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Client: CONG TY TNHH DONGDOPRO

Contact Information: So 23A/109 Truong Chinh, P.Phuong Liet, Q.Thanh Xuan, TP. Ha Noi,

Viet Nam

Test item(s): Metal material

Identification/ Nhôm hơp kim A5052

*Model No(s):* H32

Model: Hình chữ nhật Material: Nhôm Color: Trắng ánh kim

Sample Receiving date: 2021-11-08

*Testing Period:* 2021-11-08 to 2021-11-16

Test Specification: Test result:

1. Cadmium, Lead, Chromium (VI), Mercury, Polybrominated biphenyls (PBB) PASS and Polybrominated diphenyl ethers (PBDE) - Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment, 2011/65/EU and its amendments. (RoHS)

- 2. Phthalates ( DEHP, DBP, BBP, DiBP) Restriction of the Use of Certain PASS Hazardous Substances in Electrical and Electronic Equipment, 2011/65/EU and its amendments. (RoHS)
- 3. Risk Assessment of Articles: Screening of substances of very high concern (SVHC) subject to the candidate list by European Chemical Agency (ECHA) page according to Regulation (EC) No. 1907/2006 of REACH and its amendments

For and on behalf of TÜV Rheinland Vietnam Co., Ltd.

2021-11-16

Nguyen Ngo Thi Tan Anh / Project Coordinator

Date Name/Position

Test result is drawn according to the kind and extent of tests performed. The laboratory applied decision rule for giving verdict, considering measurement of un-certainty at 95% confident level. This test report relates to the above mentioned test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products



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**Material List:** 

Item: Nhôm hợp kim A5052

H32

Model: Hình chữ nhật Material: Nhôm Color: Trắng ánh kim

Material No.	Material	Color	Location
M001	Metal + plating	Silver	Metal plate



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# 1. Cadmium, Lead, Chromium (VI), Mercury, Polybrominated biphenyls (PBB) and Polybrominated diphenyl ethers (PBDE)

Test method: - Total Cadmium, Lead, Mercury:

Totally digested then determination by ICP-OES, follow IEC 62321-4:2013

and IEC 62321-5:2013

- Chromium (VI):

Non-metal: Alkaline digestion, determination by UV-Vis spectrophotometry Metal: spot test and followed by boiling water test, follow IEC 62321-7-1:2015

- PBBs, PBDEs:

Extraction with organic solvent, determination by GC-MS, follow IEC 62321-6:2015

### Test result:

			Material No.	M001
Test parameter	Unit	RL	Requirement	Result
Cadmium (Cd)	mg/kg	2	< 100	n.d.
Lead (Pb)	mg/kg	2	< 1000	7.1
Mercury (Hg)	mg/kg	2	< 1000	n.d.
Chromium VI (Cr VI) for metal protective coating	µg/cm²	0.02	< 0.1	n.d.
Chromium VI (Cr VI)	mg/kg	3	< 1000	N.A.
Total Polybrominated biphenyls (PBBs) (*)	mg/kg	5	< 1000	n.d.
Total Polybrominated biphenyl ethers (PBDEs) (*)	mg/kg	5	< 1000	n.d.
Conclusion				Pass

Abbreviation: mg/kg = milligram per kilogram

RL = Reporting Limit n.d.= Not Detected (<RL)

μg/cm² = microgram per square centimeter

N.A.: Not Applicable

**Remark:** According to IEC 62321-7-1:2015, result of Cr VI for metal sample is shown as

Pass/Fail/Inconclusive.

Pass = Absence of Cr VI coating, Cr VI concentration is below the 0,10 μg/cm<sup>2</sup> Fail = Presence of Cr VI coating, Cr VI concentration is above 0.13 μg/cm<sup>2</sup>

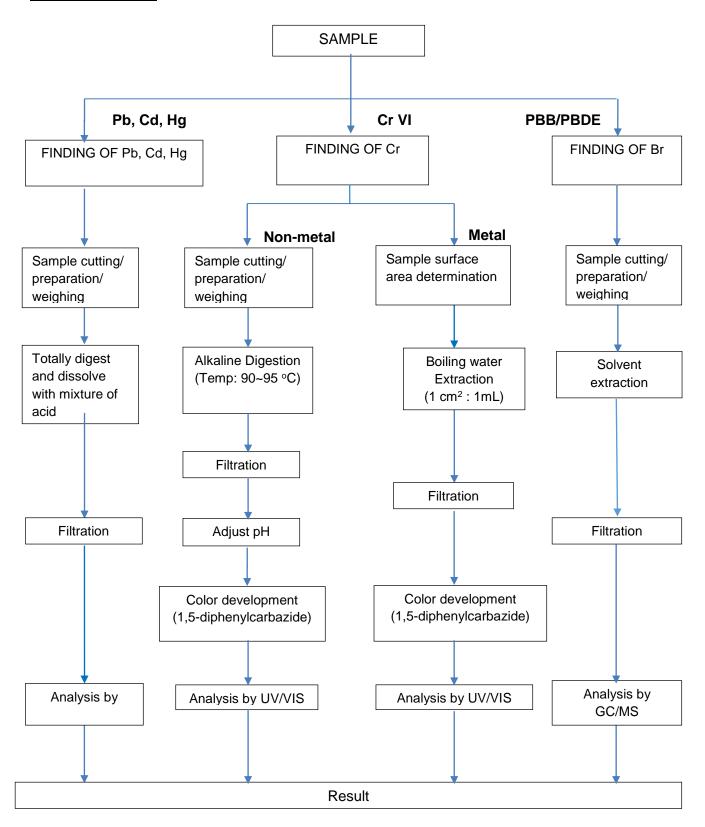
Inconclusive = Cr VI concentration is between 0.10~0.13 μg/cm<sup>2</sup>. Further test with extra

samples is recommended



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## Flow chart for RoHs





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(\*)

List of PBBs	List of PBDEs
Bromobiphenyl (MonoBB)	Bromodiphenyl ether (MonoBDE)
Dibromobiphenyl (DiBB)	Dibromodiphenyl ether (DiBDE)
Tribromobiphenyl (TriBB)	Tribromodiphenyl ether (TriBDE)
Tetrabromobiphenyl (TetraBB)	Tetrabromodiphenyl ether (TetraBDE)
Pentabromobiphenyl (PentaBB)	Pentabromodiphenyl ether (PentaBDE)
Hexabromobiphenyl (HexaBB)	Hexabromodiphenyl ether (HexaBDE)
Hexabromobiphenyl (HeptaBB)	Heptabromodiphenyl ether (HeptaBDE)
Octabromobiphenyl (Tech)(OctaBB)	Octabromodiphenyl ether (OctaBDE)
Nonabromobiphenyl (NonaBB)	Nonabromodiphenyl ether (NonaBDE)
Decabromobiphenyl (DecaBB)	Decabromodiphenyl ether (DecaBDE)

## 2. Phthalates ( DEHP, DBP, BBP, DiBP)

Test method: Extraction with organic solvent, determination by GC-MS With reference to IEC 62321-8 (111/321/CD)

## Test result:

			Material No.	M001
Test parameter	Unit	RL	Requirement	Result
Diethylhexylphthalate (DEHP)	mg/kg	50	< 1000	n.d.
Dibutylphthalate (DBP)	mg/kg	50	< 1000	n.d.
Benzylbutylphthalate (BBP)	mg/kg	50	< 1000	n.d.
Diisobutylphthalate (DiBP)	mg/kg	50	< 1000	n.d.
Conclusion				Pass

**Abbreviation:** n.d. = not detected (< Reporting Limit)

RL = Reporting Limit

mg/kg = milligram per kilogram



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3. Screening of Substances of Very High Concern (SVHC) subject to the Candidate List by European Chemical Agency (ECHA) according to Regulation (EC) No. 1907/2006 of REACH and its amendments.

## **Test Results**

Screening of substances of very high concern (SVHC) subject to the candidate list by European Chemical Agency (ECHA) according to Regulation (EC) No. 1907/2006 of REACH and its amendments.

Test Method: 1) SVOC: organic solvent extraction, determination by GC-MS/ECD

2) VOC: organic solvent extraction, determination by GC-MS

3) VVOC: headspace-GC/MS analysis

4) non-VOC: organic solvent extraction, determination by LC-MS/MS.

5) inorganics: acid digestion, determination by ICP-OES

Test No.:	T001	
Material No.:	al No.: M001	
Result (%)	Orthoboric acid, sodium salt: 0.01%; others: n.d.	

Abbreviation: < = Less than

n.d. = Not detected (<RL) RL =Reporting Limit % =Percentage



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## Remark:

(\*1) The reporting limit for each individual SVHC in Candidate List by ECHA:

	Substance	CAS No.	Reporting Limit
1	4,4'- Diaminodiphenylmethane (MDA)	101-77-9	0.01%
2	Benzyl butyl phthalate (BBP)	85-68-7	0.01%
3	Bis (2-ethylhexyl)phthalate (DEHP)	117-81-7	0.01%
4	Dibutyl phthalate (DBP)	84-74-2	0.01%
5	Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified: Alpha-hexabromocyclododecane Beta-hexabromocyclododecane Gamma-hexabromocyclododecane	25637-99-4 / 3194-55-6 / 134237-50-6 / 134237-51-7 / 134237-52-8	0.01%
6	5-tert-butyl-2,4,6-trinitro-m-xylene (Musk xylene)	81-15-2	0.01%
7	2,4-Dinitrotoluene (2,4-DNT)	121-14-2	0.01%
8	Diisobutyl phthalate (DIBP)	84-69-5	0.01%
9	Tris(2-chloroethyl)phosphate	115-96-8	0.01%
10	Diarsenic pentaoxide (*2)	1303-28-2	0.01%
11	Diarsenic trioxide (*2)	1327-53-3	0.01%
12	Lead chromate (*2)(*3)	7758-97-6	0.01%
13	Lead chromate molybdate sulphate red (C.I. Pigment Red 104) (*2)(*3)	12656-85-8	0.01%
14	Lead sulfochromate yellow (C.I. Pigment Yellow 34) (*2)	1344-37-2	0.01%
15	Trichloroethylene	79-01-6	0.01%
16	Chromium trioxide (*2)	1333-82-0	0.01%
17	Acids generated from chromium trioxide and their oligomers: Names of the acids and their oligomers: Chromic acid, Dichromic acid, Oligomers of chromic acid and dichromic acid. (*2)	7738-94-5 / 13530-68-2	0.01%
18	Sodium dichromate (*2)(*3)	7789-12-0 / 10588-01-9	0.01%
19	Potassium dichromate *2)(*3)	7778-50-9	0.01%
20	Ammonium dichromate (*2)(*3)	7789-09-5	0.01%
21	Potassium chromate (*2)(*3)	7789-00-6	0.01%
22	Sodium chromate (*2)(*3)	7775-11-3	0.01%
23	Formaldehyde, oligomeric reaction products with aniline (technical MDA) (*10)	25214-70-4	0.01%
24	1,2-Dichloroethane	107-06-2	0.01%
25	Bis(2-methoxyethyl) ether	111-96-6	0.01%
26	Arsenic acid (*2)	7778-39-4	0.01%
27	2,2'-dichloro-4,4'-methylenedianiline (MOCA)	101-14-4	0.01%
28	Dichromium tris(chromate) (*2)(*3)	24613-89-6	0.01%
29	Strontium chromate (*2)(*3)	7789-06-2	0.01%
30	Potassium hydroxyoctaoxodizincatedichromate (*2)(*3)	11103-86-9	0.01%
31	Pentazinc chromate octahydroxide (*2)(*3)	49663-84-5	0.01%
32	1-bromopropane (n-propyl bromide)	106-94-5	0.01%
33	Diisopentylphthalate	605-50-5	0.01%
34	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6	0.01%



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1,2 Benzenedicarboxylic acid, dipentylester, branched and linear 84777-06-0 0.01 37 Bis(2-methoxyethyl) phthalate 117-82-8 0.03 38 Dipentyl phthalate (DPP) 131-18-0 0.01 39 N-pentyl-isopentylphthalate 776297-69-9 0.01 40 Anthracene oil (*6) 90640-80-5 0.01% 41 Pitch, coal tar, high temperature (*5) 65996-93-2 0.01% 42 (1,1,3,3-tetramethylbulyl)phenol, ethoxylated (OPEO) (covering well-defined substances and UVCB substances, polymers and homologues) - 0.01 43 Substances with a linear and/or branched alkyl chain with a carbon number of 9 covelently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof) 44 1,2-Benzenedicarboxylic acid, dihexyl esters; 1.2-benzenedicarboxylic acid, substances which include any of the individual isomers or a combination thereof) 45 Dihexyl phthalate 84-75-3 0.01 46 Cide (CN 0.00 10 10 10 10 10 10 10 10 10 10 10 10 1				
Bis(2-methoxyethyl) pithalaite	35		68515-42-4	0.01%
Dipentyl phthalatae (DPP)	36	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	0.01%
N-pentyl-isopentylphthalate	37	Bis(2-methoxyethyl) phthalate	117-82-8	0.01%
Anthracene oil (*6)	38	Dipentyl phthalate (DPP)	131-18-0	0.01%
Pitch, coal tar, high temperature (*6)	39	N-pentyl-isopentylphthalate	776297-69-9	0.01%
4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated (OPEO) (covering well-defined substances and UVCB substances, polymers and homologues!         0.001           4-Nonylphenol, branched and linear (substances with a linear and/or branched alkyl chain with a carbon number of 9 covering 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           44 1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear (EC No. 201-595-5)         84-75-3         0.01           45 Dihexyl phthalate (EC No. 201-595-5)         84-75-3         0.01           46 acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate (EC No. 201-595-5)         68515-51-5 / 68648-93-1         0.01           47 Trixylyl phosphate         25155-23-1         0.01         0.01           48 Sodium perborate, perboric acid, sodium salt (*2) (*5)         -         0.01           49 Sodium peroxometaborate (*2) (*5)         -         0.01           50 Sese-butyl-2-(2,4-dimethylocyclobex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4-dimethylocyclobex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4-dimethylocyclobex-3-en-1-yl)-5-methyl-1,3-dioxane [2] (covering any of the individual stereoisomers of [1] and [2] or any combination thereof]         0.01           51 2-(2H-benzotriazol-2-yl)-4,6-diert-butyl-6-(5-chlorobenzotriazol-2-yl)-9henol (UV-328)         25973-55-1         0.01           52 2-di-Henzotriazol-2-yl)-4,6-di-tert-butyl-6-(sec-butyl)phenol (UV-320)	40	Anthracene oil (*6)	90640-80-5	0.01%(*7)
4-Nonylphenol, branched and linear   4-Nonylphenol, branched all linear   4-Nonylphenol, branched and linear   4-Nonylp	41	Pitch, coal tar, high temperature (*6)	65996-93-2	0.01%(*7)
43         substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCBs- and well-defined substances which include any of the individual isomers or a combination thereoff         -         0.01           44         1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear         68515-50-4         0.01           45         Dihexyl phthalate         84-75-3         0.01           46         caid, mixed decyl and hexyl and octyl diesters with 2 0.3% of dihexyl phthalate (EC No. 201-559-5)         68515-51-5 / 68648-93-1         0.01           47         Trixylyl phosphate         25155-23-1         0.01           48         Sodium perborate, perboric acid, sodium salt (*2) (*5)         -         0.01           49         Sodium peroxometaborate (*2) (*5)         7632-04-4         0.01           50         Seec-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]         -         0.01           51         2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)         25973-55-1         0.01           52         2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-320)         3844-71-7         0.01           53         2-(2H-benzotriazol-2-yl-4,6-di-tert-butyl-9-d-(sec-butyl)phenol (UV-320)	42	[covering well-defined substances and UVCB substances, polymers and	-	0.01%
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)   0.01	43	[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	-	0.01%
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)       68515-51-5 / 68648-93-1       0.01         47       Trixylyl phosphate       25155-23-1       0.01         48       Sodium perborate,perboric acid, sodium salt (*2) (*5)       -       0.01         49       Sodium peroxometaborate (*2) (*5)       7632-04-4       0.01         50       butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-secbutyl-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]       -       0.01         51       2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)       25973-55-1       0.01         52       2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)       3864-99-1       0.01         53       2-(2H-benzotriazol-2-yl)-4-(fert-butyl)-6-(sec-butyl)phenol (UV-350)       36437-37-3       0.01         54       2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)       3846-71-7       0.01         55       Anthracene       120-12-7       0.01         56       Bis(tributyltin) oxide (TBTO) (*4)       56-35-9       0.01         57       Triethyl arsenate (*2)       7646-79-9       0.01         58       Lead hydrogen arsenate (*2) <td>44</td> <td>1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear</td> <td>68515-50-4</td> <td>0.01%</td>	44	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	0.01%
46 acid, mixed decyl and hexyl and octyl diesfers with ≥ 0.3% of dihexyl phthálate (EC No. 201-559-5)	45	Dihexyl phthalate	84-75-3	0.01%
48 Sodium perborate, perboric acid, sodium salt (*2) (*5)	46	acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate	68515-51-5 / 68648-93-1	0.01%
Sodium peroxometaborate (*2) (*5)	47	Trixylyl phosphate	25155-23-1	0.01%
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]  51 2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)  52 2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)  53 2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)  54 2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)  55 Anthracene  120-12-7  0.01  56 Bis(tributyltin) oxide (TBTO) (*4)  57 Triethyl arsenate (*2)  58 Lead hydrogen arsenate (*2)  Cobalt dichloride (*2)  784-40-9  0.01  61 Anthracene oil, anthracene paste, distn. lights (*6)  Anthracene oil, anthracene paste, anthracene fraction (*6)  63 Anthracene oil, anthracene paste (*6)	48	Sodium perborate,perboric acid, sodium salt (*2) (*5)	-	0.01%
50         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]         -         0.01           51         2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)         25973-55-1         0.01           52         2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)         3864-99-1         0.01           53         2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)         36437-37-3         0.01           54         2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)         3846-71-7         0.01           55         Anthracene         120-12-7         0.01           56         Bis(tributyltin) oxide (TBTO) (*4)         56-35-9         0.01           57         Triethyl arsenate (*2)         15606-95-8         0.01           58         Lead hydrogen arsenate (*2)         7784-40-9         0.01           59         Cobalt dichloride (*2)         7646-79-9         0.01           60         Acrylamide         79-06-1         0.01           61         Anthracene oil, anthracene paste, distn. lights (*6)         91995-17-4           62         Anthracene oil, anthracene-low (*6)         90640-82-7           63         Anthracene oil, anthracene paste (*6)         90640-81-6	49	Sodium peroxometaborate (*2) (*5)	7632-04-4	0.01%
52       2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)       3864-99-1       0.01         53       2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)       36437-37-3       0.01         54       2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)       3846-71-7       0.01         55       Anthracene       120-12-7       0.01         56       Bis(tributyltin) oxide (TBTO) (*4)       56-35-9       0.01         57       Triethyl arsenate (*2)       15606-95-8       0.01         58       Lead hydrogen arsenate (*2)       7784-40-9       0.01         59       Cobalt dichloride (*2)       7646-79-9       0.01         60       Acrylamide       79-06-1       0.01         61       Anthracene oil, anthracene paste, distn. lights (*6)       91995-17-4       0.01         62       Anthracene oil, anthracene paste, anthracene fraction (*6)       91995-15-2       0.01%         63       Anthracene oil, anthracene-low (*6)       90640-82-7       0.01%         64       Anthracene oil, anthracene paste (*6)       90640-81-6	50	butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any	-	0.01%
53       2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)       36437-37-3       0.01         54       2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)       3846-71-7       0.01         55       Anthracene       120-12-7       0.01         56       Bis(tributyltin) oxide (TBTO) (*4)       56-35-9       0.01         57       Triethyl arsenate (*2)       15606-95-8       0.01         58       Lead hydrogen arsenate (*2)       7784-40-9       0.01         59       Cobalt dichloride (*2)       7646-79-9       0.01         60       Acrylamide       79-06-1       0.01         61       Anthracene oil, anthracene paste, distn. lights (*6)       91995-17-4       91995-17-4         62       Anthracene oil, anthracene paste, anthracene fraction (*6)       91995-15-2       0.01%         63       Anthracene oil, anthracene-low (*6)       90640-82-7       0.01%         64       Anthracene oil, anthracene paste (*6)       90640-81-6	51	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	0.01%
54       2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)       3846-71-7       0.01         55       Anthracene       120-12-7       0.01         56       Bis(tributyltin) oxide (TBTO) (*4)       56-35-9       0.01         57       Triethyl arsenate (*2)       15606-95-8       0.01         58       Lead hydrogen arsenate (*2)       7784-40-9       0.01         59       Cobalt dichloride (*2)       7646-79-9       0.01         60       Acrylamide       79-06-1       0.01         61       Anthracene oil, anthracene paste, distr. lights (*6)       91995-17-4         62       Anthracene oil, anthracene paste, anthracene fraction (*6)       91995-15-2         63       Anthracene oil, anthracene-low (*6)       90640-82-7       0.01%         64       Anthracene oil, anthracene paste (*6)       90640-81-6       0.01%	52	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	0.01%
55 Anthracene 120-12-7 0.01 56 Bis(tributyltin) oxide (TBTO) (*4) 56-35-9 0.01 57 Triethyl arsenate (*2) 15606-95-8 0.01 58 Lead hydrogen arsenate (*2) 7784-40-9 0.01 59 Cobalt dichloride (*2) 7646-79-9 0.01 60 Acrylamide 79-06-1 0.01 61 Anthracene oil, anthracene paste, distn. lights (*6) 91995-17-4 62 Anthracene oil, anthracene paste, anthracene fraction (*6) 91995-15-2 63 Anthracene oil, anthracene paste (*6) 90640-81-6	53	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3	0.01%
56       Bis(tributyltin) oxide (TBTO) (*4)       56-35-9       0.01         57       Triethyl arsenate (*2)       15606-95-8       0.01         58       Lead hydrogen arsenate (*2)       7784-40-9       0.01         59       Cobalt dichloride (*2)       7646-79-9       0.01         60       Acrylamide       79-06-1       0.01         61       Anthracene oil, anthracene paste, distn. lights (*6)       91995-17-4         62       Anthracene oil, anthracene paste, anthracene fraction (*6)       91995-15-2         63       Anthracene oil, anthracene-low (*6)       90640-82-7       0.01%         64       Anthracene oil, anthracene paste (*6)       90640-81-6	54	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	0.01%
57       Triethyl arsenate (*2)       15606-95-8       0.01         58       Lead hydrogen arsenate (*2)       7784-40-9       0.01         59       Cobalt dichloride (*2)       7646-79-9       0.01         60       Acrylamide       79-06-1       0.01         61       Anthracene oil, anthracene paste, distn. lights (*6)       91995-17-4         62       Anthracene oil, anthracene paste, anthracene fraction (*6)       91995-15-2         63       Anthracene oil, anthracene-low (*6)       90640-82-7       0.01%         64       Anthracene oil, anthracene paste (*6)       90640-81-6	55	Anthracene	120-12-7	0.01%
58       Lead hydrogen arsenate (*2)       7784-40-9       0.01         59       Cobalt dichloride (*2)       7646-79-9       0.01         60       Acrylamide       79-06-1       0.01         61       Anthracene oil, anthracene paste, distn. lights (*6)       91995-17-4         62       Anthracene oil, anthracene paste, anthracene fraction (*6)       91995-15-2         63       Anthracene oil, anthracene-low (*6)       90640-82-7       0.01%         64       Anthracene oil, anthracene paste (*6)       90640-81-6	56	Bis(tributyltin) oxide (TBTO) (*4)	56-35-9	0.01%
59       Cobalt dichloride (*2)       7646-79-9       0.01         60       Acrylamide       79-06-1       0.01         61       Anthracene oil, anthracene paste, distn. lights (*6)       91995-17-4         62       Anthracene oil, anthracene paste, anthracene fraction (*6)       91995-15-2         63       Anthracene oil, anthracene-low (*6)       90640-82-7       0.01%         64       Anthracene oil, anthracene paste (*6)       90640-81-6	57	Triethyl arsenate (*2)	15606-95-8	0.01%
60 Acrylamide 79-06-1 0.01 61 Anthracene oil, anthracene paste, distn. lights (*6) 91995-17-4 62 Anthracene oil, anthracene paste, anthracene fraction (*6) 91995-15-2 63 Anthracene oil, anthracene-low (*6) 90640-82-7 0.01% 64 Anthracene oil, anthracene paste (*6) 90640-81-6	58	Lead hydrogen arsenate (*2)	7784-40-9	0.01%
61 Anthracene oil, anthracene paste, distn. lights (*6) 62 Anthracene oil, anthracene paste, anthracene fraction (*6) 63 Anthracene oil, anthracene-low (*6) 64 Anthracene oil, anthracene paste (*6) 65 90640-81-6 66 91995-17-4	59	Cobalt dichloride (*2)	7646-79-9	0.01%
61 Anthracene oil, anthracene paste, distn. lights (*6) 62 Anthracene oil, anthracene paste, anthracene fraction (*6) 63 Anthracene oil, anthracene-low (*6) 64 Anthracene oil, anthracene paste (*6) 65 90640-81-6 66 91995-17-4	60	Acrylamide	79-06-1	0.01%
Anthracene oil, anthracene paste, anthracene fraction (*6) 91995-15-2 90640-82-7 0.01% Anthracene oil, anthracene paste (*6) 90640-81-6	61	*	91995-17-4	
63 Anthracene oil, anthracene-low (*6) 90640-82-7 0.01% 64 Anthracene oil, anthracene paste (*6) 90640-81-6		, , , , , , , , , , , , , , , , , , ,		
64 Anthracene oil, anthracene paste (*6) 90640-81-6		. , ,		0.01% (*7
		. ,		
(-) (-) (-)		. , ,		0.01%
CC Disadium tatrah arata anhudaya (#2) (#5)				
66 Disodium tetraborate, anhydrous (*2) (*5) 1305 30 47 1330 43 47 12173 0.01  TÜV Rheinland Vietnam Co. Ltd. Laboratory:1st Floor Hall 10 Road No. 1 Quang Trung Software City District 12 Ho Chi Minh Cit				0.01%



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67	Tetraboron disodium heptaoxide, hydrate (*2) (*5)	12267-73-1	0.01%
68	2-Methoxyethanol	109-86-4	0.01%
69	2-Ethoxyethanol	110-80-5	0.01%
70	Cobalt(II) sulphate (*2)	10124-43-3	0.01%
71	Cobalt(II) dinitrate (*2)	10141-05-6	0.01%
72	Cobalt(II) carbonate (*2)	513-79-1	0.01%
73	Cobalt(II) diacetate (*2)	71-48-7	0.01%
74	Alkanes C10-C13, chloro (Short Chain Chlorinated Paraffins) (SCCP)	85535-84-8	0.01%
75	2-Ethoxyethyl acetate	111-15-9	0.01%
76	Hydrazine	302-01-2 / 7803-57-8	0.01%
77	1-Methyl-2-pyrrolidone (NMP)	872-50-4	0.01%
78	1,2,3-Trichloropropane	96-18-4	0.01%
79	Aluminosilicate Refractory Ceramic Fibres (RCF) (*8)	-	0.01%
80	Zirconia Aluminosilicate Refractory Ceramic Fibres (Zr-RCF) (*8)	-	0.01%
81	2-Methoxyaniline,o-Anisidine	90-04-0	0.01%
82	4-(1,1,3,3-tetramethylbutyl)phenol	140-66-9	0.01%
83	Calcium arsenate (*2)	7778-44-1	0.01%
84	Trilead diarsenate (*2)	3687-31-8	
85	N,N-dimethylacetamide (DMAC)	127-19-5	0.01%
86	Phenolphthalein	77-09-8	0.01%
87	Lead dipicrate (*2)	6477-64-1	0.01%
88	Lead diazide, Lead azide (*2)	13424-46-9	0.01%
89	Lead styphnate (*2)	15245-44-0	0.01%
90	1,2-bis(2-methoxyethoxy)ethane (TEGDME,triglyme)	112-49-2	0.01%
91	1,2-dimethoxyethane,ethylene glycol dimethyl ether (EGDME)	110-71-4	0.01%
92	Diboron trioxide (*2) (*5)	1303-86-2	0.01%
93	Formamide	75-12-7	0.01%
94	Lead(II) bis(methanesulfonate) (*2)	17570-76-2	0.01%
95	1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC)	2451-62-9	0.01%
96	1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione (β-TGIC)	59653-74-6	0.01%
97	4,4'-bis(dimethylamino)benzophenone (Michler's ketone), MK	90-94-8	0.01%
98	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base), RMK	101-61-1	0.01%
99	[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)] (*2)	2580-56-5	
100	[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)] (*9)	548-62-9	0.01%
101	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)] (*9)	561-41-1	]
102	$\alpha$ , $\alpha$ -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)] (*9)	6786-83-0	



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103	Ris/pontahramanhanyl\ athar (dasahramadinhanyl athar) (DasaDDE\	1163-19-5	0.01%
103	Bis(pentabromophenyl) ether (decabromodiphenyl ether) (DecaBDE)  Pentacosafluorotridecanoic acid	72629-94-8	0.01%
-			
105	Tricosafluorododecanoic acid	307-55-1	0.01%
106	Henicosafluoroundecanoic acid	2058-94-8	0.01%
107	Heptacosafluorotetradecanoic acid	376-06-7	0.01%
108	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide)) (ADCA) (*11)  Cyclohexane-1,2-dicarboxylic anhydride [1],	123-77-3	0.05%
109	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%
110	Hexahydromethylphthalic anhydride (MHHPA) [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%
111	N,N-dimethylformamide	68-12-2	0.01%
112	1,2-Diethoxyethane	629-14-1	0.01%
113	Diethyl sulphate	64-67-5	0.01%
114	Methoxyacetic acid (MAA)	625-45-6	0.01%
115	Dimethyl sulphate	77-78-1	0.01%
116	N-methylacetamide	79-16-3	0.01%
117	Furan	110-00-9	0.01%
118	Methyloxirane (Propylene oxide)	75-56-9	0.01%
119	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	0.01%
120	Dibutyltin dichloride (DBTC) (*15)	683-18-1	0.01%
121	Dinoseb (6-sec-butyl-2,4-dinitrophenol)	88-85-7	0.01%
122	4,4'-methylenedi-o-toluidine	838-88-0	0.01%
123	4,4'-oxydianiline and its salts	101-80-4	0.01%
124	4-Aminoazobenzene	60-09-3	0.01%
125	4-methyl-m-phenylenediamine (toluene-2,4-diamine)	95-80-7	0.01%
126	6-methoxy-m-toluidine (p-cresidine)	120-71-8	0.01%
127	Biphenyl-4-ylamine	92-67-1	0.01%
128	o-aminoazotoluene	97-56-3	0.01%
129	o-Toluidine	95-53-4	0.01%
130	Acetic acid, lead salt, basic (*2)	51404-69-4	0.01%
131	Trilead bis(carbonate) dihydroxide (*2)	1319-46-6	0.01%
132	Lead oxide sulfate (*2)	12036-76-9	0.01%
133	[Phthalato(2-)]dioxotrilead (*2)	69011-06-9	0.01%
134	Dioxobis(stearato)trilead (*2)	12578-12-0	0.01%
135	Fatty acids, C16-18, lead salts (*2)	91031-62-8	0.01%
136	Lead bis(tetrafluoroborate) (*2)	13814-96-5	0.01%
137	Lead cyanamidate (*2)	20837-86-9	0.01%
138	Lead dinitrate (*2)	10099-74-8	0.01%
139	Lead monoxide (lead oxide) (*2)	1317-36-8	0.01%
140	Orange lead (lead tetroxide) (*2)	1314-41-6	0.01%



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141	Lead titanium trioxide (*2)	12060-00-3	0.01%
142	Lead titanium zirconium oxide (*2)	12626-81-2	0.01%
143	Pyrochlore, antimony lead yellow (*2)	8012-00-8	0.01%
144	Pentalead tetraoxide sulphate (*2)	12065-90-6	0.01%
145	Silicic acid (H2Si2O5), 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] (*2)	68784-75-8	0.01%
146	Silicic acid, lead salt (*2)	11120-22-2	0.01%
147	Sulfurous acid, lead salt, dibasic (*2)	62229-08-7	0.01%
148	Tetraethyllead (*2)	78-00-2	0.01%
149	Tetralead trioxide sulphate (*2)	12202-17-4	0.01%
150	Trilead dioxide phosphonate (*2)	12141-20-7	0.01%
151	Ammonium pentadecafluorooctanoate (APFO) (*12)	3825-26-1	0.01%
152	Pentadecafluorooctanoic acid (PFOA)	335-67-1	0.01%
153	Cadmium (*2)	7440-43-9	0.01%
154	Cadmium oxide (*2)	1306-19-0	0.01%
155	4-Nonylphenol, branched and linear, ethoxylated (NPEO) [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]	-	0.01%
156	Imidazolidine-2-thione; (2-imidazoline-2-thiol)	96-45-7	0.01%
157	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%
158	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%
159	Lead di(acetate) (*2)	301-04-2	0.01%
160	Cadmium sulphide (*2)	1306-23-6	0.01%
161	Cadmium chloride (*2)	10108-64-2	0.01%
162	Cadmium fluoride (*2)	7790-79-6	0.01%
163	Cadmium sulphate (*2)	10124-36-4 / 31119-53-6	0.01%
164	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE) (*13)	15571-58-1	0.01%
165	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) (*14)	-	0.01%
166	1,3-propanesultone	1120-71-4	0.01%
167	Nitrobenzene	98-95-3	0.01%
168	Perfluorononan-1-oic-acid and its sodium and ammonium salts	375-95-1 21049-39-8 4149-60-4	0.01%
169	Benzo[def]chrysene (Benzo[a]pyrene)	50-32-8	0.01%
170	4,4'-isopropylidenediphenol (bisphenol A)	80-05-7	0.01%
171	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	335-76-2 3830-45-3 3108-42-7	0.01%
172	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%



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173	p-(1,1-dimethylpropyl)phenol	80-46-6	0.01%
174	Perfluorohexane-1-sulfonic acid and its salts (PFHxS)	-	0.01%
175	Chrysene	218-01-9	0.01%
176	Benzo[a]anthracene	56-55-3	0.01%
177	Cadmium nitrate(*2)	10325-94-7	0.01%
178	Cadmium hydroxide(*2)	21041-95-2	0.01%
179	Cadmium carbonate(*2)	513-78-0	0.01%
180	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"TM) [covering any of its individual anti- and syn-isomers or any combination thereof]	-	0.01%
181	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]	-	0.01%
182	Benzene-1,2,4-tricarboxylic acid 1,2 anhydride (trimellitic anhydride, TMA)	552-30-7	0.01%
183	Dicyclohexyl phthalate (DCHP)	84-61-7	0.01%
184	Terphenyl, hydrogenated	61788-32-7	0.01%
185	Octamethylcyclotetrasiloxane (D4)	556-67-2	0.01%
186	Decamethylcyclopentasiloxane (D5)	541-02-6	0.01%
187	Dodecamethylcyclohexasiloxane (D6)	540-97-6	0.01%
188	Ethylenediamine (EDA)	107-15-3	0.01%
189	Lead	7439-92-1	0.01%
190	Disodium octaborate (*2)(*5)	12008-41-2	0.01%
191	Benzo[ghi]perylene	191-24-2	0.01%
192	2,2-bis(4'-hydroxyphenyl)-4-methylpentane	6807-17-6	0.01%
193	Benzo[k]fluoranthene	207-08-9	0.01%
194	Fluoranthene	206-44-0	0.01%
195	Phenanthrene	85-01-8	0.01%
196	Pyrene	129-00-0	0.01%
197	1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1]heptan- 2-one	15087-24-8	0.01%
198	2-methoxyethyl acetate	110-49-6	0.01%
199	Tris(4-nonylphenyl, branched and linear) phosphite (TNPP) with ≥ 0.1% w/w of 4 -nonylphenol, branched and linear (4-NP)	-	0.01%
200	2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionic acid, its salts and its acyl halides (covering any of their individual isomers and combinations thereof)	-	0.01%
201	4-tert-butylphenol	98-54-4	0.01%
202	Diisohexyl phthalate (DiHexP)	71850-09-4	0.01%
203	2-benzyl-2-dimethylamino-4'-morpholinobutyrophenone	119313-12-1	0.01%
204	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one	71868-10-5	0.01%
205	Perfluorobutane sulfonic acid (PFBS) and its salts	-	0.01%
206	1-vinylimidazole	1072-63-5	0.01%
207	2-methylimidazole	693-98-1	0.01%
208	Butyl 4-hydroxybenzoate	94-26-8	0.01%
209	Dibutylbis(pentane-2,4-dionato-O,O')tin(*15)	22673-19-4	0.01%
210	Bis(2-(2-methoxyethoxy)ethyl)ether	143-24-8	0.01%
211	Dioctyltin 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 (*13)	-	0.01%
212	2-(4-tert-butylbenzyl)propionaldehyde and its individual stereoisomers	-	0.01%



77-40-7

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0.01%

	•		
213	Orthoboric acid, sodium salt (*2) (*5)	13840-56-7	0.01%
214	2,2-bis(bromomethyl)propane1,3-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)	3296-90-0 / 36483-57-5 / 1522-92-5 / 96-13-9	0.01%
215	Glutaral	111-30-8	0.01%
216	Medium-chain chlorinated paraffins (MCCP) [UVCB substances consisting of more than or equal to 80% linear chloroalkanes with carbon chain lengths within the range from C14 to C17]	-	0.01%
217	Phenol, alkylation products (mainly in para position) with C12-rich branched or linear alkyl chains from oligomerisation, covering any individual isomers and/ or combinations thereof (PDDP)	-	0.01%
218	1,4-dioxane	123-91-1	0.01%

#### Remark:

219

- (\*2) The substances are tested and calculated in terms of its respective elements and to the worst-case scenario. The report states the theoretical value of SVHC substances without consideration of the actual occurrence in the article.
- (\*3) The substances are tested and calculated in terms of Cr (VI).

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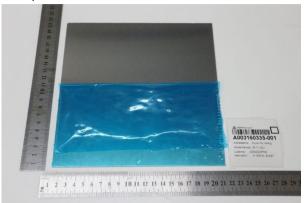
4,4'-(1-methylpropylidene)bisphenol

- (\*4) The substance is tested and calculated in terms of Tributyl tin.
- (\*5) The substances are confirmed and tested in terms of borate and the borate may come from the compounds other than SVHCs.
- (\*6) The substances are UVCB (substance of unknown or variable composition, complex reaction products or biological materials), which are identified by its main constituents.
- (\*7) Individual concentrations to the constituent of UVCB with an amount of < 0.01% were not considered by the calculation of the sum.
- (\*8) The test results are based on microscopic and chemical evaluation.
- (\*9) The substances are quantified in terms of Michler's ketone and Michler's base by LC-MS, as Michler's ketone or Michler's base was found exceeds 0.01%.
- (\*10) The content oligomer is determined by Py-GC/MS.
- (\*11) The content of diazene-1,2-dicarboxamide is analyzed in terms of its breakdown product.
- (\*12) The substance is tested in terms of pentadecafluorooctanoate.
- (\*13) The substance is tested and calculated in terms of Dioctyl tin.
- (\*14) The substance is tested and calculated in terms of Monooctyl tin and Dioctyl tin.
- (\*15) The substance is tested and calculated in terms of Dibutyl tin
- (\*17) For this mixed sample, the result was found to be more than the reporting limit. It's recommended that individual sample should be tested separately.



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## Sample Photo



Lab ID: A003160335-001

- END -

## General Terms and Conditions of Business of TÜV Rheinland Vietnam Co., Ltd (hereinafter "TRV")



#### 1. Scope

- 1.1 The following General Terms and Conditions ("GTC") of TRV apply to the services agreed between TRV and the clients, including the ancillary services and other ancillary obligations provided within the framework of the execution of the contract (hereinafter jointly referred to as "services"). In addition and overriding to these GTC, the Special Terms and Conditions shall apply.
- 1.2 Both consumers and entrepreneurs may be clients within the meaning of these GTC.

A consumer is any natural person or organization who concludes a legal transaction with TRV for purposes which can predominantly not be attributed to his commercial or self-employed professional activity under the laws of Vietnam.

An entrepreneur is a natural or legal person or partnership with legal capacity who, when concluding a legal transaction with TRV, acts in the exercise of its commercial or self-employed professional activity under the laws of Vietnam. Legal entities under the relevant laws of Vietnam on other organizations shall also be considered entrepreneurs within the meaning of these conditions.

- 1.3 Conflicting or deviating terms and conditions of the client do not apply and are hereby excluded. General terms and conditions of the client shall not become part of the contract even if TRV does not expressly object to them or accepts payments of the client without reservation or performs the services without reservation.
- 1.4 In the context of an ongoing business relationship with entrepreneurs, these GTC and the Special Terms and Conditions shall also apply to future contracts with these entrepreneurs without TRV having to refer to them separately in each individual case.
- 1.5 Insofar as these GTC or the Special Terms and Conditions refer to the term "accreditor", this also includes authorization and recognition organizations; the terms "accreditation specifications", "accreditation requirements" and "accreditation procedures" apply accordingly to the specifications and procedures of the authorization or recognition organisations.
- 1.6 Insofar as these GTC or the Special Terms and Conditions refer to a written form requirement, written form within the meaning of the laws of Vietnam is sufficient to observe the written form requirement.
- 1.7 Individual agreements made with the client in individual cases (including collateral agreements, supplements and amendments) shall in any case take precedence over these GTC. Subject to evidence to the contrary, a written contract or written confirmation from TRV is authoritative for the content of such agreements.

### 2. Quotations and conclusion of contract; term of contract

- 2.1 The contract is concluded by signing of the offer letter from TRV or a separate contract document by both contracting parties or by TRV providing the services requested by the client. If the client commissions TRV without a prior offer from TRV, TRV is entitled, at its sole discretion, to accept the order by a written declaration of acceptance or by rendering the services ordered.
- 2.2 Insofar as a certain term of the contract has been agreed upon, this shall be based on what has been agreed in the offer of TRV or in the contract. An agreed term shall be extended by the term provided for in the offer or in the contract if the contract is not terminated in writing by one of the contracting parties three (3) months prior to its expiration date.

## 3. Service Provision and scope of services

- 3.1 Scope and type of services to be provided by TRV are specified in the contractually agreed service description of TRV. If no separate service description of TRV is available, the last offer of TRV is decisive for the services to be provided. The parties can only agree on changes to the service description in writing. Unless otherwise agreed, services beyond the scope of the service description (e.g. checking the correctness and functionality of parts, products, processes, installations, organizations not listed in the service description, as well as the intended use and application of such) are not owed. In particular, no responsibility is assumed for the design, selection of materials, construction or intended use of an examined part, product, process or plant, unless this is expressly stated in the order.
- 3.2 TRV is entitled to determine the method of service provision including examinations or tests carried out at its own discretion if not otherwise agreed in writing or mandatory regulations require a certain procedure.
- 3.3 If mandatory legal regulations and standards or official requirements for the agreed services change after conclusion of the contract, TRV shall be entitled to additional remuneration for resulting additional expenses.
- 3.4 Unless contractually agreed, when testing, TRV does not guarantee the accuracy of the safety programmes or safety regulations on which the tests are based, which have been made available by the client or by third parties.
- 3.5 The services owed under the contract are agreed exclusively with the client. A contact of third parties with the services of TRV, as well as making available of and justifying confidence in the performance

results is not part of the agreed services. This also applies if the client passes on performance results - in full or in extracts - to third parties in accordance with Section 10.4

3.6 The parties shall not include any third parties in the scope of protection of the contract, unless the parties have expressly agreed to such inclusion in writing, naming the third party.

#### 4. Performance periods/dates

- 4.1 The performance periods and dates specified in the contract are non-binding, unless the performance periods and dates are expressly marked as binding in the contract.
- 4.2 If performance is delayed, the client may only withdraw from the contract in accordance with the statutory provisions if TRV is responsible for the delay in performance. Any statutory rights of termination remain unaffected. TRV is not responsible for a delay in performance, in particular if the client has not fulfilled his duties to cooperate in accordance with Section 5.1 or has not done so in time and, in particular, has not provided TRV with all documents and information required for the performance of the service as specified in the contract.
- 4.3 If TRV's performance is delayed due to unforeseeable circumstances or hardship in accordance with the laws of Vietnam, such as strikes, business disruptions, governmental regulations, transport obstacles, etc., TRV is entitled to postpone performance for a reasonable period of time which corresponds at least to the duration of the hindrance plus any time period which may be required to resume performance.
- 4.4 If the client is obliged to comply with legal, officially prescribed and/or by the accreditor prescribed deadlines, it is the client's responsibility to agree on performance dates with TRV, which enable the client to comply with the legal and/or officially prescribed deadlines. TRV assumes no responsibility in this respect.

#### 5. Cooperation obligation of the client

- 5.1 The client shall carry out or provide all necessary cooperation and/or provisions, in particular the cooperation and/or provisions specified in Special Terms and Conditions (if any), and shall provide information which enable TRV to render the contractual services in conformity with the contract. The client is responsible for ensuring that all necessary cooperation actions, provisions and information on his part, his vicarious agents or other third parties assigned to his sphere are provided in good time and free of charge for TRV.
- 5.2 All cooperation, provisions and information mentioned under item 5.1 must comply with the relevant statutory regulations, standards, safety regulations and accident prevention regulations.
- 5.3 The client shall bear any additional costs incurred as a result of services having to be repeated or being delayed due to delayed, incorrect or incomplete information or improper cooperation. Even if a lumpsum or a maximum price has been agreed. TRV is entitled to invoice these additional costs.

#### 6. Prices; accounting of services

6.1 Insofar as TRV and the client have agreed a fixed lump-sum price in the contract, this shall be invoiced. If the scope of services is not completely defined in writing when the contract is concluded, the services provided by TRV are invoiced according to the expenditure of time and the fee agreed in the contract

If the amount of the fee has not been agreed in writing in the contract, invoicing shall be based on the TRV price list valid at the time the service is provided, which will be made available to the client upon request.

Unless otherwise agreed, the applicable value added tax or similar tax has to be added to the agreed upon price.

- 6.2 Partial acceptance is possible. In the event of partial acceptance, the partial remuneration is due after successful acceptance of individual work parts.
- 6.3 TRV is entitled to demand down payments for services already provided in accordance with the contract in the amount of the value of the services provided and owed under the contract.
- 6.4 Part payments from the client for the work carried out by TRV or any required materials or components that are supplied or specially prepared and made available if ownership of the materials and components is transferred to the client or an appropriate security is provided for this at the client's option may not be refused because of minor defects. If the client may demand remedy of a defect, he/she may, after becoming due, refuse to pay a reasonable portion of the remuneration; [twice] the costs necessary to remedy the defect are appropriate as a rule. The services must be documented by a list which must facilitate a rapid, secure evaluation of the work.

### 7. Payment terms/costs/offsetting

- 7.1 All invoice amounts are due for payment immediately without deduction upon receipt of the invoice. Discounts and rebates are not granted.
- 7.2 Payments shall be made to the bank account of TRV stated in the invoice, indicating the invoice number and client number within 30 days of the invoice date. Payments shall be made in Vietnam Dong or in foreign currency, if permitted by Vietnamese law.

- 7.3 In the event of default as to late payment by clients, TRV is entitled to charge default interest at a rate of 20% per year on above default balance calculated on daily basis. TRV reserves the right to claim further damages.
- 7.4 If the client is in default with the payment of the invoice, TRV is entitled to withdraw from the contract with the client after expiry of a reasonable period of grace and a) to withdraw an already issued certificate or test mark, to demand back work results, such as test reports, and to declare declarations of conformity invalid b) to terminate the contract without notice in the event that the contract is a continuing obligation or a contract with an agreed term.
- 7.5 Insofar as the TRV becomes aware of circumstances after conclusion of the contract from which insolvency or other significant deterioration of the client's financial circumstances occurs or threatens to occur and the fulfilment of the contractual obligations is thereby endangered, TRV is entitled to refuse the corresponding services under the contract. The right to refuse performance shall cease to apply if the client effects the contractual obligations or provides security in the amount of the endangered payment claim. If the client does not provide the services owed or adequate security within a reasonable period of time, TRV is entitled to terminate the contract while maintaining its claims for compensation and penalty.
- 7.6 Objections regarding TRV's invoices must be made in writing within 2 weeks of receipt of the invoice. TRV will make special reference to the aforementioned deadline in its invoices.
- 7.7 TRV is entitled to demand an appropriate advance payment, insofar as this is reasonable for the client taking into account the order value and the scope of the service owed by TRV.
- 7.8 Only legally established or undisputed claims may be offset against claims of TRV. This limitation of set-off does not apply if the claims and counterclaims of TRV and the client are based on the same legal relationship. The same applies to the assertion of rights of retention by the client.
- 7.9 TRV shall be entitled to raise its fees at the beginning of a month if overheads and/or purchase costs have increased. In this case, TRV shall notify the client in writing of the rise in fees. This notification shall be issued one month prior to the date on which the rise in fees shall come into effect (period of notice of changes in fees). If the rise in fees remains under 5% per contractual year, the client shall not have any special right of termination. If the rise in fees exceeds 5% per contractual year, the client shall be entitled to terminate the contractual relationship by the end of the period of notice of changes in fees. If the contract is not terminated, the changed fees shall be deemed to have been agreed upon expiry of the above period.
- 7.10 Client shall pay any taxes, including VAT or similar tax, due in relation to the services provided. TRV will only apply the zero VAT rate for exported services if client can substantiate that all conditions are fulfilled and appropriate documentation is provided by the client as required under prevailing tax regulations. In the event that the Vietnamese tax authorities determine that the facts presented by the client are incorrect and assess standard VAT rate, the client agrees to pay the assessed VAT plus applicable penalties and interest to TRV within thirty (30) days of being advised by TRV.

### 8. Acceptance

- 8.1 In the case of agreed contractual services or if acceptance of the work has been contractually agreed, the client is obliged to accept immediately after notification of completion, even in the case of partial performance or completion of self-contained parts. The costs of acceptance shall be borne by the client.
- 8.2 If the client does not meet his acceptance obligation without delay, acceptance shall be deemed to have taken place four (4) calendar weeks after the performance of the service if TRV specifically refers the client to the aforementioned period when the service is performed.
- 8.3 The client is not entitled to refuse acceptance due to insignificant defects.

### 9. Confidentiality

9.1 "Confidential Information" means all information, documents, pictures, drawings, know-how, data, samples and project documents handed over by one party ("Disclosing Party") to the other party ("Receiving Party") or otherwise disclosed from the beginning of the contract. This also includes copies of this information in paper and electronic form. When provided in writing or in any other physical form, Confidential Information must be identified by the words "confidential" or a similar wording indicating the confidential nature of the information.

In the case of confidential information that is passed on orally, appropriate prior information must be provided.

Confidential information is expressly not the data and know-how collected, compiled or otherwise obtained by TRV (non-personal) within the scope of the provision of services by TRV. TRV is entitled to store, use, further develop and pass on the data obtained in connection with the provision of services for the purposes of developing new services, improving services and analyzing the provision of services.

- 9.2 Confidential Information
- a) may only be used by the receiving party to fulfil the purpose of the contract, unless otherwise expressly agreed in writing with the disclosing party,
- b) may not be duplicated, distributed, published or passed on in any other form by the receiving party, with the exception of such Confidential Information necessary to fulfil the purpose of the contract or such

## General Terms and Conditions of Business of TÜV Rheinland Vietnam Co., Ltd (hereinafter "TRV")



Confidential Information which the receiving party must pass on on the basis of judicial instructions or legal or governmental regulations; this concerns in particular the Confidential Information to be passed on to supervisory authorities and/or accreditors of TRV within the framework of an accreditation procedure or, within the framework of the provision of services, to affiliated companies of TRV (enterprises in which a majority ownership interest is held and enterprises which hold a majority of the ownership interest, controlled and controlling enterprises, group member companies, cross-shareholding enterprises, or parties to an inter-company agreement) in accordance with the applicable laws of Vietnam or subcontractors or their respective employees.

- c) must be treated confidential by the receiving party in the same way as it treats its own confidential information, but in no case less carefully than with requisite care and attention.
- 9.3 The Receiving Party shall make the Confidential Information received from the Disclosing Party available only to those persons who need it to provide services under this Agreement. These persons include advisors to the receiving party and its affiliated companies within the meaning prescribed in Section 9.2 of these GTC.
- 9.4 Such information is excluded from the confidentiality obligation,
- a) the information was already generally known at the time of publication or becomes known to the general public without a violation of this agreement, or
- b) which were demonstrably known to the receiving party at the time of conclusion of the contract or are thereafter disclosed in a justified manner by a third party; or
- c) the information was already in the possession of the receiving party prior to transmission by the disclosing party; or
- d) the receiving party has independently developed the information irrespective of the transmission by the disclosing party.
- 9.5 Confidential information remains the property of the respective disclosing party. The Receiving Party hereby agrees to immediately (i) return all Confidential Information, including all copies thereof, to the Disclosing Party at any time upon the request of the Disclosing Party, or to (ii) destroy the Confidential Information, including all copies thereof, upon the request of the Disclosing Party, and to confirm in writing to the Disclosing Party the fact of such destruction.

The above-mentioned obligation to return or destroy does not apply

- a) for the reports and certificates drawn up exclusively for the purpose of fulfilling the contractual obligations under the contract for the client, which remain with the client. However, TRV is entitled to take copies of this and the Confidential Information, which form the basis for the preparation of these reports and certificates, as proof of proper performance of the contract and for general documentation purposes for its files;
- b) for confidential information that is stored on backup servers or in analog backup systems on a generational basis during routine data backups as part of normal archiving processes;
- c) to the extent contrary to laws, regulations, orders of a competent court or an administrative or supervisory authority or an accreditation body.
- 9.6 This confidentiality obligation exists from the beginning of the contract and continues to apply for a period of five years after termination of the contract.

## 10. Copyrights and rights of use, publication

- 10.1 The copyrights of the reports, test reports, test results, expert opinions, results, calculations, representations, etc. prepared within the scope of the order (hereafter "performance results") are owned by TRV. As the owner of the copyrights, he is free to grant others the right to use the performance results for individual or all types of use ("right of use").
- 10.2 The client receives a simple, unlimited, non-transferable, non-sublicensable right of use to the contents of the service results produced within the scope of the order, unless otherwise contractually agreed in individual cases. The right of use is limited to the contractual purpose (e.g. use of test reports, audit reports as proof of audits carried out or in the case of a contractually agreed review of a management system for conformity with certification conditions as proof of the corresponding decision).
- 10.3 The transfer of rights of use of the generated performance results regulated in Section 10.2. of these GTC is subject to full payment of the remuneration agreed in favour of TRV.
- 10.4 The client may only pass on the performance results in full unless TRV has given its prior written consent to the partial passing on of performance results.
- 10.5 Any publication or reproduction of the service results for advertising purposes or any further use of the service results beyond the scope regulated in Section 10.2 requires the prior written consent of TRV in each individual case. It is clarified that the client is responsible for any publication or duplication of the service results for promotion purposes.

- 10.6 TRV may revoke a once given approval according to Section 10.5 at any time without stating reasons. In this case, the client is obliged to stop the transfer of the service results immediately at his own expense and, as far as possible, to withdraw publications.
- 10.7 The consent of TRV to publication does not entitle the client to use the corporate logo of TRV, also registered as a Union trademark (Reg.-No.: 005871116) or the corporate design of TRV as reference advertising.

#### 11. Defects

- 11.1 The legal warranty rights shall apply, unless otherwise regulated in these conditions.
- 11.2 In the event of a defect, the client has a claim to supplementary performance. Supplementary performance shall be effected at the discretion of TRV either by rectification or new delivery. Generally, supplementary performance by TRV is carried out as a gesture of goodwill and without recognition of a legal obligation. Acknowledgement with the consequence of a new start of the statute of limitations shall only exist if TRV has expressly declared this to the client. If the supplementary performance fails, the client is entitled to either withdraw from the contract or to reduce the price. Supplementary performance shall be deemed to have failed after the second unsuccessful attempt, unless the nature of the item or the defect or other circumstances in particular indicate otherwise.
- 11.3 The notification of defects by the client must be in writing.
- 11.4 The client's claims for defects regulated in this Section 11 shall become statute-barred within one (1) year from the beginning of the statutory limitation period; a corresponding period for exclusion of the duty of performance in case where (i) the performance is impossible for TRV or for any other person, or (ii) the performance requires expense and effort is grossly disproportionate to the interest in performance of the obligee, or (iii) the obstacle to the performance of the obligor is weighed against the interest of the obligee in performance, performance cannot be reasonably required of the obligor; or (iv) TRV may refuse to provide the kind of cure chosen by the client, if this cure is possible only at disproportionate expense. shall be applied to rights based on a defect. Notwithstanding the foregoing, the statutory limitation period shall apply a) in respect of all claims and rights of the client in cases of, and in the event of fraudulent concealment of the defect or b) in the event of claims for damages in the event of injury to life, body or health, claims under the the applicable laws of Vietnam as well as grossly negligent or intentional breaches of duty.
- 11.5 Apart from the claims mentioned in Section 11, the client is not entitled to any further claims and rights due to defects, with the exception of claims for damages and reimbursement of expenses. Liability for damages and reimbursement of expenses shall be governed by section 12 of these GTC.

#### 12. Damages and Reimbursement of Expenses

- 12.1 TRV is not liable for damages or reimbursement of expenses on whatever legal grounds in particular due to defects, breach of duties arising from the contractual relationship or tort. This applies in particular, but not exclusively, to claims for damages due to lost sales or profits, financing costs as well as damages as a result of business interruption or loss of production.
- 12.2 This exclusion of liability according to Section 12.1 does not apply in the case of a) intent or gross negligence, b) liability for guaranteed quality characteristics, c) liability on the basis of the applicable laws of Vietnam for the agreement in Vietnam or under the applicable laws of Product Liability Act for the agreement in other area and d) culpable injury to life, body or health. In addition, TRV is also liable in accordance with legal provisions in the event of a breach of essential contractual obligations, i.e. obligations whose fulfilment is essential for the proper execution of the contract and on whose observance the client regularly relies and may rely.
- 12.3 Insofar as TRV is not liable for intent or gross negligence, injury to life, body or health, for guaranteed quality characteristics or under the applicable laws of Vietnam for the agreement in Vietnam or under the applicable laws of Product Liability Act for the agreement in other area, TRV's liability in the event of a breach of essential contractual obligations is limited to the foreseeable damage typical for the contract.
- 12.4 Insofar as liability under this Section 12 is excluded or limited, this shall also apply to the personal liability of the employees, representatives, organs and other employees of TRV and its assistant and vicarious agents.
- 12.5 The limitation period for claims for damages and reimbursement of expenses shall be governed by legal provisions.
- 12.6 No change in the burden of proof to the detriment of the client shall be construed with the above mentioned provisions.
- 12.7 Unless otherwise contractually agreed in writing, TRV shall only be liable under the contract to the client and, if applicable, to a third party explicitly named in writing in the contract. Liability towards other third parties is excluded with the exception of liability in tort.

#### 13. Export control

- 13.1 When passing on the services provided by TRV or parts thereof to third parties in Vietnam or abroad, the client must comply with the respectively applicable regulations of national and international export
- 13.2 The performance of a contract with the client is subject to the proviso that there are no obstacles to performance due to national or international foreign trade legislations or embargos and/or sanctions.

#### 14. Partial invalidity, place of performance, jurisdiction

- 14.1 In the event that one or more provisions of these GTC should be invalid, the remaining provisions of these GTC shall remain unaffected.
- 14.2 The place of performance for all obligations under these GTC or the contract, including supplementary performance, shall be the registered office of the respective TRV company providing the service owed under the contract.
- 14.3 The place of jurisdiction for all disputes arising from and in connection with the contractual relationship is Vietnam, insofar as the client is a merchant, a legal entity under public law or a special fund under public law. However, TRV is entitled to sue the client at his general place of jurisdiction or at another competent court. The above provisions do not apply if the law provides for an exclusive place of jurisdiction. In relation to non-merchants, Vietnam shall be the place of jurisdiction if the client moves his place of residence or usual abode abroad after conclusion of the contract or his place of residence or usual abode is not known to TRV at the time the claims are asserted in the competent court of Vietnam.
- 14.4 The legal and business relations between TRV and the client shall be governed exclusively by Vietnamese substantive law to the exclusion of private international law.

#### 15. Data protection notice

TRV processes personal data of the contractual partner for the purpose of fulfilling this contract. In addition, TRV also processes the data for other legal purposes in accordance with the relevant legal basis (e.g. balancing of interests / consent). The personal data of the contractual partner will only be disclosed to other natural or legal persons if the legal requirements are met. This also applies to transfers to third countries. The personal data will be deleted immediately as soon as a corresponding reason for deletion arises. Legal record retention periods, are taken into account. Data subjects may exercise the following rights: right of information, right of rectification, right of deletion, right of processing limitation, right of objection, right of data transferability. In addition, persons concerned by the data processing have the right to revoke their consent at any time with effect for the future, as well as the right to file a complaint with the competent data protection supervisory authority..

### 16. Liability of TRV

- 16.1 Irrespective of the legal basis and in particular in the event of a breach of contractual obligations and tort, the liability of TRV for any damage, loss and reimbursement of expenses caused shall be limited to:
- (i) in the case of contract with a fixed overall fee, ten times the overall fee for the entire contract;
- (ii) in the case of contracts for annually recurring services, to the agreed annual fee;
- (iii) in the case of contracts expressly charged on a time and material basis, to a maximum of VND 520 million and  $\frac{1}{2}$
- (iv) in the case of framework agreements that provide for the possibility of placing individual orders, to an amount equal to three times the fee for the individual order under which the damage occurred. The maximum liability of TRV is limited in any event of damage or loss to VND 60 billion.
- 16.2 Any liability in relation to the services would be of TRV. The client agrees not to bring any claim, including for negligence, against TRV's members, directors, employees or agents.
- 16.3 TRV shall not be liable for personnel made available by the client to support TRV in the performance of its services regulated under the contract. The client shall indemnify TRV against any claims made by third parties.
- 16.4 The limitation periods for claims for damages shall be two years from the date on which the cause of action accrues.
- 16.5 None of the provisions of this Section 16 changes the burden of proof to the disadvantage of the client.