



## REACH Declaration

January 22, 2018

Printed circuit boards, complex assemblies, and semi-conductor packages fabricated by i3 Electronics are considered “Articles” under the European Union Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) legislation and are therefore exempt from registration under REACH. Based upon a review of Safety Data Sheets for substances and preparations typically used in our manufacturing and assembly operations, these articles do not contain “Substances of Very High Concern” (SVHC) exceeding 0.1% and do not require notification under Article 33. i3 Electronics has an ongoing process to identify the potential presence of SVHC in our products and will update this declaration in the future as needed.

Note: We will assist customers who may need to utilize one of the SVHC materials in their particular product(s).

### Candidate List of Substances of Very High Concern:

\* = revised 1/15/2018

	Substance Name	EC No.	CAS No.
	[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)]	219-943-6	2580-56-5
	[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)]	208-953-6	548-62-9
	[Phthalato(2-)]dioxotrilead	273-688-5	69011-06-9
	1,2,3-Trichloropropane	202-486-1	96-18-4
	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	276-158-1	71888-89-6
	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)	271-094-0 272-013-1	68515-51-5 68648-93-1
	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	271-084-6	68515-42-4
	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	271-093-5	68515-50-4
	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	284-032-2	84777-06-0
	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	203-977-3	112-49-2
	1,2-dichloroethane	203-458-1	107-06-2
	1,2-Diethoxyethane	211-076-1	629-14-1
	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	203-794-9	110-71-4
	1,3-propanesultone	214-317-9	1120-71-4
	1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC)	219-514-3	2451-62-9
	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
*	1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo [12.2.1.1 <sup>6,9</sup> .0 <sup>2,13</sup> .0 <sup>5,10</sup> ]octadeca-7,15-diene (“Dechlorane Plus”™) covering any of its individual anti- and syn-isomers or any combination thereof]	-	-
	1-bromopropane (n-propyl bromide)	203-445-0	106-94-5
	1-Methyl-2-pyrrolidone	212-828-1	872-50-4
	2,2'-dichloro-4,4'-methylenedianiline	202-918-9	101-14-4

	Substance Name	EC No.	CAS No.
	2,4-Dinitrotoluene	204-450-0	121-14-2
	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	223-383-8	3864-99-1
	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	247-384-8	25973-55-1
	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	253-037-1	36437-37-3
	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	223-346-6	3846-71-7
	2-Ethoxyethanol	203-804-1	110-80-5
	2-Ethoxyethyl acetate	203-839-2	111-15-9
	2-Ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	239-622-4	15571-58-1
	2-Methoxyaniline; o-Anisidine	201-963-1	90-04-0
	2-Methoxyethanol	203-713-7	109-86-4
	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	421-150-7	143860-04-2
	4-(1,1,3,3-tetramethylbutyl)phenol	205-426-2	140-66-9
	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues]	-	-
	4,4'- Diaminodiphenylmethane (MDA)	202-974-4	101-77-9
	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)]	209-218-2	561-41-1
	4,4'-bis(dimethylamino)benzophenone (Michler's ketone)	202-027-5	90-94-8
*	4,4'-isopropylidenediphenol (bisphenol A;BPA)	201-245-8	80-05-7
	4,4'-methylenedi-o-toluidine	212-658-8	838-88-0
	4,4'-oxydianiline and its salts	202-977-0	101-80-4
	4-Aminoazobenzene	200-453-6	60-09-3
	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]	-	-
	4-methyl-m-phenylenediamine (toluene-2,4-diamine)	202-453-1	95-80-7
	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]	-	-
	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]	-	-
	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]	-	-
	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	201-329-4	81-15-2
	6-methoxy-m-toluidine (p-cresidine)	204-419-1	120-71-8
	Acetic acid, lead salt, basic	257-175-3	51404-69-4
	Acids generated from chromium trioxide and their oligomers. Group containing: Chromic acid, Dichromic acid, Dichromic acid, Oligomers of chromic acid and dichromic acid	231-801-5 236-881-5	7738-94-5 13530-68-2
	Acrylamide	201-173-7	79-06-1
	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	287-476-5	85535-84-8
	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	Not available	Not available
	Ammonium dichromate	232-143-1	7789-09-5
	Ammonium pentadecafluorooctanoate (APFO)	223-320-4	3825-26-1
	Anthracene	204-371-1	120-12-7
	Anthracene oil	292-602-7	90640-80-5
	Anthracene oil, anthracene paste	292-603-2	90640-81-6



	<b>Substance Name</b>	<b>EC No.</b>	<b>CAS No.</b>
	Anthracene oil, anthracene paste, anthracene fraction	295-275-9	91995-15-2
	Anthracene oil, anthracene paste, distn. Lights	295-278-5	91995-17-4
	Anthracene oil, anthracene-low	292-604-8	90640-82-7
	Arsenic acid	231-901-9	7778-39-4
*	Benz[a]anthracene	200-280-6	56-55-3
	Benzo[def]chrysene (Benzo[a]pyrene)	200-028-5	50-32-8
	Benzyl butyl phthalate (BBP)	201-622-7	85-68-7
	Biphenyl-4-ylamine	202-177-1	92-67-1
	Bis (2-ethylhexyl) phthalate (DEHP)	204-211-0	117-81-7
	Bis(2-methoxyethyl) ether	203-924-4	111-96-6
	Bis(2-methoxyethyl) phthalate	204-212-6	117-82-8
	Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	214-604-9	1163-19-5
	Bis(tributyltin) oxide (TBTO)	200-268-0	56-35-9
	Boric acid	233-139-2 234-343-4	10043-35-3 11113-50-1
	Cadmium	231-152-8	7440-43-9
*	Cadmium carbonate	208-168-9	513-78-0
	Cadmium chloride	233-296-7	10108-64-2
	Cadmium fluoride	232-222-0	7790-79-6
*	Cadmium hydroxide	244-168-5	21041-95-2
*	Cadmium nitrate	233-710-6	10325-94-7
	Cadmium oxide	215-146-2	1306-19-0
	Calcium arsenate	231-904-5	7778-44-1
	Cadmium sulphate	233-331-6	10124-36-4 31119-53-6
	Cadmium sulphide	215-147-8	1306-23-6
	Chromium trioxide	215-607-8	1333-82-0
*	Chrysene	205-923-4	218-01-9
	Cobalt dichloride	231-589-4	7646-79-9
	Cobalt(II) carbonate	208-169-4	513-79-1
	Cobalt(II) diacetate	200-755-8	71-48-7
	Cobalt(II) dinitrate	233-402-1	10141-05-6
	Cobalt(II) sulphate	233-334-2	10124-43-3
	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
	Diarsenic pentaoxide	215-116-9	1303-28-2
	Diarsenic trioxide	215-481-4	1327-53-3
	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	204-650-8	123-77-3
	Diboron trioxide	215-125-8	1303-86-2
	Dibutyl phthalate (DBP)	201-557-4	84-74-2
	Dibutyltin dichloride (DBTC)	211-670-0	683-18-1
	Dichromium tris(chromate)	246-356-2	24613-89-6
	Diethyl sulphate	200-589-6	64-67-5

Substance Name	EC No.	CAS No.
Dihexyl phthalate	201-559-5	84-75-3
Diisobutyl phthalate	201-553-2	84-69-5
Diisopentylphthalate	210-088-4	605-50-5
Dimethyl sulphate	201-058-1	77-78-1
Dinoseb (6-sec-butyl-2,4-dinitrophenol)	201-861-7	88-85-7
Dioxobis(stearato)trilead	235-702-8	12578-12-0
Dipentyl phthalate (DPP)	205-017-9	131-18-0
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
Disodium 4-amino-3-[[4'-[2,4-diaminophenyl]azo][1,1'-biphenyl]-4-yl]naphthalene-2,7-disulphonate (C.I. Direct Black 38)	217-710-3	1937-37-7
Disodium tetraborate, anhydrous	215-540-4	1303-96-4 1330-43-4 12179-04-3
Fatty acids, C16-18, lead salts	292-966-7	91031-62-8
Formaldehyde, oligomeric reaction products with aniline	500-036-1	25214-70-4
Formamide	200-842-0	75-12-7
Furan	203-727-3	110-00-9
Henicosafuoroundecanoic acid	218-165-4	2058-94-8
Heptacosafuorotetradecanoic acid	206-803-4	376-06-7
Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified: Alpha-hexabromocyclododecane Beta-hexabromocyclododecane Gamma-hexabromocyclododecane	247-148-4 221-695-9	25637-99-4 3194-55-6 134237-50-6 134237-51-7 134237-52-8
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
Hydrazine	206-114-9	302-01-2 7803-57-8
Imidazolidine-2-thione (2-imidazoline-2-thiol)	202-506-9	96-45-7
Lead bis(tetrafluoroborate)	237-486-0	13814-96-5
Lead chromate	231-846-0	7758-97-6
Lead chromate molybdate sulfate red (C.I. Pigment Red 104)	235-759-9	12656-85-8
Lead cyanamidate	244-073-9	20837-86-9
Lead di(acetate)	206-104-4	301-04-2
Lead diazide, Lead azide	236-542-1	13424-46-9
Lead dinitrate	233-245-9	10099-74-8
Lead dipicrate	229-335-2	6477-64-1
Lead hydrogen arsenate	232-064-2	7784-40-9
Lead monoxide (lead oxide)	215-267-0	1317-36-8
Lead oxide sulfate	234-853-7	12036-76-9
Lead styphnate	239-290-0	15245-44-0
Lead sulfochromate yellow (C.I. Pigment Yellow 34)	215-693-7	1344-37-2
Lead titanium trioxide	235-038-9	12060-00-3
Lead titanium zirconium oxide	235-727-4	12626-81-2
Lead(II) bis(methanesulfonate)	401-750-5	17570-76-2
Methoxyacetic acid	210-894-6	625-45-6
Methyloxirane (Propylene oxide)	200-879-2	75-56-9
Nitrobenzene	202-716-0	98-95-3



	Substance Name	EC No.	CAS No.
	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	206-400-3 - 221-470-5	335-76-2 3830-45-3 3108-42-7
	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	202-959-2	101-61-1
	N,N-dimethylacetamide	204-826-4	127-19-5
	N,N-dimethylformamide	200-679-5	68-12-2
	N-methylacetamide	201-182-6	79-16-3
	N-pentyl-isopentylphthalate	-	776297-69-9
	o-aminoazotoluene	202-591-2	97-56-3
	Orange lead (lead tetroxide)	215-235-6	1314-41-6
	o-Toluidine	202-429-0	95-53-4
	Pentacosafuorotridecanoic acid	276-745-2	72629-94-8
	Pentadecafluorooctanoic acid (PFOA)	206-397-9	335-67-1
	Pentalead tetraoxide sulphate	235-067-7	12065-90-6
	Pentazinc chromate octahydroxide	256-418-0	49663-84-5
	Perfluorohexane-1-sulphonic acid and its salts (PFHxS)	-	-
	Perfluoronon-1-oi-c-acid and its sodium and ammonium saltspropanesultone	206-801-3	375-95-1 21049-39-8 4149-60-4
	Phenolphthalein	201-004-7	77-09-8
	Pitch, coal tar, high temp.	266-028-2	65996-93-2
	Potassium chromate	232-140-5	7789-00-6
	Potassium dichromate	231-906-6	7778-50-9
	Potassium hydroxyoctaoxidizincatedichromate	234-329-8	11103-86-9
	Pyrochlore, antimony lead yellow	232-382-1	8012-00-8
	p-(1,1-dimethylpropyl)phenol	201-280-9	80-46-6
*	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]	-	-
	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-oxylethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)	-	-
	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]	272-271-5	68784-75-8
	Silicic acid, lead salt	234-363-3	11120-22-2
	Sodium chromate	231-889-5	7775-11-3
	Sodium dichromate	234-190-3	7789-12-0 10588-01-9
	Sodium perborate; perboric acid, sodium salt	239-172-9; 234-390-0	Not available
	Sodium peroxometaborate	231-556-4	7632-04-4
	Strontium chromate	232-142-6	7789-06-2
	Sulfurous acid, lead salt, dibasic	263-467-1	62229-08-7
	Tetraboron disodium heptaoxide, hydrate	235-541-3	12267-73-1
	Tetraethyllead	201-075-4	78-00-2
	Tetralead trioxide sulphate	235-380-9	12202-17-4
	Trichloroethylene	201-167-4	79-01-6

	<b>Substance Name</b>	<b>EC No.</b>	<b>CAS No.</b>
	Tricosafuorododecanoic acid	206-203-2	307-55-1
	Triethyl arsenate	427-700-2	15606-95-8
	Trilead bis(carbonate)dihydroxide	215-290-6	1319-46-6
	Trilead diarsenate	222-979-5	3687-31-8
	Trilead dioxide phosphonate	235-252-2	12141-20-7
	Tris(2-chloroethyl)phosphate	204-118-5	115-96-8
	Trixylyl phosphate	246-677-8	25155-23-1
	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	Not available	Not available
	$\alpha,\alpha$ -Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) [with $\geq 0.1\%$ of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	229-851-8	6786-83-0
Reference: <a href="http://echa.europa.eu/web/guest/candidate-list-table">http://echa.europa.eu/web/guest/candidate-list-table</a>			