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Felix Teng	Jacky Chen	Jianlong Du

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Revision History:

Revision	Date	Description	Published	Approved By
H1	2015-7-13	1.Revising in accordance with the new standards such as Microsoft H00594 Rev. AA, DELL 6T198 Rev.A16 and of our group company. 2.Changing the control level of the particular lead and its compound. 3.Modifying specific phthalates DEHP,DBP,BBP restriction scope,and adding the control of DEP and DIPP. 4.Adding the control of alkylated diphenylamines(BNST). 5.Adding the control of the flame retardant such as tritolyl phosphate(TCP) and tri-o-cresyl phosphate(TOCP) and tris(2,3-dibromopropyl)phosphate(TDBPP). 6.Adding the control of LCCPS.	Yuping Tan	Felix Teng



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Revision	Date	Description	Published	Approved By
H2	2017-9-1	<p>1.Revising by the customers' newest standards such as MS H00594(Ver AF)、 DELL ENVO424(Ver A02-00)、 SONY SS-00259(Ver 15) and the latest international environmental laws and regulations.</p> <p>2. Updating the definition of halogen.</p> <p>3.Adding yellow phosphorus、 PFAS、 pentachlorobenzene、 endrin、 hexachlorobenzene、 TBBA、 n-Hexane、 Benzene newly to level 1 control substances,meanwhile,bismuth (including its compounds) and BPA are controlled as level 3 substances.</p> <p>4.Modifying the requirements and scope of phthalates, and adding new items of phthalates to the table 4.2b.</p> <p>5.Adding an explanation 5 to the table 4.1.</p> <p>6.Changing the previous table 4.2e to 4.2d.</p> <p>7. Renewing the list of REACH SVHC list.</p> <p>8.Deleting the reference and modifying the descriptions of limit in table 4.4.</p> <p>9. Adding the CAS No of Sb2O3,TPP and red phosphorus into he item 4.3.2.2.</p> <p>10.Deleting the previous additional document listing substances,and preserving the documents explaining contained substance,and adding the specific information of bismuth (including its compounds) and PFAS to it.</p>	Renlai Yuan	Felix Teng



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H3	2018-01-26	<p>1.Updating the SVHC lists.</p> <p>2.Modifying the description of the "purpose"and the scope of application of this standard.</p> <p>3.Moving the remark 3 and 4 of table4.1 to" term and definition",adding the explanation of remark 5,deleting the column of "category".</p> <p>4.The number of chlorine atoms in PCN is greater than or equal to 1,Deleting the contents of item 38,and modifying it for REACH restricted substance.Deleting the item 40 and meanwhile beginning the control of Magnesium and its compounds as well as red phosphorus ,modifying the description of item37 for specific organophosphorus compounds, changing the upper item of some substance from level 1 controls to banned.</p> <p>5.Adding the table 4.2e to table 4.2,adding the detailed instructions of item38.40.56.</p> <p>6.Deleting the description of scope table 4.4 in 4.3,modifying the instruction of 4.3.2.3.</p> <p>7.Adding the explanation of 5.6.</p> <p>8.Modifying attached document serial number,adding some corresponding regulatory information in part6.1,adding the details of the substance to which it contains.</p>	Renlai Yuan	Felix Teng



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Revision	Date	Description	Published	Approved By
H4	2018-08-09	<ol style="list-style-type: none"> 1.Modifying the format of standard content. 2.Replacing the banned with the presence banned, simplifying the 2 / 3 level control description, and redefining homogeneous materials; 3.Adding the definition of “presence banned”ppm”intentional added”content threshold”. 4.Separating the list of declared and controlled substances. 5.Modifying the content threshold of some substances, from ND to presence banned, adding the control requirements of substances; adding notes. 6.Adding test methods and common exemptions. 7.Adding the contents of the list of chemical groups to which it belongs. 8.Updating the SVHC lists to 191 items. 	Renlai Yuan	Felix Teng
H5	2019-08-15	<ol style="list-style-type: none"> 1.Modifying the content threshold and control range of Arsenic and its compounds, organotin compounds, dibutyltin (DBT) compounds, specific azo compounds, ammonium perfluorooctanate (PFOA), n-hexane, etc. 2.Adding the Control of trichloroethylene, tetrachloroethylene, dichloromethane, trichloropropyl phosphate (TDBPP), cobalt and cobalt compounds, ect. 3.Modifying the specific phthalate as the first-class controlled substance and increase to 27P. 4.Adding customer Microsoft's requirement for soft rubber's phthalate test method. 5.Updating the REACH SVHC list. 6.Adding a list of BizLink accredited laboratories. 	Jianlong Du	Felix Teng



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Foreword

The environmental protection of product has gradually become an influential factor to effect the global economy, and which is also the direction of electronic industry. As for our company, we have communicated about the control of dangerous matters related to environmental protect technology with several world famous companies. So in order to follow the related laws/rules and manufacture the excellent green products, our company establish this technology standard.

BizLink Green Concept:

Eliminating and preventing environmental pollution.

Abiding by and enforcing environmental laws and regulations.

Actively spreading the idea of environmental protection and being the green messenger of the environment.

Contributing to the protection of the environment.



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1.PURPOSE:

This standard refers to some customers' newest environmental protection standards such as SS-00259 (SONY) , H00594 (Microsoft) , ENV0424(DELL) and the relevant laws and regulations like EU ROHS,REACH, POP etc.It defines banned substances, Substances planned to be abolished, substances outside the scope of the object in parts, equipment, etc of a BizLink product in order to Preventing their mixture to BizLink products Abiding by and enforcing environmental laws and regulations. Protecting the environment of earth. Achieving the mitigation of impacts on ecosystems.

2.SCOPE:

This specification is suitable for finished products and the following components and materials which form the finished products with environmental control.

- Semi-manufactures, Components, Body parts, Printed circuit boards, Packaging materials, Packaging components.
- Accessories(remote , mouse,AC adopters, and other accessories with which you can use products)
- Auxiliary materials (tape, welding material, binder, cleaning agent, etc.)
- Print. Operating instructions, product and parts related supplementary instructions, etc.
- Packaging materials that parts suppliers used for delivery and protection (wooden frames, brackets, rails, levers, bags, cushioning materials, fixtures, sheets, ropes, cardboard boxes, tape, bundles, labels, printing ink and paints, etc).



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3.TERMS AND DEFINITIONS:

3.1 **The Environment Controlled Substances**: Among the substances contained in parts and devices:

“The Environment Controlled Substances” are the ones which BizLink judges that “They have remarkable impacts on both humans and the global environment.”

3.2 **Management Levels**:The following three levels are used to managing:

- | | | |
|-------|------------|---|
| 3.2.1 | Level1 | It should be presence banned immediately for use in parts and materials at this level from the substances to their usages. |
| 3.2.2 | Level 2 | Once the deadline is coming,the substances will be classified at level 1.The use of substances and their uses to be grasped by BizLink prior to this date;
It is not currently prohibited, in the future considering the rise to |
| 3.2.3 | Level 3 | level 2, BizLink must grasp the use of substances and their relatec uses. |
| 3.2.4 | Exceptions | At present, laws and regulations do not explicitly prohibit, and custi do not require the use of control, so it is allowed to use. |

3.3 **Present**:“Present” is a situation in which a substance is added to, blended with, fills up, Or adheres to the parts or devices employed in products, or the materials used for the parts or devices, no matter whether the situation is intentionally created or not.(when a substance is unintentionally contained in , or added to a product in a processing process, this situation is also regarded as present).

3.4 **Impurity**: Impurity is a substance that including the following two types:One generated in a natural material,which cannot technically be removed in a refining process totally);and another generated in a synthesis process, the total removal of which is technically impossible. Additionally, in order to distinguish it from the main raw material, when a substance called "impurity" is used in order to change the properties of the material, it is also treated as "Intentional added".



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3.5 **Homogeneous Material:** A homogeneous material is made up of one or more substances (e.g. an alloy is a homogeneous material which is made up of a number substances). homogeneous material means a material that cannot be mechanically disjointed into different material. Homogeneous material consist a uniform composition or phase and include plastic,alloys,finishes,glass,ceramics,etc.

Plastics: Plastics are materials or raw materials that synthesize polymeric substances,such as the following articles: fiber,film, adhesive tapes, molded products, products made of synthetic rubber,

3.6 plastics made from raw materials of plant origin and binder.When a natural resin is synthesized with any one of the above articles, the synthetic substance is a plastic.

3.7 **Halogen :** The element in VIIA of periodic table of elements , it contains F, Cl, Br, I and At .

3.8 **Presence banned:**(1)The concentration of a substance in the material is prohibited from exceeding the allowable limit;(2)Substances which do not set a limit are prohibited if information is available by some means(such as intentional additions to internal processes, upstream of the supply chain, and material testing and analysis if necessary).

3.9 **ppm:**A unit of concentration indicating the content of a substance, 1/1000000

3.10 **Intentional added:**In order to achieve specific characteristics, appearance, properties, attributes, and quality, by consciously adding, filling, mixing, and attaching,make substances remain in the parts and components as well as in the materials it uses.

3.11 **Content threshold:**The maximum allowable value of the content or concentration of substances contained in parts or materials.

3.12 **Date of Prohibition Of Supply:** This indicates the deadline which parts and materials are prohibited from supplying to BizLink.



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4. MANAGEMENT STANDARDS FOR ENVIRONMENT-RELATED SUBSTANCES

TO BE CONTROLLED:

Table 1 List of presence banned substances

Table 1 listed Substances are presence banned substances, in specified uses / materials it is prohibited to contain more than the established content threshold, and substances without a specified content threshold are completely prohibited. Material with no marked exceptional use at the management level has no exceptional use. (Please refer to the description of 3.8 in this standard about the definition of "Presence banned")

Item	Presence banned substance	Management Levels	Applicable use / material	Content threshold (Homogeneous material)	CAS NO.
1	★Cadmium and its compounds	1	Plastic, paint, ink, process flux, cleaning agent, etc.	5ppm	-
		1	Solder (including tin paste)	20ppm	
		1	Glass, ceramics, other metals	30ppm	
		1	Packing material	Refer to 5.2	
2	★Lead and its compounds	1	Plastic, paint, ink, etc.	50ppm	-
		1	Solder, Electroless electroplating film	500ppm	
		1	Other metals	100ppm	
		1	Packing material	Refer to 5.2	
3	★Mercury and its compounds	1	All application	Banned	-
		1	Packing material	Refer to 5.2	
4	★Hexavalent Chromium compounds	1	All application	Banned	-
		1	Packing material	Refer to 5.2	
5	★PBBs	1	Flame retardants	5ppm	-
6	★PBDEs	1	Flame retardants	5ppm	-
7	★DEHP	1	Plasticizer, etc.	1000ppm	117-81-7
8	★DBP	1	Plasticizer, etc.	1000ppm	84-74-2
9	★BBP	1	Plasticizer, etc.	1000ppm	85-68-7
10	★DIBP	1	Plasticizer, etc.	1000ppm	84-69-5
11	DINP+DIDP+DNOP	1	Excluding wire(cables) and connectors	1000ppm	-
12	Specific phthalates(27 P, detailed list refers to Schedule	1	Plasticizer, etc.	1000ppm(Individual)	-

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Item	Presence banned substance	Management Levels	Applicable use / material	Content threshold (Homogeneous material)	CAS NO.
13	Nickel and its compounds	1	Various uses of organonickel compounds	1000ppm	-
		1	Exposed parts of external modules and components that are prone to direct contact with skin for long or short periods of high frequency	0.28ug/cm2/week	
		Exception	All other application	/	
14	Arsenic and its compounds	1	Ink, paint, color master, lead-copper alloy, metal binde	25ppm	-
			Semiconductor, copper foil and PCB plate	100ppm	
			All packing materials	Presence banned	
			All other application	50ppm	
15	PCB	1	All application	Banned	-
	PCT	1	All application	Banned	-
	PCN(CI≥1)	1	All application	Banned	-
16	SCCP (C10-13)	1	All application	Banned	85535-84-8
17	MCCP (C14-17)	1	All application	Banned	85535-85-9
18	LCCP (C18-28)	1	All application	1000ppm	85422-92-0
19	Pentachlorop henol and its compounds	1	Wood material	Banned	-
		1	All other application	1000ppm	
20	TBBPA	1	All application	1000ppm	21850-44-2、79-94-7
21	Brominated dioxins furans and dioxins furans.	1	Pollutants after product combustion	0.005ppm	-
22	Asbestos(Detailed list reference table V-B)	1	All application	Banned	-

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Item	Presence banned substance	Management Levels	Applicable use / material	Content threshold (Homogeneous material)	CAS NO.
23	HBCDD(Detailed list reference table V-C))	1	All application	Banned	25637-99-4
24	Tributyl tin (TBT) , Triphenyl tin (TPT) and Tributyl tin oxide	1	All application	Banned (Note 5)	-
25	Dibutyltin (DBT) compounds	1	All application	1000ppm (Note 5)	-
26	Dioctyltin (DOT) compounds	1	All application	1000ppm (Note 5)	-
27	Other organotin compounds	1	All application	Banned (Note 5)	-
28	Specific azo compounds(Detailed list reference table V-D)	1	Applicable for continuous contact with the human body part of the product;	Banned	-
29	Formaldehyde	1	Wood material	Banned	50-00-0
			All other application	75ppm	
30	Polyvinyl chloride (PVC)and its' blends	1	Package, label, wire strap, heat shrink tube, flat flexible wire, insulation board,Decorative panels and sheets.	1000ppm	9002-86-2
			Exception	All other application	
31	Beryllium and its compounds	1	All application(In addition to electrical bonding applications of ceramics and beryllium copper in electronic components, such as springs, connectors, EMI gaskets)	1000ppm	-
			Beryllium oxide	Banned	61279-74-1
32	Perfluorooctane sulfonate (PFOS) and its salts	1	Textile, coating materials	1µg/m ²	-
		1	Other components of the product	Banned	-

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Item	Presence banned substance	Management Levels	Applicable use / material	Content threshold (Homogeneous material)	CAS NO.
33	PFOA	1	All application	Banned	-
34	PFAS	1	All application	1000ppm	-
35	PAHs(Detailed list reference table V-E)	1	All accessible plastic or rubber parts; Rubber or plastic parts that come into direct, prolonged or repetitive skin or oral cavity	0.5ppm(Note 6)	-
36	DMF	1	Application including	0.1ppm	624-49-7
37	Radioactive Substances	1	All application	Banned	-
38	Specific organophosphate(Detailed list reference table V-F)	1	All application	1000ppm	-
39	Cobalt dichloride(Detailed list reference table V-G)	1	Packing material	Banned	-
			All other application	100ppm	
40	EPS	1	Packing material	1000ppm	-
41	perchlorate	1	All application	0.006ppm	-
42	BNST	1	All application except additives in rubber	Banned	68921-45-9
43	Pentachlorobenzene	1	All application	Banned	608-93-5
44	Hexachlorobenzene	1	All application	Banned	118-74-1
45	Red phosphorus/ yellow	1	Application of flame retardant in plastics PCB and other materials	Banned	7723-14-0/1 2185-10-3
46	Other chlorine flame retardants	1	PCB, and the plastic parts greater than 25g	1000ppm	-
		Exception	All other application	/	
47	Other bromine flame retardants	1	PCB, and the plastic parts greater than 25g	1000ppm	-
		Exception	All other application	/	
48	Selenium and its compounds	1	Plastics, pigments, inks, coatings, catalysts, etc.	1000ppm	-
		Exception	All other application	/	
49	Pentachlorophenol (PCP)	1	All application	1000ppm	87-86-5

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Item	Presence banned substance	Management Levels	Applicable use / material	Content threshold (Homogeneous material)	CAS NO.
50	Monohalogenated aromatic substance	1	Capacitor	500ppm	-
51	Multi halogenated aromatic substances	1	Capacitor	50ppm	-
52	Nonyl phenol	1	Textile, leather, metal, pulp and paper parts.	Banned	84852-15-3、 25154-52-3
			All other application	1000ppm	
53	4-nitrobiphenyl	1	All application	Banned	92-93-3
54	Chlorinated hydrocarbons	1	All application	1000ppm	-
55	bisphenol A	1	All plastic material	50ppm	80-05-7
56	UV-320	1	Plastics, printing ink, adhesives, etc	Banned	3846-71-7
57	Boric acid	1	Packing material	1000ppm	10043-35-3
		Exception	All other application	/	
58	2,4,6-tertiary butyl-phenol	1	All application	Banned	732-26-3
59	Hexachlorocyclohexane and its isomers	1	All application	Banned	-
60	Acrylonitrile	1	All application	1000ppm	107-13-1
61	POPs Regulation substance I	1	All application	According to laws and regulations (Note 7)	-
62	REACH Appendix 17 restricted substances	1	Restricted application specified by law	According to laws and regulations (Note 7)	-
		Exception	Other application than statutory restrictions	/	
63	Dimethylformamide	1	All application	1000ppm	68-12-2
64	Dichlorotoluene	1	All application	Banned	542-88-1
65	DBB	1	All application	1000ppm	7113-37-0
66	Tetrachlorobenzene and its isomers	1	All application	1000ppm	95-94-3 634-90-2 634-66-2

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Item	Presence banned substance	Management Levels	Applicable use / material	Content threshold (Homogeneous material)	CAS NO.
67	Musk xylene	1	All application	500ppm	81-15-2
68	hexachlorobutadiene	1	All application	Banned	87-68-3
69	PFOSF	1	All application	1000ppm	307-35-7
70	TDBPP	1	Textiles for skin contact	Banned	126-72-7
71	Cobalt and Cobalt compounds	1	Products with long time skin contact	Banned	-
72	Latex	1	Appearance mechanism parts	Banned	-
73	Monomethyl dibromodiphenylmethane	1	All application	Banned	99688-47-8
74	Monomethyl dichlorodiphenylmethane	1	All application	Banned	81161-70-8
75	Monomethyl tetrachlorodiphenylmethane	1	All application	Banned	76253-60-6
76	Isopropyl triphenyl phosphate	1	Flame retardant	Banned	68937-41-7
77	Alkyl phenol	1	Additives in detergents, fuels, lubricants and polymers	Banned	27193-28-8 9016-45-9 9002-93-1
78	Diphenyl ether octabromide derivatives	1	All application	1000ppm	32576-61-7 32536-52-0
79	1,1,1-Trichloroethane	1	All application	Banned	74552-83-3
80	Phenol, n-methyl-	1	All application	10ppm	106-44-5 108-39-4 1319-77-3
81	Benzyl Chloride	1	All application	1000ppm	100-44-7

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Remark about table1:

- (1) . The labeled ★ substance are RoHS2.0 controlled items. Those with exempted uses are controlled by exemption requirements. The list of common exemptions refers to Appendix I.
- (2) Please refer to Appendix II, for recommended testing methods for partially banned substances and adopt other test methods approved by the customer.
- (3) This table does not list all uses and examples of use. If there is an unknown matter, please contact the sender.
- (4) The substances in the regulations which are separately listed in this standard need to be executed according to the restricted application and thresholds listed separately.
- (5) Tin concentration by metal conversion is available.
- (6) PAHs Standards for measurement :Use GC-MS (the testing method of AfPS GS 2014:01 PAK) to execute the measurement.
- (7) The website of the regulation is referred to below.

Regulation list name	Website
POPs(I) list	http://ec.europa.eu/environment/archives/pops/index_en.htm
REACH List of restricted substances	https://echa.europa.eu/substances-restricted-under-reach



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Table 2 List of other special requirements substance

The substances listed in Table 2 are restricted only for specific application and materials, and for other application other than applicable application/materials, they are not controlled unless listed in Table 1 and Table 3. In addition to meeting the requirements of Table 1, they also need to meet the following limits. Halogen-free, CA65 and TCO requirements will be proposed by BizLink separately.

List of other special requirements substance				
item	Substance	Applicable uses/materials	Content threshold (homogeneous material)	CAS NO.
1.	Antimony trioxide	Specific halogen-free materials	1000ppm	1309-64-4
2.	Chlorine (Cl)	Specific halogen-free materials	900ppm	-
		Bleaching application of packaging Materials	Banned	
3.	Bromine (Br)	Specific halogen-free materials	900ppm	-
4.	Total content of chlorobromide	Specific halogen-free materials	1500ppm	-
5.	Triphenyl phosphate	Specific halogen-free materials	1000ppm	115-86-6
Material requirements for process use				
item	Substance	Applicable uses/materials	Content threshold (homogeneous material)	CAS NO.
6.	GHG (HFC / PFC / SF6)	All application of process materials, etc.	Banned	-
7.	ODS(Reference to the latest list of Annex Substances to the Montreal Agreement)	All application of process materials, etc.	Banned	-
8.	VOCs(Detailed list refers to Table V-H)	All application of process materials, etc.	1000ppm	-

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9.	N-hexane	All application of process materials, etc.	Banned	110-54-3
10.	Cyclohexane	All application of process materials, etc.	1000ppm	110-82-7
11.	Benzene	All application of process materials, etc.	Banned	71-43-2
12.	Trichloroethylene	All application of process materials, etc.	Banned	79-01-6
13.	Tetrachloroethylene	All application of process materials, etc.	Banned	630-20-6
14.	Dichloromethane	All application of process materials, etc.	Banned	75-09-2
15	Phosphate	It is forbidden to use in degreasing and coating processes of metals.	Banned	-

Note:

1) Montreal Protocol Annex Material List Regulations Reference Website:

<https://www.epa.gov/ozone-layer-protection/ozone-depleting-substances>



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Table 3 list of controlled substance

The substances listed in Table 3 belong to substances not prohibited by BizLink. They are new reviews and planned limits for future controlled substances projects, and can not be avoided or replaced temporarily in some materials/uses. If the content of the homogeneous material exceeds the limit specified in this table, it is necessary to ensure that BizLink can grasp the information of the content, such as the name, content and use of the material.

item	Substance	level	Declared limitation	CAS NO.
1.	Other chlorine and its compounds	3	1000ppm	-
2.	Other bromine and its compounds	3	1000ppm	-
3.	Antimony and its compounds	3	1000ppm	-
4.	Magnesium and its compounds	3	intentional added	-
5.	Nickel and its compounds	3	intentional added	-
6.	Bismuth and its compounds	3	intentional added	-
7.	PVC	3	1000ppm	9002-86-2
8.	Phosphorus and its compounds	3	intentional added	-
9.	Sulphur and its compounds	3	intentional added	-
10.	Selenium and its compounds	3	1000ppm	-
11.	Halogenated diphenyl methane	3	intentional added	-
12.	Benzidine and its compounds	3	intentional added	-
13.	Polychlorinated biphenyl furan	3	intentional added	136677-10-6
14.	2,3,6,7-Tetrachlorodibenzo-p-dioxin	3	intentional added	1746-01-6
15.	REACH SVHC	3	1000ppm (Note 2)	-
16.	Gold and Its compounds	3	intentional added	-

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item	Substance	level	Declared limitation	CAS NO.
17.	Tin and Its compounds	3	intentional added	-

Remark about table 2.

1) Develop the Hazardous substances reduction Plan for class 2 / 3 controlled substances, as detailed in the attached documentation.

2) Excluding substances that have been independently incorporated into this standard. The control limit value of SVHC is the content of the parts defined by REACH regulation. When new substances are added to SVHC, if they exceed the content limit, they should be notified to BizLink in advance, and a reduction plan should be worked out. (The supplier will be investigated separately after some regulations of REACH SVHC are updated.)

REACH SVHC reference regulations website:

http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp



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5. Additional rules for packaging materials:

5.1 Packaging materials: Packing material refers to the raw materials to processed products from producers to users or consumers, by loading, protection, applied, ship, delivery of all kinds of materials of products.

5.2 According to the law regulation, the packing material need accord with the following condition ,except the regulation specified in clause 4 table 1.

Table 4 Additional rules for packaging materials

Heavy metals (mercury, cadmium, lead, and hexavalent chromium)	
Level	Targets
Level 1	·The articles used for product packages and packages for part transportation(e.g. handle, wooden frame, box and bracket, guide rail, lever, roll box, bag, cushioning material, fixing apparatus, the thin plate, rope, hard carton, coating, ink, adhesive tape, label, rubber pad)
<p>Allowable concentrations:</p> <p>·“Less than 50 ppm” is determined as the allowable total-concentration of four heavy metals(Hg, Cd, Pb, and Cr6+) contained in each part, ink, or paint that constitutes a package. But in plastic(rubber) part ,the allowance concentration of Cd is less than 5ppm.</p> <p>(The main plastic part : handle, plastic bag, cushion, rope, box, bracket, lead rail, adhesive tape, lever etc.)</p>	
<p>Test requirement:</p> <p>1. As for chrome, firstly we should inspect the total chrome, to know whether the total concentration of the 4 element exceed 50ppm. and then precondition with the cadmium and lead together, the result is the concentration of the total chrome.</p> <p>2. When the total concentration of four element exceed 50ppm, we need make sure the total concentration of cadmium, lead, and mercury don't exceed 50ppm, and make sure whether the chrome is Cr6+. At last ,we should make sure that there is no Cr6+ existed .</p>	



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6.SPECIAL SPECIFICATION AND REQUIREMENT:

- 6.1 The use of Ozone Depleting Substances(ODS) and chlorinated organic solvent shall be prohibited in manufacturing;
- 6.2 For especially requests from customer which not contained in the standard, BizLink will regulate and require them on related drawing or parts procedure.;
- 6.3 The allowable content of the above environmental controlled substances is executed according to the company standard if not required by the customer,If the customer has a special request, it should be managed according to the customer's special request. This part of the requirement is confirmed by the BizLink individually with the manufacturer (E. g CA65, HF, No phthalate and TCO certification requirements);
- 6.4 For environmentally harmful substances controlled by the ROHS of the EU (including the new added 4 phthalates) , the manufacturer must provide a report on the chemical testing of homogeneous materials by a third-party laboratory .For the HF and NP material,the supplier need provide the test report of halogen and phthalates in addition. And this laboratory or inspection organization is required to pass ISO/IEC17025 laboratory quality certification or a local accredited laboratory. The list of BizLink accredited laboratories is shown in Appendix III. The test report should be updated frequency at least once a year to demonstrate that the parts and materials provided to BizLink meet the ROHS control requirements of this standard.
- 6.5 Microsoft's test method for plastic Phthalates is EN14372:2004. For the concrete operation, the BizLink must be managed in accordance with other application rules and regulations;
- 6.6 For halogen-free compliance testing reports, only parts / products containing plastics are required to be tested, Halogen-containing testing isn't required for components / products made only of composite or ceramic products, unless these components / products are known to contain halogen risks. Known risks with halogen should be notified to BizLink; before the product is shipped;

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7. Appendix tables list:

Appendix I: RoHS exemption list (list common exemptions only)

Exemption Number	Exemption items	Scope and duration of application	Remark
6(a)	As an alloy element, lead content in steels and galvanized steels used for mechanical processing does not exceed 0.35%.	The following date expires: - Category 8 and 9 products, except in vitro diagnostic medical devices and industrial monitoring devices, expire at 2021/7/21. - The in vitro diagnostic medical devices in Category 8 products expire at 2023/7/21. - Category 9 industrial monitoring equipment and Category 11 equipment expire at 2024/7/21.	Directive (EU) 2018/739 updated, effective from July/1, 2019
6(a)-I	Lead as an alloying element contains no more than 0.35% lead in steel for processing purposes and no more than 0.2% lead in hot-dip galvanized steel components.	Category 1-7 and Category 10 equipment, due at 2021/7/21.	Directive (EU) 2018/739 updated, effective from July/1, 2019
6(b)	Lead content in aluminium alloys does not exceed 0.4% by mass.	The following date expires: - Category 8 and 9 products, except in vitro diagnostic medical devices and industrial monitoring devices, expire at 2021/7/21. - The in vitro diagnostic medical devices in Category 8 products expire at 2023/7/21. - Category 9 industrial monitoring equipment and Category 11 equipment expire at 2024/7/21.	Directive (EU) 2018/740 updated, effective from July/1, 2019

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6(b)-I	Lead content in aluminium alloy is less than 0.4% by mass from recycled lead-containing aluminium scrap.	Category 1-7 and Category 10 equipment, due at 2021/7/21.	Directive (EU) 2018/740 updated, effective from July/1, 2019
6(b)-II	In aluminium alloys for mechanical processing, the lead content is less than 0.4% by mass.	Category 1-7 and Category 10 equipment, due at 2021/5/18.	Directive (EU) 2018/740 updated, effective from July/1, 2019
6(c)	Lead content in copper alloys does not exceed 4% by mass.	The following date expires: - Category 1-7 and Category 10 equipment expire at 2021/7/21; - Category 8 and 9 products, except in vitro diagnostic medical devices and industrial monitoring devices, expire at 2021/7/21. - The in vitro diagnostic medical devices in Category 8 products expire at 2023/7/21. - Category 9 industrial monitoring equipment and Category 11 equipment expire at 2024/7/21.	Directive (EU) 2018/741 updated, effective from July/1, 2019
7(a)	Lead in high melting point solders (e.g. lead content in lead-based alloys exceeding 85%)	The following date expires: - Category 1-7 and Category 10 equipment expire at 2021/7/21; - Category 8 and 9 products, except in vitro diagnostic medical devices and industrial monitoring devices, expire at 2021/7/21. - The in vitro diagnostic medical devices in Category 8 products expire at 2023/7/21. - Category 9 industrial monitoring equipment and Category 11 equipment expire at 2024/7/21.	Directive (EU) 2018/742 updated, effective from July/1, 2019

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7(c)-I	Lead, such as piezoelectric devices or glass/ceramic composite elements, contained in glass or ceramic materials (excluding ceramic dielectrics in capacitors) in electronic and electrical components	The following date expires: - Category 1-7 and Category 10 equipment expire at 2021/7/21; - Category 8 and 9 products, except in vitro diagnostic medical devices and industrial monitoring devices, expire at 2021/7/21. - The in vitro diagnostic medical devices in Category 8 products expire at 2023/7/21. - Category 9 industrial monitoring equipment and Category 11 equipment expire at 2024/7/21.	Directive (EU) 2018/736 updated, effective from July/1, 2019
8b	Cadmium and Cadmium Compounds in Electric Contacts	-	-

Appendix II : Reference test method for controlled substances

Substance	Test method	Test instrument
Cadmium and its compounds	IEC62321-5 : 2013	ICP-OES
Lead and its compounds	IEC62321-5 : 2013	ICP-OES
Mercury and its compounds	IEC62321-4 : 2013+A1 : 2017	ICP-OES
Hexavalent Chromium compounds	IEC62321-7-2 : 2017 , IEC62321-7-1 : 2015 , IEC62321-5 : 2013	UV
PBBs	IEC62321--6 : 2015	GC-MS
PBDEs	IEC62321--6 : 2015	GC-MS
Halogen (Chlorine and Bromine)	EN 14582:2016 , IEC 62321-3-2	IC
phthalates	EN14372 , IEC62321-8:2017	GC-MS

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Appendix III: List of BizLink Accredited Laboratories

NO.	BizLink Accredited Laboratories
1	SGS
2	Intertek
3	BV
4	CTI
5	PONY
6	TUV
7	EMTEK
8	State or provincial and municipal entry-exit inspection and quarantine bureaus
9	Other testing organizations must confirm with BizLink that they are correct before accepting it.



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Appendix IV: Examples of laws and regulations referred to in this standard

EU	·	ROHS2.0 Directive 2011/65/EU and its revised Directive(EU)2015/863
EU	·	REACH regulation (EC) No.1907/2006
China	·	Measures for the Administration of the Restricted Use of the Hazardous Substances Contained in Electrical and Electronic Products
Japan	·	Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances (Class 1), etc.
EU	·	EU POPs (EC) No 850/2004 Annex I0/2004
EU	·	WEEE directive 2002/96/EC and EU: EU directive 1999/45/EC .
EU	·	Directive on Packaging and Packaging Waste (94/62/EC). Etc.
Argentina	·	Sections 26, 184 and decision 14/2007 of Portable electric energy regulations.
EU	·	EU directive (2006/842/EC)
Norway	·	The restriction of using the particular hazardous chemicals
EU	·	The suggestion of restricting using hazardous substance in Europe.
Japan	·	Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances (Class 1,2), etc.
Japan	·	Labour Safety and Health Law, etc.
Germany	·	The regulations of chemicals prohibiting, (ChemVerbotsV for short)
Denmark	·	Directive No.289/No.552
Switzerland	·	Reduction the risk of chemicals ordinance(ORRChem for short)
Norway	·	Product Regulations
EU	·	EU directive (EC)No. 2037/2000 and its revised edition
Japan	·	The laws of protection ozonosphere by controlled the particular substance.
America	·	The amendment of 1990's cleanness air proposed law
Indonesia	·	Regulation of the Minister of Industry of the Republic of Indonesia No.33/M-IND/PER/4/2007 dated April 17, 2007
EU	·	European commission regulation 2009/251/EC
America	·	New York and other states in the U.S. Regulations on Heavy Metals in Packaging Materials
Canada	·	Prohibition of Certain Toxic Substances Regulations,SOR2012-285



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Appendix V-A: Detailed list of specific phthalates (27P)

序号	物质名称	简称	CAS No
1.	Bis(2-ethylhexyl) phthalate	DEHP	117-81-7
2.	Dibutyl phthalate	DBP	84-74-2
3.	Butyl benzyl phthalate	BBP	85-68-7
4.	Diisobutyl phthalate	DIBP	84-69-5
5.	Diethyl phthalate	DEP	84-66-2
6.	Di-n-octyl phthalate	DNOP	117-84-0
7.	diisopentyl phthalate	DIPP	605-50-5
8.	Diisononyl phthalate	DINP	28553-12-0 68515-48-0
9.	Diisodecyl phthalate	DIDP	26761-40-0 68515-49-1
10.	Bis(2-methoxyethyl) phthalate	DMEP	117-82-8
11.	DI-n-hexyl phthalate	DnHP	84-75-3
12.	Dicyclohexyl phthalate	DCP	84-61-7
13.	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	DHNUP	68515-42-4
14.	Isopentyl pentyl phthalate	-	776297-69-9
15.	DiC6-8 Branched Alkyl Phthalate (Rich in C7)	-	71888-89-6
16.	DI-n-hexyl phthalate	-	68515-50-4
17.	DI-n-pentyl phthalate-D4	DPP	131-18-0
18.	1,2-benzoic acid-di (branched and straight chain) amyl ester	-	84777-06-0
19.	Di (C6-C6) alkyl phthalate: (decanoyl, hexyl, octyl) ester and 1,2-phthalic acid complex and Dihexyl phthalate content (>0.3%)	-	68515-51-5 68648-93-1
20.	Di(2-propyl heptane) phthalate	-	53306-54-0
21.	Diisooctyl phthalate	DIOP	27554-26-3

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22.	Dimethyl phthalate	DMP	131-11-3
23.	Diheptyl phthalate	-	3648-21-3
24.	Di-n-nonyl phthalate	DNP	84-76-4
25.	Diphenyl phthalate	-	84-62-8
26.	Dipropyl phthalate	-	131-16-8
27.	Bisundecyl phthalate	DUP	3648-20-2

Table V-B : Asbestos

Item	Substance	CAS No
1.	Asbestos	1332-21-4 132207-32-0 132207-33-1
2.	Crocidoliteasbestos	12001-28-4
3.	chrysotile	12001-29-5
4.	amosite	12172-73-5
5.	anthophyllite	17068-78-9
6.	tremolite	14567-73-8
7.	actinolite	13768-60-8



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Table V-C : HBCDD

Item	Substance	CAS No
1.	HBCDD	25637-99-4
2.	HBCDD	4736-49-6
3.	HBCDD	65701-47-5
4.	HBCDD	138257-17-7
5.	HBCDD	138257-18-8
6.	HBCDD	138257-19-9
7.	HBCDD	169102-57-2
8.	HBCDD	678970-15-5
9.	HBCDD	678970-16-6
10.	HBCDD	678970-17-7
11.	1,2,5,6,9,10-HBCDD	3194-55-6
12.	a-HBCDD	134237-50-6
13.	b-HBCDD	134237-51-7
14.	r-HBCDD	134237-52-8



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TABLE V-D : Detailed list of Specific azo compounds

Item	Substance	CAS No
1.	4-Aminophenyl benzene	92-67-1
2.	Benzidine	92-87-5
3.	4-Chloro-2-methylaniline	95-69-2
4.	2-Aminonaphthalene	91-59-8
5.	O-aminoazotoluene	97-56-3
6.	2-Methyl-5-nitroaniline	99-55-8
7.	4-Chloroaniline	106-47-8
8.	2,4-Diaminomethoxyanisole	615-05-4
9.	4,4'-Methylenedianiline	101-77-9
10.	3,3'-Dichlorobenzidine	91-94-1
11.	3,3'-Dimethoxybiphenyl	119-90-4
12.	C.I. 37230	119-93-7
13.	3,3'-Dimethyl-4,4'-Diaminodiphenylmethane	838-88-0
14.	2-Methoxy-5-methylaniline	120-71-8
15.	4,4'-Methylene bis(2-chloroaniline)	101-14-4
16.	4,4'-Oxydianiline	101-80-4
17.	4,4'-Thiodianiline	139-65-1
18.	O-Toluidine	95-53-4
19.	2,4-Diaminotoluene	95-80-7
20.	2,4,5-Trimethylaniline	137-17-7
21.	O-Anisidine	90-04-0
22.	4-Aminoazobenzene	60-09-3



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TABLE V-E : Polycyclic aromatic hydrocarbons (PAHs)

Item	Substance	CAS No
1.	Benzo[a]anthracene(BaA)	56-55-3
2.	Benzo[b]fluoranthene(BbFA)	205-99-2
3.	Benzo[j]fluoranthene(BjFA)	205-82-3
4.	Benzo[k]fluoranthene(BkFA)	207-08-9
5.	Benzo(a)pyrene(BaP)	50-32-8
6.	Benzo[e]pyrene(BeP)	192-97-2
7.	Chrysene(CHR)	218-01-9
8.	Dibenz[a,h]anthracene(DBAhA)	53-70-3
9.	Benzo[ghi]perylene(BPE)	191-24-2
10.	Indenol[1,2,3-cd]pyrene(IPY)	193-39-5
11.	Naphthalene(NAP)	91-20-3
12.	Acenaphthene(ANA)	83-32-9
13.	Acenaphthylene(ANY)	208-96-8
14.	Fluorene(FLU)	86-73-7
15.	Phenanthrene(PHE)	85-01-8
16.	Anthracene(ANT)	120-12-7
17.	Fluoranthene(FLT)	206-44-0
18.	Pyrene(PYR)	129-00-0



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TABLE V-F : Specific organophosphorus compounds

Item	Substance	CAS No
1.	Tris(2-chloroethyl) phosphate(TCEP)	115-96-8
2.	Phosphoric acid tris(2-chloro-1-methylethyl) ester (TCPP)	13674-84-5
3.	Fyrol FR 2 (TDCPP)	13674-87-8
4.	Tritolyl phosphate(TCP)	1330-78-5
5.	Tri-o-cresyl phosphate(TOCP)	78-30-8
6.	Tri (xylene) phosphate (TXP)	25155-23-1
7.	Tri (1-azopropidiny) phosphorus oxide (TEPA)	545-55-1
8.	Triphenyl phosphate (TPP)	115-86-6

TABLE V-G : Cobalt dichloride

Item	Substance	CAS No
1.	Cobalt chloride	7646-79-9
2.	Cobalt chloride hexahydrate	7791-13-1
3.	cobalt trichloride	10241-04-0
4.	cobalt chloride	34240-80-7

TABLE V-H : Volatile Organic Compound(VOCs)

Item	Substance	CAS No
1.	methylbenzene	108-88-3
2.	Xylene	1330-20-7
3.	Chlorobenzene	108-90-7
4.	Ethylbenzene	100-41-4
5.	Styrene	100-42-5
6.	Acetaldehyde	75-07-0

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8. Attached document:

< Hazardous substance reduction plan > BEM-1-06-01

< REACH SVHC list> BEM-1-06-02

