



Samsung Electronics

Standards for Control of Substances used in products

(SEC Registration No. 0QA-2049)

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Samsung Electronics Co., Ltd

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Chapter 1 General Provision

Article 1 (Preface)

In order to sell our products to the world marketplace, Samsung Electronics ('The Company') must guarantee and verify environmental compliance for all parts and components of finished products to prevent adverse effects on the environment and the health. The following list of substances with environmental impacts was developed based on global regulatory and requirements of customers.

Article 2 (Purpose)

The purpose of this standard (0QA-2049), is to minimize the risk regarding adverse effects on human health and the environment as well as that products and parts sold by Samsung Electronics('SEC') comply with global environmental regulations.

Article 3 (Scope)

1. This standard applies to all products and parts developed and to be sold by SEC regardless of region.
 - * Product : Finished product purchased by SEC to sell (outsourcing product, purchasing product)
 - * Part : Part composing product of SEC (including packaging, battery, subsidiary material)
2. This standard applies to all products designed, developed and manufactured by the company regardless of region. This standard applies to all products and parts developed and to be sold by SEC regardless of region.

Article 4 (Definitions)

1. Substances concerning Product production
 - Substances restricted and controlled by SEC to minimize environmental impact and health risks, in compliance with internal and external regulations

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2. Classification of Substances concerning Product production

1) Restricted Substances : Substances for which the company has independently established management levels, either completely prohibiting their use in products or restricting them to concentrations below specific limits, based on external legal regulations and safety concerns.

A. Regulated Substances : A subset of restricted substances that are legally prohibited or have clear permissible limits under laws, national standards, or global conventions, requiring mandatory compliance.

a. Active substances : A substance that has the effect of removing or inhibiting harmful organisms (such as bacteria, viruses, fungi, pests, etc.) through chemical or biological actions

i . Biocidal Product: A mixture or chemical product whose primary function is the elimination of harmful organisms

ii . Treated article: A product that intentionally uses a biocidal substance but has a different primary function.

b. Food Contact Material : A substance that is in contact with, or is expected to come into contact with, food or food additives, and is thus likely to migrate its constituents into the food. This includes all substances used for the following purposes

i . Items used for eating or containing food or drinking water.

ii . Items used during the harvesting, manufacturing, processing, cooking, storing, repacking, transporting, or displaying of food or food additives.

c. Ozone Depleting / Global Warming Substances : Substances whose manufacture, import, use, and emission are regulated by international conventions aimed at protecting the global atmospheric environment.

i . Substances that, when emitted into the atmosphere, chemically damage the stratospheric ozone layer

ii . Substances that cause the greenhouse effect by absorbing and re-emitting infrared radiation emitted from the Earth's surface

B. Voluntary Reduction Substances: Restricted substances not currently regulated by law, but reduced under internal standards to preemptively prepare for future regulations, fulfill corporate social responsibility (CSR), and meet eco-friendly certification criteria.

2) Reportable Substances: Substances not currently regulated but highly likely to be in the future, or those subject to mandatory tracking and internal/external reporting of usage and content if they exceed specific concentrations under international conventions.

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3. Exemptions

The Exemptions of Restricted Substances are adopted from the decisions of EU RoHS Directive and other legislation concerning product production.

The other exemptions are adopted due to inevitably required maintain specific quality, characteristic, appearance or performance of products.

4. Homogeneous materials

A component consisting of a material, which cannot be mechanically disjointed or separated into different materials.

5. Threshold Limit

The maximum concentration level at which the presence of a substance can be tolerated in a material, whilst allowing for detection sensitivity errors of instrumental measurements and impurities in a material. When parts/products are exceeding the threshold limit of restricted substances, Samsung Electronics regards these as intentional use by the supplier and therefore prohibits the use.

In addition, substances prescribed as "Non-use" shall not be used intentionally or unintentionally.

(In the threshold limit of Art.6, "Total" means that sum of listed items should comply with threshold limit.

And "each" means that each item should comply with threshold limit individually.)

6. Precision Analysis

Precision Analysis is a test using equipment with high precision and may differ from simply screening test such as using XRF equipment.

Detailed analysis equipment includes AAS, ICP, IC and UV/VIS for Inorganic compounds and GC/MS for organic compounds.

* Organic Materials : organic compounds which are chemical compounds whose molecules contain carbon atoms. E.g. plastics, rubber, ink etc.

* Inorganic Materials : inorganic compounds which are chemical compounds not organic compounds. E.g. metal, alloy, ceramic etc.

* CV-AAS: Cold Vapor-Atomic Absorption Spectroscopy

* AFS: Atomic fluorescence Spectrometry

* UV-VIS: Ultraviolet-Visible Spectroscopy

* C-IC: Combustion Ion Chromatography

* HPLC : High Pressure Liquid Chromatography (Ultra Violet detection)

* DMA : Direct Mercury Analyzer

* ICP: Inductively Coupled Plasma

* GC/MS: Gas Chromatography/Mass Spectrometry

* IAMS : Ion Attachment Mass Spectrometry

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7. Precision analysis Data

Test reports issued per International Test Standards from an ISO 17025 accredited testing laboratory.

8. Material Composition Data

Data or document to check the composition, (CAS No., EC No.) of chemicals in an homogeneous material.

(e.g. Material Safety Data Sheet (MSDS), Mill Sheet, Material Declaration, etc.)

9. Outsourced finished product

Finished products, which are produced at external manufacturing facilities; including ODM, OEM, and foundry.

Article 5 (Standard for Operation and Management)

1. The company manages Substances concerning Product Environment by classifying them as either Restricted Substances and Reportable Substance. The substances are restricted from application date. Standards and methods of control are regularly revised.

2. The company will provide a grace period for improvements until substitutes or other methods are available.

3. The suppliers submit an approval sheet with the contents of Substance concerning Product Environment of the new supplies on in written document to the e-CIMS(Environment Chemical Integrated System for Partners) and comply with the Standards for Control of Substances concerning Product Environment.

Note: Precision Analysis Substances shall be confirmed to comply with the threshold limit, by the precision analysis data.

Other restricted substances shall not be confirmed by precision analysis data. When Samsung Electronics requires, suppliers shall provide precision analysis data to Samsung Electronics and prove to comply with the threshold limits.

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Article 6 (Restricted Substances)

- These management standards shall apply on a Homogeneous Material basis within products and product components (Articles)
 - Article: Any part/product shaped during manufacturing whose function is determined more by its shape than its composition
 - Homogeneous Material: The smallest material unit with a uniform composition that cannot be separated by physical methods

2. List of Restricted Substances in products

1) Regulated Substances

No.	Susbtance	Application		Threshold	Implement	Regulation
1	Cadmium and its compounds (Cd)	All parts		80mg/kg	Jan.2005	EU/Korea/China RoHS
		Skin contact parts *1)	Textile *2)	1mg/kg	Nov.2020	EU REACH
			Polymer *3)	75mg/kg	Oct.2020	Korea Safety Law for Eletronics
		Battery *4)		10mg/kg	Sep.2006	EU/China Battery
2	Lead and its compounds (Pb)	All parts		800mg/kg	Jan.2005	EU/Korea/China RoHS
		Skin contact parts *1)	Textile *2)	1mg/kg	Nov.2020	EU REACH
			Polymer *3)	90mg/kg	Sep.2015	Korea Safety Law for Eletronics
		Battery *4)		40mg/kg	Aug.2024	EU/China Battery
3	Mercury and its compounds (Hg)	All parts		800mg/kg	Jan.2005	EU/Korea/China RoHS
		Battery *4)		1mg/kg	Sep.2006	EU/China Battery
		Monitor, NotePC	Silver-oxide button cells, Alkaline battery, Zinc carbon battery	5mg/kg	Sep.2021	EU Battery
4	Phenylmercury compounds	All parts		100mg/kg	Oct.2017	EU REACH

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No.	Susbtance		Application		Threshold	Implement	Regulation
5	Hexavalent chromium and its compounds (Cr6+)		All parts		800mg/kg *5)	Jan.2005	EU/Korea/China RoHS EU REACH
			Skin contact parts *1)	Textile *2)	1mg/kg	Nov.2020	
				Natural leather	3mg/kg	Jun.2009	
6	Cadmium, Lead, Mercury, Chromium VI		Packaging Materials *6)		80mg/kg total	Jun.2001	EU/Korea/China PPWR
7	PBBs		All parts		800mg/kg each	Feb.2005	EU/Korea/China RoHS EU REACH
			Skin contact parts *1)	Textile *2)	Non-use	Jun.2009	
8	PBDEs		All parts		800mg/kg each	Feb.2005	EU/Korea/China RoHS
9	Phthalate	BBP, DBP, DEHP, DIBP	All parts	Incl. medical equipment	800mg/kg each	Jul.2018	EU/Korea/China RoHS
		BBP, DBP, DEHP	Skin contact parts *1)	Polymer *3)	1000mg/kg total	Oct.2020	Korea Safety Law for Eletronics
		DIPP, DMEP, DnHP, DPP, DIHP		Textile *2)	1000mg/kg	Nov.2020	EU REACH
10	PCBs, PCTs, PCNs		All parts		Non-use	May.2004	EU REACH
11	Asbestos fibres		All parts		Non-use	Jun.2009	EU REACH
12	Formaldehydes *7)		All parts	Excl. medical equipment	0.08mg/m3 emission	Aug.2026	EU REACH
			Wood parts	HWPW-CC/VC	0.05mg/kg	May.2004	USA TSCA
				PB	0.09mg/kg	May.2004	USA TSCA
				MDF	0.11mg/kg	May.2004	USA TSCA
				Thin MDF(<=8mm)	0.13mg/kg	May.2004	USA TSCA
			Skin contact parts *1)	Natural leather, Polymer *3)	75mg/kg	Sep.2015	EU REACH
13	Azo-Compounds	Azocolourants	Skin contact parts *1)	Textile *2), Natural leather, Polymer *3)	Non-use	Jun.2009	EU REACH
		Azodyes			1000mg/kg	Jun.2009	
14	Nickel and its compounds (Ni)		Skin contact parts *1)	Resurfacing & External metal	0.5µg·cm ⁻² ·week ⁻¹ *8)	Mar.2020	EU REACH
15	Organic tin compounds	TBT,TPT,DBT	All parts		1000mg/kg	Jan.2012	EU REACH
		DOT	Skin contact parts *1)	Textile *2), Natural leather, Polymer *3)			

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No.	Susbtance		Application		Threshold	Implement	Regulation
31	Chlorinated benzenes		Skin contact parts *1)	Textile *2)	1mg/kg	Nov.2020	EU REACH
32	Solvent residues				3000mg/kg		
33	Other arylamines				30mg/kg		
34	Quinoline				30mg/kg		
35	PFHxA, its salts and related substances		Skin contact parts *1)	Textile *2), Natural leather	0.025mg/kg each	Jul.2026	EU REACH
			Textile *2), Natural leather		1mg/kg total	Jul.2027	
36	Mineral Oil (MOAH/MOSH)	MOAH 1~7 aromatic rings	Printing ink in papers *11)		1000mg/kg	Jan.2025	France Circular Economy Law
		MOAH 3~7 aromatic rings			1mg/kg		
		MOSH 16~35 aromatic rings			1000mg/kg		
37	Perchlorates		Battery *4)		0.006mg/kg	Sep.2021	EPEAT, USA California AB 826
38	Tris (2,3 dibromopropyl) phosphate		Skin contact parts *1)	Textile *2)	Non-use	Jun.2009	EU REACH, Swiss ORRChem
39	Tris(aziridinyl)phosphinoxide						
40	2,4-dinitrotoluene		All parts		1000mg/kg	May.2027	EU REACH
41	POPs	Aldrin, Chlordecone	All parts		Non-use	Jul.2019	EU POPs
		Dicofol, Dieldrin					
		Endrin, Heptachlor					
		Hexabromobiphenyl					
		HBCDD, HCB, HCBd					
		alpha- beta- gamma-HCH, Mirex, PeCB, PCB, PCDF					
		PCDD, PCNs, Endosulfan					
Toxaphene, DDT, Chlordane							
		PFHxS		0.025mg/kg each			
		PFOA *12)		1mg/kg total			
		PFOS, PFOSF					
		tetra-, penta-, hexa-hepta-, decaBDE		200mg/kg total			

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No.	Susbtance		Application	Threshold	Implement	Regulation
41	POPs	Dechlorane Plus	All parts	1mg/kg	Jul.2019	EU POPs
		UV-328		0.01mg/kg		
		Methoxychlor				
		SCCPs (Alkanes, C10-13, chloro)		1000mg/kg	Apr.2011	Stockholm convention
		MCCPs (Alkanes, C14~17, chloro)			Jul.2023	
		LC-PFCAs		0.025mg/kg each 0.26mg/kg total		
		Chlorpyrifos		0.01mg/kg		
42	Biocidal Substances		Biocidal products, Biocidally treated articles	Comply with relevant regulations	Oct.2016	EU BPR, Korea Consumer Chemical Products Act
43	Food Contact Matreials		Food contact parts	Comply with relevant regulations	Aug.2022	EU Food contact, FDA 21 CFR
44	ODS/Greenhouse gas		ODS / GHG contained parts	Comply with relevant regulations	Aug.2022	Montreal Protocol, UNFCCC

2) Voluntary Reduction Substances

No.	Susbtance		Application		Threshold	Implement	Regulation
1	Lead and its compounds (Pb)		Monitor/NotePC	Cable & Cord	300mg/kg	Dec.2021	EPEAT
2	Hexavalent chromium and its compounds (Cr6+)		Skin contact parts *1)	Polymer *3)	0.5mg/kg	Mar.2020	
3	Phthalates P h t h a l a t e	DCHP, DIDP, DINP, DIPP, DMEP, DnHP, DnOP, DnPP, nPIPP	All parts	Excl. medical equipment	800mg/kg each	Oct.2020	EU REACH
		Σ19 BBP, DBP, DCHP, DEHP, DEP, DHNUP, DIBP, DIDP, DIHP, DINP, DIPP, DMEP, DMP, DnHP, DnOP, DnPP, DPHP, DPP, nPIPP	Skin contact parts *1)	Textile *2), Natural leather, Polymer *3)	1000mg/kg total	Mar.2020	

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No.	Susbtance		Application		Threshold	Implement	Regulation
3	Phthalates	DEP, DHNUP, DIHP, DMP, DPP	Mobile *13), NotePC,AI&IoT *14)		800mg/kg each	Jan.2013	
			TV/Monitor	Inner Cable Excl. panel			
		DIDP, DINP	Mobile *13),NotePC,Monitor,Signage		Non-use	Dec.2021	EPEAT
		Σ9 (DEHP, BBP, DBP, DIBP, DIPP, DMEP, DnPP, nPIPP, DnHP)	Mobile *13),NotePC, Monitor,Signage	Packaging Materials *6)	500mg/kg total	Sep.2025	EPEAT
		DIOP	All parts		1000mg/kg	Aug.2023	France Waste-generating Products Decree
		DIHxP(Diisohexyl phthalate)	Mobile *13)		1000mg/kg	Sep.2025	
4	Phenol		Skin contact parts *1)	Polymer *3)	5mg/L	Mar.2020 *15)	
5	PAHs (24 items)		Skin contact parts *1)		1mg/kg each 10mg/kg total	Sep.2015	
6	Bisphenol A (4,4'-isopropylidenediphenol)		Skin contact parts *1)		0.04mg/L	Mar.2020	
7	Alkylphenols, Alkylphenol ethoxylates		Skin contact parts *1)	Textile *2), Natural leather, Polymer *3)	100mg/kg total	Mar.2020	
8	4-tert-Butylphenol		Skin contact parts *1)		Non-use	Nov.2020	
9	TBBPA		All parts		900mg/kg	Jan.2008	
10	TPHP		Skin contact parts *1)		Non-use	Nov.2020	
11	Brominated Flame Retardants		Mobile *13), NotePC,AI&IoT *14)		Br 900mg/kg	Jan.2012	
			Packaging Materials *6)			Feb.2005	
12	Chlorinated Flame Retardants		Mobile *13)		Non-use	Jan.2012	
			NotePC, Monitor, AI&IoT *14)		Cl 900mg/kg	Jan.2019	

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No.	Susbtance		Application		Threshold	Implement	Regulation
13	PVC		Mobile *13), NotePC,AI&IoT *14)		900mg/kg	Jan.2012	
			TV, Monitor	Inner Cable Excl. panel			
			Packaging Materials *6)		Non-use	May.2004	
14	Antimony and its compounds		Mobile *13), NotePC,AI&IoT *14)		1000mg/kg	Oct.2024	
			TV, Monitor	Inner harness low speed signal FFC Cable Excl. panel			
15	Beryllium and its compounds		All parts		1000mg/kg	Jan.2013	
16	Cobalt dichloride		Packaging Materials *6)		Non-use Co 1000mg/kg	Jun.2011	
17	Toluene		Mobile *13), AI&IoT *14)	Packaging Materials *6)	16mg/kg	Jan.2019	
18	Benzene *16)		DS Division *17), SDC *18)		Non-use	Jan.2019	
19	Copper		Skin contact parts *1)	Textile *2), Natural leather, Polymer *3)	50mg/kg	Mar.2020	
20	OPP		Skin contact parts *1)	Textile *2)	100mg/kg	Sep.2015	
				Natural leather	750mg/kg		
21	CMC/CMK				300mg/kg		
22	TCMTB				500mg/kg		
23	OIT				100mg/kg		
24	Skin sensitising	Chromium	Skin contact parts *1)	Natural leather	200mg/kg	May.2021	
		MBT			270mg/kg		
		PPD			330mg/kg		
25	Radioactive substances		Monitor, NotePC		Non-use	Dec.2021	EPEAT
26	EU REACH Authorisation list *19)		Monitor, NotePC		Non-use	Dec.2021	EPEAT

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No.	Susbtance	Application		Threshold	Implement	Regulation
27	1,3-benzenediol	All parts		1000mg/kg	Mar.2024	France waste-generating products leg.
28	PFAS	Mobile *13),NotePC, Monitor,Signage	Packaging Materials *6)	Non-use	May.2026	EPEAT

- *1) Parts that come into continuous contact with skin for more than 10 minutes on 3 or more occasions within 2 weeks, or for more than 30 minutes on at least 1 occasion
(e.g., mobile phone cases, watch straps, ear tips, etc.)
- 2) Textile include both natural and synthetic textile
- 3) Synthetic leather, plastics, rubber, silicone, etc
- 4) a unit product that is a battery cell or combines a cell and a package
- 5) The test result of the metal coating by IEC 62321-7-1 is negative or less than 0.1 ug/cm2, and it is acceptable
- 6) the materials delivered to customer and are used for the storage, protection, handling and transport of products.
- 7) Products for the U.S. Market are considered in compliance with this standard provided they meet the formaldehyde threshold limit set under 'TSCA' (Excl. composite woods for packaging, ex. pallets)
- 8) According to EN 1811:2023, the limit value of 0.5 µg·cm⁻²·week⁻¹ is considered compliant when the detected value is lower than 0.88 µg·cm⁻²·week⁻¹
- 9) "Halogen" includes Fluorine(F), Chlorine(Cl), Bromine(Br) and Iodine(I)
- 10) If products sold outside EU, it applies only to newly developed models after the implement date
- 11) Only packaging materials and printed material (manuals, warranties, etc.) for consumers
- 12) Implantable medical devices are excluded
- 13) Mobile : Mobile phones, tablets, wearables including accessories.
- 14) AI & IoT : AI Speaker, Internet of things, Wireless router etc
- 15) Applies only to newly developed models after the implement date
- 16) Primary verification: During parts approval process, confirm the absence of benzene with MSDS, Self-Checksheets, Secondary verification (substances contained): precise analysis through third party institution
- 17) Memory Business, Foundry Business, System LSI Business
- 18) SDC : Samsung Display Co., Ltd.
- 19) <https://echa.europa.eu/authorisation-list>

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Article 7 Reportable Substances

Substances listed below are expected to be regulated. If used, they must be reported regardless of concentration

no	Substances	Application	Remarks
1	Radioactive Substances	All parts	-
2	Triclosan		-
3	PFRs (Triphenyl phosphate)		-
4	EU REACH SVHC candidate list *1)		http://echa.europa.eu/web/guest/candidate-list-table
5	EU REACH restricted substances		https://echa.europa.eu/substances-restricted-under-reach
6	Endocrine Disruptors		-
7	Br·Cl·P Compounds	Plastic, PCB	Sweden chemical tax
8	IEC 62474 substances	All parts	https://std.iec.ch/iec62474/iec62474.nsf/Index?open&q=060313
9	PFAS(Per and polyfluoroalkyl substances)		https://www.oecd.org/chemicalsafety/portal-perfluorinated-chemicals/
10	CLP substances(Annex VI, Table 3)		https://echa.europa.eu/information-on-chemicals/annex-vi-to-clp
11	PVC additives		INVESTIGATION REPORT ON PVC AND PVC ADDITIVES (ECHA, Ver 1.0), Annex1
12	Aromatic brominated flame retardants		https://echa.europa.eu/documents/10162/89b22150-28d1-a745-5f8d-29791433dd52
13	Terphenyl hydrogenated(PHT)		https://echa.europa.eu/registry-of-restriction-intentions/-/dislist/details/0b0236e1862d9f

*1) Substances in EU REACH SVHC Candidate list are updated at least twice a year, refer to the latest list in ECHA website

※ REACH SVHC candidate list (SVHC : Substances of Very High Concern)

In the EU REACH regulation, substances are published regularly as they are considered to have risks equivalent to CMRs, PBT, or vPvB.

If an article contains 0.1% by weight or more, providing information or notification is legally required.

Even if contained at less than 0.1%, it must be reported to SEC in accordance with Article 10.

→ CMRs(Carcinogenic, Mutagenic, Reproductive toxicity), PBT(Persistent, Bioaccumulative, Toxicity), vPvB(very Persistent very Bioaccumulative)

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Appendix 1 : Eco-partner certification for suppliers

1. Purpose

All suppliers which enter into a business relationship with SEC have to oblige the requirements in this standard with respect to the removal of hazardous substances in products, parts and raw materials. Furthermore they have to set up their own environmental management systems to ensure compliance with environmental regulations. Eco-partners are suppliers which are acknowledged by Samsung because they adhere strictly to environmental regulations, such as RoHS, in addition to Samsung's standard in accordance with their own internal processes. Only Eco-Partner certified suppliers are eligible to enter a business relationship with Samsung.

* Eco-Partner : Ecology + Economy

2. Scope

All suppliers which provide/develop parts and products intended for sale by or on behalf of SEC.

* Exception: Suppliers for mold, facility, process consumables, software, buyer designated products, third-party brand products and Mock-up, and Samsung affiliates.

3. Criteria for certification

Compliance with Standards for control of substances used in products (0QA-2049) and the supplier's environmental management systems will be assessed.

* However, suppliers included in paragraph 2) may exclude the evaluation of the environmental management system.

1) Criteria

Pass/Fail	Item		Valid period
	Compliance with 0QA-2049	Environmental management system	
Pass	Compliance	Higher than 80 points	2 years
Fail	Compliance	Lower than 80 points	Prohibited to enter into business
	Non- compliance	-	

* Penalty: 1st fail→ re-assessment in one month, 2nd fail→ trade suspension for 6 months, 3rd fail→ permanent trade suspension

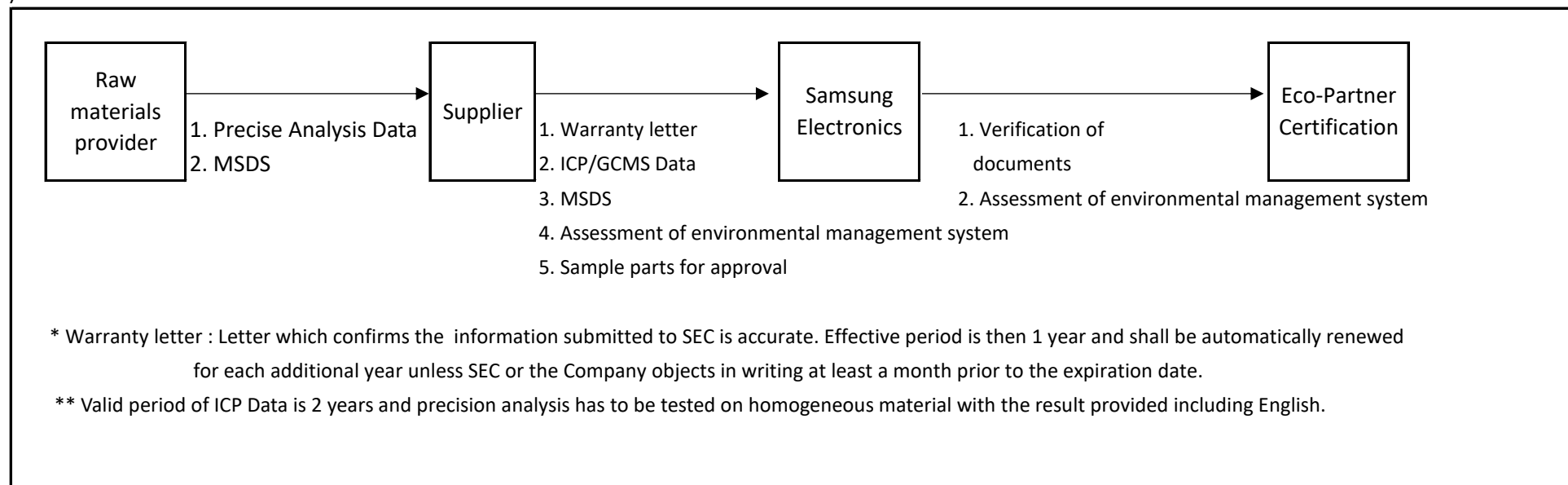
Site visit to the manufacturing facility is mandatory, even when the supplier does not have its own mfg. site

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2) Exclusion of the evaluation of the environmental management system

- Domestic/overseas global conglomerates, etc. prescribed in Article 7 (3.5)
 - Domestic conglomerates : Companies that are directly or indirectly owned by a group of companies restricted from mutual investment (Notice of Fair Trade Commission) or a corporation whose total assets exceed the criteria for designating a group of companies restricted from mutual investment (including foreign corporations) hold more than 30% of stocks, etc.
 - Oversea conglomerates : Forbes 2000 or Fortune 500 selected Suppliers
- Semiconductor Suppliers (IC supply, Wafer·Target·Plating Fab material supply)
- Suppliers without manufacturing sites, such as warehouses, distributors, design company and purchasing agency etc
- Outsourcing toll processing company (However, only companies that supply 100% of materials from Samsung are eligible)
- Companies that supply only service Parts

2) Process for certification



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Appendix-2 : Precision Analysis Substances list

Suppliers must submit certified test reports for parts subject to precision analysis, referring to the list below. The target substances include RoHS regulated substances and materials with a high risk of being contained in products. Suppliers must verify compliance with our management standards through precision analysis, and the submitted test reports must include English

no	Susbtance	Implement	Application	Test Method	Remarks
1	Cadmium and its compounds	Jul.2004	All Parts	IEC 62321-5	
2	Lead and its compounds			IEC 62321-5	
3	Mercury and its compounds			IEC 62321-4	
4	Hexavalent chromium and its compounds			IEC 62321-7	
5	PBBs			IEC 62321-6	
6	PBDEs			IEC 62321-6	
7	BBP	Jul.2016		IEC 62321-8	
8	DBP			IEC 62321-8	
9	DEHP			IEC 62321-8	
10	DIBP			IEC 62321-8	
11	SCCPs	Jul.2021	Power cord & Acc Cable	IEC 62321-14	
12	HBCDD		EPS packaging	IEC 62321-9	
13	Formaldehydes		Wood parts of speakers	ISO 12460	
14	Bisphenol A		Thermal paper & Food contact part	EPA 3550C	
15	Halogenated flame retardants *1)		Enclosure & stand of TV/Monitor/Signa	EN 14582	
16	Total Fluorine(F) *2)	Sep.2025	All Parts	EN 14582	Medical and network products are excluded
17	Halogenated Compounds	Jul.2021	All parts of DS division *3)	EN 14582	
18	Nickel and its compounds	Jul.2021	Prolonged Skin Contact part of wearables	EN1811(Metals), EN16128(Eyewear)	
19	Arsenic compounds(As)			EN 12472(Plated coatings)	
				US EPA 3052, US EPA 6010D	
20	Bisphenol A			EN 71-10, EN 71-11	

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no	Susbtance	Implement	Application	Test Method	Remarks
21	MCP	Jul.2021	Prolonged Skin Contact part of wearables	ISO 17070	
22	DCP			ISO 17070	
23	TriCP			ISO 17070	
24	TeCP			ISO 17070	
25	Pentachlorophenol and its salts and esters			ISO 17070	
26	DMFu(Dimethylfumarate)			ISO 16186	
27	PAHs(24types)			AfPS GS 2019:01 PAK	
28	Sovent residues			ISO 19070	
29	Chlorinated benzenes			EN 17137	
30	Azocolourants and Azodyes			EN ISO 14362	
31	Other arylamines			EN ISO 14362	
32	Quinoline			DIN 54231	

- 1) For halogenated compounds, a precise analysis report of halogen substances is acceptable.
- 2) Total fluorine is for checking whether fluorine is contained and the threshold of total fluorine has not been determined.
- 3) Memory Business, Foundry Business, System LSI Business

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Appendix-3 : Exemptions list

1) RoHS Substances exemption list : Refer to the Partner-eCIMS system post for details

2) Exemption list out of RoHS Substances

Exemption	Applicable to categories	End
PF-1	PFOS in photoresists or anti reflective coatings for photolithography process	-
PF-2	PFOS in photographic coatings applied to films, papers, or printing plates	2015.12.31
PF-3	PFOS in mist suppressants for non-decorative hard chromium (VI)	-
AT-1	Antimony in ceramics of Piezo buzzer	IoT
AT-2	Antimony used as a catalyst in polymeric materials for certain electronic components	Mobile phones 2012.1.31
AT-3	Antimony in additives in optical glass for preventing air bubbles and removing impurities.	-
AT-4	Antimony in resistive layer inside resistor chip and varistor for technical reason	-
AT-5	Antimony in high or low melting temperature type solders	-
AT-6	Antimony in additives for thermal conduction on N type semiconductor(Bi ₂ (Te, Se ₃) and P type semiconductor((Bi, Sb) ₂ Te ₃) Used in Thermal Electronic devices	-
BE-1	Beryllium alloy used in connectors and certain electronic components	Other than Monitor/NotePC /Mobile/Signage
P-1	Packaging entirely made of lead crystal glass Glass packaging is allowed to exceed where it complies with all the conditions established in (Commission Decision 2001/171/EC) (a) No lead, cadmium, mercury or hexavalent chromium shall be intentionally introduced during the manufacturing process (b) The packaging material may only exceed the concentration limits because of the addition of recycled materials	Packaging
DP-1	Dechlorane plus in medical imaging applications	Medical device
UV-1	UV-328 in TAC(triacetyl cellulose) film in polarizers	Display

Appendix-4 : Suppliers' Eco-Partner Forms

제품환경보증서(국문) 제 품 환 경 보 증 서 수 신 : 삼성전자 주식회사와 자회사 회사명 : _____ (이하 "당사"라 함) 1. 당사는 아래사항에 대하여 보증서를 제출합니다. 가. 당사는 환경관리물집과 관련 모든국제 환경규제를 준수할 것을 보증합니다. 나. 당사는 지속적으로 귀사의 "제품환경관리물집은영규칙(0QA-2049)"의 개정현황을 확인하고 이를 준수할 것을 보증합니다. 다. 당사는 귀사에 공급하는 모든 제품/부품/원재료/포장재와 관련하여 제출하는 모든 증빙서류와 데이터가 사실과 다름없음을 보증합니다. 2. 당사가 귀사에 위의 사항(1번)에서 보증한 의무의 실패로 인해 발생하는 모든 소송 또는 분쟁에 대하여 책임을 다할 것이며, 그와 관련된 변호사 비용을 포함한 모든 법적 비용, 판결, 명령 뿐만 아니라 추가 검사비용, Line-stop, 재작업 등의 내부 비용과 벌금, 리콜, 서비스 처리, 보상 등 외부 Claim 비용 및 기타 손실에 대해 책임질 것을 보증합니다. 3. 당 보증서의 효력은 _____년 _____월 _____일부터 _____년 _____월 _____일까지 유효하며, 보증 만료일 한달 전까지 양사간 별도 의사표시가 없을 시 자동으로 연장됩니다. 4. 당 보증서와 관련된 모든 분쟁은 중재에 의해 최종적으로 해결된다. 중재는 대한상사중재원의 상사중재규칙에 따라 진행된다. 중재는 대한민국 서울에서 진행되며, 중재인에 의하여 내려지는 판정은 최종적인 것이며 당사자인 삼성전자와 당사에 대하여 구속력을 가진다. 당사의 공인된 대표자로서 서명합니다. 서 명 : _____ 날 짜 : _____ 이름 (직위): 회 사 명 : 주 소 :	Letter of Warranty and Representation(ENG) Letter of Warranty and Representation ("Letter") To: Samsung Electronics Co., Ltd. ("SEC") and its affiliated companies From: _____ ("Company") 1. Company hereby warrants and represents as follows: A. Company guarantees full compliance with all relevant international regulations concerning the substances with environmental impacts. B. Company guarantees full compliance with the latest version of Samsung Electronics Standards for Control of Substances with Environmental Impacts within Products "Samsung Environmental Standards, 0QA-2049" in controlling environmentally hazardous substances. C. The documents and data sheets on the substances with environmental impacts contained in Company's supplies including, without limitation, products, parts, components, raw materials and packaging materials, are accurate and truthful. 2. Company agrees to defend, hold harmless, and indemnify SEC from any claim arising out of or related to Company's failure to comply with the above warranties and representations including, without limitation, all counsel fees and legal costs, judgments, orders, awards, as well as costs associated with additional inspections, line-stop, re-work assignments, product recalls, product service and repair, compensation, and/or any damages arising out of and/or related to any such claims. 3. This Letter shall be effective from _____ to _____, and thereafter, shall be automatically renewed for each additional year unless SEC or Company objects such renewal in writing at least a month prior to an expiration date. 4. All disputes related to this Letter shall be finally settled by arbitration. The arbitration shall be conducted in English and in accordance with the Commercial Arbitration Rules of the Korean Commercial Arbitration Board. The arbitration shall take place in Seoul, Korea. The award rendered by the arbitrator shall be final and binding for both SEC and Company. The undersigned is an authorized representative of the Company. Signature: _____ Date: _____ Print Name and Title: Company Name and Address:
 제품환경보증서	 Letter of Warranty