.050
VIII	88	1-Bromopropane	106-94-5	0.050
VIII	89	3-Ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	0.050
VIII	90	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated	-	0.050
VIII	91	4,4'-Methylenedi-o-toluidine	838-88-0	0.050
VIII	92	4,4'-Oxydianiline and its salts	101-80-4	0.050
VIII	93	4-Aminoazobenzene	60-09-3	0.050
VIII	94	4-Methyl-m-phenylenediamine	95-80-7	0.050
VIII	95	4-Nonylphenol, branched and linear	-	0.050
VIII	96	6-Methoxy-m-toluidine	120-71-8	0.050
VIII	97	Acetic acid, lead salt, basic*	51404-69-4	0.005
VIII	98	Biphenyl-4-ylamine	92-67-1	0.050
VIII	99	Decabromodiphenyl ether (DecaBDE)	1163-19-5	0.050
VIII	100	Cyclohexane-1,2-dicarboxylic anhydride, cis-cyclohexane-1,2-dicarboxylic anhydride, trans-cyclohexane-1,2-dicarboxylic anhydride	-	0.050
VIII	101	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	0.050

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Batch	No.	Substance Name	CAS No.	RL (%)
IX	144	Pentadecafluorooctanoic acid (PFOA)	335-67-1	0.050
X	145	Cadmium sulphide*	1306-23-6	0.005
X	146	Diethyl 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
X	149	Imidazolidine-2-thione; (2-imidazoline-2-thiol)	96-45-7	0.050
X	150	Lead di(acetate)*	301-04-2	0.005
X	151	Triethyl phosphate	25155-23-1	0.050
XI	152	1,2-Benzenedicarboxylic acid, diethyl ester, branched and linear	68515-50-4	0.050
XI	153	Cadmium chloride*	10108-64-2	0.005
XI	154	Sodium perborate; perboric acid, sodium salt*	-	0.005
XI	155	Sodium peroxometaborate*	7632-04-4	0.005
XII	156	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	0.050
XII	157	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	0.050
XII	158	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1	0.050
XII	159	Cadmium fluoride*	7790-79-6	0.005
XII	160	Cadmium sulphate*	10124-36-4 /31119-53-6	0.005
XII	161	Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate & 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE & MOTE)	-	0.050
XIII	162	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of diethyl phthalate 5-sec-butyl-2-(2,4-dimethylcyclohex-3	-	0.050

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Batch	No.	Substance Name	CAS No.	RL (%)
XIV	167	Nitrobenzene	98-95-3	0.050
XIV	168	Perfluorononan-1-oic-acid and its sodium and ammonium salts	-	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	-	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			

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Batch	No.	Substance Name	CAS No.	RL (%)
XXI	200	4-tert-butylphenol (PTBP)	98-54-4	0.050
XXI	201	Tris(4-nonylphenyl, branched and linear) phosphite (TNPP) with $\geq 0.1\%$ 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 moiety**	-	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-		

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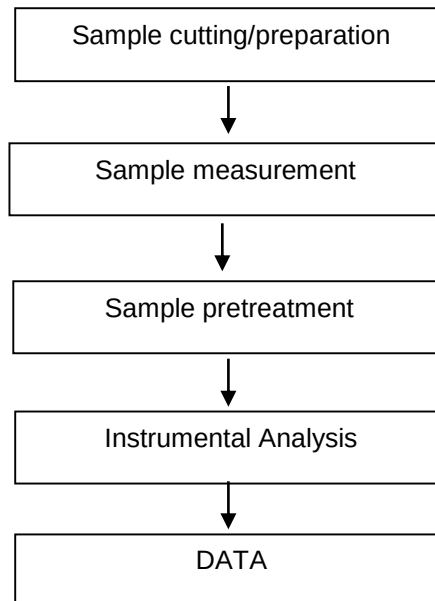
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Batch	No.	Substance Name	CAS No.	RL (%)
XXVI	222	S-(tricyclo[5.2.1.0'2,6]deca-3-en-8(or 9)-yl) O-(isopropyl or isobutyl or 2-ethylhexyl) O-(isopropyl or isobutyl or 2-ethylhexyl) phosphorodithioate	255881-94-8	0.050
XXVI	223	Tris(2-methoxyethoxy)vinylsilane	1067-53-4	0.050
XXVII	224	N-(hydroxymethyl)acrylamide	924-42-5	0.050
XXVIII	225	1,1'-[ethane-1,2-diylbis(oxy)]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	-	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
/	234	Resorcinol	108-46-3	0.050

ATTACHMENTS

SVHC Testing Flow Chart



*** End of Report ***