



# REACH SVHC Non-use Declaration

---

We hereby declare that our LSI products listed below do not contain the substances in the SVHC (Substances of Very High Concern) candidate list below in a concentration above 0.1wt%.

The Applicable Product :           BD49E45G-TR

Concentration limit :                0.1wt% (per each homogeneous material)

SVHC List :                            See Attached list

25.Dec.2015

---

Yoshitaka Ichise  
General Manager  
Quality Control Division  
LSI Production Headquarters  
ROHM Co., Ltd.

## SVHC list

	Substance name	CAS No.
1	Anthracene	120-12-7
2	4,4'-Diaminodiphenylmethane (MDA)	101-77-9
3	Dibutyl phthalate (DBP)	84-74-2
4	Cobalt dichloride	7646-79-9
5	Diarsenic pentaoxide	1303-28-2
6	Diarsenic trioxide	1327-53-3
7	Sodium dichromate	7789-12-0 10588-01-9
8	5-tert-butyl-2,4,6-trinitro-m-xylene	81-15-2
9	Bis(2-ethylhexyl)phthalate (DEHP)	117-81-7
10	Hexabromocyclododecane(HBCDD) and all major diastereoisomers identified ( $\alpha$ -HBCDD, $\beta$ -HBCDD, $\gamma$ -HBCDD)	25637-99-4 3194-55-6 (134237-50-6 134237-51-7 134237-52-8)
11	Alkanes C10 to C13 chloro (Short chain chlorinated paraffins, SCCP)	85535-84-8
12	Bis(tributyltin) oxide (TBTO)	56-35-9
13	Lead hydrogen arsenate	7784-40-9
14	Benzylbutylphthalate (BBP)	85-68-7
15	Triethyl arsenate	15606-95-8
16	Anthracene oil	90640-80-5
17	Anthracene oil, anthracene paste, anthracene lights	91995-17-4
18	Anthracene oil, anthracene paste, anthracene fraction	91995-15-2
19	Anthracene oil, anthracene- low	90640-82-7
20	Anthracene oil, anthracene paste	90640-81-6
21	Pitch, coal tar, high temperature	65996-93-2
22	2,4-Dinitrotoluene	121-14-2
23	Diisobutyl phthalate (DIBP)	84-69-5
24	Lead chromate	7758-97-6
25	Lead Chromate molybdate sulphate red (C.I. Pigment Red 104)	12656-85-8
26	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2
27	Tris (2-chloroethyl) phosphate	115-96-8
28	Trichloroethylene	79-01-6
29	Boric acid	10043-35-3 11113-50-1
30	Disodium tetraborate, anhydrous	1330-43-4 12179-04-3 1303-96-4
31	Tetraboron disodium heptaoxide, hydrate	12267-73-1
32	Sodium chromate	7775-11-3
33	Potassium chromate	7789-00-6
34	Ammonium dichromate	7789-09-5
35	Potassium dichromate	7778-50-9
36	Acrylamide	79-06-1
37	Chromium trioxide	1333-82-0
38	2-Ethoxyethanol	110-80-5

## SVHC list

	Substance name	CAS No.
39	2-Methoxyethanol	109-86-4
40	Cobalt(II) carbonate	513-79-1
41	Cobalt(II) diacetate	71-48-7
42	Cobalt(II) dinitrate	10141-05-6
43	Cobalt(II) sulphate	10124-43-3
44	Acids generated from chromium trioxide and their oligomers Group containig Chromic acid Dichromic acid Oligomers of chromic acid and dichromic acid,	7738-94-5 13530-68-2 -
45	2-ethoxyethyl acetate	111-15-9
46	Strontium chromate	7789-06-2
47	1,2-Benzenedicarboxylic acid, di-C7 to C11-branched and linear alkyl esters (DHNUP)	68515-42-4
48	Hydrazine	302-01-2 7803-57-8
49	1-methyl-2-pyrrolidone	872-50-4
50	1,2,3-trichloropropane	96-18-4
51	1,2-Benzenedicarboxylic acid, di-C6 to C8-branched alkyl esters, C7-rich (DIHP)	71888-89-6
52	Dichromium tris(chromate)	24613-89-6
53	Potassiumhydroxyoctaoxodizincatedi-chromate	11103-86-9
54	Pentazinc chromateoctahydroxide	49663-84-5
55	Aluminosilicate Refractory Ceramic Fibres	N/A
56	Zirconia Aluminosilicate Refractory Ceramic Fibres	N/A
57	Formaldehyde, oligomericreaction products withaniline (technical MDA)	25214-70-4
58	Bis(2-methoxyethyl)phthalate	117-82-8
59	2-Methoxyaniline; o-Anisidine	90-04-0
60	4-(1,1,3,3-tetramethylbutyl)phenol,(4-tert-Octylphenol)	140-66-9
61	1,2-Dichloroethane	107-06-2
62	Bis(2-methoxyethyl) ether	111-96-6
63	Arsenic acid	7778-39-4
64	Calcium arsenate	7778-44-1
65	Trilead diarsenate	3687-31-8
66	N,N-dimethylacetamide(DMAC)	127-19-5
67	2,2'-dichloro-4,4'-methylenedianiline(MOCA)	101-14-4
68	Phenolphthalein	77-09-8
69	Lead azide Lead diazide	13424-46-9
70	Lead styphnate	15245-44-0
71	Lead dipicrate	6477-64-1
72	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2
73	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4
74	Diboron trioxide	1303-86-2
75	Formamide	75-12-7
76	Lead(II) bis(methanesulfonate)	17570-76-2
77	1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione(TGIC )	2451-62-9

## SVHC list

	Substance name	CAS No.
78	1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione(β-TGIC)	59653-74-6
79	4,4'-bis(dimethylamino)benzophenone (Michler's ketone)	90-94-8
80	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1
81	[4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Violet 3) *	548-62-9
82	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26)*	2580-56-5
83	α,α-Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) *	6786-83-0
84	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol *	561-41-1
85	Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	1163-19-5
86	Pentacosfluorotridecanoic acid	72629-94-8
87	Tricosfluorododecanoic acid	307-55-1
88	Henicosfluoroundecanoic acid	2058-94-8
89	Heptacosfluorotetradecanoic acid	376-06-7
90	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3
91	Cyclohexane-1,2-dicarboxylic anhydride [1] cis-cyclohexane-1,2-dicarboxylic anhydride [2] trans-cyclohexane-1,2-dicarboxylic anhydride [3] [The individual cis- [2] and trans- [3] isomer substances and all possible combinations of the cis- and trans-isomers [1] are covered by this entry].	85-42-7 13149-00-3 14166-21-3
92	Hexahydromethylphthalic anhydride [1], Hexahydro-4-methylphthalic anhydride [2], Hexahydro-1-methylphthalic anhydride [3], Hexahydro-3-methylphthalic anhydride [4] [The individual isomers [2], [3] and [4] (including their cis- and trans-stereo isomeric forms) and all possible combinations of the isomers [1] are covered by this entry]	25550-51-0 19438-60-9 48122-14-1 57110-29-9
93	4-Nonylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]	-
94	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues]	-
95	Methoxyacetic acid	625-45-6
96	N,N-dimethylformamide	68-12-2
97	Dibutyltin dichloride (DBTC)	683-18-1
98	Lead monoxide (Lead oxide)	1317-36-8
99	Orange lead (Lead tetroxide)	1314-41-6
100	Lead bis(tetrafluoroborate)	13814-96-5
101	Trilead bis(carbonate)dihydroxide	1319-46-6
102	Lead titanium trioxide	12060-00-3
103	Lead titanium zirconium oxide	12626-81-2

## SVHC list

	Substance name	CAS No.
104	Silicic acid, lead salt	11120-22-2
105	Silicic acid (H <sub>2</sub> Si <sub>2</sub> O <sub>5</sub> ), barium salt (1:1), lead-doped [with lead (Pb) content above the applicable generic concentration limit for 'toxicity for reproduction' Repr. 1A(CLP) or category 1 (DSD); the substance is a member of the group entry of lead compounds, with index number 082-001-00-6 in Regulation(EC)No 1272/2008]	68784-75-8
106	1-bromopropane (n-propyl bromide)	106-94-5
107	Methyloxirane (Propylene oxide)	75-56-9
108	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0
109	Diisopentylphthalate (DIPP)	605-50-5
110	N-pentyl-isopentylphthalate	776297-69-9
111	1,2-diethoxyethane	629-14-1
112	Acetic acid, lead salt, basic	51404-69-4
113	Lead oxide sulfate	12036-76-9
114	[Phthalato(2-)]dioxotrilead *6	69011-06-9
115	Dioxobis(stearato)trilead	12578-12-0
116	Fatty acids, C16 to C18, lead salts	91031-62-8
117	Lead cyanidate	20837-86-9
118	Lead dinitrate	10099-74-8
119	Pentalead tetraoxide sulphate	12065-90-6
120	Pyrochlore, antimony lead yellow	8012-00-8
121	Sulfurous acid, lead salt, dibasic	62229-08-7
122	Tetraethyllead	78-00-2
123	Tetralead trioxide sulphate	12202-17-4
124	Trilead dioxide phosphonate	12141-20-7
125	Furan	110-00-9
126	Diethyl sulphate	64-67-5
127	Dimethyl sulphate	77-78-1
128	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2
129	Dinoseb (6-sec-butyl-2,4-dinitrophenol)	88-85-7
130	4,4'-methylenedi-o-toluidine	838-88-0
131	4,4'-oxydianiline and its salts	101-80-4
132	4-aminoazobenzene	60-09-3
133	4-methyl-m-phenylenediamine (toluene-2,4-diamine)	95-80-7
134	6-methoxy-m-toluidine (p-cresidine)	120-71-8
135	Biphenyl-4-ylamine	92-67-1
136	o-aminoazotoluene [(4-o-tolylazo-o-toluidine)]	97-56-3
137	o-toluidine	95-53-4
138	N-methylacetamide	79-16-3
139	Cadmium	7440-43-9
140	Cadmium oxide	1306-19-0
141	Dipentyl phthalate (DPP)	131-18-0
142	4-Nonylphenol, branched and linear, ethoxylated	-
143	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1
144	Pentadecafluorooctanoic acid (PFOA)	335-67-1
145	Cadmium sulphide	1306-23-6

## SVHC list

	Substance name	CAS No.
146	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0
147	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
148	Dihexyl phthalate	84-75-3
149	Imidazolidine-2-thione (2-imidazoline-2-thiol)	96-45-7
150	Lead di(acetate)	301-04-2
151	Trixylyl phosphate	25155-23-1
152	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4
153	Cadmium chloride	10108-64-2
154	Sodium perborate; perboric acid, sodium salt	-
155	Sodium peroxometaborate	7632-04-4
156	Cadmium fluoride	7790-79-6
157	Cadmium sulphate	10124-36-4; 31119-53-6
158	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV320)	3846-71-7
159	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV328)	25973-55-1
160	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1
161	reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 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 and MOTE)	-
162	1,2-benzenedicarboxylic acid, di-C6 to C10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with 0.3% of dihexyl phthalate (EC No. 201-559-5)	-
163	5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual isomers of [1] and [2] or any combination thereof]	-
164	1,3-Propanesultone	1120-71-4
165	2,4-Di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV327)	3864-99-1
166	2-(2H-Benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV350)	36437-37-3
167	Nitrobenzene	98-95-3
168	Perfluorononan-1-ic-acid and its sodium and ammonium salts	375-95-1 21049-39-8 4149-60-4

## Notes

- 1) The information contained herein is subject to change without notice.
- 2) Before you use our Products, please contact our sales representative and verify the latest specifications :
- 3) Although ROHM is continuously working to improve product reliability and quality, semiconductors can break down and malfunction due to various factors.  
Therefore, in order to prevent personal injury or fire arising from failure, please take safety measures such as complying with the derating characteristics, implementing redundant and fire prevention designs, and utilizing backups and fail-safe procedures. ROHM shall have no responsibility for any damages arising out of the use of our Products beyond the rating specified by ROHM.
- 4) Examples of application circuits, circuit constants and any other information contained herein are provided only to illustrate the standard usage and operations of the Products. The peripheral conditions must be taken into account when designing circuits for mass production.
- 5) The technical information specified herein is intended only to show the typical functions of and examples of application circuits for the Products. ROHM does not grant you, explicitly or implicitly, any license to use or exercise intellectual property or other rights held by ROHM or any other parties. ROHM shall have no responsibility whatsoever for any dispute arising out of the use of such technical information.
- 6) The Products are intended for use in general electronic equipment (i.e. AV/OA devices, communication, consumer systems, gaming/entertainment sets) as well as the applications indicated in this document.
- 7) The Products specified in this document are not designed to be radiation tolerant.
- 8) For use of our Products in applications requiring a high degree of reliability (as exemplified below), please contact and consult with a ROHM representative : transportation equipment (i.e. cars, ships, trains), primary communication equipment, traffic lights, fire/crime prevention, safety equipment, medical systems, servers, solar cells, and power transmission systems.
- 9) Do not use our Products in applications requiring extremely high reliability, such as aerospace equipment, nuclear power control systems, and submarine repeaters.
- 10) ROHM shall have no responsibility for any damages or injury arising from non-compliance with the recommended usage conditions and specifications contained herein.
- 11) ROHM has used reasonable care to ensure the accuracy of the information contained in this document. However, ROHM does not warrant that such information is error-free, and ROHM shall have no responsibility for any damages arising from any inaccuracy or misprint of such information.
- 12) Please use the Products in accordance with any applicable environmental laws and regulations, such as the RoHS Directive. For more details, including RoHS compatibility, please contact a ROHM sales office. ROHM shall have no responsibility for any damages or losses resulting from non-compliance with any applicable laws or regulations.
- 13) When providing our Products and technologies contained in this document to other countries, you must abide by the procedures and provisions stipulated in all applicable export laws and regulations, including without limitation the US Export Administration Regulations and the Foreign Exchange and Foreign Trade Act.
- 14) This document, in part or in whole, may not be reprinted or reproduced without prior consent of ROHM.



Thank you for your accessing to ROHM product informations.  
More detail product informations and catalogs are available, please contact us.

## ROHM Customer Support System

<http://www.rohm.com/contact/>