

**Report No.** 70.400.19.414.03-00.02

**Dated** 2019-11-25



China

## Technical Report

**Applicant:** DEQING DINGHUI LIGHT CO., LTD.  
No.60, Yixi Road, Qianyuan Town, Deqing County  
313216 Huzhou, Zhejiang  
PEOPLE'S REPUBLIC OF CHINA

**Attn:** Xu Ying

**Manufacturer:** DEQING DINGHUI LIGHT CO., LTD.

**Test subject:** **Product name:** LED Lamp

Model No.: NA

**Test specification:** Screening of 201 Substances of Very High Concern (SVHC) published by European Chemicals Agency (ECHA) based on regulation (EC) No 1907/2006 (REACH).

**Test method:** 1) Test portion is digested with acid, the elements are analyzed by ICP-OES.  
2) Organic solvent extraction, GC-MS analysis

**Test result:** Refer to the data listed in following pages

**Conclusion:** Concentration in article of each SVHC is less than 0.1% weight by weight (w/w) in the submitted sample(s)

**Remarks:** 1. The results relates only to the items tested  
2. Samples were tested as received

**Disclaimer Measurement Uncertainty:**

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**1. Order**

**1.1 Date of Purchase Order**

2019-09-19

**1.2 Customer's Reference**

Nil

**1.3 Receipt Date of Test Sample**

2019-09-30

2019-11-13

**1.4 Date of Testing**

2019-09-30-2019-10-16

2019-11-13-2019-11-20

**1.5 Document submitted**

Nil

**1.6 Location of Testing**

TÜV PS SHA

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## 2. Description of the tested subject

No.	Tested sample	Picture
001	LED Lamp	A photograph showing three LED lamps of different sizes against a blue background. A ruler is placed at the bottom of the image for scale. The largest lamp is on the left, a medium-sized one is in the middle, and a small one is on the right. The lamps have a clear glass or plastic enclosure and a visible internal filament structure.

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### 3. Test Results

#### Screening of 201 Substances of Very High Concern (SVHC) published by European Chemicals Agency (ECHA) based on regulation (EC) No 1907/2006 (REACH).

Test portion is digested with acid, the elements are analyzed by ICP-OES.

Organic solvent extraction, GC-MS ,HPLC analysis

Item No.	Tested Items	MDL (%)	Concentration(%)	Classification
			001	
1	Anthracene (CAS No. 120-12-7)	0.01	<0.1%	PBT (article 57d)
2	4,4'- Diaminodiphenylmethane (CAS No. 101-77-9)	0.01	<0.1%	Carcinogenic (article 57a)
3	Cobalt dichloride** (CAS No. 7646-79-9 )	0.01	<0.1%	Carcinogenic and toxic for reproduction (articles 57 a and 57 c)
4	Diarsenic pentaoxide** (CAS No. 1303-28-2 )	0.01	<0.1%	Carcinogenic (article 57a)
5	Diarsenic trioxide** (CAS No. 1327-53-3 )	0.01	<0.1%	Carcinogenic (article 57a)
6	Lead hydrogen arsenate** (CAS No. 7784-40-9)	0.01	<0.1%	Carcinogenic and toxic for reproduction (articles 57 a and 57 c)
7	Triethyl arsenate** (CAS No. 15606-95-8 )	0.01	<0.1%	Carcinogenic (article 57a)
8	5-tert-butyl-2,4,6-trinitro-m-xylene (CAS No. 81-15-2)	0.01	<0.1%	vPvB (article 57e)
9	Dis (2-ethylhexyl) phthalate (CAS No. 117-81-7 )	0.01	<0.1%	Toxic for reproduction (article 57c) Endocrine disrupting properties (Article 57(f) - human health)

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10	Dibutyl phthalate (CAS No. 84-74-2)	0.01	<0.1%	Toxic for reproduction (article 57c) Endocrine disrupting properties (Article 57(f) - human health)
11	Hexabromocyclododecane (CAS No. 25637-99-4)	0.01	<0.1%	PBT (article 57d)

Item No.	Tested Items	MDL (%)	Concentration	Classification
			001	
12	Alkanes, C10-13, chloro (CAS No. 85535-84-8)	0.01	<0.1%	PBT and vPvB (articles 57 d and 57 e)
13	Benzyl butyl phthalate (CAS No. 85-68-7)	0.01	<0.1%	Toxic for reproduction (article 57c) Endocrine disrupting properties (Article 57(f) - human health)
14	Bis(tributyltin)oxide (CAS No. 56-35-9)	0.01	<0.1%	PBT (article 57d)
15	Sodium dichromate** (CAS No. 7789-12-0)	0.01	<0.1%	Carcinogenic, mutagenic and toxic for reproduction (articles 57a, 57b and 57c)
16	Anthracene oil## (CAS No. 90640-80-5)	0.01	<0.1%	Carcinogenic1, PBT and vPvB (articles 57a, 57d and 57e)
17	Anthracene oil, anthracene paste; distn. Lights## (CAS No. 91995-17-4)	0.01	<0.1%	PBT & vPvB, Carcinogen category 2, Mutagen category 2
18	Anthracene oil, anthracene paste, anthracene fraction## (CAS No. 91995-15-2)	0.01	<0.1%	Carcinogenic2, mutagenic3, PBT and vPvB (articles 57a, 57b, 57d and 57e)
19	Anthracene oil, anthracene-low## (CAS No. 90640-82-7)	0.01	<0.1%	Carcinogenic2, mutagenic3, PBT and vPvB (articles 57a, 57b, 57d and 57e)

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20	Anthracene oil, anthracene paste## (CAS No. 90640-81-6)	0.01	<0.1%	Carcinogenic <sup>2</sup> , mutagenic <sup>3</sup> , PBT and vPvB (articles 57a, 57b, 57d and 57e)
21	Coal tar pitch, high temperature (CAS No. 65996-93-2)##	0.01	<0.1%	Carcinogenic, PBT and vPvB (articles 57a, 57d and 57e)
22	2,4-Dinitrotoluene (CAS No. 121-14-2)	0.01	<0.1%	Carcinogenic (article 57a)

Item No.	Tested Items	MDL (%)	Concentration	Classification
			001	
23	Diisobutyl phthalate (CAS No. 84-69-5)	0.01	<0.1%	Toxic for reproduction (article 57c) Endocrine disrupting properties (Article 57(f) - human health)
24	Lead chromate** (CAS No. 7758-97-6)	0.01	<0.1%	Carcinogenic and toxic for reproduction (articles 57 a and 57 c)
25	Lead chromate molybdate sulfate red (C.I. Pigment Red 104)** (CAS No. 12656-85-8)	0.01	<0.1%	Carcinogenic and toxic for reproduction (articles 57 a and 57 c)
26	Lead sulfochromate yellow (C.I. Pigment Yellow 34)** (CAS No. 1344-37-2)	0.01	<0.1%	Carcinogenic and toxic for reproduction (articles 57 a and 57 c))
27	Tris(2-chloroethyl)phosphate (CAS No. 115-96-8)	0.01	<0.1%	Toxic for reproduction (article 57c)
28	Acrylamide (79-06-01)	0.01	<0.1%	Carcinogenic (article 57 a)
29	Boric acid** (10043-35-3)	0.01	<0.1%	Toxic for reproduction (article 57 c)

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30	Disodium tetraborate, anhydrous** (1330-43-4)	0.01	<0.1%	Toxic to Reproduction category 2
31	Teraboron disodium heptaoxide,hydrate** (12267-73-1)	0.01	<0.1%	Toxic to Reproduction category 2
32	Sodium Chromate** (7775-11-3)	0.01	<0.1%	Carcinogenic, mutagenic and toxic for reproduction (articles 57 a, 57 b and 57 c)
33	Potassium Chromate** (7789-00-6)	0.01	<0.1%	Carcinogenic and mutagenic (articles 57 a and 57 b).

Item No.	Tested Items	MDL (%)	Concentration (%)	Classification
			001	
34	Ammonium dichromate** (7789-09-5)	0.01	<0.1%	Carcinogen Category2; Mutagen Category2; Toxic to Reproduction Category2
35	Potassium dichromate** (7778-50-9)	0.01	<0.1%	Carcinogenic, mutagenic and toxic for reproduction (articles 57 a, 57 b and 57 c)
36	Trichloroethylene (79-01-6)	0.01	<0.1%	Carcinogenic (article 57 a)
37	Cobalt(II) sulphate** (10124-43-3)	0.01	<0.1%	Carcinogenic and toxic for reproduction (articles 57 a and 57 c)
38	Cobalt(II) dinitrate** (10141-05-6)	0.01	<0.1%	Carcinogenic and toxic for reproduction (articles 57 a and 57 c)

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Item No.	Tested Items	MDL (%)	Concentration (%)	Classification
			001	
39	Cobalt(II) carbonate** (513-79-1)	0.01	<0.1%	Carcinogenic and toxic for reproduction (articles 57 a and 57 c)
40	Cobalt(II) diacetate** (71-48-7)	0.01	<0.1%	Carcinogenic and toxic for reproduction (articles 57 a and 57 c)
41	2-Methoxyethanol (109-86-4)	0.01	<0.1%	Toxic for reproduction (article 57c)
42	2-Ethoxyethanol (110-80-5)	0.01	<0.1%	Toxic for reproduction (article 57c)
43	Chromium trioxide** (1333-82-0)	0.01	<0.1%	Carcinogenic and toxic for reproduction (articles 57 a and 57 c)
44	Acids generated from chromium trioxide and their oligomers: Chromic acid, Dichromic acid, Oligomers of chromic acid and dichromic acid**	0.01	<0.1%	Carcinogenic (article 57a)
45	2-Ethoxyethyl acetate (2-EEA) (111-15-9)	0.01	<0.1%	Toxic for reproduction (article 57c)
46	Strontium chromate** (7789-06-2)	0.01	<0.1%	Carcinogenic (article 57a)

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Item No.	Tested Items	MDL (%)	Concentration (%)	Classification
			001	
47	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP) (68515-42-4)	0.01	<0.1%	Toxic for reproduction (article 57c)
48	Hydrazine (302-01-2, 7803-57-8)	0.01	<0.1%	Carcinogenic (article 57a)
49	Methyl-2-pyrrolidone (872-50-4)	0.01	<0.1%	Toxic for reproduction (article 57c)
50	1,2,3-Trichloropropane (96-18-4)	0.01	<0.1%	Carcinogenic and toxic for reproduction (articles 57 a and 57 c)
51	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP) (71888-89-6)	0.01	<0.1%	Toxic for reproduction (article 57c)

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Item No.	Tested Items	MDL (%)	Concentration (%)	Classification
			001	
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 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 (Na <sub>2</sub> O+K <sub>2</sub> O+CaO+MgO+BaO) content less or equal to 18% by weight **	0.01	<0.1%	Carcinogenic (article 57 a)
53	Calcium arsenate** (7778-44-1)	0.01	<0.1%	Carcinogenic (article 57 a)
54	Bis(2-methoxyethyl) ether (111-96-6)	0.01	<0.1%	Toxic for reproduction (article 57 c)

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Item No.	Tested Items	MDL (%)	Concentration (%)	Classification
			001	
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 (Na <sub>2</sub> O+K <sub>2</sub> O+CaO+MgO+BaO) content less or equal to 18% by weight **	0.01	<0.1%	Carcinogenic (article 57 a)
56	Potassium hydroxyoctaoxodizincatedichromate** (11103-86-9)	0.01	<0.1%	Carcinogenic (article 57 a)
57	Lead dipicrate** (6477-64-1)	0.01	<0.1%	Toxic for reproduction (article 57 c)
58	N,N-dimethylacetamide (127-19-5)	0.01	<0.1%	Toxic for reproduction (article 57 c)

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Item No.	Tested Items	MDL (%)	Concentration (%)	Classification
			001	
59	Arsenic acid** (7778-39-4)	0.01	<0.1%	Carcinogenic (article 57 a)
60	2-Methoxyaniline; o-Anisidine (90-04-0)	0.01	<0.1%	Carcinogenic (article 57 a)
61	Trilead diarsenate** (3687-31-8)	0.01	<0.1%	Carcinogenic and toxic for reproduction (articles 57 a and 57 c)
62	1,2-dichloroethane (107-06-2)	0.01	<0.1%	Carcinogenic (article 57 a)
63	Pentazinc chromate octahydroxide** (49663-84-5)	0.01	<0.1%	Carcinogenic (article 57 a)
64	Formaldehyde, oligomeric reaction products with aniline (25214-70-4)	0.01	<0.1%	Carcinogenic (article 57 a)
65	Bis(2-methoxyethyl) phthalate (117-82- 8)	0.01	<0.1%	Toxic for reproduction (article 57 c)
66	4-(1,1,3,3-tetramethylbutyl)phenol (140- 66-9)	0.01	<0.1%	Equivalent level of concern having probable serious effects to the environment (article 57 f)
67	Lead diazide, Lead azide** (13424-46-9)	0.01	<0.1%	Toxic for reproduction (article 57 c),
68	Phenolphthalein (77-09-8)	0.01	<0.1%	Carcinogenic (article 57 a)

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Item No.	Tested Items	MDL (%)	Concentration (%)	Classification
			001	
69	Dichromium tris(chromate) (24613-89-6)**	0.01	<0.1%	Carcinogenic (article 57 a)
70	Lead styphnate** (15245-44-0)	0.01	<0.1%	Toxic for reproduction (article 57 c)
71	2,2'-dichloro-4,4'-methylenedianiline (101-14-4)	0.01	<0.1%	Carcinogenic (article 57 a)
72	$\alpha,\alpha$ -Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4)# (6786-83-0)	0.01	<0.1%	Carcinogenic (Article 57a)
73	N,N,N',N'-tetramethyl-4,4'- methylenedianiline (101-61-1)	0.01	<0.1%	Carcinogenic (Article 57a)
74	1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]- 1,3,5-triazine-2,4,6-(1H,3H,5H)-trione ( $\beta$ -TGIC) (59653-74-6)	0.01	<0.1%	Mutagenic (Article 57b)
75	Diboron trioxide** (1303-86-2)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
76	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme) (112-49-2)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
77	4,4'-bis(dimethylamino)-4''- (methylamino)trityl alcohol# (561-41-1)	0.01	<0.1%	Carcinogenic (Article 57a)
78	Lead(II) bis(methanesulfonate)** (17570-76-2)	0.01	<0.1%	Toxic for reproduction (Article 57 c)

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Item No.	Tested Items	MDL (%)	Concentration (%)	Classification
			001	
79	Formamide (75-12-7)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
80	4-[4,4'-bis(dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride(C.I. Basic Violet 3) <sup>#</sup> (548-62-9)	0.01	<0.1%	Carcinogenic (Article 57a)
81	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME) (110-71-4)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
82	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Blue 26) <sup>#</sup> (2580-56-5)	0.01	<0.1%	Carcinogenic (Article 57a)
83	1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC) (2451-62-9)	0.01	<0.1%	Mutagenic (Article 57b)
84	4,4'-bis(dimethylamino)benzophenone (Michler's ketone) (90-94-8)	0.01	<0.1%	Carcinogenic (Article 57a)
85	Pyrochlore, antimony lead yellow** (8012-00-8)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
86	6-methoxy-m-toluidine (p-cresidine) (120-71-8)	0.01	<0.1%	Carcinogenic (Article 57a)
87	Henicosaflluoroundecanoic acid (2058-94-8)	0.01	<0.1%	vPvB (Article 57 e)

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China

Item No.	Tested Items	MDL (%)	Concentration (%)	Classification
			001	
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 combinations of the isomers [1] are covered by this entry] (25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9)	0.01	<0.1%	Equivalent level of concern having probable serious effects to human health (Article 57 f)
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)	0.01	<0.1%	Equivalent level of concern having probable serious effects to human health (Article 57 f)
90	Dibutyltin dichloride (DBTC) (683-18-1)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
91	Lead bis(tetrafluoroborate)** (13814-96-5)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
92	Lead dinitrate** (10099-74-8)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
93	Silicic acid, lead salt** (11120-22-2)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
94	4-Aminoazobenzene (60-09-3)	0.01	<0.1%	Carcinogenic (Article 57a)

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Item No.	Tested Items	MDL (%)	Concentration (%)	Classification
			001	
95	Lead titanium zirconium oxide** (12626-81-2)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
96	Lead monoxide (lead oxide)** (1317-36-8)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
97	o-Toluidine (95-53-4)	0.01	<0.1%	Carcinogenic (Article 57a)
98	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine (143860-04-2)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
99	Silicic acid (H <sub>2</sub> Si <sub>2</sub> O <sub>5</sub> ), barium salt (1:1), lead-doped <i>[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]**</i> (68784-75-8)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
100	Trilead bis(carbonate)dihydroxide** (1319-46-6)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
101	Furan (110-00-9)	0.01	<0.1%	Carcinogenic (Article 57a)
102	N,N-dimethylformamide (68-12-2)	0.01	<0.1%	Toxic for reproduction (Article 57 c)

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Item No.	Tested Items	MDL (%)	Concentration (%)	Classification
			001	
103	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues]	0.01	<0.1%	Equivalent level of concern having probable serious effects to 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]	0.01	<0.1%	Equivalent level of concern having probable serious effects to the environment (Article 57 f)
105	4,4'-methylenedi-o-toluidine (838-88-0)	0.01	<0.1%	Carcinogenic (Article 57a)
106	Diethyl sulphate (64-67-5)	0.01	<0.1%	Carcinogenic (Article 57a); Mutagenic (Article 57b)
107	Dimethyl sulphate (77-78-1)	0.01	<0.1%	Carcinogenic (Article 57a)
108	Lead oxide sulfate** (12036-76-9)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
109	Lead titanium trioxide** (12060-00-3)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
110	Acetic acid, lead salt, basic** (51404-69-4)	0.01	<0.1%	Toxic for reproduction (Article 57 c)

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China

Item No.	Tested Items	MDL (%)	Concentration (%)	Classification
			001	
111	[Phthalato(2-)]dioxotrilead** (69011-06-9)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
112	Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE) (1163-19-5)	0.01	<0.1%	PBT (Article 57 d); vPvB (Article 57 e)
113	N-methylacetamide (79-16-3)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
114	Dinoseb (6-sec-butyl-2,4-dinitrophenol) (88-85-7)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
115	1,2-Diethoxyethane (629-14-1)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
116	Tetralead trioxide sulphate** (12202-17-4)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
117	N-pentyl-isopentylphthalate (776297-69-9)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
118	Dioxobis(stearato)trilead** (12578-12-0)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
119	Tetraethyllead** (78-00-2)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
120	Pentalead tetraoxide sulphate** (12065-90-6)	0.01	<0.1%	Toxic for reproduction (Article 57 c)

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Item No.	Tested Items	MDL (%)	Concentration (%)	Classification
			001	
121	Pentacosafuorotridecanoic acid (72629-94-8)	0.01	<0.1%	vPvB (Article 57 e)
122	Tricosafuorododecanoic acid (307-55-1)	0.01	<0.1%	vPvB (Article 57 e)
123	Heptacosafuorotetradecanoic acid (376-06-7)	0.01	<0.1%	vPvB (Article 57 e)
124	1-bromopropane (n-propyl bromide) (106-94-5)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
125	Methoxyacetic acid (625-45-6)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
126	4-methyl-m-phenylenediamine (toluene-2,4-diamine) (95-80-7)	0.01	<0.1%	Carcinogenic (Article 57a)
127	Methyloxirane (Propylene oxide) (75-56-9)	0.01	<0.1%	Carcinogenic (Article 57a); Mutagenic (Article 57b)
128	Trilead dioxide phosphonate** (12141-20-7)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
129	o-aminoazotoluene (97-56-3)	0.01	<0.1%	Carcinogenic (Article 57a)
130	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear (84777-06-0)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
131	4,4'-oxydianiline and its salts (101-80-4)	0.01	<0.1%	Carcinogenic (Article 57a); Mutagenic (Article 57b)

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Item No.	Tested Items	MDL (%)	Concentration (%)	Classification
			001	
132	Orange lead (lead tetroxide)** (1314-41-6)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
133	Biphenyl-4-ylamine (92-67-1)	0.01	<0.1%	Carcinogenic (Article 57a)
134	Diisopentylphthalate (605-50-5)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
135	Fatty acids, C16-18, lead salts** (91031-62-8)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
136	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide)) (123-77-3)	0.01	<0.1%	Equivalent level of concern having probable serious effects to human health (Article 57 f)
137	Sulfurous acid, lead salt, dibasic** (62229-08-7)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
138	Lead cyanamidate** (20837-86-9)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
139	Cadmium (7440-43-9)	0.01	<0.1%	Carcinogenic (Article 57a); Equivalent level of concern having probable serious effects to human health (Article 57 f)

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Item No.	Tested Items	MDL (%)	Concentration (%)	Classification
			001	
140	Ammonium pentadecafluorooctanoate (APFO) (3825-26-1)	0.01	<0.1%	Toxic for reproduction (Article 57 c); PBT (Article 57 d)
141	Pentadecafluorooctanoic acid (PFOA) (335-67-1)	0.01	<0.1%	Toxic for reproduction (Article 57 c); PBT (Article 57 d)
142	Dipentyl phthalate (DPP) (131-18-0)	0.01	<0.1%	Toxic for reproduction (Article 57 c);
143	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> ]	0.01	<0.1%	Equivalent level of concern having probable serious effects to the environment (Article 57 f)
144	Cadmium oxide** (1306-19-0)	0.01	<0.1%	Carcinogenic (Article 57a); Equivalent level of concern having probable serious effects to human health (Article 57 f)

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Item No.	Tested Items	MDL (%)	Concentration (%)	Classification
			001	
145	Cadmium sulphide** (1306-23-6)	0.01	<0.1%	Carcinogenic (Article 57a); Equivalent level of concern having probable serious effects to human health (Article 57 f)
146	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)	0.01	<0.1%	Carcinogenic (Article 57a)
147	Dihexyl phthalate (84-75-3)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
148	Imidazolidine-2-thione; (2-imidazoline-2-thiol) (96-45-7)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
149	Trixylyl phosphate (25155-23-1)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
150	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28) (573-58-0)	0.01	<0.1%	Carcinogenic (Article 57a)
151	Lead di(acetate)** (301-04-2)	0.01	<0.1%	Toxic for reproduction (Article 57 c);

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Item No.	Tested Items	MDL (%)	Concentration (%)	Classification
			001	
152	Cadmium chloride (10108-64-2)	0.01	<0.1%	Carcinogenic (Article 57a); Mutagenic (Article 57b); Toxic for reproduction (Article 57c); Equivalent level of concern having probable serious effects to human health (Article 57 f)
153	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear (68515-50-4)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
154	Sodium peroxometaborate** (7632-04-4)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
155	Sodium perborate; perboric acid, Sodium salt**	0.01	<0.1%	Toxic for reproduction (Article 57 c)
156	Cadmium fluoride** (7790-79-6)	0.01	<0.1%	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)

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China

Item No.	Tested Items	MDL (%)	Concentration (%)	Classification
			001	
157	Cadmium sulphate** (10124-36-4;31119-53-6)	0.01	<0.1%	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)	0.01	<0.1%	PBT (Article 57 d); vPvB (Article 57 e)
159	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol(UV-328) (25973-55-1)	0.01	<0.1%	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)	0.01	<0.1%	Toxic for Reproduction (Article 57 c)
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)	0.01	<0.1%	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 (68515-51-5, 68648-93-1)	0.01	<0.1%	Toxic for Reproduction (Article 57 c)

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China

Item No.	Tested Items	MDL (%)	Concentration (%)	Classification
			001	
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]	0.01	<0.1%	vPvB (Article 57 e)
164	Perfluorononan-1-oic-acid and its sodium and ammonium salts (375-95-1, 21049-39-8, 4149-60-4)	0.01	<0.1%	Toxic for reproduction (Article 57 c) PBT (Article 57 d)
165	Nitrobenzene (98-95-3)	0.01	<0.1%	Toxic for reproduction (Article 57 c)
166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350) (36437-37-3)	0.01	<0.1%	vPvB (Article 57 e)
167	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327) (3864-99-1)	0.01	<0.1%	vPvB (Article 57 e)
168	1,3-propanesultone (1120-71-4)	0.01	<0.1%	Carcinogenic (Article 57 a)
169	Benzo[def]chrysene (Benzo[a]pyrene) (50-32-8)	0.01	<0.1%	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)	0.01	<0.1%	Toxic for reproduction (Article 57 c) Endocrine disrupting properties (Article 57(f) - human health)

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Report No. 70.400.19.414.03-00.02

Dated 2019-11-25



China

Item No.	Tested Items	MDL (%)	Concentration (%)	Classification
			001	
171	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts (335-76-2, 3830-45-3, 3108-42-7)	0.01	<0.1%	Toxic for reproduction (Article 57 c); PBT (Article 57 d)
172	p-(1,1-dimethylpropyl)phenol (pentylphenol, PTAP) (80-46-6)	0.01	<0.1%	Equivalent level of concern having probable serious effects to the environment (Article 57 f)
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]	0.01	<0.1%	Equivalent level of concern having probable serious effects to the environment (Article 57 f)
174	Perfluorohexane-1-sulphonic acid and its salts (PFHxS) (355-46-4)	0.01	<0.1%	vPvB (Article 57 e)
175	Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP)[with $\geq 0.1\%$ w/w 4-heptylphenol, branched and linear (4-HPbl)]	0.01	<0.1%	Endocrine disrupting properties (Article 57(f) - environment)
176	Dodecachloropentacyclo[12.2.1.16,9.02,13.05,10]octadeca-7,15-diene ("Dechlorane Plus" <sup>TM</sup> )(covering any of its individual anti- and syn-isomers or any combination thereof)	0.01	<0.1%	vPvB (Article 57e)
177	Chrysene (218-01-9, 1719-03-5)	0.01	<0.1%	Carcinogenic (Article 57a) PBT (Article 57d) vPvB (Article 57e)

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China

Item No.	Tested Items	MDL (%)	Concentration (%)	Classification
			001	
178	Cadmium nitrate (10022-68-1, 10325-94-7)	0.01	<0.1%	Carcinogenic (Article 57a) Mutagenic (Article 57b) Specific target organ toxicity after repeated exposure (Article 57(f) - human health)
179	Cadmium hydroxide (21041-95-2)	0.01	<0.1%	Carcinogenic (Article 57a) Mutagenic (Article 57b) Specific target organ toxicity after repeated exposure (Article 57(f) - human health)
180	Cadmium carbonate (513-78-0)	0.01	<0.1%	Carcinogenic (Article 57a) Mutagenic (Article 57b) Specific target organ toxicity after repeated exposure (Article 57(f) - human health)
181	Benz[a]anthracene (56-55-3, 1718-53-2)	0.01	<0.1%	Carcinogenic (Article 57a) PBT (Article 57d) vPvB (Article 57e)
182	Octamethylcyclotetrasiloxane (D4) (556-67-2)	0.01	<0.1%	PBT (Article 57d); vPvB (Article 57e)
183	Decamethylcyclopentasiloxane (D5) (541-02-6)	0.01	<0.1%	PBT (Article 57d); vPvB (Article 57e)
184	Dodecamethylcyclohexasiloxane (D6) (540-97-6)	0.01	<0.1%	PBT (Article 57d); vPvB (Article 57e)
185	Lead (7439-92-1)	0.01	<0.1%	Toxic for reproduction (Article 57c)

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China

Item No.	Tested Items	MDL (%)	Concentration (%)	Classification
			001	
186	Disodium octaborate (12008-41-2)	0.01	<0.1%	Toxic for reproduction (Article 57c)
187	Benzo[ghi]perylene (191-24-2)	0.01	<0.1%	PBT (Article 57d); vPvB (Article 57e)
188	Terphenyl hydrogenated (61788-32-7)	0.01	<0.1%	vPvB (Article 57e)
189	Ethylenediamine (EDA) (107-15-3)	0.01	<0.1%	Respiratory sensitising properties (Article 57(f) - human health)
190	Dicyclohexyl phthalate (DCHP) (84-61-7)	0.01	<0.1%	Toxic for reproduction (Article 57(c)); endocrine disrupting properties (Article 57(f) - human health)
191	Benzene-1,2,4-tricarboxylic acid 1,2-anhydride (trimellitic anhydride) (TMA) (552-30-7)	0.01	<0.1%	Respiratory sensitising properties (Article 57(f)) – human health)
192	1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1]heptan-2-one (3-benzylidene camphor) (15087-24-8)	0.01	<0.1%	Endocrine disrupting properties (Article 57(f) - environment)
193	2,2-bis(4'-hydroxyphenyl)-4-methylpentane (6807-17-6)	0.01	<0.1%	Toxic for reproduction (Article 57c)
194	Benzo[k]fluoranthene (207-08-9)	0.01	<0.1%	Carcinogenic (Article 57a); PBT (Article 57d); vPvB (Article 57e)
195	Fluoranthene (206-44-0)	0.01	<0.1%	PBT (Article 57d); vPvB (Article 57e)
196	Phenanthrene (85-01-8)	0.01	<0.1%	vPvB (Article 57e)

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Report No. 70.400.19.414.03-00.02

Dated 2019-11-25



China

Item No.	Tested Items	MDL (%)	Concentration (%)	Classification
			001	
197	Pyrene (129-00-0)	0.01	<0.1%	PBT (Article 57d); vPvB (Article 57e)
198	2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionic acid, its salts and its acyl halides (covering any of their individual isomers and combinations thereof)	0.01	<0.1%	Equivalent level of concern having probable serious effects on the environment (Article 57f) Equivalent level of concern having probable serious effects on human health (Article 57f)
199	2-methoxyethyl acetate (110-49-6)	0.01	<0.1%	Toxic for reproduction (Article 57c)
200	Tris(4-nonylphenyl, branched and linear) phosphite (TNPP) with $\geq 0.1\%$ w/w of 4-nonylphenol, branched and linear (4-NP)	0.01	<0.1%	Endocrine disrupting properties (Article 57(f) – environment)
201	4-tert-butylphenol (PTBP) (98-54-4)	0.01	<0.1%	Endocrine disrupting properties (Article 57(f) - environment)

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China

**Remark:**

1. Above result for the submitted samples (LED LAMP) are calculated based on relevant material testing data.
2. \*\* Denotes result is based on the heavy metal or inorganic element concentration. Due to the limit of the analytical technology available, any further investigation is not feasible. The client is strongly advised to review the chemical formulation to ascertain.
3. ## The substances are UVCB(substance of unknown or variable composition, complex reaction products or biological materials), which are identified by its main constituents. Individual concentrations to the constituent of UVCB with an amount of <0.01% were not considered by the calculation of the sum.
4. # only applicable with  $\geq 0.1\%$  of Michler's ketone (CAS No. 90-94-8) or Michler's base (CAS No. 101-61-1)
5. The analysis of 201 SVHC is done by currently available test & screening techniques against the SVHC candidate list published by European Chemical Agency (ECHA).  
Refer to [http://echa.europa.eu/chem\\_data/candidate\\_list\\_table\\_en.asp](http://echa.europa.eu/chem_data/candidate_list_table_en.asp) for details.
6. In accordance with Regulation(EC) No 1907/2006, any producer or importer of substances, preparations and articles shall notify ECHA, in accordance with paragraph 4 of Article 7, if a substance meets the criteria in Article 57 and is identified in accordance with Article 59(1), if both the following conditions are met:
  - (a) The substance is present in those articles in quantities totalling over 1 tonne per producer or importer per year;
  - (b) The substance is present in those articles above a concentration of 0.1% weight by weight (w/w).
7. From 28 October 2008, EU & EEA suppliers whose goods contain substances on the Candidate List in a concentration above 0.1%(w/w) must provide sufficient information to their customers and on request to a consumer within 45 days of the receipt of this request. This information must ensure safe use of the article and, as a minimum, include the name of the substance.

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4. Breakdown of submitted sample:

Item No.:	Description	Material
1	PCB	--
2	SHELL	--

TÜV SÜD Certification and Testing (China) Co.,Ltd.  
Shanghai Branch  
Chemical Lab

Engineer:

  
Mr. Yang Sirong

Checked by:

  
Ms. Qi Nannan

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China

**APPENDIX A: Additional Style.****The client declared that the materials used of below styles are same as tested style .**

Model	Power	Current	PCB	Size	lamp shape
UA48XZF	1-5W	10-30mA	PCB2	48x88mm	A48
VA60XZF	2,5-8,5W	20-60mA	PCB2	60x105mm	A60
VA70XZF	2,5-8,5W	20-60mA	PCB2	70x128mm	A70
WA130XZF	4-9W	20-60mA	PCB3	130x240mm	A130
WA160XZF; 200345 87188430325 92	4-9W	20-60mA	PCB3	160x298mm	A160
UC35XYF	1-5W	10-30mA	PCB1	35x97mm	C35
UC35XZF	1-5W	10-30mA	PCB2	35x97mm	C35
UCT35XYF	1-5W	10-30mA	PCB1	35x97mm	CT35
UCT35XZF	1-5W	10-30mA	PCB2	35x97mm	CT35
UCA35XYF	1-5W	10-30mA	PCB1	35x120mm	CA35
UCA35XZF	1-5W	10-30mA	PCB2	35x120mm	CA35
UG45XYF	1-5W	10-30mA	PCB1	45x78mm	G45
UG45XZF	1-5W	10-30mA	PCB2	45x75mm	G45
UG50XYF	1-5W	10-30mA	PCB1	50x85mm	G50
UG50XZF	1-5W	10-30mA	PCB2	50x85mm	G50
UG60XYF	1-5W	10-30mA	PCB1	60x90mm	G60
VG60XZF	2,5-8,5W	20-60mA	PCB2	60x90mm	G60
VG80XZF	2,5-8,5W	20-60mA	PCB2	80x115mm	G80
VG95XZF	2,5-8,5W	20-60mA	PCB2	95x135mm	G95
VG125XZF; 200341 8718 843032578	2,5-8,5W	20-60mA	PCB2	125x175mm	G125
WG150XZF	4-9W	20-60mA	PCB3	150x195/240mm	G150
WG200XZF; 200345 87188430325 85	4-9W	20-60mA	PCB3	200x300mm	G200
WG300XZF	4-9W	20-60mA	PCB3	300x450mm	G300
UR39XYF	1-5W	10-30mA	PCB1	39x66mm	R39
UR50XYF	1-5W	10-30mA	PCB1	50x85mm	R50
VR63XZF	2,5-8,5W	20-60mA	PCB2	63x102mm	R63
VR80XZF	2,5-8,5W	20-60mA	PCB2	80x115mm	R80

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VR95XZF	2,5-8,5W	20-60mA	PCB2	95x134mm	R95
VR125XZF	2,5-8,5W	20-60mA	PCB2	125x175mm	R125
WR135XZF	4-9W	20-60mA	PCB3	135x210mm	R135
WR160XZF	4-9W	20-60mA	PCB3	160x250mm	R160
WR180XZF	4-9W	20-60mA	PCB3	180x300mm	R180
WR250XZF	4-9W	20-60mA	PCB3	250x380mm	R250
WMR200XZF	4-9W	20-60mA	PCB3	200x200mm	MR200
QST26XYF	0,5-2W	5-20mA	PCB1	26x60mm	ST26
QST28XYF	0,5-2W	5-20mA	PCB1	28x65mm	ST28
VST58XZF	2,5-8,5W	20-60mA	PCB2	58x130mm	ST58
VST64XZF; 200341 8718 843032561	2,5-8,5W	20-60mA	PCB2	64x145mm	ST64
QT20XYF	0,5-2W	5-20mA	PCB1	20x80/114mm	T20
QT22XYF	0,5-2W	5-20mA	PCB1	22x58mm	T22
UT25XYF	1-5W	10-30mA	PCB1	25x60/85mm	T25
UT28XYF	1-5W	10-30mA	PCB1	28x85mm	T28
VT30XZF	2,5-8,5W	20-60mA	PCB2	30x125/185/225/300mm	T30
UT32XZF	1-5W	10-30mA	PCB2	32x128mm	T32
VT38XZF	2,5-8,5W	20-60mA	PCB2	38x100/138/300mm	T38
VT45XZF	2,5-8,5W	20-60mA	PCB2	45x110mm	T45
VD80XZF	2,5-8,5W	20-60mA	PCB2	80x120mm	D80
VD95XZF	2,5-8,5W	20-60mA	PCB2	95x135mm	D95
VD120XZF	2,5-8,5W	20-60mA	PCB2	120x170mm	D120
VD125XZF	2,5-8,5W	20-60mA	PCB2	125x165mm	D125
WE120XZF	4-9W	20-60mA	PCB3	120x430mm	E120
WE140XZF	4-9W	20-60mA	PCB3	140x320mm	E140
WED90XZF	4-9W	20-60mA	PCB3	90x220mm	ED90
WED120XZF	4-9W	20-60mA	PCB3	120x240mm	ED120
WBF180XZF	4-9W	20-60mA	PCB3	180x360mm	BF180
WBT118XZF	4-9W	20-60mA	PCB3	118x275mm	BT118
WBT180XZF	4-9W	20-60mA	PCB3	180x380mm	BT180
WTT76XZF	4-9W	20-60mA	PCB3	76x310mm	TT76
WTT80XZF	4-9W	20-60mA	PCB3	80x380mm	TT80
VH95XZF	2,5-8,5W	20-60mA	PCB2	95x135mm	H95
VH115XZF	2,5-8,5W	20-60mA	PCB2	115x160mm	H115
VH125XZF	2,5-8,5W	20-60mA	PCB2	125x170mm	H125

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VS120XZF	2,5-8,5W	20-60mA	PCB2	120x160mm	S120
VS143XZF	2,5-8,5W	20-60mA	PCB2	143x173mm	S143
VS150XZF	2,5-8,5W	20-60mA	PCB2	150x184mm	S150
VS210XZF	2,5-8,5W	20-60mA	PCB2	210x245mm	S210
VP95XZF	2,5-8,5W	20-60mA	PCB2	95x135mm	P95
VP125XZF	2,5-8,5W	20-60mA	PCB2	125x170mm	P125
VSB95XZF	2,5-8,5W	20-60mA	PCB2	95x165mm	SB95
VPA95XZF	2,5-8,5W	20-60mA	PCB2	95x135mm	PA95
VPA120XZF	2,5-8,5W	20-60mA	PCB2	120x175mm	PA120
VPC75XZF	2,5-8,5W	20-60mA	PCB2	75x160mm	PC75
VGN80XZF	2,5-8,5W	20-60mA	PCB2	80x125mm	GN80
VDR95XZF	2,5-8,5W	20-60mA	PCB2	95x135mm	DR95
VSH95XZF	2,5-8,5W	20-60mA	PCB2	95x168mm	SH95
VSH150XZF	2,5-8,5W	20-60mA	PCB2	150x240mm	SH150
VL100XZF	2,5-8,5W	20-60mA	PCB2	100x150mm	L100
VL125XZF	2,5-8,5W	20-60mA	PCB2	125x190mm	L125
WS200XZF	4-9W	20-60mA	PCB3	200x390mm	S200
WPS165XZF	4-9W	20-60mA	PCB3	165x285mm	PS165
WVA188XZF	4-9W	20-60mA	PCB3	188x395mm	VA188

“Q” stands for power consumed, the unit is W; which could be 0,5;0,6;0,7;0,8;0,9;1;1,2;1,5;1,8;2;

“U” stands for power consumed, the unit is W; which could be 1;1,5;2;2,5;3;3,5;4;4,5;5;

“V” stands for power consumed, the unit is W; which could be 2,5;3;4;4,5;5;6;6,5;7;8,8,5;

“W” stands for power consumed, the unit is W; which could be 4;4,5;5;5,5;6;6,5;7;7,5;8,8,5;9;

“X” stands for the color of lamp glass, which could be “CL”, “FR”, “SW”, “G”, “PK”, “BK”; CL=Clear; FR=Frost; SW=Soft White; G=Golden; PK=Pink; BK=BLACK;

“Y” stands for the lamp cap, which could be

“SES”, “SBC”; SES=E14; SBC=B15;

“Z” stands for the lamp cap, which could be

“ES”; “BC”; ES=E27; BC=B22;

Disclaimer Measurement Uncertainty:

Unless otherwise agreed upon, Pass or Fail verdicts are given base on the measured values without any considerations of measurement uncertainties.

Please note, every test method has a measurement uncertainty which has been evaluated by the laboratory according to ISO/IEC 17025 requirements. By taking measurement uncertainties into account it might happen that measured values can neither be assessed as Pass nor as Fail

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“F” stands for shape of LED module, which could be  
“H”,”S”; H=hard; S=soft.

**NOTE:**

200341 8718843032561 same as 4ST64GESS; just different products model;  
200341 8718843032578 same as 4G125GESS; just different products model;  
200345 8718843032585 same as 8G200GESS; just different products model;  
200345 8718843032592 same as 8A160GESS; just different products model;

**Remark:**

1. The report covers material testing on specified samples
2. The tested materials covered by the report were declared by the manufacturer to be used on the models listed in the APPENDIX of the report.

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## Appendix B: Relevant Definitions

Classification	Definition under 67/548/EEC and Regulation (EC) No 1907/2006
Carcinogen category 1	Substances known to be carcinogenic to humans. There is sufficient evidence to establish a causal association between human exposure to the substance and the development of cancer.
Carcinogen category 2	Substances that should be regarded as if they are carcinogenic to humans, there is sufficient evidence, based on long-term animal studies and other relevant information, to provide a strong presumption that human exposure may result in the development of cancer.
Mutagen category 1	Substances known to be mutagenic to humans, There is sufficient evidence to establish a causal association between human exposure to a substance and heritable genetic damage.
Mutagen category 2	Substances which should be regarded as if they are mutagenic to man. There is sufficient evidence to provided a strong presumption that human exposure to the substance may result in the development of heritable genetic damage, generally on the basis of : -appropriate animal studies, -other relevant information.
Toxic to Reproduction category 1:	Substances known to impair fertility in humans. There is sufficient evidence to establish a causal relationship between human exposure to the substance and impaired fertility.  Substances known to cause developmental toxicity in humans. There is sufficient evidence to establish a causal relationship between human exposure to the substance and subsequent developmental toxic effects in the progeny.

### Disclaimer Measurement Uncertainty:

Unless otherwise agreed upon, Pass or Fail verdicts are given base on the measured values without any considerations of measurement uncertainties.

Please note, every test method has a measurement uncertainty which has been evaluated by the laboratory according to ISO/IEC 17025 requirements. By taking measurement uncertainties into account it might happen that measured values can neither be assessed as Pass nor as Fail

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Toxic to Reproduction category 2:	<p>Substances which should be regarded as if they impair fertility in humans. There is sufficient evidence to provide a strong presumption that human exposure to the substance may result in impaired fertility on the basis of :</p> <ul style="list-style-type: none"><li>-clear evidence in animal studies of impaired fertility in the absence of toxic effects, or, evidence of impaired fertility occurring at around the same dose levels as other toxic effects but which is not a secondary nonspecific consequence of the other .</li><li>-other relevant information.</li></ul> <p>Substances which should be regarded as if they cause developmental toxicity to humans. There is sufficient evidence to provide a strong presumption that human exposure to the substance may result in developmental toxicity, generally on the basis of :</p> <ul style="list-style-type: none"><li>-clear results in appropriate animal studies where effects have been observed in the absence of signs of marked maternal toxicity, or at around the same dose levels as other toxic effects but which are not a secondary non-specific consequence of the other toxic effects.</li><li>-other relevant information.</li></ul>
PBT & vPvB	<p>Substances which are persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative(vPvB) pose a particular challenge to the chemicals safety management. For these substances a “safe” concentration in the environment cannot be established with sufficient reliability.</p>

Disclaimer Measurement Uncertainty:

Unless otherwise agreed upon, Pass or Fail verdicts are given base on the measured values without any considerations of measurement uncertainties.

Please note, every test method has a measurement uncertainty which has been evaluated by the laboratory according to ISO/IEC 17025 requirements. By taking measurement uncertainties into account it might happen that measured values can neither be assessed as Pass nor as Fail

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