

## REACH SVHC Report

We hereby report that the following products do not contain SVHC (Substances of Very High Concern) authorized by European Chemicals Agency (ECHA) above 0.1wt%.

Crystal Oscillator		
Model :	DSO1612AR	DSO211SX/SXF
	DSO221SH	DSO221SR
	DSO221SY	DSO223SK/SJ/SD
	DSO321SH	DSO321SR
	DSO323SK/SJ/SD	DSO531SBM
	DSO531SR	DSO533SK/SJ
	DSO751SR	DSO753SK/SJ/SD
	DSO211AH	DSO211AN
	DSO213AW	DSO221SHF
	DSO221SV	DSO221SW
	DSO321SN	DSO321SW
	DSO531SV	DSO751SA
	DSO751SBN/SVN	DSO751SV
		DSO221SBM
		DSO221SX/SXF
		DSO321SBM
		DSO321SY
		DSO531SHH
		DSO751SBM
		DSO211AR
		DSO221SN
		DSO321SBN/SVN
		DSO531SBN/SVN
		DSO751SB

**(Scope)**

The scope of this report is only product itself. The packaging of the product is excluded.

**(Note)**

Regarding SVHC (Substances of Very High Concern) authorized by European Chemicals Agency (ECHA), information is provided in good faith and to the best of our knowledge, and based on supplier survey or direct report from our suppliers. The scope of SVHC (Substances of Very High Concern) survey is intentional use and inclusion. This report does not exclude the possibility of the residue as impurity.

Sincerely yours,

Hideki Otsuka  
Section Manager of General Affairs Dept.

Number of the Candidate list: 223 ( last updated: 17 January, 2022 )

Substance name	EC No.	CAS No.	Date of inclusion
4,4'- Diaminodiphenylmethane (MDA)	202-974-4	101-77-9	28/10/2008
5-tert-butyl-2,4,6-trinitro-m-xylene (Musk xylene)	201-329-4	81-15-2	28/10/2008
Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	287-476-5	85535-84-8	28/10/2008
Anthracene	204-371-1	120-12-7	28/10/2008
Benzyl butyl phthalate (BBP)	201-622-7	85-68-7	28/10/2008
Bis (2-ethylhexyl)phthalate (DEHP)	204-211-0	117-81-7	28/10/2008
Bis(tributyltin) oxide (TBTO)	200-268-0	56-35-9	28/10/2008
Cobalt dichloride	231-589-4	7646-79-9	28/10/2008
Diarsenic pentaoxide	215-116-9	1303-28-2	28/10/2008
Diarsenic trioxide	215-481-4	1327-53-3	28/10/2008
Dibutyl phthalate (DBP)	201-557-4	84-74-2	28/10/2008
Hexabromocyclododecane (HBCDD)	-	-	28/10/2008
Lead hydrogen arsenate	232-064-2	7784-40-9	28/10/2008
Sodium dichromate	234-190-3	10588-01-9, 7789-12-0	28/10/2008
Triethyl arsenate	427-700-2	15606-95-8	28/10/2008
2,4-dinitrotoluene	204-450-0	121-14-2	13/01/2010
Anthracene oil	292-602-7	90640-80-5	13/01/2010
Anthracene oil, anthracene paste	292-603-2	90640-81-6	13/01/2010
Anthracene oil, anthracene paste, anthracene fraction	295-275-9	91995-15-2	13/01/2010
Anthracene oil, anthracene paste, distn. lights	295-278-5	91995-17-4	13/01/2010
Anthracene oil, anthracene-low	292-604-8	90640-82-7	13/01/2010
Diisobutyl phthalate	201-553-2	84-69-5	13/01/2010
Lead chromate	231-846-0	7758-97-6	13/01/2010
Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	235-759-9	12656-85-8	13/01/2010
Lead sulfochromate yellow (C.I. Pigment Yellow 34)	215-693-7	1344-37-2	13/01/2010
Pitch, coal tar, high-temp.	266-028-2	65996-93-2	13/01/2010
Tris(2-chloroethyl) phosphate	204-118-5	115-96-8	13/01/2010
Acrylamide	201-173-7	79-06-1	30/03/2010
Ammonium dichromate	232-143-1	7789-09-5	18/06/2010
Boric acid	-	-	18/06/2010
Disodium tetraborate, anhydrous	215-540-4	12179-04-3, 1303-96-4, 1330-43-4	18/06/2010
Potassium chromate	232-140-5	7789-00-6	18/06/2010
Potassium dichromate	231-906-6	7778-50-9	18/06/2010
Sodium chromate	231-889-5	7775-11-3	18/06/2010
Tetraboron disodium heptaoxide, hydrate	235-541-3	12267-73-1	18/06/2010
Trichloroethylene	201-167-4	79-01-6	18/06/2010
2-ethoxyethanol	203-804-1	110-80-5	15/12/2010
2-methoxyethanol	203-713-7	109-86-4	15/12/2010
Acids generated from chromium trioxide and their oligomers	-	-	15/12/2010
Chromium trioxide	215-607-8	1333-82-0	15/12/2010
Cobalt(II) carbonate	208-169-4	513-79-1	15/12/2010
Cobalt(II) diacetate	200-755-8	71-48-7	15/12/2010
Cobalt(II) dinitrate	233-402-1	10141-05-6	15/12/2010

Substance name	EC No.	CAS No.	Date of inclusion
Cobalt(II) sulphate	233-334-2	10124-43-3	15/12/2010
1,2,3-trichloropropane	202-486-1	96-18-4	20/06/2011
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	276-158-1	71888-89-6	20/06/2011
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	271-084-6	68515-42-4	20/06/2011
1-Methyl-2-pyrrolidone (NMP)	212-828-1	872-50-4	20/06/2011
2-ethoxyethyl acetate	203-839-2	111-15-9	20/06/2011
Hydrazine	206-114-9	302-01-2, 7803-57-8	20/06/2011
Strontium chromate	232-142-6	7789-06-2	20/06/2011
1,2-dichloroethane	203-458-1	107-06-2	19/12/2011
2,2'-dichloro-4,4'-methylenedianiline	202-918-9	101-14-4	19/12/2011
2-Methoxyaniline, o-Anisidine	201-963-1	90-04-0	19/12/2011
4-(1,1,3,3-tetramethylbutyl)phenol	205-426-2	140-66-9	19/12/2011
Aluminosilicate Refractory Ceramic Fibres	-	-	19/12/2011
Arsenic acid	231-901-9	7778-39-4	19/12/2011
Bis(2-methoxyethyl) ether	203-924-4	111-96-6	19/12/2011
Bis(2-methoxyethyl) phthalate	204-212-6	117-82-8	19/12/2011
Calcium arsenate	231-904-5	7778-44-1	19/12/2011
Dichromium tris(chromate)	246-356-2	24613-89-6	19/12/2011
Formaldehyde, oligomeric reaction products with aniline	500-036-1	25214-70-4	19/12/2011
Lead diazide, Lead azide	236-542-1	13424-46-9	19/12/2011
Lead dipicrate	229-335-2	6477-64-1	19/12/2011
Lead styphnate	239-290-0	15245-44-0	19/12/2011
N,N-dimethylacetamide	204-826-4	127-19-5	19/12/2011
Pentazinc chromate octahydroxide	256-418-0	49663-84-5	19/12/2011
Phenolphthalein	201-004-7	77-09-8	19/12/2011
Potassium hydroxyoctaoxodizincatedichromate	234-329-8	11103-86-9	19/12/2011
Trilead diarsenate	222-979-5	3687-31-8	19/12/2011
Zirconia Aluminosilicate Refractory Ceramic Fibres	-	-	19/12/2011
1, 2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	203-794-9	110-71-4	18/06/2012
1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	203-977-3	112-49-2	18/06/2012
1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC)	219-514-3	2451-62-9	18/06/2012
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	18/06/2012
4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol	209-218-2	561-41-1	18/06/2012
4,4'-bis(dimethylamino)benzophenone (Michler's ketone)	202-027-5	90-94-8	18/06/2012
[4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3)	208-953-6	548-62-9	18/06/2012
[4-[[4-anilino-1-naphthyl]]4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26)	219-943-6	2580-56-5	18/06/2012
Diboron trioxide	215-125-8	1303-86-2	18/06/2012
Formamide	200-842-0	75-12-7	18/06/2012
Lead(II) bis(methanesulfonate)	401-750-5	17570-76-2	18/06/2012

Substance name	EC No.	CAS No.	Date of inclusion
N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	202-959-2	101-61-1	18/06/2012
$\alpha,\alpha$ -Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4)	229-851-8	6786-83-0	18/06/2012
1,2-Benzenedicarboxylic acid, dipentyl ester, branched and linear	284-032-2	84777-06-0	19/12/2012
1,2-diethoxyethane	211-076-1	629-14-1	19/12/2012
1-bromopropane (n-propyl bromide)	203-445-0	106-94-5	19/12/2012
3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	421-150-7	143860-04-2	19/12/2012
4,4'-methylenedi-o-toluidine	212-658-8	838-88-0	19/12/2012
4,4'-oxydianiline and its salts	-	-	19/12/2012
4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated	-	-	19/12/2012
4-aminoazobenzene	200-453-6	60-09-3	19/12/2012
4-methyl-m-phenylenediamine (toluene-2,4-diamine)	202-453-1	95-80-7	19/12/2012
4-Nonylphenol, branched and linear	-	-	19/12/2012
6-methoxy-m-toluidine (p-cresidine)	204-419-1	120-71-8	19/12/2012
[Phthalato(2-)]dioxotrilead	273-688-5	69011-06-9	19/12/2012
Acetic acid, lead salt, basic	257-175-3	51404-69-4	19/12/2012
Biphenyl-4-ylamine	202-177-1	92-67-1	19/12/2012
Bis(pentabromophenyl) ether (decabromodiphenyl ether) (DecaBDE)	214-604-9	1163-19-5	19/12/2012
Cyclohexane-1,2-dicarboxylic anhydride	-	-	19/12/2012
Diazene-1,2-dicarboxamide (C,C'-azodi(formamide)) (ADCA)	204-650-8	123-77-3	19/12/2012
Dibutyltin dichloride (DBTC)	211-670-0	683-18-1	19/12/2012
Diethyl sulphate	200-589-6	64-67-5	19/12/2012
Diisopentyl phthalate	210-088-4	605-50-5	19/12/2012
Dimethyl sulphate	201-058-1	77-78-1	19/12/2012
Dinoseb (6-sec-butyl-2,4-dinitrophenol)	201-861-7	88-85-7	19/12/2012
Dioxobis(stearato)trilead	235-702-8	12578-12-0	19/12/2012
Fatty acids, C16-18, lead salts	292-966-7	91031-62-8	19/12/2012
Furan	203-727-3	110-00-9	19/12/2012
Henicosfluoroundecanoic acid	218-165-4	2058-94-8	19/12/2012
Heptacosfluorotetradecanoic acid	206-803-4	376-06-7	19/12/2012
Hexahydromethylphthalic anhydride	-	-	19/12/2012
Lead bis(tetrafluoroborate)	237-486-0	13814-96-5	19/12/2012
Lead cyanamidate	244-073-9	20837-86-9	19/12/2012
Lead dinitrate	233-245-9	10099-74-8	19/12/2012
Lead monoxide (lead oxide)	215-267-0	1317-36-8	19/12/2012
Lead oxide sulfate	234-853-7	12036-76-9	19/12/2012
Lead titanium trioxide	235-038-9	12060-00-3	19/12/2012
Lead titanium zirconium oxide	235-727-4	12626-81-2	19/12/2012
Methoxyacetic acid	210-894-6	625-45-6	19/12/2012
Methyloxirane (Propylene oxide)	200-879-2	75-56-9	19/12/2012
N,N-dimethylformamide	200-679-5	68-12-2	19/12/2012
N-methylacetamide	201-182-6	79-16-3	19/12/2012
n-pentyl-isopentylphthalate	-	776297-69-9	19/12/2012
o-aminoazotoluene	202-591-2	97-56-3	19/12/2012
o-toluidine	202-429-0	95-53-4	19/12/2012

Substance name	EC No.	CAS No.	Date of inclusion
Orange lead (lead tetroxide)	215-235-6	1314-41-6	19/12/2012
Pentacosfluorotridecanoic acid	276-745-2	72629-94-8	19/12/2012
Pentalead tetraoxide sulphate	235-067-7	12065-90-6	19/12/2012
Pyrochlore, antimony lead yellow	232-382-1	8012-00-8	19/12/2012
Silicic acid (H <sub>2</sub> Si <sub>2</sub> O <sub>5</sub> ), barium salt (1:1), lead-doped	272-271-5	68784-75-8	19/12/2012
Silicic acid, lead salt	234-363-3	11120-22-2	19/12/2012
Sulfurous acid, lead salt, dibasic	263-467-1	62229-08-7	19/12/2012
Tetraethyllead	201-075-4	78-00-2	19/12/2012
Tetralead trioxide sulphate	235-380-9	12202-17-4	19/12/2012
Tricosfluorododecanoic acid	206-203-2	307-55-1	19/12/2012
Trilead bis(carbonate) dihydroxide	215-290-6	1319-46-6	19/12/2012
Trilead dioxide phosphonate	235-252-2	12141-20-7	19/12/2012
4-Nonylphenol, branched and linear, ethoxylated	-	-	20/06/2013
Ammonium pentadecafluorooctanoate (APFO)	223-320-4	3825-26-1	20/06/2013
Cadmium	231-152-8	7440-43-9	20/06/2013
Cadmium oxide	215-146-2	1306-19-0	20/06/2013
Dipentyl phthalate (DPP)	205-017-9	131-18-0	20/06/2013
Pentadecafluorooctanoic acid (PFOA)	206-397-9	335-67-1	20/06/2013
Cadmium sulphide	215-147-8	1306-23-6	16/12/2013
Diethyl phthalate	201-559-5	84-75-3	16/12/2013
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	16/12/2013
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	16/12/2013
Imidazolidine-2-thione (2-imidazoline-2-thiol)	202-506-9	96-45-7	16/12/2013
Lead di(acetate)	206-104-4	301-04-2	16/12/2013
Triethyl phosphate	246-677-8	25155-23-1	16/12/2013
1,2-Benzenedicarboxylic acid, diethyl ester, branched and linear	271-093-5	68515-50-4	16/06/2014
Cadmium chloride	233-296-7	10108-64-2	16/06/2014
Sodium perborate, perboric acid, sodium salt	-	-	16/06/2014
Sodium peroxometaborate	231-556-4	7632-04-4	16/06/2014
2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	247-384-8	25973-55-1	17/12/2014
2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	223-346-6	3846-71-7	17/12/2014
2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	239-622-4	15571-58-1	17/12/2014
Cadmium fluoride	232-222-0	7790-79-6	17/12/2014
Cadmium sulphate	233-331-6	10124-36-4, 31119-53-6	17/12/2014
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)	-	-	17/12/2014
1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters or mixed decyl and hexyl and octyl diesters	-	-	15/06/2015

Substance name	EC No.	CAS No.	Date of inclusion
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]	-	-	15/06/2015
1,3-propanesultone	214-317-9	1120-71-4	17/12/2015
2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	223-383-8	3864-99-1	17/12/2015
2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	253-037-1	36437-37-3	17/12/2015
Nitrobenzene	202-716-0	98-95-3	17/12/2015
Perfluorononan-1-oic-acid and its sodium and ammonium salts	-	-	17/12/2015
Benzo[def]chrysene (Benzo[a]pyrene)	200-028-5	50-32-8	20/06/2016
4,4'-isopropylidenediphenol	201-245-8	80-05-7	12/01/2017
4-heptylphenol, branched and linear	-	-	12/01/2017
Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	-	-	12/01/2017
p-(1,1-dimethylpropyl)phenol	201-280-9	80-46-6	12/01/2017
Perfluorohexane-1-sulphonic acid and its salts	-	-	07/07/2017
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"™)	-	-	15/01/2018
Benz[a]anthracene	200-280-6	56-55-3	15/01/2018
Cadmium carbonate	208-168-9	513-78-0	15/01/2018
Cadmium hydroxide	244-168-5	21041-95-2	15/01/2018
Cadmium nitrate	233-710-6	10325-94-7	15/01/2018
Chrysene	205-923-4	218-01-9	15/01/2018
Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP)	-	-	15/01/2018
Benzene-1,2,4-tricarboxylic acid 1,2 anhydride	209-008-0	552-30-7	27/06/2018
Benzo[ghi]perylene	205-883-8	191-24-2	27/06/2018
Decamethylcyclopentasiloxane	208-764-9	541-02-6	27/06/2018
Dicyclohexyl phthalate	201-545-9	84-61-7	27/06/2018
Disodium octaborate	234-541-0	12008-41-2	27/06/2018
Dodecamethylcyclohexasiloxane	208-762-8	540-97-6	27/06/2018
Ethylenediamine	203-468-6	107-15-3	27/06/2018
Lead	231-100-4	7439-92-1	27/06/2018
Octamethylcyclotetrasiloxane	209-136-7	556-67-2	27/06/2018
Terphenyl, hydrogenated	262-967-7	61788-32-7	27/06/2018
1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1]heptan-2-one	239-139-9	15087-24-8	15/01/2019
2,2-bis(4'-hydroxyphenyl)-4-methylpentane	401-720-1	6807-17-6	15/01/2019
Benzo[k]fluoranthene	205-916-6	207-08-9	15/01/2019
Fluoranthene	205-912-4	206-44-0	15/01/2019
Phenanthrene	201-581-5	85-01-8	15/01/2019
Pyrene	204-927-3	129-00-0	15/01/2019
2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionic acid, its salts and its acyl halides	-	-	16/07/2019

Substance name	EC No.	CAS No.	Date of inclusion
2-methoxyethyl acetate	203-772-9	110-49-6	16/07/2019
4-tert-butylphenol	202-679-0	98-54-4	16/07/2019
Tris(4-nonylphenyl, branched and linear) phosphite (TNPP) with $\geq 0.1\%$ w/w of 4-nonylphenol, branched and linear (4-NP)	-	-	16/07/2019
2-benzyl-2-dimethylamino-4'-morpholinobutyrophenone	404-360-3	119313-12-1	16/01/2020
2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one	400-600-6	71868-10-5	16/01/2020
Diisohexyl phthalate	276-090-2	71850-09-4	16/01/2020
Perfluorobutane sulfonic acid (PFBS) and its salts	-	-	16/01/2020
1-vinylimidazole	214-012-0	1072-63-5	25/06/2020
2-methylimidazole	211-765-7	693-98-1	25/06/2020
Butyl 4-hydroxybenzoate	202-318-7	94-26-8	25/06/2020
Dibutylbis(pentane-2,4-dionato-O,O')tin	245-152-0	22673-19-4	25/06/2020
Bis(2-(2-methoxyethoxy)ethyl)ether	205-594-7	143-24-8	19/01/2021
Diocetyl tin 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	-	-	19/01/2021
1,4-dioxane	204-661-8	123-91-1	08/07/2021
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); 2,3-dibromo-1-propanol (2,3-DBPA)	-	-	08/07/2021
2-(4-tert-butylbenzyl)propionaldehyde and its individual stereoisomers	-	-	08/07/2021
4,4'-(1-methylpropylidene)bisphenol	201-025-1	77-40-7	08/07/2021
glutaral	203-856-5	111-30-8	08/07/2021
Medium-chain chlorinated paraffins (MCCP)	-	-	08/07/2021
Orthoboric acid, sodium salt (group)	-	-	08/07/2021
Phenol, alkylation products (mainly in para position) with C12-rich branched alkyl chains from oligomerisation, covering any individual isomers and/ or combinations thereof (PDDP)	-	-	08/07/2021
( $\pm$ )-1,7,7-trimethyl-3-[(4-methylphenyl)methylene]bicyclo[2.2.1]heptan-2-one covering any of the individual isomers and/or combinations thereof (4-MBC)	-	-	17/01/2022
6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol	204-327-1	119-47-1	17/01/2022
S-(tricyclo(5.2.1.0 <sup>2,6</sup> )deca-3-en-8(or 9)-yl O-(isopropyl or isobutyl or 2-ethylhexyl) O-(isopropyl or isobutyl or 2-ethylhexyl) phosphorodithioate	401-850-9	255881-94-8	17/01/2022
tris(2-methoxyethoxy)vinylsilane	213-934-0	1067-53-4	17/01/2022

\*<Target Substances> : Substances listed in the Candidate List of SVHC for Authorization (See the website below)  
<https://echa.europa.eu/candidate-list-table>