Test Report -Products



Report No.:	168442177a 001	Page 1 of 48
Client:	HAMEDATA TECHNOLOGY CO.,LIMITED	
Contact Information:	1-3F & 6-8F, BLDG#A, Changfang Industrial Park, No Road, Pingshan District, Shenzhen, 518118 Guangdo	
Test item(s):	296 materials	
Identification/ Model No(s):	Power bank (Power Station) A500Pro, B2200, P2500, P2500H, P2500-D, P2500-K, 10183, B P2500, 10174, HEMERA-PLUS	3PP2500, BC-
Sample obtaining method:	Sending by customer	
Condition at delivery:	Test item complete and undamaged.	
Sample Receiving date:	2023-08-31, 2023-10-09, 2023-11-23	
Testing Period:	2023-09-13 to 2023-11-29	
Place of testing:	Chemical laboratory Shenzhen	
Test Specification:		Test result:
1. Cadmium, Lead, Chromiu	um (VI), Mercury, Polybrominated biphenyls (PBB)	PASS

 Cadmium, Lead, Chromium (VI), Mercury, Polybrominated biphenyls (PBB) and Polybrominated diphenyl ethers (PBDE), ROHS Phthalates (BBP, DBP, DEHP, DIBP)

According to RoHS(recast): Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment, 2011/65/EU Annex II and its amendment Directive (EU) 2015/863

 Risk Assessment of Articles: 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 SVHC concentration(s) > 0.1%

For and on behalf of TÜV Rheinland (Shenzhen) Co., Ltd.

wid buo

2024-07-16

Grid Guo / Engineer

Date

Name/Position

Sample information is provided by customer. Test result is drawn according to the kind and extent of tests performed.

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.

"Decision Rule" document announced in our website (https://www.tuv.com/landingpage/en/qm-gcn/) describes the statement of conformity and its rule of enforcement for test results are applicable throughout this test report.



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Material List:

Item: Power bank (Power Station)

A500Pro,

B2200, P2500, P2500H, P2500-D, P2500-K, 10183, BPP2500, BC-P2500, 10174, HEMERA-PLUS

Material No.	Material	Color	Location
M001	Metal + coating	Silvery/ grey	Refer to photo
M001a	Coating	Grey	Refer to photo
M001b	Metal	Silvery	Refer to photo
M002	Plastic	Black	Refer to photo
M003	Plastic	Transparent	Refer to photo
M004	Plastic	Black	Refer to photo
M005a*	Coating	Dark grey/ white	Refer to photo
M005b*	Plastic	Grey	Refer to photo
M005-1	Plastic	Grey	Refer to photo(Retest of M005)
M006*	Plastic	Black	Refer to photo
M006-1	Plastic	Black	Refer to photo(Retest of M006)
M007*	Plastic	Black	Refer to photo
M007-1	Plastic	Black	Refer to photo(Retest of M007)
M008	Metal	Golden	Refer to photo
M009	Wire (with core)	Red/ silvery	Refer to photo
M009a	Plastic	Red	Refer to photo
M009b	Metal	Silvery	Refer to photo
M010	Wire (with core)	Black/ silvery	Refer to photo
M010a	Plastic	Black	Refer to photo
M011	Plastic	White	Refer to photo
M012	Plastic	Black	Refer to photo
M013	Solder	Silvery	Refer to photo
M014	PCB board	Green	Refer to photo
M015	Electronic components	Yellow	Refer to photo
M016	Solder	Silvery	Refer to photo
M017	Plastic	Black	Refer to photo
M018	Metal	Silvery	Refer to photo



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M019	Wire (with core)	Black/ silvery	Refer to photo
M019a	Plastic	Black	Refer to photo
M020	Wire (with core)	Red/ white/ silvery	Refer to photo
M020a	Plastic + printing	Red/ white	Refer to photo
M021	Plastic	Black	Refer to photo
M022	Plastic	Black	Refer to photo
M023	Metal	Golden	Refer to photo
M024	Metal	Golden	Refer to photo
M025	Glue	Black	Refer to photo
M026	Solder	Silvery	Refer to photo
M027	Plastic + printing	Black/ white	Refer to photo
M028	Plastic + printing	Red/ black	Refer to photo
M029	Metal	Silvery	Refer to photo
M030	Oil	White	Refer to photo
M031	Metal	Silvery	Refer to photo
M032	Plastic	White	Refer to photo
M033	Plastic	White	Refer to photo
M034	PCB board	Green	Refer to photo
M035	Electronic components	Black	Refer to photo
M036	Electronic components	Black	Refer to photo
M037	Electronic components	Black	Refer to photo
M038	Plastic	White	Refer to photo
M039	Plastic	Grey	Refer to photo
M040	Electronic components	Black	Refer to photo
M041	Electronic components	Black	Refer to photo
M042	Electronic components	Black	Refer to photo
M043	Electronic components	Black	Refer to photo
M044	Metal	Silvery	Refer to photo
M045	Electronic components	Black	Refer to photo
M046	Electronic components	Black	Refer to photo
M047	Electronic components	Brown	Refer to photo
M048	Electronic components	Black	Refer to photo



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M049	Electronic components	Black	Refer to photo
M050	Electronic components	Silvery	Refer to photo
M051	Metal + plating	Silvery/ black	Refer to photo
M052	Plastic	Black	Refer to photo
M053	Electronic components	Black	Refer to photo
M054	Electronic components	Black	Refer to photo
M055	Electronic components	Grey	Refer to photo
M056	Electronic components	Black	Refer to photo
M057	Metal + plating	Silvery/ black	Refer to photo
M058	Metal	Silvery	Refer to photo
M059	Metal + plating	Silvery/ black	Refer to photo
M060	Metal + plating	Silvery/ black	Refer to photo
M061	Metal	Silvery	Refer to photo
M062	Metal + plating	Silvery/ black	Refer to photo
M063	Metal + coating	Silvery/ black	Refer to photo
M063a	Coating	Black	Refer to photo
M063b	Metal	Silvery	Refer to photo
M064	Plastic	White	Refer to photo
M065	Foam + adhesive	Black	Refer to photo
M066	Plastic + adhesive	Black	Refer to photo
M067	Plastic	Black	Refer to photo
M068	Wire (with core)	Black/ silvery	Refer to photo
M068a	Plastic	Black	Refer to photo
M069	Wire (with core)	Red/ silvery	Refer to photo
M069a	Plastic	Red	Refer to photo
M070	Wire (with core)	Black/ silvery	Refer to photo
M070a	Plastic	Black	Refer to photo
M071	Metal	Silvery	Refer to photo
M072	Plastic + printing	White/ black	Refer to photo
M073	Glue	Grey	Refer to photo
M074	Glue	Black	Refer to photo
M075	Plastic + adhesive	Black	Refer to photo



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M076	Battery	Multicolor	Refer to photo
M077	Metal	Silvery	Refer to photo
M078	Plastic	Grey	Refer to photo
M079	Metal	Silvery	Refer to photo
M080	Plastic	Dark grey	Refer to photo
M081	Plastic	Black	Refer to photo
M082	Plastic	Transparent	Refer to photo
M083	Adhesive	Black	Refer to photo
M084	Plastic	Grey	Refer to photo
M085	Plastic	White	Refer to photo
M086	Plastic	yellow	Refer to photo
M087	Metal	Golden	Refer to photo
M088	Plastic	Black	Refer to photo
M089	Plastic	Black	Refer to photo
V090	Metal	Silvery	Refer to photo
M091	Plastic	Black	Refer to photo
M092	Plastic	Black	Refer to photo
M093	Plastic	Black	Refer to photo
M094	Plastic	Black	Refer to photo
M095	Metal	Copper	Refer to photo
M096	Metal	Copper	Refer to photo
M097	Metal	Golden	Refer to photo
V098	Metal	Silvery	Refer to photo
V099	Solder	Silvery	Refer to photo
M100	Plastic	Black	Refer to photo
M101	Plastic	Red	Refer to photo
V102	Plastic	Black	Refer to photo
V103	Metal	Silvery	Refer to photo
W104	Metal	Silvery	Refer to photo
W105	PCB board	Blue	Refer to photo
M106	Metal	Silvery	Refer to photo
M107	Solder	Silvery	Refer to photo



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M108	Plastic	Brown	Refer to photo
M109	Plastic	Red	Refer to photo
M110	Metal	Golden	Refer to photo
M111	Plastic	Grey	Refer to photo
M112	Metal	Silvery	Refer to photo
M113	Plastic	Black	Refer to photo
M114	Metal	Silvery	Refer to photo
M115	Metal	Golden	Refer to photo
M116	Metal	Silvery	Refer to photo
M117	Plastic + adhesive	Black	Refer to photo
M118	Wire (with core)	Black/ silvery	Refer to photo
M118a	Plastic	Black	Refer to photo
M119	Wire (with core)	White/ silvery	Refer to photo
M119a	Plastic	White	Refer to photo
M120	Plastic	Black	Refer to photo
M121	Plastic	Translucent blue	Refer to photo
M122	Plastic	Translucent	Refer to photo
M123	Metal	Silvery	Refer to photo
M124	Magnet	Grey	Refer to photo
M125	Plastic	Black	Refer to photo
M126	Plastic	Black	Refer to photo
M127	Plastic + adhesive	Black/ white	Refer to photo
M128	Plastic	Black	Refer to photo
M129	Magnet	Grey	Refer to photo
M130	Metal	Silvery	Refer to photo
M131	Metal	Silvery	Refer to photo
M132	Metal	Copper	Refer to photo
M133	Plastic	Black	Refer to photo
M134	Metal	Silvery	Refer to photo
M135	Plastic	Brown	Refer to photo
M136	Plastic	Black	Refer to photo
M137	Plastic	Red	Refer to photo



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M138	Plastic	Blue	Refer to photo
M139	Electronic components	Yellow	Refer to photo
M140	Electronic components	Grey	Refer to photo
M141	Electronic components	Black	Refer to photo
M142	Electronic components	Brown	Refer to photo
M143	Component(s)	White/ blue/ copper	Refer to photo
M144	Electronic components	Black/ white	Refer to photo
M145	PCB board	Green	Refer to photo
M146	Plastic	Grey	Refer to photo
M147	Plastic	White	Refer to photo
M148	Metal	Silvery	Refer to photo
M149	Textile + adhesive	Beige	Refer to photo
M150	Glass	Transparent	Refer to photo
M151	Plastic + adhesive	Transparent grey	Refer to photo
M152	Plastic + adhesive	Transparent grey	Refer to photo
M153	Plastic	White	Refer to photo
M154	Plastic	Transparent	Refer to photo
M155	Plastic	White	Refer to photo
M156	Plastic	Transparent	Refer to photo
M157	Adhesive	Black	Refer to photo
M158	PCB board	White	Refer to photo
M159	Plastic	White	Refer to photo
M160	Electronic components	Black	Refer to photo
M161	Electronic components	Black	Refer to photo
M162	PCB board	Green/ transparent brown/ silvery	Refer to photo
M163	PCB board	Green	Refer to photo
M164	Glue	White	Refer to photo
M165	Electronic components	Black	Refer to photo
M166	Electronic components	Black	Refer to photo
M167	Electronic components	Black	Refer to photo
M168	Electronic components	Yellow	Refer to photo
M169	Metal	Copper	Refer to photo



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M170	Magnet	Black	Refer to photo
M171	Metal	Silvery	Refer to photo
M172	Electronic components	Black	Refer to photo
M173	Electronic components	Black	Refer to photo
M174	Electronic components	Black	Refer to photo
M175	Electronic components	Silvery	Refer to photo
M176	Electronic components	Black/ silvery	Refer to photo
M177	Electronic components	Black	Refer to photo
M178	Electronic components	Brown	Refer to photo
M179	Metal + plating	Silvery/ blue	Refer to photo
M180	Metal + plating	Silvery/ red	Refer to photo
M181	Electronic components	Black	Refer to photo
M182	Electronic components	Black	Refer to photo
M183	Metal	Golden	Refer to photo
M184	Plastic	Yellow	Refer to photo
M185	Plastic + printing + adhesive	White/ black	Refer to photo
M186	Metal	Silvery	Refer to photo
M187	PCB board	White	Refer to photo
M188	Electronic components	Black	Refer to photo
M189	Metal	Silvery	Refer to photo
M190	Plastic	Black	Refer to photo
M191	Metal	Silvery	Refer to photo
M192	Metal	Silvery	Refer to photo
M193	Plastic	Black	Refer to photo
M194	Metal	Silvery	Refer to photo
M195	Solder	Silvery	Refer to photo
M196	Metal	Silvery	Refer to photo
M197	Plastic	Yellow	Refer to photo
M198	Plastic + printing	Black/ white	Refer to photo
M199	Metal	Silvery	Refer to photo
M200	Plastic	Black	Refer to photo
M201	Plastic	Black	Refer to photo



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M202	Glue	Black	Refer to photo
M203	Plastic	Black	Refer to photo
M204	Metal	Copper	Refer to photo
M205	Metal	Red	Refer to photo
M206	Magnet	Black	Refer to photo
M207	Magnet	Green	Refer to photo
M208	Plastic	Black	Refer to photo
M209	Plastic + adhesive	Transparent yellow	Refer to photo
M210	Plastic	White	Refer to photo
M211	Metal	Copper	Refer to photo
M212	Magnet	Grey	Refer to photo
M213	Plastic	Translucent	Refer to photo
M214	Plastic	Black	Refer to photo
M215	Plastic	Black	Refer to photo
M216	Plastic	Translucent	Refer to photo
M217	Plastic	Black	Refer to photo
M218	Metal	Silvery	Refer to photo
M219	Ceramic	White	Refer to photo
M220	Plastic	Grey	Refer to photo
M221	Electronic components	Black	Refer to photo
M222	Electronic components	Grey/ multicolor	Refer to photo
M223	Electronic components	Black	Refer to photo
M224	Electronic components	Black/ white	Refer to photo
M225	Plastic	Yellow	Refer to photo
M226	Electronic components	Black	Refer to photo
M227	Plastic	Grey	Refer to photo
M228	Electronic components	Yellow	Refer to photo
M229	Plastic	grey	Refer to photo
M230	Plastic	Black	Refer to photo
M231	Electronic components	Black	Refer to photo
M232	Glue	Grey	Refer to photo
M233	Metal	Silvery	Refer to photo



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M234	Electronic components	Black/ white	Refer to photo
M235	Electronic components	Black	Refer to photo
M236	PCB board	Green	Refer to photo
M237	Solder	Silvery	Refer to photo
M238	Metal	Silvery	Refer to photo
M239	Electronic components	Black	Refer to photo
M240	Metal	Copper	Refer to photo
M241	Plastic	Black	Refer to photo
M242	Plastic	Red	Refer to photo
M243	Metal	Silvery	Refer to photo
M244	Glue	Black	Refer to photo
M245	Wire (with core)	White/ silvery	Refer to photo
M245a	Plastic	White	Refer to photo
M246	Wire (with core)	Black/ silvery	Refer to photo
M246a	Plastic	Black	Refer to photo
M247	Wire (with core)	Red/ silvery	Refer to photo
M247a	Plastic	Red	Refer to photo
M248	Wire (with core)	Black/ silvery	Refer to photo
M248a	Plastic	Black	Refer to photo
M249	Plastic	Black	Refer to photo
M250	Plastic	Black	Refer to photo
M251	Wire (with core)	Red/ silvery	Refer to photo
M251a	Plastic	Red	Refer to photo
M252	Wire (with core)	Black/ silvery	Refer to photo
M252a	Plastic	Black	Refer to photo
M253	Electronic components	Black	Refer to photo
M254	PCB board	Green	Refer to photo
M255	Electronic components	Black	Refer to photo
M256	Electronic components	Black	Refer to photo
M257	Metal	Silvery	Refer to photo
M258a	Coating	Grey	Refer to photo
M258b	Metal	Silvery	Refer to photo



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M259	Plastic	Black	Refer to photo
M260	Plastic + printing	White/ black	Refer to photo
M261	Battery	Multicolor	Refer to photo
M262	Plastic	Black	Refer to photo
M263	Plastic	Black	Refer to photo
M264	Metal	Golden	Refer to photo
M265	Metal	Silvery	Refer to photo
M266	Metal	Silvery	Refer to photo
M267	Metal	Silvery	Refer to photo
M268	Plastic	Black	Refer to photo
M269	Plastic	Black	Refer to photo
M270	Metal	Golden	Refer to photo
M271	Metal	Golden	Refer to photo
M272	Metal	Silvery	Refer to photo
M273	Metal	Silvery	Refer to photo
M258	Metal + coating	Silvery/ grey	Refer to photo

Remark: The materials marked (*) need not be shown in this report. However, the samples are composite sample containing the above marked materials, so they are still listed here."



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1.Screening Test by XRF spectroscopy

Test Method: Cadmium, Lead, Mercury, Chromium, Bromine -- With reference to IEC 62321-3-1:2013

Test Result:

Material No.	Cd	Cr	Pb	Hg	Br
M001a	BL	BL	BL	BL	BL
M001b	BL	BL	BL	BL	n.a.
M002	BL	BL	BL	BL	BL
M003	BL	BL	BL	BL	BL
M004	BL	BL	BL	BL	BL
M005-1	BL	BL	BL	BL	BL
M005b*	BL	BL	BL	BL	BL
M006-1	BL	BL	BL	BL	BL
M007-1	BL	BL	BL	BL	BL
M008	BL	BL	d.(*1)	BL	n.a.
M009a	BL	BL	BL	BL	BL
M009b	BL	BL	BL	BL	n.a.
M010a	BL	BL	BL	BL	BL
M011	BL	BL	BL	BL	BL
M012	BL	BL	BL	BL	BL
M013	BL	BL	BL	BL	n.a.
M014	BL	BL	BL	BL	d.(*1)
M015	BL	BL	BL	BL	BL
M016	BL	BL	BL	BL	n.a.
M017	BL	BL	BL	BL	BL
M018	BL	BL	BL	BL	n.a.
M019a	BL	BL	BL	BL	BL
M020a	BL	BL	BL	BL	BL
M021	BL	BL	BL	BL	BL
M022	BL	BL	BL	BL	BL
M023	BL	BL	BL	BL	n.a.
M024	BL	BL	d.(*1)	BL	n.a.
M025	BL	BL	BL	BL	BL
M026	BL	BL	BL	BL	n.a.
M027	BL	BL	BL	BL	BL
M028	BL	BL	BL	BL	BL
M029	BL	BL	BL	BL	n.a.
M030	BL	BL	BL	BL	BL
M031	BL	BL	BL	BL	n.a.
M032	BL	BL	BL	BL	BL
M033	BL	BL	BL	BL	BL
M034	BL	BL	BL	BL	d.(*1)



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M035	BL	BL	BL	BL	BL
M036	BL	BL	BL	BL	BL
M037	BL	BL	d.(*1)	BL	BL
M038	BL	BL	BL	BL	BL
M039	BL	BL	BL	BL	BL
M040	BL	BL	BL	BL	BL
M041	BL	BL	BL	BL	BL
M042	BL	BL	BL	BL	BL
M043	BL	BL	BL	BL	BL
M044	BL	BL	BL	BL	n.a.
M045	BL	BL	BL	BL	BL
M046	BL	BL	d.(*1)	BL	BL
M047	BL	BL	BL	BL	BL
M048	BL	BL	d.(*1)	BL	BL
M049	BL	BL	d.(*1)	BL	BL
M050	BL	BL	BL	BL	n.a.
M051	BL	BL	BL	BL	n.a.
M052	BL	BL	BL	BL	BL
M053	BL	BL	BL	BL	BL
M054	BL	BL	BL	BL	BL
M055	BL	BL	BL	BL	n.a.
M056	BL	BL	BL	BL	BL
M057	BL	d.(*1)	BL	BL	n.a.
M058	BL	d.(*1)	BL	BL	n.a.
M059	BL	d.(*1)	BL	BL	n.a.
M060	BL	d.(*1)	BL	BL	n.a.
M061	BL	BL	BL	BL	n.a.
M062	BL	d.(*1)	BL	BL	n.a.
M063a	BL	BL	BL	BL	BL
M063b	BL	BL	BL	BL	n.a.
M064	BL	BL	BL	BL	BL
M065	BL	BL	BL	BL	d.(*1)
M066	BL	BL	BL	BL	BL
M067	BL	BL	BL	BL	BL
M068a	BL	BL	BL	BL	BL
M069a	BL	BL	BL	BL	BL
M070a	BL	BL	BL	BL	BL
M071	BL	BL	BL	BL	n.a.
M072	BL	BL	BL	BL	BL
M073	BL	BL	BL	BL	BL
M074	BL	BL	BL	BL	BL
M075	BL	BL	BL	BL	BL
M077	BL	BL	d.(*1)	BL	n.a.



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M078 BL B						
M080 BL B	M078	BL	BL	BL	BL	BL
M081 BL B	M079	BL	BL	BL	BL	n.a.
M082 BL C(*1) BL BL C(*1) BL AC C(*1) MO86 BL	M080	BL	BL	BL	BL	BL
M083 BL BL BL BL BL BL BL M084 BL BL BL BL BL BL BL BL M085 BL BL BL BL BL BL BL BL A(*1) M086 BL BL BL BL BL BL BL BL M087 BL	M081	BL	BL	BL	BL	BL
M084 BL BL BL BL BL BL BL M085 BL BL BL BL BL BL BL BL M086 BL BL <td< td=""><td>M082</td><td>BL</td><td>BL</td><td>BL</td><td>BL</td><td>BL</td></td<>	M082	BL	BL	BL	BL	BL
M085 BL BL BL BL BL BL BL AL M086 BL BL BL BL BL BL AL(*1) M087 BL C(*1) M093 BL BL BL BL BL BL BL BL A(*1) MD n.a. AL(*1) M095 BL BL BL BL BL BL BL BL BL BL <td< td=""><td>M083</td><td>BL</td><td>BL</td><td>BL</td><td>BL</td><td>BL</td></td<>	M083	BL	BL	BL	BL	BL
M086 BL BL BL d.(*1) BL n.a. M087 BL	M084	BL	BL	BL	BL	BL
M087 BL BL d.(*1) BL n.a. M088 BL	M085	BL	BL	BL	BL	BL
M088 BL B	M086	BL	BL	BL	BL	d.(*1)
M089 BL B	M087	BL	BL	d.(*1)	BL	n.a.
M090 BL B	M088	BL	BL	BL	BL	BL
M091 BL BL BL BL BL BL BL BL C(*1) M093 BL BL BL BL BL BL BL BL C(*1) M094 BL BL BL BL BL BL BL BL BL M095 BL BL BL BL BL BL BL R. M096 BL d.(*1) BL BL R. R. R. M097 BL BL BL BL BL R. R. M098 BL BL BL BL R. R. R. M098 BL BL BL BL BL R. R. M100 BL BL BL BL BL BL BL M101 BL	M089	BL	BL	BL	BL	BL
M092 BL BL BL BL BL BL BL BL d.(*1) M093 BL	M090	BL	BL	BL	BL	n.a.
M093 BL B	M091	BL	BL	BL	BL	BL
M094 BL BL BL BL BL BL BL AL M095 BL BL BL BL BL BL n.a. M096 BL d.(*1) BL BL BL n.a. M097 BL BL BL BL BL n.a. M098 BL BL BL BL BL n.a. M099 BL BL BL BL BL n.a. M100 BL BL BL BL BL BL BL M101 BL BL BL BL BL BL BL M102 BL BL BL BL BL BL BL M103 BL BL BL BL BL In.a. M104 BL BL BL BL BL In.a. M105 BL BL BL BL BL	M092	BL	BL	BL	BL	d.(*1)
M095 BL BL BL BL BL n.a. M096 BL d.(*1) BL BL BL n.a. M097 BL BL BL BL BL n.a. M098 BL BL BL BL BL n.a. M099 BL BL BL BL BL n.a. M100 BL BL BL BL BL BL BL M101 BL BL BL BL BL BL BL M102 BL BL BL BL BL BL BL M103 BL BL BL BL BL BL N.a. M104 BL BL BL BL BL BL BL M105 BL BL BL BL BL BL BL M106 BL BL BL BL BL	M093	BL	BL	BL	BL	d.(*1)
M096 BL d.(*1) BL BL BL n.a. M097 BL BL BL BL BL BL n.a. M098 BL BL BL BL BL BL n.a. M099 BL BL BL BL BL BL BL n.a. M100 BL BL BL BL BL BL BL BL M101 BL BL BL BL BL BL BL BL M102 BL BL BL BL BL BL BL M103 BL BL BL BL BL N.a. M104 BL BL BL BL BL BL BL M105 BL BL BL BL BL BL N.a. M106 BL BL BL BL BL BL BL BL	M094	BL	BL	BL	BL	BL
M097 BL B	M095	BL	BL	BL	BL	n.a.
M098 BL B	M096	BL	d.(*1)	BL	BL	n.a.
M099 BL B	M097	BL	BL	BL	BL	n.a.
M100 BL BL BL BL BL BL BL BL M101 BL BL BL BL BL BL BL BL M102 BL BL BL BL BL BL BL BL BL M103 BL BL BL BL BL BL Image: Stress and Stress a	M098	BL	BL	BL	BL	n.a.
M101 BL B	M099	BL	BL	BL	BL	n.a.
M102 BL BL BL BL BL BL BL BL BL n.a. M103 BL BL BL BL BL BL n.a. M104 BL BL BL BL BL BL n.a. M105 BL BL BL BL BL BL BL M106 BL BL BL BL BL n.a. M106 BL BL BL BL BL n.a. M107 BL BL BL BL BL n.a. M108 BL BL BL BL BL BL M108 BL BL BL BL BL BL BL M109 BL BL BL BL BL BL BL M110 BL BL BL BL BL BL BL M111 BL <t< td=""><td>M100</td><td>BL</td><td>BL</td><td>BL</td><td>BL</td><td>BL</td></t<>	M100	BL	BL	BL	BL	BL
M103BLBLBLd.(*1)BLn.a.M104BLBLBLBLBLBLn.a.M105BLBLBLBLBLBLBLM106BLBLBLBLBLBLn.a.M107BLBLBLBLBLBLn.a.M108BLBLBLBLBLBLBLM109BLBLBLBLBLBLBLM110BLBLBLBLBLBLBLM111BLBLBLBLBLBLBLM113BLBLBLBLBLBLBLM113BLBLBLBLBLBLn.a.M115BLBLBLBLBLBLn.a.M116BLBLBLBLBLBLBLM117BLBLBLBLBLBLBLM119aBLBLBLBLBLBLBL	M101	BL	BL	BL	BL	BL
M104BLBLBLBLBLBLM105BLBLBLBLBLBLBLM106BLBLBLBLBLBLn.a.M107BLBLBLBLBLBLBLM108BLBLBLBLBLBLM109BLBLBLBLBLBLM110BLBLBLBLBLBLM111BLBLBLBLBLBLM112BLBLBLBLBLBLM113BLBLBLBLBLBLM114BLBLBLBLBLn.a.M115BLBLBLBLBLAM116BLBLBLBLBLBLM117BLBLBLBLBLBLM119aBLBLBLBLBLBLM119aBLBLBLBLBLBL	M102	BL	BL	BL	BL	BL
M105BLBLBLBLBLBLM106BLBLBLBLBLBLn.a.M107BLBLBLBLBLBLn.a.M108BLBLBLBLBLBLBLM109BLBLBLBLBLBLM110BLBLBLBLBLBLM111BLBLBLBLBLBLM112BLBLBLBLBLBLM113BLBLBLBLBLBLM114BLBLBLBLBLn.a.M115BLBLBLBLBLn.a.M116BLBLBLBLBLBLM117BLBLBLBLBLBLM119aBLBLBLBLBLBLM119aBLBLBLBLBLBL	M103	BL	BL	d.(*1)	BL	n.a.
M106BLBLBLBLBLIn.a.M107BLBLBLBLBLBLn.a.M108BLBLBLBLBLBLBLM109BLBLBLBLBLBLBLM110BLBLBLBLBLBLBLM110BLBLBLBLBLBLBLM111BLBLBLBLBLBLBLM112BLBLBLBLBLBLBLM113BLBLBLBLBLBLBLM114BLBLBLBLBLn.a.M115BLBLBLBLBLn.a.M116BLBLBLBLBLBLM117BLBLBLBLBLBLM119aBLBLBLBLBLBLM119aBLBLBLBLBLBL	M104	BL	BL	BL	BL	n.a.
M107BLBLBLBLBLBLBLM108BLBLBLBLBLBLBLM109BLBLBLBLBLBLBLM110BLBLBLC.(*1)BLn.a.M111BLBLBLBLBLBLM112BLBLBLBLBLBLM113BLBLBLBLBLBLM114BLBLBLBLAM115BLBLBLBLBLn.a.M116BLBLBLBLBLBLM117BLBLBLBLBLBLM118aBLBLBLBLBLBLM119aBLBLBLBLBLBL	M105	BL	BL	BL	BL	BL
M108BLBLBLBLBLBLM109BLBLBLBLBLBLBLM110BLBLBLd.(*1)BLn.a.M111BLBLBLBLBLBLM112BLBLBLBLBLBLM113BLBLBLBLBLBLM114BLBLBLBLBLn.a.M115BLBLBLBLn.a.M116BLBLBLBLBLBLM117BLBLBLBLBLBLM118aBLBLBLBLBLBLM119aBLBLBLBLBLBL	M106	BL	BL	BL	BL	n.a.
M109BLBLBLBLBLBLM110BLBLBLd.(*1)BLn.a.M111BLBLBLBLBLBLM112BLBLBLBLBLn.a.M113BLBLBLBLBLBLM113BLBLBLBLBLBLM113BLBLBLBLBLBLM114BLBLBLBLn.a.M115BLBLBLBLBLn.a.M116BLBLBLBLBLBLM117BLBLBLBLBLBLM118aBLBLBLBLBLBLM119aBLBLBLBLBLBL	M107	BL	BL	BL	BL	n.a.
M110BLBLd.(*1)BLn.a.M111BLBLBLBLBLBLBLM112BLBLBLBLBLBLn.a.M113BLBLBLBLBLBLBLM114BLBLBLBLBLn.a.M115BLBLBLA.(*1)BLn.a.M116BLBLBLBLBLBLM117BLBLBLBLBLBLM118aBLBLBLBLBLBLM119aBLBLBLBLBLBL	M108	BL	BL	BL	BL	BL
M111BLBLBLBLBLBLM112BLBLBLBLBLBLn.a.M113BLBLBLBLBLBLBLM114BLBLBLBLBLn.a.M115BLBLBLA.(*1)BLn.a.M116BLBLBLBLBLBLM117BLBLBLBLBLBLM118aBLBLBLBLBLBLM119aBLBLBLBLBLBL	M109	BL	BL	BL	BL	BL
M112BLBLBLBLn.a.M113BLBLBLBLBLBLM114BLBLBLBLBLn.a.M115BLBLBLd.(*1)BLn.a.M116BLBLBLBLBLn.a.M117BLBLBLBLBLBLM118aBLBLBLBLBLBLM119aBLBLBLBLBLBL	M110	BL	BL	d.(*1)	BL	n.a.
M113BLBLBLBLBLM114BLBLBLBLBLn.a.M115BLBLBLd.(*1)BLn.a.M116BLBLBLBLBLn.a.M117BLBLBLBLBLBLM118aBLBLBLBLBLBLM119aBLBLBLBLBLBL	M111	BL	BL	BL	BL	BL
M114BLBLBLBLn.a.M115BLBLBLd.(*1)BLn.a.M116BLBLBLBLBLn.a.M117BLBLBLBLBLBLM118aBLBLBLBLBLBLM119aBLBLBLBLBLBL	M112	BL	BL	BL	BL	n.a.
M115BLBLd.(*1)BLn.a.M116BLBLBLBLBLn.a.M117BLBLBLBLBLBLM118aBLBLBLBLBLBLM119aBLBLBLBLBLBL	M113	BL	BL	BL	BL	BL
M116BLBLBLBLn.a.M117BLBLBLBLBLBLM118aBLBLBLBLBLBLM119aBLBLBLBLBLBL	M114	BL	BL	BL	BL	n.a.
M117BLBLBLBLM118aBLBLBLBLBLM119aBLBLBLBLBL	M115	BL	BL	d.(*1)	BL	n.a.
M118aBLBLBLBLM119aBLBLBLBLBL	M116	BL	BL	BL	BL	n.a.
M119a BL BL BL BL BL	M117	BL	BL	BL	BL	BL
	M118a	BL	BL	BL	BL	BL
M120 BL BL BL BL BL	M119a	BL	BL	BL	BL	BL
	M120	BL	BL	BL	BL	BL



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M121	BL	BL	BL	BL	BL
M122	BL	BL	BL	BL	BL
M123	BL	BL	BL	BL	n.a.
M124	BL	BL	BL	BL	n.a.
M125	BL	BL	BL	BL	BL
M126	BL	BL	BL	BL	d.(*1)
M127	BL	BL	BL	BL	BL
M128	BL	BL	BL	BL	d.(*1)
M129	BL	BL	BL	BL	n.a.
M130	BL	d.(*1)	BL	BL	n.a.
M131	BL	d.(*1)	BL	BL	n.a.
M132	BL	BL	BL	BL	n.a.
M133	BL	BL	BL	BL	d.(*1)
M134	BL	d.(*1)	BL	BL	n.a.
M135	BL	BL	BL	BL	d.(*1)
M136	BL	BL	BL	BL	d.(*1)
M137	BL	BL	BL	BL	BL
M138	BL	BL	BL	BL	BL
M139	BL	BL	BL	BL	BL
M140	BL	BL	BL	BL	n.a.
M141	BL	BL	BL	BL	BL
M142	BL	BL	BL	BL	BL
M143	BL	BL	BL	BL	d.(*1)
M144	BL	BL	BL	BL	BL
M145	BL	BL	BL	BL	BL
M146	BL	BL	BL	BL	BL
M147	BL	BL	BL	BL	BL
M148	BL	BL	BL	BL	n.a.
M149	BL	BL	BL	BL	BL
M150	BL	BL	BL	BL	n.a.
M151	BL	BL	BL	BL	BL
M152	BL	BL	BL	BL	BL
M153	BL	BL	BL	BL	BL
M154	BL	BL	BL	BL	BL
M155	BL	BL	BL	BL	BL
M156	BL	BL	BL	BL	BL
M157	BL	BL	BL	BL	BL
M158	BL	BL	BL	BL	d.(*1)
M159	BL	BL	BL	BL	BL
M160	BL	BL	BL	BL	BL
M161	BL	BL	BL	BL	BL
M162	BL	BL	BL	BL	BL
M163	BL	BL	BL	BL	BL



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M164	BL	BL	BL	BL	BL
M165	BL	BL	BL	BL	BL
M166	BL	BL	BL	BL	BL
M167	BL	BL	BL	BL	BL
M168	BL	BL	BL	BL	BL
M169	BL	BL	BL	BL	n.a.
M170	BL	BL	BL	BL	n.a.
M171	BL	BL	BL	BL	n.a.
M172	d.(*1)	BL	d.(*1)	BL	BL
M173	BL	BL	BL	BL	BL
M174	BL	BL	BL	BL	BL
M175	BL	BL	BL	BL	n.a.
M176	BL	BL	BL	BL	BL
M177	BL	BL	d.(*1)	BL	BL
M178	BL	BL	BL	BL	BL
M179	BL	BL	BL	BL	n.a.
M180	BL	BL	BL	BL	n.a.
M181	BL	BL	BL	BL	BL
M182	BL	BL	d.(*1)	BL	BL
M183	BL	BL	d.(*1)	BL	n.a.
M184	BL	BL	BL	BL	d.(*1)
M185	BL	BL	BL	BL	BL
M186	BL	BL	BL	BL	n.a.
M187	BL	BL	BL	BL	d.(*1)
M188	BL	BL	BL	BL	d.(*1)
M189	BL	d.(*1)	BL	BL	n.a.
M190	BL	BL	BL	BL	BL
M191	BL	BL	BL	BL	n.a.
M192	BL	d.(*1)	BL	BL	n.a.
M193	BL	BL	BL	BL	BL
M194	BL	BL	BL	BL	n.a.
M195	BL	BL	BL	BL	n.a.
M196	BL	BL	BL	BL	n.a.
M197	BL	BL	BL	BL	d.(*1)
M198	BL	BL	BL	BL	BL
M199	BL	BL	BL	BL	n.a.
M200	BL	BL	BL	BL	BL
M201	BL	BL	BL	BL	d.(*1)
M202	BL	BL	BL	BL	BL
M203	BL	BL	BL	BL	d.(*1)
M204	BL	BL	BL	BL	n.a.
M205	BL	BL	BL	BL	n.a.
M206	BL	BL	BL	BL	n.a.



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M207	BL	BL	BL	BL	n.a.
M208	BL	BL	BL	BL	BL
M209	BL	BL	BL	BL	BL
M210	BL	BL	BL	BL	BL
M211	BL	BL	BL	BL	n.a.
M212	BL	BL	BL	BL	n.a.
M213	BL	BL	BL	BL	BL
M214	BL	BL	BL	BL	BL
M215	BL	BL	BL	BL	BL
M216	BL	BL	BL	BL	BL
M217	BL	BL	BL	BL	d.(*1)
M218	BL	BL	BL	BL	n.a.
M219	BL	BL	BL	BL	BL
M220	BL	BL	BL	BL	d.(*1)
M221	d.(*1)	BL	d.(*1)	BL	d.(*1)
M222	BL	d.(*1)	BL	BL	BL
M223	BL	BL	BL	BL	BL
M224	BL	BL	BL	BL	BL
M225	BL	BL	BL	BL	d.(*1)
M226	BL	BL	BL	BL	BL
M227	BL	BL	BL	BL	d.(*1)
M228	BL	BL	BL	BL	BL
M229	BL	BL	BL	BL	d.(*1)
M230	BL	BL	BL	BL	BL
M231	d.(*1)	BL	d.(*1)	BL	BL
M232	BL	BL	BL	BL	BL
M233	BL	BL	BL	BL	n.a.
M234	BL	d.(*1)	BL	BL	BL
M235	BL	BL	BL	BL	BL
M236	BL	BL	BL	BL	d.(*1)
M237	BL	BL	BL	BL	n.a.
M238	BL	BL	BL	BL	n.a.
M239	d.(*1)	BL	d.(*1)	BL	BL
M240	BL	BL	BL	BL	n.a.
M241	BL	BL	BL	BL	BL
M242	BL	BL	BL	BL	BL
M243	BL	BL	BL	BL	n.a.
M244	BL	BL	BL	BL	BL
M245a	BL	BL	BL	BL	BL
M246a	BL	BL	BL	BL	BL
M247a	BL	BL	BL	BL	BL
M248a	BL	BL	BL	BL	BL
M249	BL	BL	BL	BL	BL



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M250	BL	BL	BL	BL	BL
M251a	BL	BL	BL	BL	BL
M252a	BL	BL	BL	BL	BL
M253	BL	BL	d.(*1)	BL	BL
M254	BL	BL	BL	BL	d.(*1)
M255	BL	BL	BL	BL	BL
M256	BL	BL	BL	BL	BL
M257	BL	BL	BL	BL	n.a.
M258a	BL	BL	BL	BL	BL
M258b	BL	BL	BL	BL	n.a.
M259	BL	BL	BL	BL	BL
M260	BL	BL	BL	BL	BL
M262	BL	BL	BL	BL	BL
M263	BL	BL	BL	BL	BL
M264	BL	BL	BL	BL	n.a.
M265	BL	d.(*1)	BL	BL	n.a.
M266	BL	d.(*1)	BL	BL	n.a.
M267	BL	d.(*1)	BL	BL	n.a.
M268	BL	BL	BL	BL	BL
M269	BL	BL	BL	BL	BL
M270	BL	BL	d.(*1)	BL	n.a.
M271	BL	BL	BL	BL	n.a.
M272	BL	BL	BL	BL	n.a.
M273	BL	d.(*1)	BL	BL	n.a.

Abbreviation: Pb

= Lead Cd = Cadmium Hg = Mercury Chromium Cr = Br = Bromine Not applicable n.a. = **Below limit** ΒL =

OL = Over limit

d. = Detected



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Remark:

- (*1) The screening result was detected in the inconclusive region or over limits, thus the further wet chemistry tests are suggested.
- Component(s)/ materials(s) with an area of less than 2 mm x 2 mm will not be selected for testing (*2) according to RoHS Directive 2011/65/EU due to technical reason. For the test sample does not have detail materials information provided by client, visually identical materials (e.g. wire insulation, solder points, etc.) will be considered as the same material. Solder points on a printing circuit board will be examined several times based on optical anomalies or discoloration of the solder point(s) unless the solder point(s) is obviously generated automatically during production.

All other materials will be sampled and tested at one test point representatively.

XRF Screening limits for different matrices :

		Concentration (%)						
Material	Cd	Cr	Pb	Hg	Br			
Polymeric	BL≤0.006 <x<0.014≤ OL</x<0.014≤ 	BL≤0.064 <x< th=""><th>BL≤0.067<x<0.133≤ OL</x<0.133≤ </th><th>BL≤0.066<x< 0.134≤OL</x< </th><th>BL≤0.029<x< th=""></x<></th></x<>	BL≤0.067 <x<0.133≤ OL</x<0.133≤ 	BL≤0.066 <x< 0.134≤OL</x< 	BL≤0.029 <x< th=""></x<>			
Metallic	BL≤0.006 <x<0.014≤ OL</x<0.014≤ 	BL≤0.064 <x< th=""><th>BL≤0.067<x<0.133≤ OL</x<0.133≤ </th><th>BL≤0.066<x< 0.134≤OL</x< </th><th>n.a.</th></x<>	BL≤0.067 <x<0.133≤ OL</x<0.133≤ 	BL≤0.066 <x< 0.134≤OL</x< 	n.a.			
Composite materials	BL≤0.004 <x<0.016≤ OL</x<0.016≤ 	BL≤0.044 <x< th=""><th>BL≤0.047<x<0.153≤ OL</x<0.153≤ </th><th>BL≤0.046<x< 0.154≤OL</x< </th><th>BL≤0.024<x< th=""></x<></th></x<>	BL≤0.047 <x<0.153≤ OL</x<0.153≤ 	BL≤0.046 <x< 0.154≤OL</x< 	BL≤0.024 <x< th=""></x<>			

Remark: The symbol "X" marks the region where further investigation is necessary.

	Cd	Cr(VI)	Pb	Hg	PBBs	PBDEs
Maximum permissible Limit (%)	0.01	0.1	0.1	0.1	0.1	0.1



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(HM) Cadmium, Lead, Chromium (VI), Mercury, Polybrominated biphenyls (PBB) and Polybrominated diphenyl ethers (PBDE)

Test Method: Total Cadmium, Lead, Mercury, Chromium

- Ref. to IEC 62321-4:2013+AMD1:2017 and IEC 62321-5:2013
- Chromium (VI)
- For Metal material Ref. to IEC 62321-7-1:2015

- For Polymer, Electronic material or others materials - Ref. to IEC 62321-7-2:2017

PBBs, PBDEs - Ref. to IEC 62321-6:2015

Test Result:

	Cd	Cr(VI)	Pb	Hg	PBBs	PBDEs
Maximum Permissible Limit (%)	0.01	0.1	0.1	0.1	0.1	0.1

	(%)								
Material No.	Cd	Cr^	Pb	Hg	PBBs	PBDEs			
Material NO.		RL (%)							
	0.001	0.001	0.001	0.001	0.01	0.01			
M008	n.a.	n.a.	2.26(*3)	n.a.	n.a.	n.a.			
M014	n.a.	n.a.	n.a.	n.a.	< RL	< RL			
M024	n.a.	n.a.	2.68(*3)	n.a.	n.a.	n.a.			
M034	n.a.	n.a.	n.a.	n.a.	< RL	< RL			
M037	n.a.	n.a.	1.43(*4)	n.a.	n.a.	n.a.			
M046	n.a.	n.a.	2.82(*4)	n.a.	n.a.	n.a.			
M048	n.a.	n.a.	1.71(*4)	n.a.	n.a.	n.a.			
M049	n.a.	n.a.	2.27(*4)	n.a.	n.a.	n.a.			
M065	n.a.	n.a.	n.a.	n.a.	< RL	< RL			
M077	n.a.	n.a.	3.23(*3)	n.a.	n.a.	n.a.			
M086	n.a.	n.a.	n.a.	n.a.	< RL	< RL			
M087	n.a.	n.a.	2.10(*3)	n.a.	n.a.	n.a.			
M092	n.a.	n.a.	n.a.	n.a.	< RL	< RL			
M093	n.a.	n.a.	n.a.	n.a.	< RL	< RL			
M103	n.a.	n.a.	2.80(*3)	n.a.	n.a.	n.a.			
M110	n.a.	n.a.	3.69(*3)	n.a.	n.a.	n.a.			
M115	n.a.	n.a.	2.49(*3)	n.a.	n.a.	n.a.			
M126	n.a.	n.a.	n.a.	n.a.	< RL	< RL			
M128	n.a.	n.a.	n.a.	n.a.	< RL	< RL			
M133	n.a.	n.a.	n.a.	n.a.	< RL	< RL			
M135	n.a.	n.a.	n.a.	n.a.	< RL	< RL			



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M136	n.a.	n.a.	n.a.	n.a.	< RL	< RL
M143	n.a.	n.a.	n.a.	n.a.	< RL	< RL
M158	n.a.	n.a.	n.a.	n.a.	< RL	< RL
M172	< RL	n.a.	11.2(*4)	n.a.	n.a.	n.a.
M177	n.a.	n.a.	3.41(*4)	n.a.	n.a.	n.a.
M182	n.a.	n.a.	1.49(*4)	n.a.	n.a.	n.a.
M183	n.a.	n.a.	2.48(*3)	n.a.	n.a.	n.a.
M184	n.a.	n.a.	n.a.	n.a.	< RL	< RL
M187	n.a.	n.a.	n.a.	n.a.	< RL	< RL
M188	n.a.	n.a.	n.a.	n.a.	< RL	< RL
M197	n.a.	n.a.	n.a.	n.a.	< RL	< RL
M201	n.a.	n.a.	n.a.	n.a.	< RL	< RL
M203	n.a.	n.a.	n.a.	n.a.	< RL	< RL
M217	n.a.	n.a.	n.a.	n.a.	< RL	< RL
M220	n.a.	n.a.	n.a.	n.a.	< RL	< RL
M221	< RL	n.a.	6.56(*4)	n.a.	< RL	< RL
M225	n.a.	n.a.	n.a.	n.a.	< RL	< RL
M227	n.a.	n.a.	n.a.	n.a.	< RL	< RL
M229	n.a.	n.a.	n.a.	n.a.	< RL	< RL
M231	< RL	n.a.	3.03(*4)	n.a.	n.a.	n.a.
M236	n.a.	n.a.	n.a.	n.a.	< RL	< RL
M239	< RL	n.a.	5.94(*4)	n.a.	n.a.	n.a.
M253	n.a.	n.a.	1.32(*4)	n.a.	n.a.	n.a.
M254	n.a.	n.a.	n.a.	n.a.	< RL	< RL
M270	n.a.	n.a.	2.47(*3)	n.a.	n.a.	n.a.

Material No.	Chromium VI content for metal materials (μg/cm²) (*1) RL: 0.10 μg/cm²
M057	Negative
M058	Negative
M059	Negative
M060	Negative
M062	Negative
M096	Negative
M130	Negative
M131	Negative
M134	Negative



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M189	Negative
M192	Negative
M265	Negative
M266	Negative
M267	Negative
M273	Negative
Material No.	Chromium VI content for other materials (%) RL: 0.01%
M222	< RL
M234	< RL

= Lead

Abbreviation: Pb

Cd	= Cadmium
Hg	= Mercury
Cr	= Chromium
Cr (VI)	 Chromium (VI)
PBBs	 Total Polybrominated Biphenyls
PBDEs	= Total Polybrominated Diphenyl Ethers
<	= Less than
RL	= Reporting Limit
n.a.	 Not Applicable
٨	= The total Chromium have been determined
%	= Percentage

Remark:

(*1) The Chromium (VI) content of metal sample in surface layer have been confirmed with reference to IEC 62321-7-1:2015 Annex.

	Chromium (VI) concentration	Qualitative result
Negative	<0.1µg/cm²	The sample is negative (-ve) for Cr(VI). The Cr(VI) concentration is below the limit of quantification. The coating is considered a non-Cr(VI) based coating
Inconclusive	≥0.1µg/cm² and ≤0.13 µg/cm²	The result is considered to be inconclusive. Unavoidable coating variations may influence the determination. Recommendation: if additional samples are available, perform a total of 3 trials to increase sampling surface area. Use the averaged result of the 3 trails for the final determination.
Positive	>0.13 µg/cm²	The sample is positive (+ve) for Cr(VI). Concentration is above the limit of quantification and the statistical margin of error. The sample coating is considered to contain Cr(VI).

(*3) According to (EU) 2018/741 and Annex III of directive 2011/65/EU, 6(c), as a copper alloy containing up to 4% lead by weight are exempted from requirement. This exemption applies to testing sample No.:M008, M024, M077, M087, M103, M110, M115, M183, M270.



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(*4) According to (EU) 2018/736 and Annex III of directive 2011/65/EU, 7(c)-I, Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound is exempted from requirement. This exemption applies to testing sample No.: M037, M046, M048, M049, M172, M177, M182, M221, M231, 239, 253.



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BBP, DBP, DEHP, DIBP content

Test Method: ref. to IEC 62321-8:2017

Test Result:

	BBP	DBP	DEHP	DIBP
Maximum permissible Limit (%)	0.1	0.1	0.1	0.1

			('	%)	
		BBP	DBP	DEHP	DIBP
Test No.	Material No.		RL	. (%)	1
		0.005	0.005	0.005	0.005
T001	M002 + M005b* + M066	< RL	< RL	< RL	< RL
T002	M021 + M022 + M067	< RL	< RL	< RL	< RL
Т003	M014 + M034 + M025	< RL	0.022	< RL	< RL
T005	M009a + M010a + M019a	< RL	< RL	< RL	< RL
T006	M020a + M068a + M069a	< RL	< RL	< RL	< RL
T008	M001a + M005a* + M063a	< RL	0.018	< RL	< RL
Т009	M003 + M004 + M011	< RL	< RL	< RL	< RL
T010	M017 + M032 + M033	< RL	< RL	< RL	< RL
T011	M038 + M039 + M052	< RL	< RL	< RL	< RL
T012	M027 + M028 + M072	< RL	< RL	0.015	< RL
T013	M012 + M064 + M074	< RL	< RL	< RL	< RL
T014	M030	< RL	< RL	< RL	< RL
T017	M065	< RL	< RL	< RL	< RL
T018	M070a	< RL	0.006	< RL	< RL
T019	M073	< RL	< RL	0.006	< RL
T021	M078	< RL	< RL	< RL	< RL
T022	M080	< RL	< RL	< RL	< RL
T023	M120 + M164 + M193	< RL	< RL	< RL	< RL
T024	M200 + M203 + M232	< RL	< RL	< RL	< RL
T025	M121 + M122 + M254	< RL	< RL	< RL	< RL
T026	M081 + M082 + M088	< RL	< RL	< RL	< RL
T027	M089 + M111 + M113	< RL	< RL	< RL	< RL



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T028	M126 + M208 + M210	< RL	< RL	< RL	< RL
T029	M262 + M263	< RL	< RL	< RL	< RL
T030	M268 + M269	< RL	< RL	< RL	< RL
T031	M105 + M145 + M163	< RL	< RL	< RL	< RL
T032	M236 + M187 + M162	< RL	< RL	< RL	< RL
T033	M154 + M155 + M156	< RL	< RL	< RL	< RL
T034	M118a + M119a + M245a	< RL	< RL	< RL	< RL
T035	M246a + M247a + M248a	< RL	< RL	< RL	< RL
T036	M251a + M252a + M260	< RL	< RL	< RL	< RL
T037	M083 + M084 + M085	< RL	< RL	< RL	< RL
T038	M086 + M091 + M092	< RL	< RL	< RL	< RL
T039	M093 + M094 + M108	< RL	< RL	< RL	< RL
T040	M100 + M101 + M102	< RL	< RL	< RL	< RL
T041	M109 + M241 + M244	< RL	< RL	< RL	< RL
T042	M117 + M127 + M128	< RL	< RL	< RL	< RL
T043	M136 + M137 + M138	< RL	< RL	< RL	< RL
T044	M133 + M135 + M143	< RL	< RL	< RL	< RL
T045	M146 + M147 + M149	< RL	< RL	< RL	< RL
T046	M159 + M184 + M185	< RL	< RL	< RL	< RL
T047	M190 + M197 + M198	< RL	< RL	< RL	< RL
T048	M201 + M202 + M209	< RL	< RL	< RL	< RL
T049	M213 + M214 + M215	< RL	< RL	< RL	< RL
T050	M216 + M217 + M220	< RL	< RL	< RL	< RL
T051	M225 + M227 + M229	< RL	< RL	< RL	< RL
T052	M230 + M249 + M250	< RL	< RL	< RL	< RL
T053	M258a	< RL	< RL	< RL	< RL
T054	M259 + M242 + M125	< RL	< RL	< RL	< RL
T055	M151 + M152 + M153	< RL	< RL	< RL	< RL
T056	M157 + M158	< RL	< RL	< RL	< RL
T057	M005-1	< RL	< RL	< RL	< RL



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T058	M006-1	< RL	< RL	< RL	< RL
T059	M007-1	< RL	< RL	< RL	< RL

Abbreviation: BBP= Benzylbutyl phthalate DBP= Dibutyl phthalate DEHP= Bis(2-ethylhexyl) phthalate DIBP= Diisobutyl phthalate <= less than RL = Reporting Limit %= percentage

Remark:

The maximum permissible limit is required from the amendment (EU) 2015/863 of RoHS Directive 2011/65/EU.



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2. 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.

Obligation of Importer is necessary if the detected SVHC concentration in article level is >0.1%: To communicate information down the supply chain according to article. 33 of Regulation(EC) No 1907/2006. OR

- 1. Notification to ECHA, if the quantities of SVHC in the produced/imported articles are above 1 ton in total per year per company.
- 2. Provide sufficient information to ensure safe use of the article and, as a minimum, include the name of the substance, to their customers and on request to consumers within 45 days of the receipt of this request.

Test Method:

- lethod:
 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 Result:

Test No.	Material No.	Result (%)
T001	M002 + M014 + M021 + M022 + M034 + M066 + M067 + M006* + M007*	< RL
T003	M076	NMP:0.0374;1,3-Propanesultone:0.0494; Others:< RL
T004	M065	<rl< td=""></rl<>
T005	M078 + M080 + M120 + M164 + M193 + M203 + M232 + M121 + M122 + M200	< RL
T006	M081 + M082 + M088 + M089 + M111 + M113 + M126 + M208 + M210 + M259	< RL
T007	M105 + M145 + M163 + M236 + M153 + M154 + M155 + M156 + M151 + M152	<rl< td=""></rl<>
T008	M105 + M145 + M163 + M236 + M153 + M154 + M155 + M156	< RL
T009	M151	< RL
T010	M152	< RL
T011	M118 + M119 + M245 + M246 + M247 + M248 + M251 + M252 + M215 + M216	< RL
T012	M261	NMP:0.0611;1,3-Propanesultone:0.0196; Others:< RL
T013	M262 + M263 + M268 + M269	< RL
T014	M008	Lead: 2.26(*18); Others < RL
T015	M024	Lead: 2.68(*18); Others < RL
T016	M077	Lead: 3.23(*18); Others < RL
T017	M087	Lead: 2.10(*18); Others < RL
T018	M103	Lead:2.8(*18); Others < RL
T019	M110	Lead: 3.69(*18); Others < RL

TÜV Rheinland (Shenzhen) Co., Ltd. · 1F East & 3F West - 4F, Cybio Technology Building No.1, No. 16 Kejibei 2nd Road, High-Tech Industry Park North Nanshan District, 518057, Shenzhen, China

Tel.: (86) 755 8268 1188 · Fax: (86) 755 2603 7102 · Mail: <u>service-gc@tuv.com</u> · Web: <u>www.tuv.com</u>



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M115	Lead: 2.49(*18); Others < RL
M183	Lead: 2.48(*18); Others < RL
M270	Lead: 2.47(*18); Others < RL
M037	Lead: 1.43(*18); Others < RL
M046	Lead: 2.82(*18); Others < RL
M048	Lead: 1.71(*18); Others < RL
M049	Lead: 2.27(*18); Others < RL
M172	Lead: 11.2(*18); Others < RL
M177	Lead: 3.41(*18); Others < RL
M182	Lead: 1.49(*18); Others < RL
M221	Lead: 6.56(*18); Others < RL
M231	Lead: 3.03(*18); Others < RL
M239	Lead: 5.94(*18); Others < RL
M253	Lead: 1.32(*18); Others < RL
M001 + M018 + M023 + M029 + M031 + M044 + M051 + M057 + M058 + M059	< RL
M060 + M061 + M062 + M063 + M071 +	< RL
M098 + M104 + M106 + M112 + M114 +	< RL
M148 + M171 + M189 + M191 + M192 +	< RL
M211 + M218 + M238 + M243 + M240 + M257 + M258 + M264 + M265 + M272 +	< RL
M015 + M035 + M036 + M040 + M041 +	< RL
M053 + M054 + M055 + M056 + M139 +	< RL
M161 + M165 + M166 + M167 + M168 +	< RL
	M183 M270 M037 M046 M048 M049 M172 M177 M182 M231 M239 M253 M0001 + M018 + M023 + M029 + M031 + M044 + M051 + M057 + M058 + M059 M060 + M061 + M062 + M063 + M071 + M079 + M090 + M095 + M096 + M097 M088 + M104 + M106 + M112 + M114 + M116 + M123 + M130 + M131 + M132 M148 + M171 + M189 + M191 + M192 + M194 + M196 + M199 + M204 + M205 M211 + M218 + M238 + M243 + M240 + M257 + M258 + M264 + M265 + M272 + M273 M015 + M035 + M036 + M040 + M041 + M042 + M043 + M045 + M047 + M050 M053 + M054 + M055 + M056 + M139 + M140 + M141 + M142 + M144 + M160

Abbreviation:

< = Less than 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%
35	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)	68515-42-4	0.01%
36	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	0.01%



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37	Bis(2-methoxyethyl) phthalate	117-82-8	0.01%
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%(*7)
41	Pitch, coal tar, high temperature (*6)	65996-93-2	0.01%(*7)
42	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated (OPEO) [covering well-defined substances and UVCB substances, polymers and homologues]	-	0.01%
43	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%
44	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	0.01%
45	Dihexyl phthalate	84-75-3	0.01%
46	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	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]	-	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(tributyItin) 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% (*7)
64	Anthracene oil, anthracene paste (*6)	90640-81-6	. ,
65	Boric acid (*2) (*5)	10043-35-3 / 11113-50-1	0.01%
66	Disodium tetraborate, anhydrous (*2) (*5)	1303-96-4 / 1330-43-4 / 12179- 04-3	0.01%
67	Tetraboron disodium heptaoxide, hydrate (*2) (*5)	12267-73-1	0.01%
68	2-Methoxyethanol	109-86-4	0.01%



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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	0.01%
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	α ,α-Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)] (*9)	6786-83-0	
103	Bis(pentabromophenyl) ether (decabromodiphenyl ether) (DecaBDE)	1163-19-5	0.01%
104	Pentacosafluorotridecanoic acid	72629-94-8	0.01%



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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)	123-77-3	0.05%
109	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%
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%
141	Lead titanium trioxide (*2)	12060-00-3	0.01%
142	Lead titanium zirconium oxide (*2)	12626-81-2	0.01%



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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%
173	p-(1,1-dimethylpropyl)phenol	80-46-6	0.01%
174	Perfluorohexane-1-sulfonic acid and its salts (PFHxS)	-	0.01%



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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 $\geq 0.1\%$ 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%
213	Orthoboric acid, sodium salt (*2) (*5)	13840-56-7	0.01%



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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%
219	4,4'-(1-methylpropylidene)bisphenol	77-40-7	0.01%
220	tris(2-methoxyethoxy)vinylsilane	1067-53-4	0.01%
221	S-(tricyclo(5.2.1.0'2,6)deca-3-en-8(or 9)-yl O-(isopropyl or isobutyl or 2- ethylhexyl) O-(isopropyl or isobutyl or 2-ethylhexyl) phosphorodithioate	255881-94-8	0.01%
222	6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol	119-47-1	0.01%
223	 (±)-1,7,7-trimethyl-3-[(4-methylphenyl))methylene]bicyclo[2.2.1]heptan-2-one covering any of the individual isomers and/or combinations thereof (4-MBC) (3E)-1,7,7-trimethyl-3-(4-methylbenzylidene)bicyclo[2.2.1]heptan-2-one (1R,3E,4S)-1,7,7-trimethyl-3-(4-methylbenzylidene)bicyclo[2.2.1]heptan-2-one (±)-1,7,7-trimethyl-3-[(4-methylphenyl))methylene]bicyclo[2.2.1]heptan-2-one (1R,3S)-1,7,7-trimethyl-3-(4-methylbenzylidene)bicyclo[2.2.1]heptan-2-one (1R,3S)-1,7,7-trimethyl-3-(4-methylbenzylidene)bicyclo[2.2.1]heptan-2-one (1R,3S,4R)-1,7,7-trimethyl-3-(4-methylbenzylidene)bicyclo[2.2.1]heptan-2-one (1R,3Z,4S)-1,7,7-trimethyl-3-(4-methylbenzylidene)bicyclo[2.2.1]heptan-2-one 	- 1782069-81-1 95342-41-9 852541-25-4 36861-47-9 741687-98-9 852541-30-1 852541-21-0	0.01%
224	N-(hydroxymethyl)acrylamide	924-42-5	0.01%
225	1,1'-[ethane-1,2-diylbisoxy]bis[2,4,6-tribromobenzene]	37853-59-1	0.01%
226	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol	79-94-7	0.01%
227	4,4'-sulphonyldiphenol	80-09-1	0.01%
228	Barium diboron tetraoxide	13701-59-2	0.01%
229	Bis(2-ethylhexyl) tetrabromophthalate covering any of the individual isomers and/or combinations thereof	-	0.01%
230	Isobutyl 4-hydroxybenzoate	4247-02-3	0.01%
231	Melamine	108-78-1	0.01%
232	Perfluoroheptanoic acid and its salts	-	0.01%
233	reaction mass of 2,2,3,3,5,5,6,6-octafluoro-4-(1,1,1,2,3,3,3-heptafluoropropan-2 -yl)morpholine and 2,2,3,3,5,5,6,6-octafluoro-4-(heptafluoropropyl)morpholine	-	0.01%
234	bis(4-chlorophenyl) sulphone	80-07-9	0.01%
235	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	0.01%

Remark:

- (*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).
- (*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.

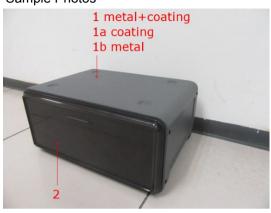


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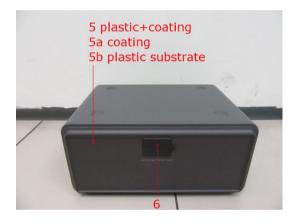
- (*12) The substance is tested in terms of pentadecafluorooctanoate.
- (*13) The substance is tested and calculated in terms of Dioctyl tin.
- (*14) The substance is tested and calculated in terms of Monooctyl tin and Dioctyl tin.
- (*15) The substance is tested and calculated in terms of Dibutyl tin
- (*16) The tested material(s) was screened only for selected SVHCs. Selection of tests refers to the material type and application and the possibility of contamination during production & material specific contamination of the product.
- (*17) The other SVHCs which are not mentioned in test result were either not subject to testing according to remark *16 or less than report limit.



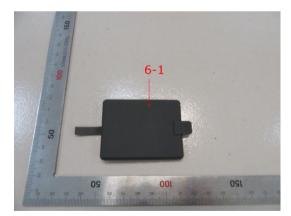
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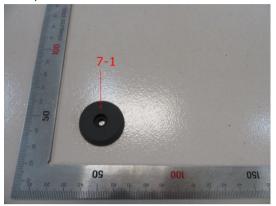




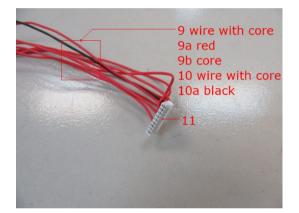


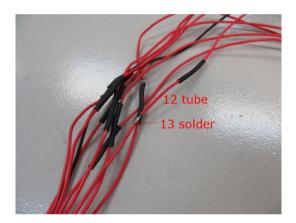


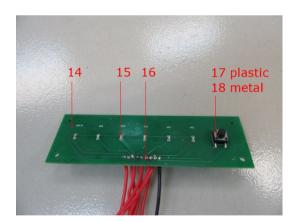
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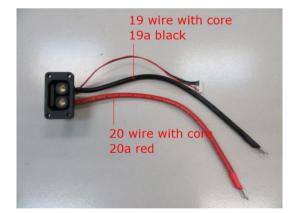








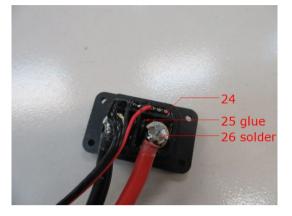


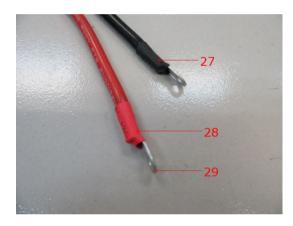




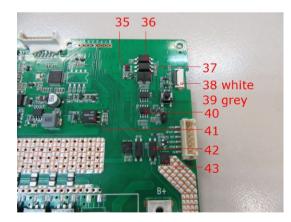
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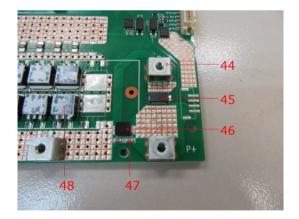






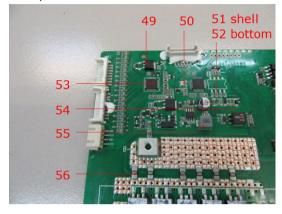




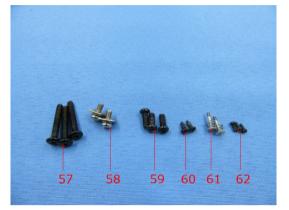


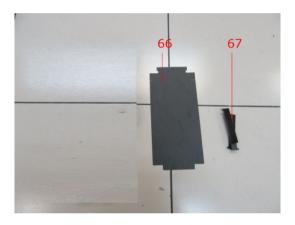


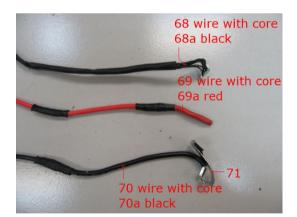
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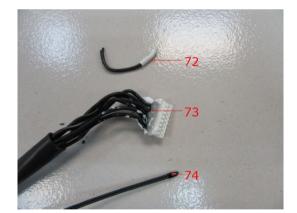






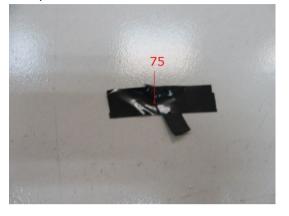








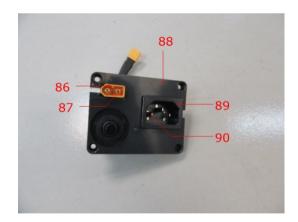
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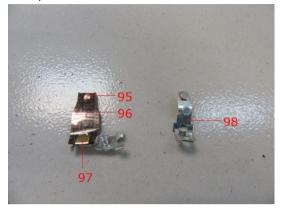


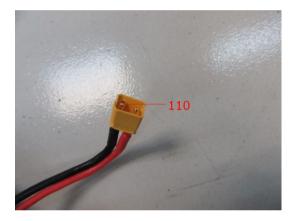


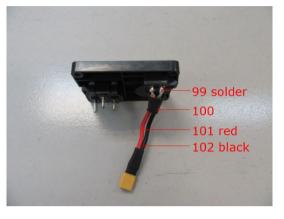


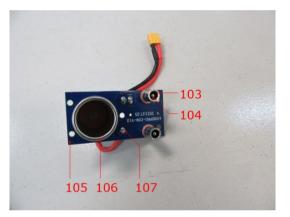


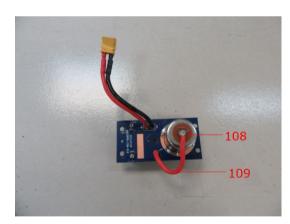
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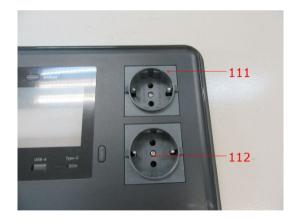






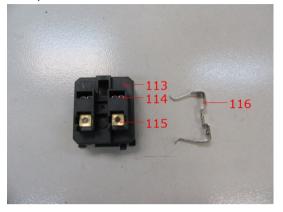


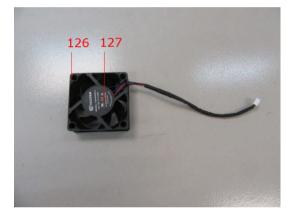




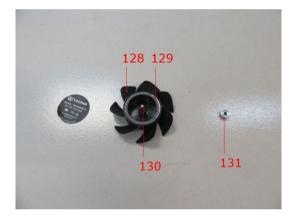


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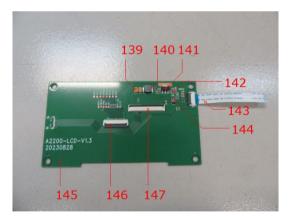






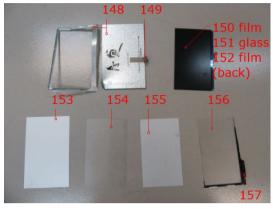


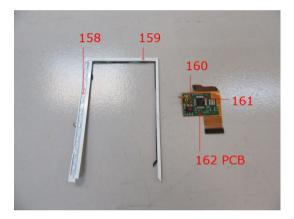


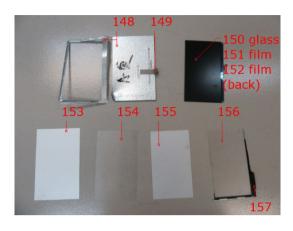


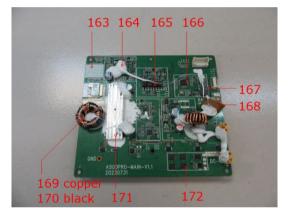


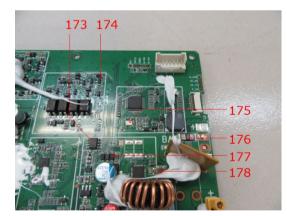
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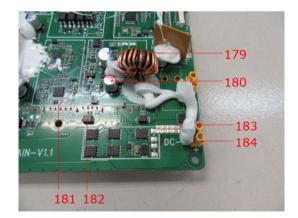






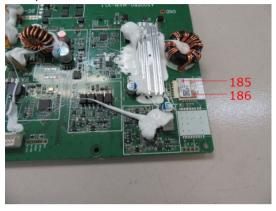






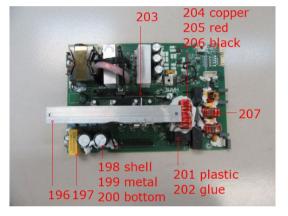


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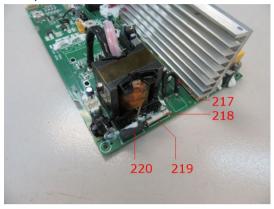


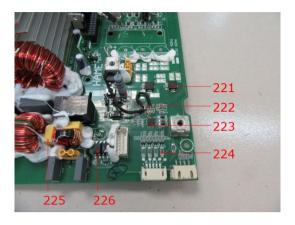


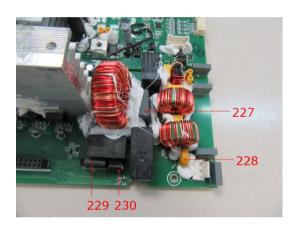




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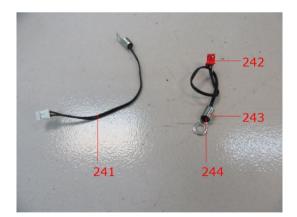








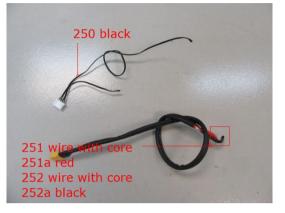


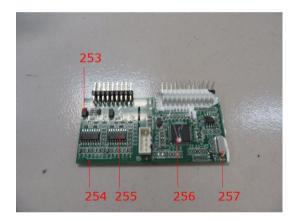




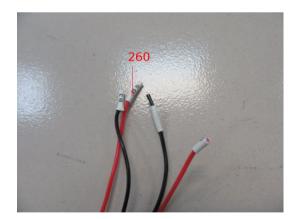
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- END -

TÜV Rheinland (Shenzhen) Co., Ltd. · 1F East & 3F West - 4F, Cybio Technology Building No.1, No. 16 Kejibei 2nd Road, High-Tech Industry Park North Nanshan District, 518057, Shenzhen, China Tel.: (86) 755 8268 1188 · Fax: (86) 755 2603 7102 · Mail: <u>service-gc@tuv.com</u> · Web: <u>www.tuv.com</u>



General Terms and Conditions of Business of TÜV Rheinland in Greater China

- Scope These General Terms and Conditions of Business of TÜV Rheinland in Greater China (GTCR)) is made between the client and one or more member entities of TÜV Rheinland in Greater China as applicable as the case may be (TUV Rheinland). The Greater China hereof refers to the regions within the territorise of China. The client three of Incutates : a natural person capable to form legaly briding contracts under the applicable laws who concludes the contract notif the purpose of a daily use. Isgaily briding contracts under the applicable laws. The legaly briding contracts under the applicable beam contracts under the applicable laws who concludes the contract on the scope of contract performance. The following terms and conditions story to agreed services including consultancy services, information, deliveries and similar services as well as an calculary services and other secondary obligations provided within the scope of contract performance. Any standard terms and conditions of the client d'any instrust beam of the scondary the contract even it TÜV Rheinland does not explicitly dject to them. The following terms part of the contract with the client without TÜV Rheinland having to refer to them separately in each individual case. 11 0
- (ii) 1.2
- 13
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Quotations

Unless otherwise agreed, all quotations submitted by TÜV Rheinland can be changed by TÜV Rheinland without notice prior to its acceptance and confirmation by the other party.

Coming into effect and duration of contracts

- Coming into effect and duration of contracts The contract table come into effect for the apread terms upon the quotation letter of TÜV. Rheinland or a separate contractual document being signed by both contracting parties, or upon the works requested by the client being carried out by TÜV Rheinland. If the disk in instruct STUV Rheinland without receiving a quotation from TÜV Rheinland quotaton), TÜV Rheinland the disk in instruct sole discretion, entited to accept the order by giving writem notice of such acceptance (including notice sent via electronic many) or by performing the requested services. The contract term astruct prot he coming into effect of the contract. and shall continue for the term agreed in the contract. 3.2
- 3.3

Scope of services

- The scope and type of the services to be provided by TÜV Rheinland shall be specified in the contractually agreed service scope of TÜV Rheinland by both parties. If no such separate service scope of TÜV Rheinland suits, then the written confirmation of order by TÜV Rheinland shall be the service description (e.g., checking the correctness and functionality of parts, products, processes, installations, cognizations on Islend in the service description, agreed and use and application of such are not owed. In particular, no responsibility is assumed for the desgr, selection materials, constraintion or initiand use of an examined part, products, or plant, unless this is expressly statied in the order. 41
- 4.2 4.3
- The appeard services shall be performed in compliance with me regulatures in non-service and contract is entered into. TUV Rhenihand is entitled to determine, in its sole discretion, the method and nature of the assessment unless otherwise agreed in writing of it mandatory provisions regular a specific procedure to be followed. One contract the service shall be no simultaneous assumption of any guarantee of the Constraints of the upshally and vorting order of either tested or examined paths nor of the installation as a whole and its upstream and/or downstream processes, organisations, use and application in accordance with regulations, nor of the systems on which the installation is based in particular, TUV Rheinland shall assume no responsibility for the construction, selection of materials and assembly of installations are expressly covered by the contract. 4.4
- 4.5
- 47
- In particular, TUV Rheinland shall assume no responsibility for the construction, selection discretion of the selection and segments of the selection and sequences of the selection of the
- 4.9

Performance periods/dates

- 5.1
- 5.2
- 5.3
- 54
- Performance periods/dates The contractually agreed periods/dates of performance are based on estimates of the work involved which are prepared in line with the details provided by the client. They shall only be biology a period or dimension and the period of the theory of the period of the periods of periods and the periods and the periods and the periods and the periods of the periods and the periods of the periods 5.5
- to resume partormance. The elimits of biological or comply with legal, officially presented and/or by the accretistic presentated deadlines, it is the client's responsibility to agree on performance dates with TUV Rhenihand, which enable the client to comply with the legal and/or officially presented deadlines. TUV Rhenihand assumes no responsibility in this respect unless TUV Rhenihand deadlines. TUV Rhenihand assumes no responsibility in this respect unless the constructual objection of TUV 5.6

The client's obligation to cooperate

- The client shall guarantee that all cooperation required on its part, its agents or third parties will be provided in good time and at no cost to TÜV Rheinland. 6.1 6.2
- Design documents, supplies, auxiliary table to VM INTERTIENT. Design documents, supplies, auxiliary table data characteristics and the services shall be made available free of charge by the client. Moreover, collaborative action of the client must be undertaken in accordance with legal provisions, standards, safety regulations and accident prevention instructions. And the client represents and warrans that:

a) it has required statutory qualifications;

- b) the product, service or management system to be certified complies with applicable laws and regulations; and
- c) it doesn't have any illegal and dishonest behaviours or is not included in the list of Enterprises with Serious Illegal and Dishonest Acts of People's Republic of China.
- If the client breaches the aforesaid representations and warranties, TÜV Rheinland is entitled to i) immediately terminate the contract/order without prior notice; and ii) withdraw the issued testing report/emiticates if any.
- 63 The client shall bear any additional cost incurred on account of work having to be redone or being delayed as a result of late, incorrect or incomplete information provided by or lack of proper cooperation from the client. Even where a fixed or maximum price is agreed, TÜV Rheinland shall be entitled to charge extra fees for such additional expense.

- If the scope of performance is not laid down in writing when the order is placed, invoicing shall be based on costs actually incurred. If no price is agreed in writing, invoicing shall be made in accordance with here fore list of TUP Whenland wild at the mid e performance. Unless otherwise agreed, work shall be invoiced according to the progress of the work. If the execution of an order extends on write mean one month and the value of the contract or the agreed fixed price exceeds £2,500.00 or equivalent value in local currency. TUP Rhenland may demand payments on account on in installments. 7.1 7.2 7.3

ment terms

- 8.1 8.2
- A linvoice amounts shall be due for payment within 30 days of the invoice date without deduction on receipt of the invoice. No discounts and rebates shall be granted. Payments shall be made to the bank account of TUV Rhenland as indicated on the invoice, staling the invoice and client numbers. Reviewed that the payment of the payment of the state of the state of the applicable short rem loss interest rate publicly amounted by a popublic commercial bank in the country where TUV Rheinland is located. At the same time, TUV Rheinland reserves the right to claim further damages. 8.3
- applicable shift term dark interest har poussy announced up a representer commence trans-tine county when TUX Rehariant is bacated. At the same time. TUV Rehariant servers the right manual transmission of the county of the server the right server the right server Should the client default in payment of the invoice despte being granted a reasonable grace protect. TUV Rehariant shall be entited to cancel the contract, withdraw the certificate, client damages for non-performance and refuse to continue performance of the contract. The provisions set forth in antice 48 Atali alian say by in cases involving returned beques, session of payment, commencement of insolvency proceedings has been damased due to lack of server. 8.4
- 8.5
- ets. ections to the invoices of TÜV Rheinland shall be submitted in writing within two weeks of eiot of the invoice. ass Obj

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April 2024

- TÜV Rheinland shall be entitled to demand appropriate advance payments. TUV Rheinland shall be entitled to raise its fees at the beginning of a month if overheads and/or payments and the state of th
- Only legally established and undisputed claims may be offset against claims by TÜV Rheinland. TÜV Rheinland shall have the right at all times to setoff any amount due or payable by the client including but not limited to setoff against any fees paid by the client under any contracts agreement and/or ordersiguotations reached with TÜV Rheinland. 8.9 8.10
- Acceptance of work
- 9.1 Any part of the work result ordered which is complete in itself may be presented by TÜV Rheniand for acceptance as an instalment. The client shall be obliged to accept it immediately. If acceptance is required or contractually agreed in an individual case, this rails be detended to have taken place two (2) weeks after completion and handover of the work, unless the client refuses acceptance within this period stating at tasks or university of contract by TUV. 92
- Rheinland. The client is not entitled to refuse acceptance due to insignificant breach of contract by TÜV Rheinland 9.3 9.4
- Rheiland. Hacesptance is excluded according to the nature of the work performance of TUV Rheihand, the completion of the work shall take its place. During the Follow-Vadd stage, if the clerk was unable to make use of the time windows provided for within the scope of a certification procedure for auding/performance by TUV Rheihand and the certificate is therefore to be without (e.g. performance de suivaillance audits), or if the clerk Rheihand is entitled to immediately charge a lump-sum compensation of 10% of the order amount as comparation for expenses. The clerk reserves the right to prove that the TUV Rheihand has incurred no damage whatsoever or only a considerably lower damage than the show lump sum. 9.5
- Rheinland has incurred no durange whatsoever or using a unincurred, in above time sum, are as the client has undertaken in the contract to accept services. TUV Rheinland shall also be entited to charge tump-sum damages in the amount of 10% of the order amount as compensation for expenses if the service is not called within one year after the order has been placed. The client reserves the right to prove that the TUV Rheinland has licured no damage whatsoever or only a considerably lower damage than the above mentioned lump sum. 0 6lns

10. Confidentiality

- between or only a considerably lower damage than the above mentioned lump sum. 10.3
- b) C)
- 10.4
- 10.5 a)
 - b) c)
 - d)
- 10.6 10.7

Copyrights and rights of use, publications

- TVV Rheinland shall retain all exclusive copyrights in the reports, expert reports/opinions, test reports/results, results, calculations, presentations etc. prepared by TDV Rheinland, unless otherwise agreed by the parties in a separate agreement. As the owner of the copyrights, TDV Rheinland is free to grant others the right to use the work results for individual or all types of use 11.1 11.2
- Rinehand is free to grant others the right to use the work results for individual or all types of use (right of use). The client receives a simple, unlimited, non-transferable, non-sublecensable right of use to the contents of the work results produced within the scope of the contract, unless otherwise agreed by the parties in a separate agreement. The client may only use such reports expent reports/pointon: Less the productiveable, uses a calculater, presentation set to prepared within the The instruction of the generated agreement. The client may only use such reports agreed to the parties in a separate agreement. The client may only use such reports agreed to allow the reports/pointon. The setup setup of the generated work results for the generated with the Tothe the former of right of use of the generated work results and unaborened. The client may use work results and unaborened. The client may use work results only complete and unaborened. The client may use work results only complete and unaborened. The client may only pass on the work results in 10 unes TUV Rheinfand has given is prior written correct to the partial passing on of work results. 11.3
- 11.4
- work results in full unless TUV Kheniand has given its pror written consent to the partial passing on d work result. Buyloadi on the work results for advertising purposes are any knetwer use has work results hayend the scope regulated in clause 11.2, and any apartision of the introduction of TUV Rheniand meet the prove written approval of TUV Rheniand in each individual case. Besides, the client ensures that the adressaid use shall comply with relevant applicable laves, regulators and relevant rules (including but not limited to specific applicable testing and certification rules, etc.). TUV Rheniand may revoke a once given approval according to clause 11.5 at any time without stating reasons. In this case, the client is obligad to stop the transfer of the work results immediately athis own separes and, to lar as possible, withofwar publications, not entitle the client to use the corporate logo, corporate design or test/certification mark of TUV Rheinland not statis or the corporate logo, corporate design or test/certification mark of TUV Rheinland not statis or an entities that the corporate logo. Corporate design or test/certification mark of TUV Rheinland not statis or an entities the corporate logo. Corporate design or test/certification mark of TUV Rheinland not statis or an entities the corporate logo. Corporate design or test/certification mark of TUV Rheinland not statis or an entities the statis statis as the statis or statis and the statis in the corporate logo. Corporate design or test/certification mark of TUV Rheinland. 11.5
- 11.6
- 11.7

Liability of TÜV Rheinland 12.

- Liability of TÜV Rheinland
 Transported of the legal basis, to the fullest extent permitted by applicable law, in the event of a breach of contractul obligations or tor, the liability of UV Rheinland, the legal regresentatives and reimbursement of expenses caused by TUV Rheinland, the legal regresentatives and the structure of the stru 12.1
- 12.2 12.3
- 12.4
- 12.5
- 12.6 12.7

When passing on the services provided by TÜV Rheinland or parts thereof to third parties in Greater China or other regions, the client must comply with the respectively applicable regulations of naisonal and international expont control bar. The performance of a contract with the client is subject to the proviso that there are no obstacles to performance to a contract with the client is subject to the proviso that there are no obstacles to performance of a contract with the client is subject to the proviso that there are no obstacles to performance of a contract with the client is subject to the proviso that there are no obstacles to performance of a contract with the client is subject to the proviso that there are no obstacles to perform and the second 13.1 13.2

sanctions. In the event of a violation, TÜV Rheinland shall be entitled to terminate the contract with immediate effect and the client shall compensate for the losses incured thereof by TÜV Rheinland

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Data protection notice The client understands and agrees that TUV Rheinland processes personal data (including but not imited to personal information) of the client and its related parties (including but not imited to personal information) of the client and its related parties (including but not imited to personal data that the client collected or processes by testion and transferred to TUV Rheinland. For certain services, we may also process sensitive personal data. TUV Rheinland to the personal data that the client collected or processes by testion and transferred to TUV Rheinland. For certain services, we may also process sensitive personal data. Tuv Rheinland to the personal data that the client collected or processes by testion and the propersonal data the the personal data was collevely, the client to the personal data. Tuv Rheinland to the personal data was collevely, the process personal data. Tuv Rheinland protect the data in compliance with the privacy and personal data security related laws and regulations in Charland and the collevel or process data. The personal data, the personal data was collevely, the client and will also measures to avoid any leakage, share, manipulation, damage or unauthorized access of personal data. The personal subjects may exercise the following rights: cifted information, right of cliection, right of data than effective relates to the data processing here the right to revise their conversites the data or personal data. The processing limitation, right of cliection, right of data than effective relates to the relation reproduced the relation to the relation to the relation to the relation to the relation relation the right to revise their conversite the data information. The processing here the right to revise their conversite the data more responsible or contrast processing. These relations in the respective data protection information. You can contrast the Group Data Protection Officer 101V Rheinland Y. Devision Data Protection Officer, Am Grauen St

- 15.1 15.2
- Jon of test material and documentation
 The test samples submitted by the elient to TÜV Rheinland for testing will be scrapped following testing or will be returned to the client at the client's experise. The only exceptions are test agreement with the client.
 Charges apply the test samples are stored at the premises of TUV Rheinland. The cost of placing a test sample into storage will be disclosed to the client to be placed in storage and the interplaced of the storage on the client to be placed in storage at their premises and the storage on the client to be placed in storage at their promesure of the storage on the client to be placed in storage at their promesure interplaced on the client to be placed in storage at their promesure interplaced on the client to be placed in storage at their promesure interplaced on the client to be placed in storage at their promesure interplaced on the client to the client to the storage of the incapable of mediane y data and the storage and client and the storage for material and pecuniary damage resulting from the respective testing and certification that is forward to know the client signate. TUV Rheinland shale be volded.
 The restor storage to any client to the storage for the test manyles for storage to meet client. TUV Rheinland will be lable of the client, the least anyles or reterence samples from the laboratories or warehouses of TUV Rheinland only in case of gross negligence. 15.3 15.4
- 16 Te

tion of the contract

- 16.1

- Instanding clause 3.3 of the GTCB, TUK Rheihand and the clear are entitled to terminate the fourth of the serie of a service combined in one contract, each of the combined part of the contract in starbing and independently of the contract, each of the combined part of the contract in the service and of the contract independently of the contract, each of the combined part of the contract independently of the contract, each of the contract independently of the contract, the activation of the activation of the contract independently of the independently of the independently of the contract independently of the contract independently of the independently of the independently of the contract independently of the contract independently of the contract independently of the contract independently of the contract 16.3

18.3

19.1

19.2

19.3

a) b)

c)

b)

c)

19.4

- 17.2
- example during the performance of monitoring audits). Clause 16.3 applies accordingly: temperature of the performance of monitoring audits). Clause 16.3 applies accordingly: the performance of the contrast of the performance of the perfore 17.3

hip The Parties are bound to perform their contractual duties even if events have rendered performance more onerous than could reasonably have been anticipated at the time of the conclusion of the

The Parties are bound to perform their contractual duties even if events have rendered performance more oneous than could reasonably have been anticipated at the time of the conclusion of the Monithistanding paragraph 1 of this Classe, where a Party proves that: (a) the continue performance of its constructual duties has become excessively onervoir due to an event beyond its reasonable control which it could not reasonably have been expected to have taken into account at the fine of the conclusion of the contract and that could not reasonably have avoided or concreme the event of the regotible alternitive contractual terms which reasonably allow to overcome the consequences of the event. Where Clause 18.2 applies, but where the Parties have been unable to agree alternative contractual terms as provided in frat paragraph. The Parties have been unable to agree alternative agreement of the chart of the chart of the contractual of the contract.

wallidity, written torm, place of jurisdiction and dispute resolution All amendments and supplements must be in writing in order to be effective. This also applies to amendments and supplements to this clause 17.1. Should one or availed of the provision stude the contract and/or these terms and conditions be Should one or availed on the provision stude the contract and/or these terms and conditions to the student of the provision stude the contract and/or the student of the valid provision that comes closest to the contract, and/or the valid provision in legal and commercial terms. Unless otherwise stipulated in the contract, the governing law of the contract and these terms and dTUV thenhalen (a puscitor) is legally registered and existing in the Poolsh's Republic of China. If TUV Thenhalm in question is legally registered and existing in Taiwan, the contracting parties at the contracting is legally registered and existing in Taiwan, the contracting parties at the contracting is legally registered and existing in Taiwan, the contracting parties at TW thenhalm in question is legally registered and existing in Taiwan, the contracting parties at TW thenhalm is the contract, and these terms and contractions shall be governed by the laws of the at Two thenhalm is the contract and the terms and contactions shall be governed by the laws of the Pools of the context and the terms and the contract and the contract and the terms and contactions shall be governed by the laws of the context and the contract and the terms and contactions shall be governed by the laws of the context and the context and the terms and contactions shall be governed by the laws of the context and the terms and contactions shall be governed by the laws of the context and the terms and contactions shall be governed by the laws of the context and the context and the terms and contactions shall be governed by the laws of the context and the terms and contactions shall be governed by the laws of the context and the terms and contaction

IT TUY Rherinan in question is legally registered and existing in Hong Kong, the laws of Taiwn. If TUY Rherinan in question is legally registered and existing in Hong Kong, the contracting IT UV Rherinan in question is legally registered and existing in Hong Kong. The contracting the total the contract and these terms and conditions shall be governed by the laws of Hong Kong. Any dispute in connection with the contract and these terms and conditions of the execution thereof shall be settled friendly through negotiations. Use the context of the terms and conditions of the execution thereof shall be settled friendly through negotiations. The case of TUV Rherinand in question being legally registered and existing in the Receive Republic of Chris, to Chrise International Economic and Trade Arbitration Commission (DEFAG) usemission of the arbitration shall be place in Being. Shanghai, Shanchen or Chongaing as appropriately chosen by the claiming party. In the case of TUV Rherinand in question being legally registered and existing in the Taiwan, to Govern and Institution Association, Taipei to be listing legally registered and existing in Taiwan, to Govern Astrono Association, Taipei to be instituted accisting in the Nong Kong, To Kong Kong International Abstration Rules in the state of Admission is abstrated in Admission appropriately chosen by the claiming party. The case of IUV Rherinand negatiation glegally registered and existing in Taiwan, to Govern Astrono Association, Taipei to be statisticad accisting in the state of the Astrono Kang Kong Kong Kong Kong Kong Kong Kong International Abstration Rules in the state of Admission is abstrated in accordance abstrated in Abstrate and the state and activity in Hong Kong. To Kong Kong International Abstrate Rules in the state of Admission is abstrated in accordance Admission Admission Rules in Internation and the third Admission Abstrate Rules in the state of Admission is abstrated in accordance Admission adstrate Rules in the state of Admi

validity, written form, place of jurisdiction and dispute resolution