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版序 Rev.	變更章節 Modified Chap.	變更事項 Modified Description	擬案單位 Issued Dept.	擬案人 Issued	修訂日期 Revised Date
22	2~4	1. Modify the description of "Chapter 2.2 Applicable Modules, Parts, Sub-materials and Materials" 2. Modify the content of"Chapter 3 Definition" 3. Modify the content of"Chapter 4 Management Standards for Hazardous Substances"	Green Product Management	Betty1 Lin	FEB.02,2023
	4.1, Appendix 1	1. Modify the contents of "TBBP-A" 2. Add regulated substances as "DP", "DBDPE", "PFHxS" , "Skin sensitizing substances"			
	4.5 Appendix 1	1. Modify the contents of "Halogenated flame retardants" 2. Appendix 1 "Elemental Chlorine" and "PVC and PVC blends" are moved to Chapter 4.5 Additional Rules for Packaging Materials 3. Modify the contents of "Phthalates" , "Mineral oil", "PFAS"			
	5	Modify the contents of " Reference"			
	Appendix 2	Modify the contents of "List of Other phthalates "			
23	3~4	1. Modify the content of"Chapter 3 Definition" 2. Modify the content of"Chapter 4 Management Standards for Hazardous Substances"	Green Product Management	Betty1 Lin	FEB.29,2024
	4.1, Appendix 1	1. Modify the contents of "TBBP-A" , "DP" , "DBDPE" "PFHxS" , " Bisphenol-A" 2. Add regulated substances as "Hexachlorobenzene (HCB)" , "Perfluorohexanoic Acid (PFHxA) " , " Perfluoroalkyl and polyfluoroalkyl substances (PFAS) "			
	4.3	1. Add halogen test method "IEC 62321-3-2:2020"			
	4.5 Appendix 1	1. Modify the contents of "Phthalates" , "PFAS" 2. Add regulated substances as "Expanded Polystyrene (EPS)" ,			

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	5	Modify the contents of " Reference"			
	Appendix 5	Modify the contents of "List of the ozone depleting substances "			

Table of Contents

1. Objective：

In order to achieve the goals of Green Design, Green Procurement, Green Manufacturing and Green Marketing, ASUS formulates this Technical Standard to monitor , control and reduce chemical substances strictly by prohibiting, planning on phasing out schedule and disclosing information of chemical substances.
ASUS has responsibility to ensure that all GreenASUS products achieve the objective as following:

1.1 To prevent hazardous substances used in products

1.2 To comply with related laws and regulations

1.3 To contribute to the preservation of the global environment and

1.4 To reduce the influence upon the ecosystem

2. Scope：

2.1 Applicable ASUS Products, including but not limit to

(a) Designed, sold, or distributed by the ASUS Group

(b) Sold or distributed with the ASUS Group’s logos on them, while the design or production of these products are subcontracted to parties or companies outside the ASUS Group

(c) Outsourced by international OBM customers to the ASUS Group for design

2.2 Applicable Modules, Parts, Sub-materials and Materials

Targets are the modules, parts, sub-materials, materials, and others that are procured, manufactured, sold or repaired by ASUS Group or by third parties.

3. Definition：

3.1 Hazardous Substances

Products are used in the composition of modules, parts, sub-materials and materials, have significant environmental-impact on both humans and the globe. (Otherwise known as Restricted Substances, which is abbreviated as “RS”)

Hazardous substances which impacts the human health and environmental are listed as Level 1 to 3 management in this Technical Standard.

Regarding the substances or their applications that have been banned by regional, country law or ordinances but not clearly regulated in this technical standards, relevant law and ordinances shall be applied.

3.2 Contained

"Contained" is a situation in which a substance is added to, fills up, mingles with, or adheres to the modules, parts, sub-materials and materials employed in products, or regardless if the situation is intentionally created or not.

(When a substance is unintentionally contained in a product during manufacturing process, this is also regarded as "Contained.")

3.3 Impurity

"Impurity" is a substance that satisfies either or both of the following conditions:

(a) One contained in a natural material, which cannot technically be removed in a refining process totally (i.e. natural impurities); and

(b) One generated in a synthesis process, the total removal of which is technically impossible.

If there are substances called "Impurities" used for the purpose of changing the characteristics of a material, or even if the substances, as an "Impurity", mingles with or adheres to product modules, parts, sub-materials and materials the concentration must comply with the limits of environmental management substances specified in this Technical Standard.

Furthermore, substances called Dopants (doping agents) that are intentionally added to manufacture semiconductor devices, etc. are also treated as impurities. And if only a trace amount remains in the semiconductor device, also regarded as an "impurity".

3.4 Modules

"Modules" are semi-finished products or finished products (such as hardware, software, CD-ROM drive, power supplier, screen and CPU etc.)not produced by ASUS and purchased from other companies because of the product's demand.

3.5 Parts

"Parts" are semi-finished products with restricting functions (such as electronic parts, mechanism parts, semiconductor elements and print circuit board etc.) and composing products.

3.6 Sub-materials

"Sub-materials" are items (such as packaging material, bundling up belt, plastic bag, adhesive tape and binder etc.) that will be used during manufacturing and will be delivered to the customer together with the products but not listed in the BOM table; consumables (such as gloves, cotton yarn, lubricating oil, chemical liquid etc.) used for manufacturing process and equipment which may have direct contact with parts, semi-finished products and finished products.

3.7 Plastics

"Plastics" are materials and raw materials composed of synthetic high-molecular polymers.

More specifically, "plastics" mainly means articles composed of synthetic high-molecular polymers, including resins, films, adhesives, adhesive tapes, (injection) molding products, and products made of synthetic rubber.

When a natural resin is synthesized with any of the above articles, the synthetic substance is also classified as plastic.

3.8 Packaging Materials

"Packaging Materials" are materials used for the containment, protection, handling, delivery and presentation of products from the producer to the users, consumers or customers.

3.9 Management Level

"Management Level" is to manage hazardous substances, the following three levels are used.

(a) Level 1

The substances and/or their applications classified at this level are not intentionally added and the application must be banned immediately.

(b) Level 2

The substances and/or their applications classified at this level should be disclosed all information before a certain time and will be prohibited thereafter. On or after the Implementation Date set in each table, the substances in the respective table will be classified at Level 1 and must not be used in modules, parts, sub-materials, and materials.

(c) Level 3

In order to monitor the use of hazardous substances in products, the information of substances classified at this level should be disclosed(reportable) when these substances are intentionally used or the concentration exceed allowable concentration in modules, parts, sub-materials, and materials. They shall be classified into Level 2 and to be banned in phases, depending on the availability of alternative parts, new materials or techniques that satisfy the intended application in modules, parts, sub-materials, and materials according to ASUS' judgment.

3.10 Exemption

"Exemption" means the special substances listed in national laws or this technical standard are allowed to be used in excess of the limit within a period of time.

The application is derived from an appropriate substitute substance that satisfies the market application or alternative technical solutions are not yet feasible. Substance limits in purchased modules, parts, sub-materials and materials are listed outside the prohibited substances.

3.11 Target

"Target" is the scope of control as defined in "Management Level".

3.12 Measurement Equipment and Testing Method

Refers to the measurement equipment and measurement methods of the each substances in this technical standard.

4. Management Standards for Hazardous Substances：

4.1 Restrictions of Hazardous Substances in Products

Refer to Table 1 as the “List of the Product Hazardous Substances”

Refer to Appendix 1 as the “List of Restrictions for the Hazardous Substances”

Refer to Table 2 as the “List of the Packaging Materials Hazardous Substances”

Refer to Table 3 as the “List of the Batteries Hazardous Substances”

Please refer to the latest regulated hazardous substances which are also announced on the SCM website(https://scm.asus.com/SCMPortal_2018/#/login).

(The requirement related to RBA Policy on Focus Process Chemicals and Industry Focus Process Chemicals List (IFPCL) are announced on the SCM website and decripted in the document “P-GA2-017 ASUS Sustainable Supply Chain Management Requirement”)

Table 1. List of The Product Hazardous Substances

Hazardous Substances		Management Level			Exemption	Requirement for test report
		Level 1	Level 2	Level 3		
Heavy metals	Cadmium (Cd) and cadmium compounds	●				●
	Lead (Pb) and lead compounds	●			●	●
	Mercury (Hg) and mercury compounds	●				●
	Hexavalent chromium (Cr^{6+}) compounds	●				●
	Nickel (Ni) and nickel compounds	●		●		
	Arsenic (As) and arsenic compounds	●		●		
	Beryllium (Be) and beryllium compounds	●				
	Antimony (Sb) and antimony compounds	●		●	●	
	Bismuth (Bi) and Bismuth compounds			●		
	Cobalt (Co) and Cobalt compounds			●		
Brominated organic compounds	Polybrominated biphenyls (PBBs)	●				●
	Polybrominated diphenylethers (PBDEs)	●				●
	Tetrabromobisphenol-A (TBBP-A)	●	●			
	Hexabromocyclododecane (HBCDD)	●				
	Other brominated Flame Retardants (BFRs)	●		●		

Hazardous Substances		Management Level			Exemption	Requirement for test report
		Level 1	Level 2	Level 3		
	Other brominated organic compounds			●		
Chlorinated organic compounds	Polychlorinated biphenyls (PCBs), Polychlorinated naphthalenes (PCNs), Polychlorinated terphenyls (PCTs)	●				
	Chlorinated paraffins (CPs)	●		●		
	Polyvinyl chloride (PVC) and PVC blends	●		●		
	Hexachlorobutadiene (HCBD)	●				
	Tetrachlorobenzenes (TeCB)	●				
	Pentachlorothiophenol (PCTP)	●				
	Hexachlorobenzene (HCB)	●				
	Chlorinated Flame Retardants (CFRs)	●		●		
	Other chlorinated organic compounds			●		
Halogenated flame retardants		●			●	
Phthalates	Bis(2-ethylhexyl) phthalate (DEHP)	●				●
	Benzyl butyl phthalate (BBP)	●				●
	Dibutyl phthalate (DBP)	●				●
	Bis(2-ethylhexyl) phthalate (DEHP), Benzyl butyl phthalate (BBP), Dibutyl phthalate (DBP)	●				
	Diisobutyl phthalate (DIBP)	●				●
	Diisononyl phthalate (DINP), Diisodecyl phthalate (DIDP), Di-n-octyl Phthalate (DNOP)	●		●		
	Other phthalates			●		
Organic tin compounds	Group A: Tributyl tin (TBTs) compounds, Triphenyl tin (TPTs) compounds, Dibutyl tin (DBT) compounds, Dioctyl tin (DOT) compounds and Tributyl tin Oxide (TBTO) compounds	●				
	Organic tin compounds other than Group A			●		
Specific Azo compounds		●				
Asbestos		●				
Formaldehyde		●		●	●	
Ozone depleting substances (ODS)		●				
Radioactive substances		●				
Halogenated diphenyl methanes		●				
Perfluorooctane sulfonates (PFOS)		●				
Perfluorooctyl acid (PFOA) and its salts and one or a combination of PFOA related substances		●				
Bisphenol-A			●	●		
Fragrance substance (Musk xylene and Musk ketone)				●		
Surfactants (DTDMAC, DODMAC(DSDMAC) and DHTDMAC)				●		

Hazardous Substances	Management Level			Exemption	Requirement for test report
	Level 1	Level 2	Level 3		
Pentachlorophenol (PCP)	●				
Triclosan			●		
Dimethylfumarate (DMF)	●				
Phenol,2-(2H-benzotriazol-2-yl)-4,6 bis(1,1-dimethylethyl)	●				
Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulfur hexafluoride (SF_6)	●				
Polyaromatic Hydrocarbons (PAHs)	●		●		
Selenium (Se) and Selenium compounds			●		
Perchlorates			●		
Red Phosphorous	●		●		
Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene (BNST)	●				
Benzidine and benzidine dihydrochloride that have the molecular formulas $C_{12}H_{12}N_2$ and $C_{12}H_{12}N_2 \cdot 2HCl$, respectively	●				
Tris(2-chloroethyl) phosphate (TCEP)	●				
Tris(1,3-dichloro-2-propyl) phosphate (TDCPP)	●				
Substance at nanoscale			●		
Benzene	●				
n-hexane	●				
Nonylphenol (NP), Nonylphenol ethoxylate (NPEO)	●				
Tris (2,3dibromopropyl) phosphate (TRIS)	●				
Tris-(aziridinyl)phosphinoxide (TEPA)	●				
Volatile Organic Compounds (VOC)) (other hazardous substances requirements for raw materials included in related regulations)	●				
Phenol, Isopropylated phosphate (3:1) (PIP 3:1)	●				
2,4,6-tris(tert-butyl)phenol (2,4,6-TTBP)		●			
Dechlorane Plus (DP)	●				
Decabromodiphenyl ethane (DBDPE)			●		
Perfluorohexanesulfonic acid (PFHxS)	●				
Skin sensitizing substances	●				
Perfluorohexanoic Acid (PFHxA)		●			
Perfluoroalkyl and polyfluoroalkyl substances (PFAS)		●	●		
REACH Candidate List of Substances of Very High Concern (SVHCs)	●		●		
Substances restricted under REACH Annex XVII	●				
Substances included in Annex XIV of REACH (Authorisation List)	●				

Table 2. List of The Packaging Materials Hazardous Substances

Hazardous Substances		Management Level			Exemption	Requirement for test report
		Level 1	Level 2	Level 3		
Heavy metals	Total concentrations of Mercury (Hg), Cadmium (Cd), Lead (Pb), and Hexavalent Chromium (Cr6+)	●				●
Total concentrations of phthalates		●				
Perfluoroalkyl and polyfluoroalkyl substances (PFAS)		●				
Elemental Chlorine		●				
Polyvinyl chloride and PVC blends		●				
Expanded Polystyrene (EPS)		●				
Mineral oil		●	●			

Table 3. List of The Batteries Hazardous Substances

Hazardous Substances		Management Level			Exemption	Requirement for test report
		Level 1	Level 2	Level 3		
Heavy metals	Mercury (Hg), Cadmium (Cd), Lead (Pb)	●				●

4.2 EU REACH Regulation

REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) Regulation (EC) No 1907/2006 is a chemical regulatory framework of the European Union and it entered into force on 1 June 2007. The control measures include: registration, evaluation, authorization, information disclosure, etc. In order to comply with REACH, ASUS has the following approaches:

(a) ASUS will continue to survey the modules, parts, sub-materials, and materials of GA products to see if they have the Substances of Very High Concern (SVHC)[Note 1]. Please check the ECHA website for the latest candidate list. If the SVHC published by ECHA are also shown in Section 4.1, please follow Section 4.1 requirements.

(b) In order to comply with restricted substances of REACH, ASUS prohibits the substances listed in Annex 17 [Note 2] of REACH to be used in the modules, parts, sub-materials, and materials in ASUS products since 2009. Please refer to Annex 17 of REACH for substances and conditions of restriction.

(c) In order to comply with substances included in Annex 14 of REACH (Authorisation List) [Note 3], ASUS restricts the threshold limit of substances listed in Authorisation List to be used in the modules, parts, sub-materials, and materials to be less than 1000 ppm in ASUS products since 2019/1/1. If the substances listed in Authorisation List is also shown in Section 4.1 of this Technical Standard, please follow Section 4.1 requirements.

4.3 Halogen-Free Requirement for Products

For meeting the environmental requirements, ASUS has been applying Halogen-Free Policy on products since 2008. All Halogen-Free modules, parts, sub-materials and materials required by ASUS [Note 4] shall comply with this Technical Standard, when the allowable concentration of halogen should comply with IEC 61249-2-21 (Br <900ppm, Cl <900ppm, and Br + Cl <1500ppm)

The testing methods should follow the descriptions in EN 14582:2016 (Since 2019/1/1, the testing methods in EN 14582:2007 are not applicable), EN 50267-2-1:1999, US EPA SW-846 Method 5050, KS M 0180:2009, DIN 53474:2017-12 or IEC 62321-3-2:2020.

4.4 Eco Label Requirement for Products

In order to join actively the Green Procurement Program which is promoted by many countries and which encourages government agencies, organizations, and enterprises to use ASUS' green products, ASUS requires all modules, parts, sub-materials and materials of Eco Label Products to comply with both this Technical Standard and GreenASUS ECO LABEL PRODUCT TECHNICAL STANDARD (S-AT2-004 (E))

Note 1：The SVHC candidate list is continuously updated. Please visit http://echa.europa.eu/ for the latest Candidate List.

Note 2：The restricted substances list is continuously updated. Please visit http://echa.europa.eu/ for the latest List.

Note 3：The substances in Authorisation List is continuously updated. Please visit http://echa.europa.eu/ for the latest List.

Note 4：Which are marked as HF or HE in column "GA expected" in the ASUS Supply Chain Management Portal (https://scm.asus.com/)

4.5 Additional Rules for Packaging Materials

Packaging materials not only need to comply with restriction in Section 4.1, but also have to meet requirements for the substances listed in Table 4.

Table 4. The Restriction of Substances in Packaging Materials

Substance	Mangement Level	Targets	Allowable concentration
Total concentrations of Mercury (Hg), Cadmium (Cd), Lead (Pb), and Hexavalent Chromium (Cr^{6+})	1	All packaging materials (containing each part, ink, or paint that constitutes a package) include but not limited to the packaging materials listed in Table 5.	Less than 100 ppm
		Measurement equipment and testing method: Refer to cadmium, lead, mercury, chromium and hexavalent chromium of Appendix 1. If any other measurement method can guarantee that the Method Detection Limit (MDL) is equal or less than 5 ppm in each heavy metal, it can be recognized as an acceptable measurement for the packaging materials.	

Total concentrations of phthalates	1	All packaging materials included but not limited to the packaging materials listed in Table 5. * list covers Biomonitoring California Information (https://biomonitoring.ca.gov/chemicals/phthalates) 和 Pharos Phthalates Precautionary list (https://transparency.perkinswill.com/lists/precautionary-list)	Less than 100 ppm
Perfluoroalkyl and polyfluoroalkyl substances (PFAS)	1	All packaging materials included but not limited to the packaging materials listed in Table 5.	Not detected
Elemental Chlorine	1	As a bleaching agent to bleach virgin or recovered fibers used in paper-based product packaging	Not detected
Polyvinyl chloride (PVC) and PVC blends	1	All packaging materials included but not limited to the packaging materials listed in Table 5.	Not detected
Expanded Polystyrene (EPS)	1	All packaging materials included but not limited to the packaging materials listed in Table 5.	Not detected
Mineral oil	1	Packages used to protect products from damage due to storage or transportation (e.g., boxes, cushioning and foam, bags, and etc.) Includes inks and dyes used to packages.	Not detected
	2	Printed documents, (e.g. manual, warrenty card, flyer, and etc.) The above objects will be listed as level 1 from 2024/10/1	Not detected

Table 5. Packaging Materials List

No.	Packaging Materials	Description
1	Carton	All kinds of carton made from any material, such as master carton, sub-master and gift box.
2	Cushion	
3	Protection bag/sheet	Blister packs, EPE (Expanded Polyethylene), and those made from foamed plastic or non-woven fabric
4	Poly bag	Such as PE (Polyethylene) bag and ESD bag
5	Envelope	Such as used for certificate or warranty card
6	Tray	Tray, vacuum formed sponge
7	Film	Including protection films such as used for the LCD displays
8	Model number label	
9	Separator/Spacer/Partition	Such as paper, EPE, and EPS (Expanded Polystyrene)
10	Printing ink	Such as used for printing on packaging materials
11	Tape	Such as used for closing carton or poly bag, or, fixing or protection for removable component.
12	Staple	Such as the applications for carton spiking

13	Label	Such as bar-code labels, safety marks or warning signals stuck on the packaging component
14	Joint	Carton joint
15	Binding band	Such as PP (Polypropylene) band
16	Carrying handle	
17	Color sleeve	Such as printed paper or PET (Polyethylene Terephthalate)
18	Shrink film	

4.6 Additional Rules for Heavy Metals in Batteries

Batteries not only need to comply with restriction in Section 4.1, but also have to meet requirements for four heavy metals in Table 6.

Table 6. The Restriction of Heavy Metal in Batteries

Substance	Mangement Level	Target	Allowable concentration
Cadmium (Cd)	1	Batteries and battery pack	Less than 0.001% by weight
Lead (Pb)	1	Batteries and battery pack	Less than 0.004% by weight
			Small size sealed Pb acid battery is prohibited.
			Lead which are used for plastics (including rubber), paints, inks, and which are classified at level 1 in Appendix 1, are subject to the corresponding regulations.
Mercury (Hg)	1	Batteries and battery pack	Less than 0.0001% by weight
			Mercuric oxide battery/cell is prohibited.

Measurement Equipment: For cadmium, lead, mercury, refer to Appendix 1.
Testing Method:
(1) Testing in homogenous materials: testing methods of IEC 62321-4-2013 and IEC 62321-5-2013 for cadmium, lead, and mercury described in Appendix 1
(2) Testing for entire battery cell: please refer to GB/T 20155-2006, NIEA R315, battery industry test standard, acid digestion method, and IEC 62321-4-2013 和 IEC 62321-5-2013 for of cadmium, lead, and mercury described in Appendix 1.
The Method Detection Limit (MDL) for each test shall be not exceed the threshold of concerntration of lead, cadmium, and mercury of battery.

4.7 Requirements of Responsible Minerals Management

Committing to corporate social responsibility, ASUS requests suppliers to provide Gold (Au), Tantalum (Ta), Tin (Sn), and Tungsten (W), and Cobalt(Co), materials often used in electronic products, not to be mined with illegal means, human rights violation, and poor work environments (hereinafter referred to as the “Responsible Minerals”).

ASUS establishes the management procedures of responsible minerals and requests suppliers to commit compliance via the following actions:

(a) Suppliers sign the "Consent of ASUSTeK Code of Conduct" to reasonably demonstrate no metals including Gold, Tantalum, Tin, and Tungsten, and Cobalt used in their products which are made with minerals that directly or indirectly finance armed rebel groups in the African Great Lakes Region (including the Democratic Republic of the Congo and adjoining countries), and other conflict zones around the world. In addition, the suppliers' responsible mineral management procedures are in line with the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas.

(b) Suppliers cooperate with the annual ASUS responsible minerals investigation and disclose the information regarding minerals' resources, scope of usage, and use the latest conflict minerals reporting template（Conflict Minerals Reporting Template, CMRT、The Extended Minerals Reporting Template, EMRT）.

(c) Materials, Au, Ta, Sn, and W, shall be provided from the suppliers listed in the Conformant Smelter & Refiner Lists, republished by RMI at https://www.responsiblemineralsinitiative.org/facilities-lists/active-conformant-facilities-list/

5. Reference Document：

5.1 The order that electric apparatuses of European Union and electronic equipment endanger materials to restrain from (including the order of extending) and similar environmental regulations around the world.
Restriction of the use of certain Hazardous Substances in Electrical and Electronic Equipment Directive (RoHS) 2011/65/EU, and the amending Directives, is abbreviated to “RoHS”.
(amending Annex II to Directive 2011/65/EU of the European Parliament and of the Council as regards the list of restricted substances)

5.2 European Union packs and packs the offal order (including the order of extending)
Packaging and Packaging Waste Directive 94/62/EC and the amending Directives.

5.3 Destroy the substance of the ozonosphere and control the protocol in Montreal (including the amendment of extending)
Montreal Protocol (on Substances that Deplete the Ozone Layer) and the amendments.

5.4 Batteries and Accumulators and Waste Batteries and Accumulators Directive 2006/66/EC (including the order of extending)
(DIRECTIVE 2013/56/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 20 November 2013)

5.5 Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) (EC) No 1907/2006

5.6 California Code of Regulation, Sections 93120-93120.12, Title 17

5.7 DIRECTIVE 2005/84/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 14 December 2005
Phthalates in toys and childcare articles. Amending for the 22nd time Council Directive 76/769/EEC on the approximation of the laws, regulations and administrative provisions of the Member States relating to restrictions on the marketing and use of certain dangerous substances and preparations.

5.8 Denmark’s executive Order (BEK nr 1113)
Executive Order banning the import and sale of products for indoor use containing phthalates DEHP, DBP, BBP and DIBP, and items which parts of these substances can come into contact with skin or mucous membrane.

5.9 Directive COMMISSION DECISION of 17 March 2009 requiring Member States to ensure that products containing the biocide dimethylfumarate are not placed or made available on the market (2009/251/EC)

5.10 GreenASUS ECO LABEL PRODUCT TECHNICAL STANDARD (S-AT2-004 (E))

5.11 Forbyr PFOA i norske forbrukerprodukter

5.12 German GS Mark: Geprüfte Sicherheit (German safety standard)

5.13 The Stockholm Convention on Implementing International Action on Certain: Persistent Organic Pollutants (POPs) (including the amendment of extending)

5.14 Prohibition of Certain Toxic Substances Regulations, 2012 (SOR/2012-285) and update extending

5.15 IEC 62474 - Material Declaration for Products of and for the Electrotechnical Industry

5.16 United States. Vermont State. Prohibitions on Toxic Flame Retardants Act 85

5.17 France Decree no. 2012-232 of 17 February 2012 on the annual declaration on substances at nanoscale in application of article R. 523-4 of the Environment code

5.18 Chinese Standard GB 24427-2009 “Limitation of mercury, cadmium and lead contents for alkaline and non-alkaline zinc manganese dioxide batteries

5.19 Conflict Minerals section to the Dodd-Frank Wall Street Reform and Consumer Protection Act

5.20 The Consumer Product Safety Improvement Act (CPSIA)

5.21 The Safe Drinking Water And Toxic Enforcement Act Of 1986 in California (CP65)

5.22 Reduction of Chemicals of Concern Criteria(GEC-COC-2022)

5.23 Electrical Appliances and Household Goods Safety Management Act (전기용품 및 생활용품 안전관리법) –Attachment 24_ Synthetic resin products

5.24 China GB 30981-2020 Limit of harmful substances of industrial protective coating
GB 33372-2020 Limit of volatile organic compounds content in adhesive
GB 38507-2020 Limits of volatile organic compounds (VOCs) in printing ink
GB 38508-2020 Limit of volatile organic compounds content in cleaning agents

5.25 Ecodesign requirements for electronic displays (EU) 2019/2021

5.26 US Toxic Substances Control Act (TSCA)

5.27 US Toxics in Packaging Clearinghouse (TPCH)

5.28 LOI n° 2020-105 du 10 février 2020 relative à la lutte contre le gaspillage et à l‘économie circulaire (1) & Code de l’environnement

5.29 The Family and Fire Fighter Protection Act. S. 4630-B/A. 5418-B SECTION 37-1007

5.30 AB-1817 Product safety: textile articles: perfluoroalkyl and polyfluoroalkyl substances (PFAS) in California.

5.31 Maine Products Containing Per- and Polyfluoroalkyl Substances (PFAS) Act Public Law 2023, c. 138, An Act to Support Manufacturers Whose Products Contain Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) (LD 217, 131st Legislature).

6. Appendix：

Appendix 1：List of Restrictions for the Hazardous Substances

Substance	Mangement Level	Targets	Allowable concentration	Measurement Equipment/ Testing Method	Other
Cadmium (Cd) and cadmium compounds	1	All applications For example : electronic parts (such as printed circuit board and parts), the applications of preventing rust on surfaces of plating for the metal and alloy portion of the modules or mechanical parts (such as screws, steel plates, heat-sink etc.).	Less than 100 ppm	ICP-OES、ICP-MS or AAS/ IEC 62321-5:2013	- Packaging materials refer to Section 4.5. - Batteries refer to Section 4.6. -Reference Document 5.1
		Pastic materials (include rubbers)	Less than 75 ppm		
Lead (Pb) and lead compounds	1	All applications except those classified at “Exemption”. For example : electronic parts (such as printed circuit board and parts), the applications of preventing rust on surfaces of plating for the metal and alloy portion of the modules or mechanical parts (such as screws, steel plates, heat-sink etc.). Exemption : Refer to RoHS exemptions or SCM Website	Less than 1000 ppm	ICP-OES、ICP-MS or AAS/ IEC 62321-5:2013	- Packaging materials refer to Section 4.5. - Batteries refer to Section 4.6. - Reference Document 5.1
		Plastic materials (including	Less than 100		- Reference Document 5.20

Substance	Mangement Level	Targets	Allowable concentration	Measurement Equipment/ Testing Method	Other
		rubbers)	ppm		
		Paints, and inks	Less than 90 ppm		- Reference Document 5.20
Mercury (Hg) and mercury compounds	1	All applications except those classified at “Exemption”. For example : plastic materials (include rubbers), electronic parts (such as printed circuit board and parts), the applications of preventing rust on surfaces of plating for the metal and alloy portion of the modules or mechanical parts (such as screws, steel plates, heat-sink etc.).	Less than 1000 ppm	CV-AAS、AFS、ICP-OES or ICP-MS/ IEC 62321-4:2013	- Packaging materials refer to Section 4.5. - Batteries refer to Section 4.6. - Reference Document 5.1
Hexavalent chromium (Cr^{6+}) compounds	1	All applications such as plastic materials (include rubbers), electronic parts (such as printed circuit board and parts)	Less than 1000 ppm	UV-VIS Spectrophotometer/ EPA 3060A or IEC 62321-7-2-2017 Following the testing method specified in the above pages, if the total quantity of Chromium is less than 1000 ppm, it also meets the concentration standard of	-Packaging materials refer to Section 4.5 - Reference Document 5.1

Substance	Mangement Level	Targets	Allowable concentration	Measurement Equipment/ Testing Method	Other
				hexavalent chromium.	
		The metal portion of modules, mechanical parts (the exposed position including connector of the products after assembling) (such as screws, steel plates, heat-sink etc.)	Not detected	UV-VIS Spectrophotometer/ IEC 62321-7-1-2015 or ISO 3613 Spot-test procedure, Boiling-water-extraction procedure Moreover, it is not acceptable to use EPA 3060A for parts with metal plating.	- Reference Document 5.1
		Leather	Less than 3 ppm	UV-VIS Spectrophotometer/ Synthetic leather : EPA 3060A or IEC 62321-7-2-2017 ; Natural leather : ISO 17075	- Reference Document 5.5
Nickel (Ni) and nickel compounds	1	All applications which employ organic-nickel compounds (e.g., light stabilizer used in plastics).	Less than 1000 ppm		ASUS Policy
	1	Metallic nickel or nickel alloy in the plating or coating application of the outer and	The release rate should be less than 0.2		* ”Prolonged contact with the skin” is defined as contact with the skin of nickel of potentially more than is 10 minutes on

Substance	Mangement Level	Targets	Allowable concentration	Measurement Equipment/ Testing Method	Other
		exposed areas which are intended to come into direct and prolonged contact with the skin* of modules or parts.	μg/cm^2/week		three or more occasions within two weeks, or 30 minutes on one or more occasions within two weeks. - Reference Document 5.5
	3	All applications, such as modules and parts inside the products Except those classified in level 1,	Reportable if more than 1000 ppm		- Reference Document 5.5
Arsenic (As) and arsenic compounds	1	Wooden materials	Not detected		- Reference Document 5.5
	3	All applications (e.g., semiconductor materials)	Reportable if the presence (non-N.D.)		- Reference Document 5.5
Beryllium (Be) and beryllium compounds	1	All applications	Less than 1000 ppm		- Reference Document 5.22
Antimony (Sb) and antimony compounds	1	All outer and exposed areas of modules or parts Exemption : The glass's components	Less than 1000 ppm		ASUS Policy
	3	All applications, such as modules and parts which inside the products, except those classified in level 1 Exemption : The glass's components	Reportable if more than 1000 ppm		ASUS Policy
Antimony Trioxide	1	All applications	Less than 1000 ppm		- Reference Document 5.21
Bismuth (Bi) and Bismuth	3	All applications	Reportable if		ASUS Policy

Substance	Mangement Level	Targets	Allowable concentration	Measurement Equipment/ Testing Method	Other
compounds			more than 1000 ppm		
Cobalt (Co) and Cobalt compounds	3	All applications	Reportable if more than 1000 ppm		- Reference Document 5.15
Polybrominated biphenyls (PBBs)	1	All applications (e.g., flame retardants contained in plastics)	Less than 1000 ppm	GC-MS/ IEC 62321-6-2015	- Reference Document 5.1
	1	Textiles	Not detected		- Reference Document 5.5
Hexabromobiphenyl	1	All applications (e.g., flame retardants contained in plastics)	Not detected	GC-MS/ IEC 62321-6-2015	- Reference Document 5.13
Polybrominated diphenylethers (PBDEs)	1	All applications	Less than 1000 ppm	GC-MS/ IEC 62321-6-2015	- Reference Document 5.1
Decabromodiphenyl ether (DecaBDE)	1	All applications	Not detected	GC-MS/ IEC 62321-6-2015	- Reference Document 5.16 and 5.26
Total concentrations of Tetrabromodiphenyl ether, Pentabromodiphenyl ether, Hexabromodiphenyl ether, Heptabromodiphenyl ether, and Decabromodiphenyl ether	1	All applications other than electrical and electronic product (e.g., leather, textile)	Less than 500 ppm	GC-MS/ IEC 62321-6-2015	- Reference Document 5.13
Tetrabromobisphenol-A (TBBP-A)	1	All applications except classified as Level 2 ~~Exemption : PCB, cable and connector~~	Less than 1000 ppm		- Reference Document 5.1 and 5.5
	2	PCB, cable and connector The above objects will be	Less than 1000 ppm		

Substance	Mangement Level	Targets	Allowable concentration	Measurement Equipment/ Testing Method	Other
		listed as level 1 half a year after the announcement of the RoHS Act.			
Hexabromocyclododecane (HBCDD)	1	All applications	Not detected		- Reference Document 5.13 and 5.14
Other Brominated Flame Retardants (BFRs)	1	Following parts and applies in products: Mechanical plastic parts above 25 grams, IC, CPU, resistor, inductor, packaging materials, ink, paint, battery, HDD	Less than 1000 ppm		- Reference Document 5.22
	3	All applications except classified as Level 1. (e.g., those for the flame retardants contained in printed circuit board)	Reportable if more than 1000 ppm		- Reference Document 5.22
Other brominated organic compounds	3	All applications except flame retardants	Reportable if more than 1000 ppm		ASUS Policy
Polychlorinated biphenyls (PCBs), Polychlorinated naphthalenes (PCNs), Polychlorinated terphenyls (PCTs)	1	All applications (e.g., ones for capacitors, lubricants, insulating oils, transformers containing oil, and flame retardants contained in plastics)	Not detected		- Reference Document 5.5, 5.13 and 5.14
Chlorinated paraffins (CPs))	1	All applications of SCCPs (Short-chain chlorinated paraffins with the alkanes C10-C13, Cl = 48 wt% or	Not detected		- Reference Document 5.13 and 5.14

Substance	Mangement Level	Targets	Allowable concentration	Measurement Equipment/ Testing Method	Other
		more)			
	1	All applications of MCCPs (Medium-chain chlorinated paraffins with the alkanes C14-17)	Less than 1000 ppm		- Reference Document 5.5
	3	All applications of LCCPs (Long-chain chlorinated paraffins with the alkanes over C18)	Reportable if more than 1000 ppm		ASUS Policy
Polyvinyl chloride (PVC) and PVC blends	1	All applications (e.g., Vinyl ties, heat shrink tubes) except cables	Not detected		- Reference Document 5.22
	3	Cables(wires)	Reportable if the presence (non-N.D.)		- Reference Document 5.22
Hexachlorobutadiene (HCBD)	1	All applications	Not detected		- Reference Document 5.13, 5.14 and 5.26
Tetrachlorobenzenes (TeCB)	1	All applications	Not detected		- Reference Document 5.14
Pentachlorothiophenol (PCTP)	1	All applications	Less than 1000 ppm		- Reference Document 5.26
Hexachlorobenzene (HCB)	1	All applications	Not detected		- Reference Document 5.13
Other chlorinated flame retardants (CFRs)	1	Following parts and applies in products: Mechanical plastic parts above 25 grams, IC, CPU, Resistor, Inductor, packaging materials, ink, paint, battery, HDD	Less than 1000 ppm		- Reference Document 5.22

Substance	Mangement Level	Targets	Allowable concentration	Measurement Equipment/ Testing Method	Other
	3	All applications except classified as Level 1	Reportable if more than 1000 ppm		- Reference Document 5.22
Other chlorinated organic compounds	3	All applications except flame retardants	Reportable if more than 1000 ppm		ASUS Policy
Halogenated flame retardants	1	The enclosure and stand of electronic displays, including tablet enclosure and all-in-one PC enclosure. Exemption : any electronic display with a screen area smaller than or equal to 100 cm^2, projectors, all-in-one video conference systems, medical displays, virtual reality headsets, displays that are components or subassemblies of products (e.g., laptop computers)	Not detected		- Reference Document 5.25 and 5.29
Bis(2-ethylhexyl) phthalate (DEHP)	1	All applications	Less than 1000 ppm	IEC 62321-8-2017	-Packaging materials refer to Section 4.5 - Reference Document 5.1, 5.7, 5.8 and 5.23
Benzyl butyl phthalate (BBP)	1	All applications	Less than 1000 ppm	IEC 62321-8-2017	-Packaging materials refer to Section 4.5 - Reference Document 5.1, 5.7, 5.8 and 5.23
Dibutyl phthalate (DBP)	1	All applications	Less than 1000 ppm	IEC 62321-8-2017	-Packaging materials refer to Section 4.5 - Reference Document 5.1, 5.7, 5.8 and 5.23
Total concentration of	1	Plastic of cell phone cases	Less than	IEC 62321-8-2017	- Reference Document 5.5 and 5.27

Substance	Mangement Level	Targets	Allowable concentration	Measurement Equipment/ Testing Method	Other
Bis(2-ethylhexyl) phthalate (DEHP), Benzyl butyl phthalate (BBP), Dibutyl phthalate (DBP)		and earphones (limited to in direct contact with the ear)	1000 ppm		
Diisobutyl phthalate (DIBP)	1	All applications	Less than 1000 ppm	IEC 62321-8-2017	-Packaging materials refer to Section 4.5 - Reference Document 5.1
Total concentration of Diisononyl phthalate (DINP), Diisodecyl phthalate (DIDP), and Di-n-octyl phthalate (DNOP)	1	All applications Exemption: connectors and cables	Less than 1000 ppm		Packaging materials refer to Section 4.5 - Reference Document 5.5
	3	Connectors and cables	Reportable if more than 1000 ppm		- Reference Document 5.5
Other phthalates (Appendix 2)	3	All applications	Reportable if more than 1000 ppm		-Packaging materials refer to Section 4.5 - Reference Document 5.22
Organic tin compounds [Group A：Tributyl tin compounds (TBTs), Triphenyl tin compounds (TPTs), Dibutyl tin compounds (DBT), Dioctyl tin compounds (DOT), Tributyl tin Oxide compounds (TBTO)	1	All applications (e.g. those for paints, inks, preservatives, and fungicides)	Not detected		- Reference Document 5.5
Organic tin compounds other than Group A	3	All applications (e.g. environmentally cfriendly flame retardant)	Reportable if more than 1000 ppm		ASUS Policy
Specific Azo compounds (Appendix 3)	1	All applications (e.g., leather, textiles, packaging materials, ear phones, head phones)	Not detected		- Reference Document 5.5

Substance	Mangement Level	Targets	Allowable concentration	Measurement Equipment/ Testing Method	Other
Asbestos	1	All applications	Not detected		- Reference Document 5.5
Formaldehyde	1	Wooden material Exemption : Pallet	Not detected		- Reference Document 5.6
	1	Textiles and leathers	Less than 75 ppm		- Reference Document 5.5
	3	All applications except those classified in level 1 Exemption : Pallet	Reportable if more than 75 ppm		- Reference Document 5.5
Ozone depleting substances (ODS) (Appendix 4)	1	All applications	Not detected		- Reference Document 5.3
Radioactive substances (Appendix 5)	1	All applications	Not detected		- Reference Document 5.15
Halogenated diphenyl methanes (Appendix 6)	1	All applications (e.g. ones for capacitors, lubricants, insulating oils, transformers containing oil)	Not detected		- Reference Document 5.5
Perfluorooctane sulfonates (PFOS)	1	All applications, in parts, components, or products (e.g. semiconductor materials,)	Less than 1000 ppm		-Packaging materials refer to Section 4.5 - Reference Document 5.13
	1	In preparations	Less than 10 ppm		- Reference Document 5.13
	1	Textiles, leather, or other coated materials	Less than $1\mu g/m^2$		- Reference Document 5.13
Perfluorooctyl acid (PFOA) and individual salts and a combination of PFOA related substances	1	All applications, in pure substances and mixtures and parts, components, or products (e.g. Teflon)	Less than 25ppb		-Packaging materials refer to Section 4.5
	1	In textiles or coated materials	Less than $1\mu g/m^2$		- Reference Document 5.11 and 5.13

Substance	Mangement Level	Targets	Allowable concentration	Measurement Equipment/ Testing Method	Other
Bisphenol-A	2	External plastic parts The above control objects will be listed as level 1 from 2025/1/1	Less than 300 ppm		ASUS Policy *Definition of external plastic parts: The product will come into contact with the external exposed position of the end consumer ex. mobile phone case
	3	All applications except classified as Level 2 (e.g., epoxy resin, polycarbonate and other plastics)	Reportable if more than 50 ppm		- Reference Document 5.21
Fragrance substance (Musk xylene and Musk ketone)	3	All applications (e.g., essence)	Reportable if more than 500 ppm		- Reference Document 5.5
Total concentration of DTDMAC, DODMAC(DSDMAC) and DHTDMAC) (Appendix 7)	3	All applications (e.g., softener)	Reportable if more than 1000 ppm		ASUS Policy
Pentachlorophenol (PCP)	1	All applications (e.g., preservative and pesticide)	Not detected		- Reference Document 5.13
Triclosan	3	All applications (e.g., antibacterial and pesticide)	Reportable if more than 10 ppm		ASUS Policy
Dimethylfumarate (DMF)	1	All applications (e.g., preservative)	Less than 0.1 ppm		- Reference Document 5.9
Phenol,2-(2H-benzotriazol-2-yl)-4,6 bis(1,1-dimethylethyl)	1	All applications	Not detected		- Reference Document 5.5
Hydrofluorocarbons	1	All applications	Not detected		- Reference Document 5.15

Substance	Mangement Level	Targets	Allowable concentration	Measurement Equipment/ Testing Method	Other
(HFCs), Perfluorocarbons (PFCs), Sulfur hexafluoride (SF_6)					
Polyaromatic Hydrocarbons (PAHs) (Appendix 8)	1	All outer and exposed areas of modules or parts	Less than 1 ppm of each		- Reference Document 5.5 and 5.12
	3	All applications except those classified in level 1, such as modules and parts which inside the products	Reportable if more than 1 ppm of any		- Reference Document 5.5 and 5.12
Selenium(Se) and Selenium compounds	3	All applications	Reportable if more than 1000 ppm		ASUS Policy
Perchlorates	3	All applications	Reportable if more than 0.006 ppm		- Reference Document 5.15
Red Phosphorous	1	AC power cord and plastic in contact with conductor	Not detected		ASUS Policy
	3	All applications except classified as Level 1	Reportable if the presence (non-N.D.)		ASUS Policy
Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene (BNST)	1	All applications	Not detected		- Reference Document 5.14
Benzidine and benzidine dihydrochloride that have the molecular formulas $C_{12}H_{12}N_2$ and $C_{12}H1_2N_2 \cdot 2HCl$, respectively	1	All applications	Not detected		- Reference Document 5.5 and 5.14

Substance	Mangement Level	Targets	Allowable concentration	Measurement Equipment/ Testing Method	Other
Tris(2-chloroethyl) phosphate (TCEP)	1	All applications	Less than 1000 ppm		- Reference Document 5.16
Tris(1,3-dichloro-2-propyl) phosphate (TDCPP)	1	All applications	Less than 1000 ppm		- Reference Document 5.16
Substance at nanoscale	3	All applications	Reportable if more than 100g		- Reference Document 5.17
Benzene	1	All applications	Less than 1000 ppm		- Reference Document 5.5
n-hexane	1	All applications	Less than 1000 ppm		ASUS Policy
Nonylphenol (NP), Nonylphenol ethoxylate (NPEO)	1	Textiles and leathers	Not detected		- Reference Document 5.5
Tris (2,3dibromopropyl) phosphate (TRIS)	1	Textiles	Not detected		- Reference Document 5.5
Tris-(aziridinyl)phosphinoxide (TEPA)	1	Textiles	Not detected		- Reference Document 5.5
Volatile Organic Compounds (VOCs) (including restricted hazardous substances regulated in the Laws)	1	Must meet all applicable VOC regulations in the areas in which the raw materials are used, e.g., paints, coatings, inks, adhesives, cleaners, etc.	Must meet all applicable VOC regulations in the areas in which the raw materials are used		- Reference Document 5.24
Phenol, Isopropylated phosphate (3:1) (PIP 3:1)	1	All applications	Not detected		- Reference Document 5.26

Substance	Mangement Level	Targets	Allowable concentration	Measurement Equipment/ Testing Method	Other
2,4,6-tris(tert-butyl)phenol (2,4,6-TTBP)	2	All applications	Less than 3000 ppm (Restricted from 2025/10/1. It shall be reportable if more than 3000 ppm before 2025/9/30)		- Reference Document 5.26
Dechlorane Plus (DP)	1	All applications	Not detected		- Reference Document 5.13
Decabromodiphenyl ethane (DBDPE)	3	All applications	Reportable if the presence (non-N.D.)		- Reference Document 5.14
Perfluorohexanesulfonic acid(PFHxS)	1	All applications	1.25 ppb for the sum of PFHxS and its salts 2/1000 ppb for the sum of PFHxS related substances		- Reference Document 5.13
Skin sensitizing substances	1	All mechanical appearance parts of the outer and exposed areas which are intended to come into direct and prolonged contact with the skin* of modules or	Not detected		- Reference Document 5.22 * ”Prolonged contact with the skin” is defined as contact with the skin of nickel of potentially more than is 10 minutes on three or more occasions within two weeks, or 30 minutes on one or more occasions within two weeks.

Substance	Mangement Level	Targets	Allowable concentration	Measurement Equipment/ Testing Method	Other
		parts . Such as keyboards, casings, screens, touchpads, etc.			* Chemical substances listed as skin sensitizing in ECHA CLP List https://echa.europa.eu/de/registry-of-restriction-intentions/-/dislist/details/0b0236e182446136
Perfluorohexanoic Acid (PFHxA)	2	All applications The above objects will be listed as level 1 from 2024/1/1	1.25 ppb for the sum of PFHxA and its salts 2/1000 ppb for the sum of PFHxA related substances		- Reference Document 5.5
Perfluoroalkyl and polyfluoroalkyl (PFAS)	2	Textiles The above objects will be listed as level 1 from 2024/6/1	Not detected		- Reference Document 5.30
	3	All applications except Textiles	Reportable if the presence (non-N.D.)		- Reference Document 5.26 and 5.30 * Chemical substances listed as PFAS OECD (Organisation for Economic Cooperation and Development） http://www.oecd.org/chemicalsafety/risk-management/globaldatabaseof-per-andpolyfluoroalkyl-substances.xlsx
REACH Candidate List of Substances of Very High Concern (SVHCs)	1, 3	As defined by REACH regulation	As defined by REACH regulation mentioned in Section 4.2(a)		*Please check the ECHA website for the latest SVHC candidate list. https://echa.europa.eu/de/candidate-list-table

Substance	Mangement Level	Targets	Allowable concentration	Measurement Equipment/ Testing Method	Other
Substances restricted under REACH Annex XVII	1	As defined by REACH regulation	As defined by REACH regulation mentioned in Section 4.2(b)		*Please check the ECHA website for the latest restricted candidate list. https://echa.europa.eu/de/substances-restricted-under-reach
Substances included in Annex XIV of REACH (Authorisation List)	1	All applications	Less than 1000 ppm of each substances		*Please check the ECHA website for the latest authorisation candidate list. https://www.echa.europa.eu/authorisation-list

Appendix 2：List of Other phthalates

CAS No.	Abbreviation	Other phthalates
84-66-2	DEP	Diethyl phthalate
117-81-7	DEHP	Bis(2-ethylhexyl) phthalate (DEHP)
84-74-2	DBP	Dibutyl phthalate (DBP)
131-11-3	DMP	Dimethyl phthalate
84-75-3	DnHP	Di-N-hexyl phthalate
84-69-5	DIBP	Diisobutyl Phthalate (DIBP)
117-84-0	DOP	Di-N-octyl phthalate
131-18-0	-	Di-N-pentyl phthalate
71888-89-6	DIHP	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters,C7-rich
68515-51-5	-	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
68648-93-1	-	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters
68515-42-4	DHNUP	Diethyl phthalate
84777-06-0	DPP	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear
68515-49-1	-	Di-(C10-rich branched C9-C11- alkyl) Phthalate (Part of DIDP)
117-82-8	DMEP	Bis(2-methoxyethyl) phthalate

131-18-0	DnPP	Di-n-pentyl phthalate
776297-69-9	nPIPP	n-Pentyl-isopentyl phthalate
605-50-5	DIPP	Diisopenthyl phthalate
131-17-9	-	Diallyl phthalate
3648-20-2	-	Diundecyl phthalate
84-61-7	DCHP	Dicyclohexyl phthalate
28553-12-0	DiNP	Di-isononyl phthalate
68515-47-9	-	Di-isotridecyl phthalate
85507-79-5	-	Di-isoundecyl phthalate
53306-54-0	DPrHP	Bis(2-propylheptyl) phthalate
68515-50-4	-	1,2-Benzenedicarboxylic acid, dihexylester, branched and linear
85-68-7	BzBP	Benzylbutyl phthalate
40809-41-4	MECPP	Mono-(2-ethyl-5-carboxypentyl) phthalate
66851-46-5	MCPP	Mono-(3-carboxypropyl) phthalate
2528-16-7	MBzP	Mono-benzyl phthalate
7517-36-4	MCHP	Mono-cyclohexyl phthalate
2306-33-4	MEP	Mono-ethyl phthalate
131-70-4	MnBP	Mono-N-butyl phthalate
-	-	Other phthalate

Appendix 3：List of the amines that must not be produced when azo compounds are decomposed

CAS No.	Amines
92-67-1	4-aminodiphenyl
92-87-5	Benzidine
95-69-2	4-chloro-o-toluidine
91-59-8	2-naphthylamine
97-56-3	o-aminoazotoluene
99-55-8	2-amino-4-nitrotoluene
106-47-8	p-chroloaniline
615-05-4	2,4-diaminoanisole

101-77-9	4,4’-diaminodiphenylmethane
91-94-1	3,3’-dichlorobenzidine
119-90-4	3,3’-dimethoxybenzidine
119-93-7	3,3’-dimethylbenzidine
838-88-0	3,3’-dimethyl-4,4’-diaminodiphenylmethane
120-71-8	p-cresidine
101-14-4	4,4’-methylene-bis-(2-chloroanilene)
101-80-4	4,4’-oxideaniline
139-65-1	4,4’-thiodianiline
95-53-4	o-toluidine
95-80-7	2,4-toluylenediamine
137-17-7	2,4,5-trimethylamine
90-04-0	4-anisidine
60-09-3	4-aminoazobenzene

Appendix 4：List of the ozone depleting substances

CAS No.	Ozone depleting substances (ODS)
-	Chlorofluorocarbons (CFCs)
-	Halon
-	Carbon tetrachloride (CCl_4)
-	1,1,1 trichloroethane ($C_2H_3Cl_3$)
-	Bromochloromethane (CH_2BrCl)
-	Methyl bromide (CH_3Br)
-	Hydrochlorofluorocarbons (HCFCs)
-	Hydrobromofluorocarbons (HBFCs)
	Dichloroethane (CH_3CHCl_2)
	Chloroform ($CHCl_3$)

Appendix 5：List of the Radioactive substances

CAS No.	Abbreviation	Radioactive substances
7440-61-6	U	Uranium
7440-07-5	Pu	Plutonium
10043-92-2	Rn	Radon
7440-35-9	Am	Americium
7440-29-1	Th	Thorium
7440-46-2	Cs	Cesium
7440-24-6	Sr	Strontium
-		Other radioactive substances

Appendix 6：List of the Halogenated diphenyl methanes

CAS No.	Abbreviation	Halogenated diphenyl methanes
76253-60-6	Ugilec 141	Monomethyltetrachlorodiphenylmethane
81161-70-8	Ugilec 121	Monomethyldichlorodiphenylmethane
99688-47-8	DBBT	Monomethyldibromodiphenylmethane

Appendix 7：List of the Surfactants

CAS No.	Abbreviation	Surfactants
68783-78-8	DTDMAC	Dimethyl ditallow ammonium chloride
107-64-2	DODMAC (DSDMAC)	Dioctyldimethylammonium chloride/ Distearyldimethylammoniumchloride
61789-80-8	DHTDMAC	Dihydrogenated tallow dimethylammonium chloride

Appendix 8：List of Polyaromatic Hydrocarbons

CAS No.	Abbreviation	Polyaromatic Hydrocarbons (PAHs)
208-96-8	AcPy	Acenaphthylene
83-32-9	Acp	Acenaphthene
120-12-7	Ant	Anthracen
56-55-3	BaA	Benzo[a]anthracene
205-99-2	BbF	Benzo[b]fluoranthene
205-82-3	BjFA	Benzo[j]fluoranthene
207-08-9	BkF	Benzo[k]fluoranthene
191-24-2	BghiP	Benzo[g,h,i]perylene
50-32-8	BaP	Benzo[a]pyrene
192-97-2	BeP	Benzo[e]pyrene
218-01-9	CHR	Chrysene
53-70-3	DBA	Dibenz[a,h]anthracene
206-44-0	FL	Fluoranthene
86-73-7	Flu	Fluorene
193-39-5	IND	Indeno[1,2,3-cd]pyrene
91-20-3	Nap	Naphthalene
85-01-8	PA	Phenanthrene
129-00-0	Pyr	Pyrene

7. Attachment：

None.