



REACH SVHC Statement

TO: Whom it may concern
FROM: Vishay General Semiconductor Quality Department.
SUBJECT: REACH SVHC
DATE: Jul. 8th ,2021

Dear Sir/Madam,

It is the policy of Vishay General Semiconductor to:

1. Meet all present and future national and international statutory requirements.
2. Regularly and continuously improve the performance of our products, processes, distribution and operating systems with respect to their impact on the health and safety of our employees and the public, as well as their impact on the environment.

It is of particular concern to control or eliminate the use of those substances with established hazardous properties.

With this objective we have reviewed our product against the EU REACH and certify that VGSC product comply with REACH ANNEX XVII and REACH ANNEX IV. The information provided here is accurate to the best of our knowledge at the present time.

And VGSC product don't contain EU REACH the Substances of Very High Concern (SVHC) in addition to Lead (7439-92-1).The Lead are used in the high melting temperature solder, their specifications as below table.

The High Melting Temperature Solder Specification.

Solder Specification	Lead content(%)
92.5PB/5SN/2.5AG	92.5
95PB/5SN	95
90PB/10SN	90
88PB/10SN/2AG	88

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The SVHC Candidate List Proposed by ECHA:

No	Substance Name	CAS number	Basis for identification as a SVHC
1	Anthracene	120-12-7	Persistent,bioaccumulative and toxic
2	4,4'- Diaminodiphenylmethane	101-77-9	Carcinogen, cat. 2
3	Dibutyl phthalate (DBP)	84-74-2	Equivalent level of concern having probable serious effects to human health and the environment (Article 57 f)
4	Cobalt dichloride	7646-79-9	Carcinogen, cat. 2
5	Diarsenic pentaoxide	1303-28-2	Carcinogen, cat.1
6	Diarsenic trioxide	1327-53-3	Carcinogen,cat.1
7	Sodium dichromate	7789-12-0 10588-01-9	Carcinogen, cat. 2; Mutagen, cat. 2 Toxic for reproduction, cat. 2
8	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	Very persistent and very bioaccumulative
9	Bis(2-ethylhexyl) phthalate (DEHP)	117-81-7	Equivalent level of concern having probable serious effects to the environment (Article 57 f)
10	Hexabromocyclododecane(HBCDD)and all major diastereoisomers identified (– HBCDD, -HBCDD, -HBCDD)	25637-99-4, 3194-55-6 (134237-50-6) (134237-51-7) (134237-52-8)	Persistent,bioaccumulative and toxic
11	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	Persistent,bioaccumulative and toxic Very persistent and very bioaccumulative
12	Bis(tributyltin)oxide	56-35-9	Persistent,bioaccumulative and toxic
13	Lead hydrogen arsenate	7784-40-9	Carcinogen, cat. 1 Toxic for reproduction cat. 1
14	Benzyl butyl phthalate (BBP)	85-68-7	Equivalent level of concern having probable serious effects to human health and the environment (Article 57 f)

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15	Triethyl arsenate	15606-95-8	Carcinogen, cat. 1
16	Anthracene oil	90640-80-5	Persistent, bioaccumulative and toxic
17	Anthracene oil, anthracene paste, distn. lights	91995-17-4	Persistent, bioaccumulative and toxic
18	Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	Persistent, bioaccumulative and toxic
19	Anthracene oil, anthracene-low	90640-82-7	Persistent, bioaccumulative and toxic
20	Anthracene oil, anthracene paste	90640-81-6	Persistent, bioaccumulative and toxic
21	Coal tar pitch, high temperature	65996-93-2	Persistent, bioaccumulative and toxic; carcinogen, category 2
	Aluminosilicate, Refractory Ceramic Fibres	-	Carcinogen, category 2
	Zirconia Aluminosilicate, Refractory Ceramic Fibres	-	Carcinogen, category 2
22	2,4-Dinitrotoluene	121-14-2	Carcinogen, category 2
23	Diisobutyl phthalate (DIBP)	84-69-5	Equivalent level of concern having probable serious effects to human health and the environment (Article 57 f)
24	Lead chromate	7758-97-6	Carcinogen, category 2; toxic for reproduction, category 1
25	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	12656-85-8	Carcinogen, category 2; toxic for reproduction, category 1
26	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2	Carcinogen, category 2; toxic for reproduction, category 1
27	Tris(2-chloroethyl)phosphate	115-96-8	Toxic for reproduction, category 2
28	Acrylamide	79-06-1	Carcinogen, category 2; Mutagen, category 2
29	Trichloroethylene	79-01-6	Carcinogenic category 2

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30	Boric acid	10043-35-3 11113-50-1	Toxic for reproduction category 2
31	Disodium tetraborate, Anhydrous	1330-43-4 12179-04-3 1303-96-4	Toxic for reproduction category 2
32	Tetraboron disodium Heptaoxide,hydrate	12267-73-1	Toxic for reproduction category 2
33	Sodium chromate	7775-11-3	Carcinogenic category 2; mutagenic category 2; toxic for reproduction category 2
34	Potassium chromate	7789-00-6	Carcinogenic category 2; mutagenic category 2
35	Ammonium dichromate	7789-09-5	Carcinogenic category 2; mutagenic category 2; toxic for reproduction category 2
36	Potassium dichromate	7778-50-9	Carcinogenic category 2; mutagenic category 2; toxic for reproduction category 2
37	Cobalt(II) sulphate	10124-43-3	CMR (carcinogen, cat. 2;toxic for reproduction,cat. 2)
38	Cobalt(II) dinitrate	10141-05-6	CMR (carcinogen, cat. 2;toxic for reproduction,cat. 2)
39	Cobalt(II) carbonate	513-79-1	CMR (carcinogen, cat. 2;toxic for reproduction,cat. 2)
40	Cobalt(II) diacetate	71-48-7	CMR (carcinogen, cat. 2;toxic for reproduction,cat. 2)
41	2-Methoxyethanol	109-86-4	CMR (toxic for reproduction,cat. 2)
42	2-Ethoxyethanol	110-80-5	CMR (toxic for reproduction,cat. 2)
43	Chromium trioxide	1333-82-0	CMR (carcinogen, cat .1;mutagen, cat. 2)
44	Acids generated from chromium trioxide and their oligomers: Chromic acid Dichromic acid Oligomers of chromic acid and dichromic acid	7738-94-5 13530-68-2	CMR (carcinogen, cat. 2)
45	2-Ethoxyethyl acetate1	111-15-9	Toxic for reproduction
46	Strontium chromate1	7789-6-2	Carcinogenic
47	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	68515-42-4	Toxic for reproduction
48	Hydrazine	7803-57-8 302-01-2	Carcinogenic
49	1-Methyl-2-pyrrolidone1	872-50-4	Toxic for reproduction
50	1,2,3-Trichloropropane1	96-18-4	Carcinogenic and toxic for reproduction
51	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich1	71888-89-6	Toxic for reproduction
52	Zirconia Aluminosilicate Refractory Ceramic Fibres are fibres covered by index number 650-017-00-8 in Annex VI, part 3, table 3.1 of Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on		Carcinogenic (article 57 a)

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	classification, labelling and packaging of substances and mixtures, and fulfil the three following conditions: a) oxides of aluminium, silicon and zirconium are the main components present (in the fibres) within variable concentration ranges b) fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometres (μm). c) alkaline oxide and alkali earth oxide ($\text{Na}_2\text{O}+\text{K}_2\text{O}+\text{CaO}+\text{MgO}+\text{BaO}$) content less or equal to 18% by weight		
53	Calcium arsenate	7778-44-1	Carcinogenic (article 57 a)
54	Bis(2-methoxyethyl) ether	111-96-6	Toxic for reproduction (article 57 c)
55	Aluminosilicate Refractory Ceramic Fibres are fibres covered by index number 650-017-00-8 in Annex VI, part 3, table 3.1 of Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, and fulfil the three following conditions: a) oxides of aluminium and silicon are the main components present (in the fibres) within variable concentration ranges b) fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometres (μm) c) alkaline oxide and alkali earth oxide ($\text{Na}_2\text{O}+\text{K}_2\text{O}+\text{CaO}+\text{MgO}+\text{BaO}$) content less or equal to 18% by weight		Carcinogenic (article 57 a)
56	Potassium hydroxyoctaoxodizincatedichromate	11103-86-9	Carcinogenic (article 57 a)
57	Lead dipicrate	6477-64-1	Toxic for reproduction (article 57 c)
58	N,N-dimethylacetamide	127-19-5	Toxic for reproduction (article 57 c)
59	Arsenic acid	7778-39-4	Carcinogenic (article 57 a)
60	2-Methoxyaniline; o-Anisidine	90-04-0	Carcinogenic (article 57 a)
61	Trilead diarsenate	3687-31-8	Carcinogenic and toxic for reproduction (articles 57 a and 57 c)
62	1,2-dichloroethane	107-06-2	Carcinogenic (article 57 a)
63	Pentazinc chromate octahydroxide	49663-84-5	Carcinogenic (article 57 a)
64	4-(1,1,3,3-tetramethylbutyl)phenol	140-66-9	Equivalent level of concern having probable serious effects to the environment (article 57 f)
65	Formaldehyde, oligomeric reaction products with aniline	25214-70-4	Carcinogenic (article 57 a)
66	Bis(2-methoxyethyl) phthalate	117-82-8	Toxic for reproduction (article 57 c)
67	Lead diazide, Lead azide	13424-46-9	Toxic for reproduction (article 57 c),
68	Lead styphnate	15245-44-0	Toxic for reproduction (article 57 c)

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69	2,2'-dichloro-4,4'-methylenedianiline	101-14-4	Carcinogenic (article 57 a)
70	Phenolphthalein	77-09-8	Carcinogenic (article 57 a)
71	Dichromium tris(chromate)	24613-89-6	Carcinogenic (article 57 a)
72	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	Toxic for reproduction (Article 57 c)
73	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	Toxic for reproduction (Article 57 c)
74	Diboron trioxide	1303-86-2	Toxic for reproduction (Article 57 c)
75	Formamide	75-12-7	Toxic for reproduction (Article 57 c)
76	Lead(II) bis(methanesulfonate)	17570-76-2	Toxic for reproduction (Article 57 c)
77	1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC)	2451-62-9	Mutagenic (Article 57b)
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	Mutagenic (Article 57b)
79	4,4'-bis(dimethylamino)benzophenone (Michler's ketone)	90-94-8	Carcinogenic (Article 57a)
80	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1	Carcinogenic (Article 57a)
81	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	2580-56-5	Carcinogenic (Article 57a)
82	[4-[4,4'-bis(dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	548-62-9	Carcinogenic (Article 57a)
83	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	561-41-1	Carcinogenic (Article 57a)
84	α,α-Bis[4-(dimethylamino)phenyl]-4(phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	6786-83-0	Carcinogenic (Article 57a)
85	Pyrochlore, antimony lead yellow	8012-00-8	Toxic for reproduction (Article 57 c)
86	6-methoxy-m-toluidine (p-cresidine)	120-71-8	Carcinogenic (Article 57 a)
87	Henicosfluoroundecanoic acid	2058-94-8	vPvB (Article 57 e)
88	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	25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9	Equivalent level of concern - probable serious effects on human health (Article 57 f)

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	combinations of the isomers [1] are covered by this entry]		
89	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	Equivalent level of concern - probable serious effects on human health (Article 57 f)
90	Dibutyltin dichloride (DBT)	683-18-1	Toxic for reproduction (Article 57 c)
91	Lead bis(tetrafluoroborate)	13814-96-5	Toxic for reproduction (Article 57 c)
92	Lead dinitrate	10099-74-8	Toxic for reproduction (Article 57 c)
93	Silicic acid, lead salt	11120-22-2	Toxic for reproduction (Article 57 c)
94	4-Aminoazobenzene; 4-Phenylazoaniline	60-09-3	Carcinogenic (Article 57 a)
95	Lead Titanium Zirconium Oxide	12626-81-2	Toxic for reproduction (Article 57 c)
96	Lead oxide (lead monoxide)	1317-36-8	Toxic for reproduction (Article 57 c)
97	o-Toluidine; 2-Aminotoluene	95-53-4	Carcinogenic (Article 57 a)
98	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	Toxic for reproduction (Article 57 c)
99	Silicic acid (H ₂ Si ₂ O ₅), 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	Toxic for reproduction (Article 57 c)
100	Basic lead carbonate (trilead bis(carbonate)dihydroxide)	1319-46-6	Toxic for reproduction (Article 57 c)
101	Furan	110-00-9	Carcinogenic (Article 57 a)
102	N,N-dimethylformamide; dimethyl formamide	68-12-2	Toxic for reproduction (Article 57 c)
103	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated - covering well-defined substances and UVCB substances, polymers and homologues	-	Equivalent level of concern - probable serious effects on the environment (Article 57 f)
104	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	-	Equivalent level of concern - probable serious effects on the environment (Article 57 f)
105	4,4'-methylenedi-o-toluidine	838-88-0	Carcinogenic (Article 57 a)
106	Diethyl sulphate	64-67-5	Carcinogenic (Article 57 a); Mutagenic (Article 57 b)
107	Dimethyl sulphate	77-78-1	Carcinogenic (Article 57 a)

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108	Lead oxide sulfate (basic lead sulfate)	12036-76-9	Toxic for reproduction (Article 57 c)
109	Lead titanium trioxide	12060-00-3	Toxic for reproduction (Article 57 c)
110	Acetic acid, lead salt, basic	51404-69-4	Toxic for reproduction (Article 57 c)
111	[Phthalato(2-)]dioxotrilead	69011-06-9	Toxic for reproduction (Article 57 c)
112	Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	1163-19-5	PBT (Article 57 d); vPvB (Article 57 e)
113	N-methylacetamide	79-16-3	Toxic for reproduction (Article 57 c)
114	Dinoseb (6-sec-butyl-2,4-dinitrophenol)	88-85-7	Toxic for reproduction (Article 57 c)
115	1,2-Diethoxyethane	629-14-1	Toxic for reproduction (Article 57 c)
116	Tetralead trioxide sulphate	12202-17-4	Toxic for reproduction (Article 57 c)
117	N-pentyl-isopentylphthalate	776297-69-9	Toxic for reproduction (Article 57 c)
118	Dioxobis(stearato)trilead	12578-12-0	Toxic for reproduction (Article 57 c)
119	Tetraethyllead	78-00-2	Toxic for reproduction (Article 57 c)
120	Pentalead tetraoxide sulphate	12065-90-6	Toxic for reproduction (Article 57 c)
121	Pentacosafuorotridecanoic acid	72629-94-8	vPvB (Article 57 e)
122	Tricosafuorododecanoic acid	307-55-1	vPvB (Article 57 e)
123	Heptacosafuorotetradecanoic acid	376-06-7	vPvB (Article 57 e)
124	1-bromopropane; n-propyl bromide	106-94-5	Toxic for reproduction (Article 57 c)
125	Methoxy acetic acid	625-45-6	Toxic for reproduction (Article 57 c); equivalent level of concern -probable serious effects on human health and the environment (Article 57 f)
126	4-methyl-m-phenylenediamine (2,4-toluenediamine)	95-80-7	Carcinogenic (Article 57 a)
127	Propylene oxide; 1,2-epoxypropane; methyloxirane	75-56-9	Carcinogenic (Article 57 a); Mutagenic (Article 57 b)
128	Trilead dioxide phosphonate	12141-20-7	Toxic for reproduction (Article 57 c)
129	o-aminoazotoluene	97-56-3	Carcinogenic (Article 57 a)
130	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	Toxic for reproduction (Article 57 c)
131	4,4'-oxydianiline and its salts	101-80-4	Carcinogenic (Article 57 a); Mutagenic (Article 57 b)
132	Lead tetroxide (orange lead)	1314-41-6	Toxic for reproduction (Article 57 c)
133	Biphenyl-4-ylamine	92-67-1	Carcinogenic (Article 57 a)
134	Diisopentylphthalate (DIPP)	605-50-5	Toxic for reproduction (Article 57 c)
135	Fatty acids, C16-18, lead salts	91031-62-8	Toxic for reproduction (Article 57 c)
136	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	Equivalent level of concern - probable serious effects on human health (Article 57 f)
137	Sulfurous acid, lead salt, dibasic	62229-08-7	Toxic for reproduction (Article 57 c)
138	Lead cyanamidate	20837-86-9	Toxic for reproduction (Article 57 c)
139	Cadmium	7440-43-9	Carcinogenic (Article 57a)
140	Cadmium oxide	1306-19-0	Carcinogenic (Article 57a)
141	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	Toxic for reproduction (Article 57 c)

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142	Pentadecafluorooctanoic acid (PFOA)	335-67-1	Toxic for reproduction (Article 57 c)
143	Dipentyl phthalate (DPP)	131-18-0	Toxic for reproduction (Article 57 c)
144	4-Nonylphenol, branched and linear, ethoxylated [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof]	-	Equivalent level of concern having probable serious effects to the environment (due to the endocrine disrupting properties of the degradation products) (Article 57 f)
145	Cadmium sulphide	1306-23-6	Carcinogenic (Article 57a); Equivalent level of concern having probable serious effects to human health (Article 57 f)
146	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate)(C.I.Direct Red 28)	573-58-0	Carcinogenic (Article 57a)
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	Carcinogenic (Article 57a)
148	Dihexyl phthalate	84-75-3	Toxic for reproduction (Article 57 c)
149	Imidazolidine-2-thione;2-imidazoline-2-thiol	96-45-7	Toxic for reproduction (Article 57 c)
150	Lead di(acetate)	301-04-2	Toxic for reproduction (Article 57 c)
151	Trixylyl phosphate	25155-23-1	Toxic for reproduction (Article 57 c)
152	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	Mutagenic (Article 57b);
153	Cadmium chloride	10108-64-2	Carcinogenic (Article 57a);
154	Sodium peroxometaborate	7632-04-4	Toxic for reproduction (Article 57c);
155	Sodium perborate; perboric acid, sodium salt	234-390-0	Toxic for reproduction (Article 57 c)
156	Cadmium fluoride	7790-79-6	Carcinogenic (Article 57 a); Mutagenic (Article 57 b); Toxic for Reproduction (Article 57 c); Equivalent level of concern having probable serious effects to human health (Article 57 f)
157	Cadmium sulphate	10124-36-4; 31119-53-6	Carcinogenic (Article 57 a); Mutagenic (article 57 b); Toxic for Reproduction (Article 57 c); Equivalent level of concern having probable serious effects to human health (Article 57 f)
158	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	PBT (Article 57 d); vPvB (Article 57 e)
159	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	PBT (Article 57 d); vPvB (Article 57 e)
160	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1	Toxic for Reproduction (Article 57 c)

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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)	-	Toxic for Reproduction (Article 57 c)
162	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with $\geq 0.3\%$ of dihexyl phthalate (EC No. 201-559-5)	68515-51-5 68648-93-1	Toxic for Reproduction (Article 57 c)
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 stereoisomers of [1] and [2] or any combination thereof]		vPvB (Article 57 e)
164	3-propanesultone	1120-71-4	Carcinogenic (Article 57 a)
165	4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	vPvB (Article 57 e)
166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3	vPvB (Article 57 e)
167	Nitrobenzene	98-95-3	Toxic for reproduction (Article 57 c)
168	Perfluorononan-1-oic acid (2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptafluorononanoic acid and its sodium and ammonium salts	375-95-1 21049-39-8 4149-60-4	Toxic for reproduction (Article 57 c); PBT (Article 57 d)
169	Benzo[def]chrysene (Benzo[a]pyrene)	50-32-8	Carcinogenic (Article 57 a) Mutagenic (Article 57 b) Toxic for reproduction (Article 57 c) PBT (Article 57 d) vPvB (Article 57 e)
170	4,4'-isopropylidenediphenol (bisphenol A; BPA)	80-05-7	Toxic for reproduction (Article 57f)
171	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	335-76-2 3830-45-3 3108-42-7	Toxic for reproduction (Article 57c) PBT (Article 57d)
172	p-(1,1-dimethylpropyl)phenol	80-46-6	Equivalent level of concern having probable serious effects to environment (Article 57f)
173	4-heptylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 7 covalently bound predominantly in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]		Equivalent level of concern having probable serious effects to environment (Article 57f)
174	Perfluorohexane-1-sulfonic acid and its salts (PFHxS)		vPvB (Article 57e)
175	4,4'-isopropylidenediphenol (bisphenol A;	80-05-7	Endocrine disrupting properties (Article

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	BPA)		57(f) - environment)
176	Chrysene	218-01-9	Carcinogenic (Article 57a);PBT (Article 57d);vPvB (Article 57e)
177	Benz[a]anthracene	56-55-3	Carcinogenic (Article 57a);PBT (Article 57d);vPvB (Article 57e)
178	Cadmium nitrate	10325-94-7	Carcinogenic (Article 57a);Mutagenic (Article 57b);Specific target organ toxicity after repeated exposure (Article 57(f) - human health)
179	Cadmium hydroxide	21041-95-2	Carcinogenic (Article 57a);Mutagenic (Article 57b);Specific target organ toxicity after repeated exposure (Article 57(f) - human health)
180	Cadmium carbonate	513-78-0	Carcinogenic (Article 57a);Mutagenic (Article 57b)Specific target organ toxicity after repeated exposure (Article 57(f) - human health)
181(a)	1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo[12.2.1.16,9.02,13.0 5,10]octadeca-7,15-diene (“Dechlorane Plus”™) [covering any of its individual anti- and syn-isomers or any combination thereof]		vPvB (Article 57e)
181(b)	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		Endocrine disrupting properties (Article 57(f) – environment)
182	Octamethylcyclotetrasiloxane (D4)	556-67-2	PBT (Article 57d) vPvB (Article 57e)
183	Decamethylcyclopentasiloxane (D5)	541-02-6	PBT (Article 57d) vPvB (Article 57e)
184	Dodecamethylcyclohexasiloxane (D6)	540-97-6	PBT (Article 57d) vPvB (Article 57e)
185	Lead	7439-92-1	Toxic for reproduction (Article 57c)
186	Disodium octaborate	12008-41-2	Toxic for reproduction (Article 57c)
187	Benzo[ghi]perylene	191-24-2	PBT (Article 57d) vPvB (Article 57e)
188	Terphenyl hydrogenated	61788-32-7	vPvB (Article 57e)
189	Ethylenediamine (EDA)	107-15-3	Respiratory sensitising properties (Article 57(f) - human health)
190	Benzene-1,2,4-tricarboxylic acid 1,2 anhydride (trimellitic anhydride) (TMA)	552-30-7	Respiratory sensitising properties (Article 57(f) - human health)
191	Dicyclohexyl phthalate (DCHP)	84-61-7	Respiratory sensitising properties (Article 57(f) - human health)
192	Benzo[k]fluoranthene	207-08-9	Carcinogenic (Article 57a)#PBT (Article 57d)#vPvB (Article 57e)
193	Fluoranthene	206-44-0, 93951-69-0	PBT (Article 57d)#vPvB (Article 57e)

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194	Phenanthrene	85-01-8	vPvB (Article 57e)
195	Pyrene	129-00-0, 1718-52-1	PBT (Article 57d)#vPvB (Article 57e)
196	2,2-bis(4'-hydroxyphenyl)-4-methylpentane	6807-17-6	Toxic for reproduction (Article 57c)
197	1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1]heptan-2-one	15087-24-8	Endocrine disrupting properties (Article 57(f) - environment)
198	2-methoxyethyl acetate	110-49-6	Toxic for reproduction (Article 57 (c))
199	Tris(4-nonylphenyl, branched and linear) phosphite (TNPP) with $\geq 0.1\%$ w/w of 4-nonylphenol, branched and linear (4-NP)	-	Endocrine disrupting properties (Article 57(f) – environment)
200	2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionic acid, its salts and its acyl halides (covering any of their individual isomers and combinations thereof)	-	Equivalent level of concern having probable serious effects to human health (Article 57(f) – human health)rn having probable serious effects to the environment (Article 57(f) - environment)
201	4-tert-butylphenol	98-54-4	Endocrine disrupting properties (Article 57(f) – environment)
202	Diisohexyl phthalate	71850-09-4	Toxic for reproduction (Article 57c)
203	2-benzyl-2-dimethylamino-4'-morpholinobutyrophenone	119313-12-1	Toxic for reproduction (Article 57c)
204	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one	71868-10-5	Toxic for reproduction (Article 57c)
205	Perfluorobutane sulfonic acid (PFBS) and its salts	-	Equivalent level of concern having probable serious effects to the environment (Article 57(f) - environment)
206	1-vinylimidazole	1072-63-5	Toxic for reproduction (Article 57 (c))
207	2-methylimidazole	693-98-1	Toxic for reproduction(Article 57 (c))
208	Dibutylbis(pentane-2,4-dionato-O,O')tin	22673-19-4	Toxic for reproduction(Article 57 (c))
209	Butyl 4-hydroxybenzoate (Butylparaben)	94-26-8	Endocrine disrupting properties - human health(Article 57(f) – human health)
210	Bis(2-(2-methoxyethoxy)ethyl)ether	143-24-8	Toxic for reproduction (Article 57 (c))
211	Diocetyl tin dilaurate, stannane, dioctyl-, bis(cocoacyloxy) derivs., and any other stannane, dioctyl-, bis(fatty acyloxy) derivs. wherein C12 is the predominant carbon number of the fatty acyloxy moiety	-	Toxic for reproduction (Article 57 (c))
212	2-(4-tert-butylbenzyl)propionaldehyde and its individual stereoisomers	-	Toxic for reproduction(Article 57 c)
213	Orthoboric acid, sodium salt	13840-56-7	Toxic for reproduction(Article 57 c)

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214	2,2-bis(bromomethyl)propane 1,3-diol (BMP); 2,2-dimethylpropan-1-ol, tribromo derivative/3-bromo-2,2-bis(bromomethyl)-1-propanol (TBNPA);	3296-90-0, 36483-57-5,	Carcinogenic(Article 57 a)
215	Glutaral	111-30-8	Respiratory sensitising properties (Article 57f - human health)
216	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)	-	PBT (Article 57d);vPvB (Article 57e)
217	Phenol, alkylation products (mainly in para position) with C12-rich branched alkyl chains from oligomerisation, covering any individual isomers and/ or combinations thereof (PDDP)	-	Toxic for reproduction (Article 57c);Endocrine disrupting properties (Article 57f - human health and environment)
218	1,4-dioxane	123-91-1	Carcinogenic(Article 57a); Equivalent level of concern having probable serious effects to the environment (Article 57f - environment) ;
219	4,4'-(1-methylpropylidene)bisphenol	77-40-7	Endocrine disrupting properties (Article 57f - human health and environment)

And, additional information regarding specific SVHC added to Vishay Website regarding lead oxide and boron oxide/acid: <http://www.vishay.com/how/leadfree/#reach>

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REACH SVHC Statement

Reach Information

[Reach Statement](#)

[Substances of Very High Concern Status by Product Family](#)

Additional information regarding specific SVHC:

Position Paper (ZVEI, et. al.) on lead oxide:

<http://home.jeita.or.jp/ecb/ceramic.html>

Position Paper (ZVEI, et. al.) on boron oxide and boric acid:

<http://www.zvei.org/Verband/Publikationen/Seiten/Position-paper-on-diboron-trioxide-B2O3-under-REACH.aspx>

We hope that this statement can meet your request requirements. If you have any further questions please feel free to contact us.

On behalf of Vishay General Semiconductor.

A handwritten signature in black ink that reads "Lizzy Fan".

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