



Compliance Statement of “REACH”

The European Chemical Agency (ECHA) has published the SVHC Candidate List. Once a substance is added to the Candidate List, REACH imposes immediate obligations on manufacturers and importers to declare the substances if present. Article 33(1) of the REACH Regulation states that manufacturers and importers of articles (products) are required to notify their customers of the presence of any Substances of Very High Concern (SVHC) in their products exceeding 0.1% by weight and provide instructions on safe use of the product.

Products manufactured by Won-Top Electronics Co., Ltd. may contain substance(s) listed below in concentrations greater than 0.1% by weight. Detailed declaration can be found below.

First “15 SVHC” added to Candidate List (Published on 28th Oct, 2008)

Substance Name	EC #	CAS #	Over 0.1% (w/w) Threshold
Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	287-476-5	85535-84-8	No
Anthracene	204-371-1	120-12-7	No
Benzyl butyl phthalate	201-622-7	85-68-7	No
Bis (2-ethyl(hexyl)phthalate) (DEHP)	204-211-0	117-81-7	No
Bis (tributyltin) oxide	200-268-0	56-35-9	No
Cobalt dichloride	231-589-4	7646-79-9	No
4,4 – Diaminodiphenylmethane	202-974-4	101-77-9	No
Diarsenic pentaoxide	215-116-9	1303-28-2	No
Diarsenic trioxide	215-481-4	1327-53-3	No
Dibutyl phthalate	201-557-4	84-74-2	No
Hexabromocyclododecane (HBCDD)	247-148-4	25637-99-4	No
Lead hydrogen arsenate	232-064-2	7784-40-9	No
Sodium dichromate	234-190-3	10588-01-9	No
5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	201-329-4	81-15-2	No
Triethyl arsenate	427-700-2	15606-95-8	No

Second “12 SVHC” added to Candidate List (Published on 13th Jan, 2010)

Substance Name	EC #	CAS #	Over 0.1% (w/w) Threshold
Anthracene oil	292-602-7	90640-80-5	No
Anthracene oil, anthracene paste, distn. lights	295-278-5	91995-17-4	No

Anthracene oil, anthracene paste,anthracene fraction	295-275-9	91995-15-2	No
Anthracene oil, anthracene-low	292-604-8	90640-82-7	No
Anthracene oil, anthracene paste	292-603-2	90640-81-6	No
Pitch, coal tar, high temp	266-028-2	65996-93-2	No
Aluminosilicate Refractory Ceramic Fibres (<i>Remark i</i>)	/	/	No
Zirconia Aluminosilicate, Refractory Ceramic Fibres (<i>Remark ii</i>)	/	/	No
2,4-Dinitrotoluene	204-450-0	121-14-2	No
Diisobutyl phthalate	201-553-2	84-69-5	No
Lead chromate	231-846-0	7758-97-6	No
Lead chromate molybdatesulphate red (C.I. Pigment Red104)	235-759-9	12656-85-8	No
Lead sulfochromate yellow (C.I.Pigment Yellow 34)	215-693-7	1344-37-2	No
Tris (2-chloroethyl) phosphate	204-118-5	115-96-8	No

Third "1 SVHC" added to Candidate List (Published on 30th Mar, 2010)

Substance Name	EC #	CAS #	Over 0.1% (w/w) Threshold
Acrylamide	201-173-7	79-06-1	No

Fourth "8 SVHC" added to Candidate List (Published on 18th Jun, 2010)

Substance Name	EC #	CAS #	Over 0.1% (w/w) Threshold
Trichloroethylene	201-167-4	79-01-6	No
Boric acid	233-139-2/ 234-343-4	10043-35-3/11113-50-1	No
Disodium tetraborate, anhydrous	215-540-4	1303-96-4/ 1330-43-4/ 12179-04-3	No
Tetraboron disodium heptaoxide, hydrate	235-541-3	12267-73-1	No
Sodium chromate	231-889-5	11/3/7775	No
Potassium chromate	232-140-5	7789-00-6	No
Ammonium dichromate	232-143-1	9/5/7789	No
Potassium dichromate	231-906-6	7778-50-9	No

Fifth "8 SVHC" added to Candidate List (Published on 15th Dec, 2010)

Substance Name	EC #	CAS #	Over 0.1% (w/w) Threshold
2-Ethoxyethanol	203-804-1	110-80-5	No
2-Methoxyethanol	203-713-7	109-86-4	No
Chromic acid, Oligomers of chromic acid and dichromic acid, Dichromic acid	231-801-5 -- 236-881-5	7738-94-5 -- 13530-68-2	No
Chromium trioxide	215-607-8	1333-82-0	No
Cobalt (II) carbonate	208-169-4	513-79-1	No

Cobalt (II) diacetate	200-755-8	71-48-7	No
Cobalt (II) dinitrate	233-402-1	10141-05-6	No
Cobalt (II) sulphate	233-334-2	10124-43-3	No

Sixth "7 SVHC" added to Candidate List (Published on 20th Jun, 2011)

Substance Name	EC #	CAS #	Over 0.1% (w/w) Threshold
1,2,3-Trichloropropane	202-486-1	96-18-4	No
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	276-158-1	71888-89-6	No
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	271-084-6	68515-42-4	No
1-Methyl-2-pyrrolidone	212-828-1	872-50-4	No
2-Ethoxyethyl acetate	203-839-2	111-15-9	No
Hydrazine	206-114-9	302-01-2	No
Strontium chromate	232-142-6	7789-06-2	No

Seventh "20 SVHC" added to Candidate List (Published on 19th Dec, 2011)

Substance Name	EC #	CAS #	Over 0.1% (w/w) Threshold
4-(1,1,3,3-tetramethylbutyl)phenol	205-426-2	140-66-9	No
N,N-dimethylacetamide	204-826-4	127-19-5	No
Phenolphthalein	201-004-7	77-09-8	No
Lead diazide, Lead azide	236-542-1	13424-46-9	No
Lead dipicrate	229-335-2	6477-64-1	No
1,2-dichloroethane	203-458-1	107-06-2	No
Calcium arsenate	231-904-5	7778-44-1	No
Dichromium tris(chromate)	246-356-2	24613-89-6	No
2-Methoxyaniline; o-Anisidine	201-963-1	90-04-0	No
Pentazinc chromate octahydroxide	256-418-0	49663-84-5	No
Arsenic acid	231-901-9	7778-39-4	No
Potassium hydroxyoctaoxodizincatedichromate	234-329-8	11103-86-9	No
Formaldehyde, oligomeric reaction products with aniline	500-036-1	25214-70-4	No
Lead styphnate	239-290-0	15245-44-0	No
Trilead diarsenate	222-979-5	3687-31-8	No
Zirconia Aluminosilicate Refractory Ceramic Fibres	--	--	No
Bis(2-methoxyethyl) phthalate	204-212-6	117-82-8	No
Aluminosilicate Refractory Ceramic Fibres	--	--	No
Bis(2-methoxyethyl) ether	203-924-4	111-96-6	No
2,2'-dichloro-4,4'-methylenedianiline	202-918-9	101-14-4	No

Eighth "13 SVHC" added to Candidate List (Published on 18th Jun, 2012)

Substance Name	EC #	CAS #	Over 0.1% (w/w) Threshold
α,α -Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) [<i>with $\geq 0.1\%$ of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)</i>]	229-851-8	6786-83-0	No
N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	202-959-2	101-61-1	No
1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione (β -TGIC)	423-400-0	59653-74-6	No
Diboron trioxide	215-125-8	1303-86-2	No
1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	203-977-3	112-49-2	No
4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol [<i>with $\geq 0.1\%$ of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)</i>]	209-218-2	561-41-1	No
Lead(II) bis(methanesulfonate)	401-750-5	17570-76-2	No
Formamide	200-842-0	75-12-7	No
[4-[4,4'-bis(dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3) [<i>with $\geq 0.1\%$ of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)</i>]	208-953-6	548-62-9	No
1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	203-794-9	110-71-4	No
[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26) [<i>with $\geq 0.1\%$ of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)</i>]	219-943-6	2580-56-5	No
1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC)	219-514-3	2451-62-9	No
4,4'-bis(dimethylamino)benzophenone (Michler's ketone)	202-027-5	90-94-8	No

Ninth "54 SVHC" added to Candidate List (Published on 19th Dec, 2012)

Substance Name	EC #	CAS #	Over 0.1% (w/w) Threshold
Hexahydromethylphthalic anhydride [1], Hexahydro-4-methylphthalic anhydride [2], Hexahydro-1-methylphthalic anhydride [3], Hexahydro-3-methylphthalic anhydride [4] [<i>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</i>]	247-094-1, 243-072-0, 256-356-4, 260-566-1	25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9	No
6-methoxy-m-toluidine (p-cresidine)	204-419-1	120-71-8	No
Cyclohexane-1,2-dicarboxylic anhydride [1], cis-cyclohexane-1,2-dicarboxylic anhydride [2], trans-cyclohexane-1,2-dicarboxylic anhydride [3] [<i>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</i>]	201-604-9, 236-086-3, 238-009-9	85-42-7, 13149-00-3, 14166-21-3	No
Pyrochlore, antimony lead yellow	232-382-1	8012-00-8	No
Henicosfluoroundecanoic acid	218-165-4	2058-94-8	No
4-Aminoazobenzene	200-453-6	-	No
Silicic acid, lead salt	234-363-3	11120-22-2	No
Lead titanium zirconium oxide	235-727-4	12626-81-2	No

Lead monoxide (lead oxide)	215-267-0	1317-36-8	No
o-Toluidine	202-429-0	95-53-4	No
3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	421-150-7	143860-04-2	No
Dibutyltin dichloride (DBTC)	211-670-0	683-18-1	No
Lead bis(tetrafluoroborate)	237-486-0	13814-96-5	No
Lead dinitrate	233-245-9	10099-74-8	No
Silicic acid (H ₂ Si ₂ O ₅), barium salt (1:1), lead-doped	272-271-5	68784-75-8	No
Trilead bis(carbonate)dihydroxide	215-290-6	1319-46-6	No
4,4'-methylenedi-o-toluidine	212-658-8	838-88-0	No
Diethyl sulphate	200-589-6	64-67-5	No
Dimethyl sulphate	201-058-1	77-78-1	No
N,N-dimethylformamide	200-679-5	-	No
4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated [<i>covering well-defined substances and UVCB substances, polymers and homologues</i>]	-	-	No
4-Nonylphenol, branched and linear [<i>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</i>]	-	-	No
Furan	203-727-3	110-00-9	No
Lead oxide sulfate	234-853-7	12036-76-9	No
Lead titanium trioxide	235-038-9	12060-00-3	No
Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	214-604-9	1163-19-5	No
Dinoseb (6-sec-butyl-2,4-dinitrophenol)	201-861-7	88-85-7	No
1,2-Diethoxyethane	211-076-1	629-14-1	No
N-methylacetamide	201-182-6	79-16-3	No
Tetralead trioxide sulphate	235-380-9	12202-17-4	No
Acetic acid, lead salt, basic	257-175-3	51404-69-4	No
[Phthalato(2-)]dioxotrilead	273-688-5	69011-06-9	No
Tetraethyllead	201-075-4	78-00-2	No
N-pentyl-isopentylphthalate	-	776297-69-9	No
Pentalead tetraoxide sulphate	235-067-7	12065-90-6	No
Heptacosafuorotetradecanoic acid	206-803-4	376-06-7	No
Tricosafuorododecanoic acid	206-203-2	307-55-1	No
1-bromopropane (n-propyl bromide)	203-445-0	106-94-5	No
Dioxobis(stearato)trilead	235-702-8	12578-12-0	No
Pentacosafuorotridecanoic acid	276-745-2	72629-94-8	No
Methoxyacetic acid	210-894-6	625-45-6	No
Methyloxirane (Propylene oxide)	200-879-2	75-56-9	No
Trilead dioxide phosphonate	235-252-2	12141-20-7	No
o-aminoazotoluene	202-591-2	97-56-3	No
4-methyl-m-phenylenediamine (toluene-2,4-diamine)	202-453-1	95-80-7	No

Diisopentylphthalate	210-088-4	605-50-5	No
1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	284-032-2	84777-06-0	No
Biphenyl-4-ylamine	202-177-1	92-67-1	No
Fatty acids, C16-18, lead salts	292-966-7	91031-62-8	No
Orange lead (lead tetroxide)	215-235-6	1314-41-6	No
4,4'-oxydianiline and its salts	202-977-0	101-80-4	No
Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	204-650-8	123-77-3	No
Sulfurous acid, lead salt, dibasic	263-467-1	62229-08-7	No
Lead cyanamidate	244-073-9	20837-86-9	No

Tenth "6 SVHC" added to Candidate List (Published on 20th Jun, 2013)

Substance Name	EC #	CAS #	Over 0.1% (w/w) Threshold
Cadmium	231-152-8	7440-43-9	No
Ammonium pentadecafluorooctanoate (APFO)	223-320-4	3825-26-1	No
Pentadecafluorooctanoic acid (PFOA)	206-397-9	335-67-1	No
Dipentyl phthalate (DPP)	205-017-9	131-18-0	No
4-Nonylphenol, branched and linear, ethoxylated [<i>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</i>]	-	-	No
Cadmium oxide	215-146-2	1306-19-0	No

Eleventh "7 SVHC" added to Candidate List (Published on 16th Dec, 2013)

Substance Name	EC #	CAS #	Over 0.1% (w/w) Threshold
Cadmium sulphide	215-147-8	1306-23-6	No
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)	217-710-3	1937-37-7	No
Dihexyl phthalate	201-559-5	84-75-3	No
Imidazolidine-2-thione; (2-imidazoline-2-thiol)	202-506-9	96-45-7	No
Trixylyl phosphate	246-677-8	25155-23-1	No
Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1- sulphonate) (C.I. Direct Red 28)	209-358-4	573-58-0	No
Lead di(acetate)	206-104-4	301-04-2	No

Twelfth "4 SVHC" added to Candidate List (Published on 16th Jun, 2014)

Substance Name	EC #	CAS #	Over 0.1% (w/w) Threshold
1,2-Benzenedicarboxylic acid, dihexylester, branched and linear	271-093-5	68515-50-4	No
Cadmium chloride	233-296-7	10108-64-2	No
Sodium perborate,perboric acid, sodium salt	239-172-9	-	No
Sodium peroxometaborate	231-556-4	7632-04-4	No

Thirteenth “6 SVHC” added to Candidate List (Published on 17th Dec, 2014)

Substance Name	EC #	CAS #	Over 0.1% (w/w) Threshold
2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	247-384-8	25973-55-1	No
2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	223-346-6	3846-71-7	No
2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	239-622-4	15571-58-1	No
Cadmium fluoride	232-222-0	7790-79-6	No
Cadmium sulphate	233-331-6	10124-36-4	No
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)	-	-	No

Fourteenth “2 SVHC” added to Candidate List (Published on 15th June, 2015)

Substance Name	EC #	CAS #	Over 0.1% (w/w) Threshold
1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate (EC No. 201-559-5)	271-094-0	68515-51-5	No
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]	-	-	No

Fifteenth “5 SVHC” added to Candidate List (Published on 17th December, 2015)

Substance Name	EC #	CAS #	Over 0.1% (w/w) Threshold
1,3-propanesultone	214-317-9	1120-71-4	No
2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	223-383-8	3864-99-1	No
2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	253-037-1	36437-37-3	No
Nitrobenzene	202-716-0	98-95-3	No
Perfluorononan-1-oic-acid and its sodium and ammonium salts	206-801-3	375-95-1 21049-39-8 4149-60-4	No

Sixteenth “1 SVHC” added to Candidate List (Published on 20th June, 2016)

Substance Name	EC #	CAS #	Over 0.1% (w/w) Threshold
Benzo[def]chrysene	200-028-5	50-32-8	No

Seventeenth “4 SVHC” added to Candidate List (Published on 12th January, 2017)

Substance Name	EC #	CAS #	Over 0.1% (w/w) Threshold
4,4'-isopropylidenediphenol	201-245-8	80-05-7	No
4-heptylphenol, branched and linear	-	-	No
Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	-	-	No
p-(1,1-dimethylpropyl)phenol	201-280-9	80-46-6	No

Eighteenth “1 SVHC” added to Candidate List (Published on 7th July, 2017)

Substance Name	EC #	CAS #	Over 0.1% (w/w) Threshold
Perfluorohexane-1-sulphonic acid and its salts	-	-	No

Nineteenth “7 SVHC” added to Candidate List (Published on 15th January, 2018)

Substance Name	EC #	CAS #	Over 0.1% (w/w) Threshold
Benz[a]anthracene	200-280-6	56-55-3, 1718-53-2	No
Cadmium carbonate	208-168-9	513-78-0	No
Cadmium hydroxide	244-168-5	21041-95-2	No
Cadmium nitrate	233-710-6	10022-68-1, 10325-94-7	No
Chrysene	205-923-4	218-01-9, 1719-03-5	No
Dodecachloropentacyclo[12.2.1.16,9.02,13.05,10]octadeca-7,15-diene (“Dechlorane Plus”™)	-	-	No
Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP)	-	-	No

Twentieth “10 SVHC” added to Candidate List (Published on 27th June, 2018)

Substance Name	EC #	CAS #	Over 0.1% (w/w) Threshold
Benzene-1,2,4-tricarboxylic acid 1,2 anhydride	209-008-0	552-30-7	No
Benzo[ghi]perylene	205-883-8	191-24-2	No
Decamethylcyclopentasiloxane	208-764-9	541-02-6	No
Dicyclohexyl phthalate	201-545-9	84-61-7	No
Disodium octaborate	234-541-0	12008-41-2	No
Dodecamethylcyclohexasiloxane	208-762-8	540-97-6	No

Ethylenediamine	203-468-6	107-15-3	No
Lead	231-100-4	7439-92-1	Yes
Octamethylcyclotetrasiloxane	209-136-7	556-67-2	No
Terphenyl, hydrogenated	262-967-7	61788-32-7	No

Remark :

- i. Aluminosilicate Refractory Ceramic Fibres are fibres covered by index number 650-017-00-8 in Annex VI, part 3, table 3.2 of Regulation (EC) No 1272/2008, and fulfil the two following conditions:
 - a) Al_2O_3 and SiO_2 are present within the following concentration ranges:
 Al_2O_3 : 43.5 – 47 % w/w, and SiO_2 : 49.5 – 53.5 % w/w, or
 Al_2O_3 : 45.5 – 50.5 %w/w, and SiO_2 : 48.5 – 54 % w/w,
 - b) fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometers (μm)
- ii. Zirconia Aluminosilicate, Refractory Ceramic Fibres are fibres covered by index number 650-017-00-8 in Annex VI, part 3, table 3.2 of Regulation (EC)No 1272/2008, and fulfil the two following conditions:
 - a) Al_2O_3 , SiO_2 and ZrO_2 are present within the following concentration ranges:
 Al_2O_3 : 35 – 36 % w/w, and SiO_2 : 47.5 – 50 % w/w, and ZrO_2 : 15 - 17 % w/w,
 - b) fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometers (μm).

Won-Top Electronics Co., Ltd (WTE) has checked all information carefully and believes it to be correct and accurate. However, WTE cannot assume any responsibility for inaccuracies. Furthermore, this information does not give the purchaser of semiconductor devices any license under patent rights to manufacturer. WTE reserves the right to change any or all information herein without further notice.

WARNING: DO NOT USE IN LIFE SUPPORT EQUIPMENT. WTE power semiconductor products are not authorized for use as critical components in life support devices or systems without the express written approval.

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