SII
GREEN PROCUREMENT STANDARDS

Version 8.1

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Seiko Instruments Inc.

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PREFACE

Government regulations related to environmental activities began in Europe and social demands for protecting the environment are intensifying. Requirements for business activities, production,and material procurement (green procurement) that are eco-friendly, such as forming a recycling-oriented society in which energy and resources are recycled and protecting from environmental pollution by managing chemical substances are constantly growing.
Since 1999, based on the SII Group (SII) Environmental Policy, we have been promoting our green procurement from production goods to office supplies with the cooperation of our suppliers.
SII also prioritizes procurement of eco-friendly materials from suppliers that proactively act to support environment conservation based on this standard.
SII will continue its eco-friendly production and business activities, so we will be grateful for our suppliers' cooperation based on their understanding the importance of activities for environment conservation.

SII GROUP ENVIRONMENTAL POLICY

ENVIRONMENTAL CONCEPT

The SII Group will continue to harmonize its corporate activities with the global environment, designate the "Three Green" concept consisting of Green Process, Green Products and Green Life as our basic concept, promote and conduct environmental activities, and contribute to the establishment of a sustainable society that can coexist with nature.

ENVIRONMENTAL ACTIVITY GUIDELINES

We will strive to

1. Continue to improve our environmental management system and environmental performance, while performing advanced activities that respond to the requirements of society to enhance stakeholder value.
2. Not only observe all laws, rules, regulations and agreements related to the environment, but also mitigate environmental risks and prevent environmental pollution.
3. Carry out our tasks with a focus on the following activities based on "SYO"ism*1:
   1) Providing products and services that minimize their impact on the environment throughout their lifecycles and can contribute to environmental conservation.
   2) Proactively promoting eco-friendly, efficient manufacturing.
   3) Fully enforcing energy conservation measures in the entire business activities and addressing global warming.
   4) Recognizing the finite nature and the preciousness of resources of the earth, and encouraging their responsible use.
   5) Reducing risks arising from chemical substances and promoting the elimination of harmful substances.
4. Promote SII Green Purchasing and ensure proper and strict management of chemical substances contained in products.
5. Be aware of our impact on biodiversity and all the benefits we receive from it, and make efforts toward biodiversity conservation.
6. Raise environmental awareness of all employees and encourage them to protect the environment in their personal lives.
7. Make a social contribution to and achieve accountability for environmental protection, while facilitating communication with the society.
8. Ask our suppliers for their cooperation in following this policy.

*1 "SYO"ism: SII technology philosophy

SII GREEN PROCUREMENT STANDARDS

1. SII Green Procurement Standards

   The SII Green Procurement Standards consist of two sections. Each section contains a description of the standards for that type of product or material. They also include a set of survey questions for each supplier except for suppliers that only supply office supplies.

   (1) Environmental Control System Standard
   (2) Production Goods Procurement Standard

2. Scope of Application

   These standards apply to all items, both tangible and intangible, that SII procures.

   (1) Tangible goods including raw materials, parts (electrical components, finished goods, and other components), packaging materials, and production equipment.
   (2) Intangible goods including services and work

   SII will provide a “Purchase Item List Subjected to Survey” (Note 1) for specific items that are subject to examination for use or inclusion of chemical materials. If SII does not submit such a list, suppliers need not survey materials for use or inclusion of chemical materials.

   (Note 1) Purchase Item List Subjected to Survey
   List of procurement items that SII requests suppliers to survey.

3. The following forms must be completed and submitted to SII, but what is instructed by the SII operating division that requested the survey, for specific requirements should be followed.

(1) Form 1 (See page 24)	Environmental Control System Questionnaire*1
(2) Form 2 (See page 25)	Production Goods Procurement Questionnaire*2
(3) Form 3 (See page 26)	Results of Research on Chemicals Substances Being Used in the Manufacturing Process*3
(4) Form 4 (See page 27)	Results of Research on Chemicals Substances Contained in Goods*4

   *1 "Environmental Control System Questionnaire"
   SII requires this information to determine the indirect environmental impact of manufactured products.

   *2 "Production Goods Procurement Questionnaire"
   SII requires this information to confirm that production goods to be procured are environmentally friendly.

   *3 "Results of Research on Chemical Substances Being Used in the Manufacturing Process"
   SII requires this information if you use any item specified in the "Production Goods Procurement Questionnaire" in your production process (excluding coolants and extinguishants).

   *4 "Results of Research on Chemical Substances Contained in Goods"
   SII requires this information if any item specified in the “Production Goods Procurement Questionnaire” is contained in products.

4. If necessary, you might be asked to submit materials other than survey forms (such as lists of components in procured products, analysis data, or MSDS forms) or to submit JAMP AIS*1 or (former) JGPSSI*2 survey forms if SII' s customer requests them, so cooperate with the requests of each business unit.

   *1 JAMP AIS:
   This information sheet is used to disclose and transmit information about chemical substances contained in articles, as specified by the Joint Article Management Promotion consortium.

   *2 (former) JGPSSI survey form:
   This is the form for responding to the survey about chemical substances included in parts and materials, as specified by the Japan Green Procurement Survey Standardization Initiative.

5. When necessary, SII may conduct on-site audits. We appreciate your cooperation.

6. Chemical substances specified herein are independently selected and classified by SII taking into consideration existing legislation and future rules and regulations. These are subject to change without notice depending upon the social and legal environment.

7. The SII Green Procurement Standards are subject to revision without notice in the event of changes in the social or legal environment.

Note: Please contact the SII operating division that requested the examination of goods subject to survey.

[I] DEFINITIONS OF TERMS

Use:
Use means to use chemical substances for cleaning products and parts. In other words, use means "to use" chemical substances during manufacturing such that they are not contained in products or parts.
Example) Cleaning parts, etc.

Containing
Containing means “to contain” chemical substances that have been intentionally added to products and parts to meet their functionality and performance. Reaction-type residue like non-reaction monomer and impurities are excluded.
If an impurity in a chemical substance for which a threshold level is specified exceeds an acceptable value, the chemical substance is judged to contain a prohibited substance.

Contents concentration:
This is the chemical substance concentration and is calculated using the equation below.
Contents concentration = weight of the target chemical substance / weight of the part that contains the target chemical substance
The unit is ppm (parts per million), or wt% (weight percent).
Note that the definition of "weight of the part" used when calculating the contents concentration differs depending on the applicable laws, so see the threshold level column or remarks column for the target chemical substance.

Intentional addition
Intentional addition means intentionally making products or parts contain substances in order to suffice specific features, appearance, or quality. Intentional addition must be reported by filling Form 4 “Results of **Research on Chemical Substances Contained in Goods” on page27, regardless of the contents concentration.**

Impurity:
This is a substance included in natural raw materials that cannot be completely removed during the process in which the materials are used as industrial materials for manufacturing.
This term also refers to by-products, catalyst residue, and other substances generated during the synthetic reaction processes of materials and drugs.
Examples)
・Lead impurities in lead-free solder
・Monomer components that cannot be completely removed from synthetic resin materials

Homogenous material:
Material that cannot be mechanically resolved into different material.
Examples)
In the case of a power cable, the homogenous materials are external covering, internal covering, and core.
If a marking such as model name is printed on the external coating, the ink is also regarded as homogenous material.

[II] ENVIRONMENTAL CONTROL SYSTEM STANDARDS

No.	Items	Criteria	Applied Suppliers	
			Obtained ISO-14001, etc. ↓	Not yet obtained ISO-14001,etc. ↓
1	Certification of ISO14001	Obtained ISO14001 or other third-party standard certification (e.g., Eco Action 21, Eco Stage). If not yet obtained, it is desirable to be "under preparation" or "under contemplation" to obtain the certification.		
2	Environmental policy	Have an environmental conservation/preservation policy.	—	○
3	Environmental goals	Have concrete goals for environmental conservation/preservation.	—	○
4	Action plan	Have an action plan to achieve the goals.	—	○
5	Organization	Establish an organization to promote environmental conservation/preservation.	—	○
6	Education & Training	Provide employees with an environment-related education and training program.	—	○
7	Internal audits	Internally conduct environmental audits.	—	○
8.1	Control system	Have a system to supervise legislative and voluntary regulations.	—	○
8.2		Be aware of and comply with applicable laws and regulations (See Annex 1 on page 5 for environmental laws).	○	○
8.3		Have a system to control and save energy (e.g., lighting and facilities energy-saving program).	○	○
8.4		Have a system to control and minimize wastes (e.g., separated disposal and zero-emissions).	○	○
8.5		Have a system to control chemical substances (e.g., to update information on chemical substances being used).	○	○
8.6		Introduce or try to introduce a product assessment scheme (e.g., check that environment consideration is taken in the design and production phases).	○	○
8.7		Have a system to collect and recycle used products and packaging materials.	○	○
9	Disclosure	Have a system and tools to disclose information (e.g., Internet, environmental pamphlets and reports).	○	○
10	Biodiversity	To be actively involved in (or support) biodiversity conservation.	○	○

[III] PRODUCTION GOODS PROCUREMENT STANDARDS

Products: Finished or semi-finished products, which provide their intended functionality and performance as they are.
Parts: Items that should be integrated or processed into or for SII products (units/parts, electronic parts, and outer cases).

No.	Items	Criteria	Goods covered by this standard		
			Packaging	Parts	Products
1	No harmful substances	No packaging materials (outer boxes, buffer materials, etc.) contain heavy metals (cadmium, sexivalent chrome, mercury and lead).	○		
2	Use prohibition of	No exterior packaging, buffer materials and bags use polyvinyl chloride.	○		
3	Resources saving	No excessive packaging. Measures are taken to reduce packaging volume (less packaging compared with similarproducts or parts).	○		
4	Indication of materials	Plastic packaging materials (mainly styrene foam used as cushions) bear indication of materials. Comply with ISO-11469, DIN-6120 or other appropriate standards. ISO11469-compliant marking example: >PS< Polystyrene	○		
5	Reduction of foams	The use of styrene foam is minimized or it is substituted with other materials: e.g., cardboard buffers, pulp molds	○		
6.1	Use of harmful substances	No material specified in Annex 2 (page 5) is used in any manufacturing process.	○	○	○
6.2		Use of materials specified in Annex 3 (page 5) is avoided in any manufacturing process.	○	○	○
7.1	Containing of harmful substances	No material shown in Annex 4 (page 6) is contained.	○	○	○
7.2		Containing of materials specified in Annex 6 (page 8 to 11) is avoided.	○	○	○
7.3		Conditional containing prohibition substances specified in Annex 5 (page 7) is not contained.	○	○	○
8	Indication of materials	ISO11469 or other standard is marked on plastic materials. Ex) Outer cases of products		○	○
9	Compliance with laws	The procurement goods comply with legislative controls under the Recycling Law, Energy Saving Law and other applicable laws. Ex) Rechargeable batteries, computers			○
10	Resources saving	Resources are efficiently used. (Use of recycled parts and resources, miniaturization of goods)			○
11	Energy saving	Power consumption is low in both operation and standby modes. Compliance with energy saving programs, such as Energy Star program.			○
12	Wastes	The separability and degradability at the time of disposal is taken into account to ensure proper disposition of goods.			○

Annex 1 List of Environmental Laws

No.	
1	Laws related to air pollution prevention
2	Laws related to water pollution prevention
3	Laws related to noise control
4	Laws related vibration control
5	Laws related to offensive odor prevention
6	Laws related to waste disposal
7	Laws related to ozone layer protection
8	Laws related to handling and storing of hazardous chemical substances
9	Laws related to recycling and reuse
10	Laws related to energy saving
11	Laws related to occupational safety and health
12	Other (Local regulations, etc.)

Annex 2 List of Use Prohibition Substances in the Manufacturing Process

More specifically, substances whose use should be prohibited in the manufacturing process (washing).

*:Unique Nos. of chemical substances designated by the Chemical Abstract Service, a department of the American Chemistry Association.

			CAS No.*	Remark
Use Prohibition	1	1,1,1-trichloroethane	71-55-6	
	2	CFC group		
	3	HBFC group		
	4	Halon group		
	5	Bromochloromethane	74-97-5	
	6	Tetrachloroethylene	127-18-4	
	7	Benzene*1	71-43-2	
	8	Pentachloroethane	76-01-7	
	9	1,1,1,2-tetrachloroethane	630-20-6	
	10	Hexachloroethylene	67-72-1	
	11	Methyl bromide	74-83-9	
	12	Carbon tetrachloride	56-23-5	
	13	1,1,2,2-tetrachloroethane	79-34-5	
	14	1,1,2-trichloroethane	79-00-5	
	15	1,1-dichloroethylene	75-35-4	

*1 Excluding fuel for cars

Annex 3 List of Use Avoidance Substances in the Manufacturing Process

More specifically, substances whose use should be avoided in the manufacturing process (washing).

			CAS No.	Remark
Use avoidance	1	1,2-dichloroethane	107-06-2	When contained, see Annex 6 on page 9.
	2	1,2-dichloroethylene	540-59-0	
	3	1,3-dichloropropene	542-75-6	
	4	HCFC group		
	5	HFC group		
	6	PFC group		
	7	Dichloromethane	75-09-2	
	8	Cis-1,2-dichloroethylene	156-59-2	
	9	Trichloroethylene	79-01-6	When contained, see Annex 6 on page 8.
	10	Nitrous oxide	10024-97-2	
	11	Sulfur hexafluoride	2551-62-4	
	12	Chloroform	67-66-3	

Annex 4 List of Containing Prohibition Substances in Goods

		(substances that must not contained in goods)	CAS No.	Threshold Level *2	Remark
Containing Prohibition (CP) Banning the Containing	1	4-nitrobiphenyl and its salt	92-93-3	Intentional addition	
	2	DDT	50-29-3	Intentional addition	
	3	Asbestos	Page 12 Table A	Intentional addition	
	4	Aldrin	309-00-2	Intentional addition	
	5	Endrin	72-20-8	Intentional addition	
	6	Chlordane	57-74-9	Intentional addition	
	7	Dieldrin	60-57-1	Intentional addition	
	8	Bis(chloromethyl) ether	542-88-1	Intentional addition	
	9	Tributyl tin oxide（TBTO）	56-35-9	Intentional addition	
	10	Tri-substituted organostannic compounds (including Tributyl tin and Triphenyl tin)	Page 12 Table B	Intentional addition	
	11	Hexachloro benzene (HCB)	118-74-1	Intentional addition	
	12	Polychlorinated naphthalene (3 or more chlorine)	70776-03-3	Intentional addition	
	13	Polychlorobiphenyls (PCB)	1336-36-3	Intentional addition	
	14	Polychlorinated terphenyls (PCT)	61788-33-8	Intentional addition	
	15	Polybrominated diphenylethers (PBDE)	Page 12 Table C	1000 ppm	Contents concentration in homogenous material
	16	Polybrominated biphenyls (PBB)	Page 13 Table D	1000 ppm	
	17	Azo compounds *1	Page 13 Table E	Intentional addition	
	18	2,4,6-Tri-tert-butylphenol	732-26-3	Intentional addition	
	19	N,N'-ditolyl-p-phenylenediamine N-tolyl-N'-xylyl-p-phenylenediamine N,N'-dixylyl-p-phenylenediamine	27417-40-9 70290-05-0 28726-30-9	Intentional addition	
	20	Chlorinated paraffins (C10-13)	85535-84-8	Intentional addition	
	21	Mirex	2385-85-5	Intentional addition	
	22	Yellow phosphor	12185-10-3	Intentional addition	
	23	Toxaphene	8001-35-2	Intentional addition	
	24	Monomethyl-dichloro-diphenyl methane (DBBT)	99688-47-8	Intentional addition	
	25	Di-u-oxo-di-n-butyl-stanniohydroxyborane (DBB)	75113-37-0	Intentional addition	
	26	Monomethyl-tetrahclorodiphenyl-methane	76253-60-6	Intentional addition	
	27	Monomethyl-dichloro-diphenyl-methane	81161-70-8	Intentional addition	
	28	Phenol, 2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)-(UV- 320)	3846-71-7	Intentional addition	
	29	Perfluorooctane sulfonates (PFOS)	—	Intentional addition	*3
	30	Dimethyl fumarate (DMF)	624-49-7	Intentional addition	
	31	Cobalt dichloride	7646-79-9	*4	
	32	Formaldehyde	50-00-0	*5	
	33	Dibutyltin (DBT) compounds	Page 13 Table F	1000ppm *6	Contents concentration in the weight of the delivered product
	34	Dioctyltin (DOT) compounds	Page 13 Table G	1000ppm *7	
	35	Tris(2,3-dibromopropyl)phosphate(TRIS)	126-72-7	Intentional addition	*1
	36	Tris（1-aziridinyl）phosphine oxide(TEPA)	545-55-1	Intentional addition	*1
	37	Hexabromocyclododecane(HBCDD)	Page 14 Table H	Intentional addition	
	38	Polycyclic aromatic hydrocarbons(PAH)	Page 14 Table I	1ppm *8	*1
	39	Tris(2-chloroethyl)phosphate (TCEP)	115-96-8	1000ppm	Contents concentration in the weight of the delivered product
	40	Tris(1-chloro-2-propyl)phosphate (TCPP)	13674-84-5	1000ppm	
	41	Tris(1,3-dichloro-2-propyl)phosphate (TDCPP)	13674-87-8	1000ppm	
	42	PFOA、PFOA-salts、PFOA-esters	Page 14 Table J	Parts :1000 ppm Coated material: 1μg/m^2	For parts, contents concentration in the weight of the delivered product.*9
	43	N-Phenyl-benzenamine reaction products with styrene and 2,4,4-trimethylpentene(BNST)	68921-45-9	Intentional addition	

*1 Substances that may enter the mouth or directly contact human skin for a long time or short-term repetitive contact.

*2 Threshold level
In cases where the concentration of the material contained in the product or part (reaction-type residue like non-reaction monomer and impurities) exceeds this value, fill Form 4 “Results of Research on Chemicals Contained in Manufactured Goods” on page 27.
Note: The threshold level may be specified independently by the operational division upon customer’s request, so please follow what the operational division instructed.

*3 Exceptional applications
・Semiconductor photoresist
・Business-use photographic film

*4 This applies to humidity indicating chemicals that are intentionally added and used for drying agents (such as silica gel).

*5 Intentionally adding this to composite materials (plywood or particle board) is prohibited, as is containing a concentration of 75 ppm or more of fiber or fabric.

*6 When the content concentration exceeds the threshold level. The content concentration used is based on tin concentration.

*7 This applies to fabric and leather products that might touch human skin .
When the content concentration exceeds the threshold value. The content concentration used is based on tin concentration.

*8 From July 1, 2015, when the content concentration exceeds the threshold level.The threshold level of the parts used to make toys and childcare products is set to 0.5ppm.

*9 Photographic coatings for film, paper or screen and adhesive, foil or tape in semiconductors will be excepted before the end of June 2015.

Annex 5 List of Conditional Containing Prohibition Substances in Goods

	(substances prohibited from being contained, with some exceptions)	CAS No.	Threshold Level	Remark
1	Cadmium / cadmium compounds*[1]	Refer to Annex K on page 14.	100 ppm	Contents concentration in homogenous material
2	Hexavalent chromium compounds*[1] *[2]	Refer to Annex L on page 15.	1000 ppm	Contents concentration in homogenous material
3	Lead / lead compounds *[1, *3]	Refer to Annex M on page 15.	1000 ppm	Contents concentration in homogenous material
4	Mercury / mercury compounds*[1]	Refer to Annex N on page 16.	1000 ppm	Contents concentration in homogenous material
5	Polyvinyl chloride (PVC) *[4]	9002-86-2	1000 ppm	Contents concentration in homogenous material

*1: The total amount of lead, cadmium, hexavalent chromium and mercury contained in packaging materials shall be less than 100 ppm at weight ratio.

*2: The amount of hexavalent chromium compounds contained in leather parts in contact with the skin shall be less than 3ppm at weight ratio.

*3: The amount of lead contained in PVC cable shall be less than 100 ppm at weight ratio.

*4:"Polyvinyl chloride(PVC)" includes its homopolymer and copolymer.

Cadmium / Cadmium Compounds

	No.	Use of Applications
Exceptions *5 (may be contained)	8(b)	Cadmium and its compounds in electrical contacts.
	13(b)	Cadmium in filter glasses and glasses used for reflectance standards.

Hexavalent Chromium Compounds

	No.	Use of Applications
Exceptions *5 (may be contained)	9	Hexavalent chromium as an anticorrosion agent of the carbon steel cooling system in absorption refrigerators up to 0,75 % by weight in the cooling solution.

Lead / Lead Compounds

	No.	Use of Applications
Exceptions *5 (may be contained)	5(a)	Lead in glass of cathode ray tubes.
	5(b)	Lead in glass of fluorescent tubes not exceeding 0,2 % by weight
	6(a)	Lead as an alloying element in steel for machining purposes and in galvanised steel containing up to 0,35 % lead by weight.
	6(b)	Lead as an alloying element in aluminium containing up to 0,4 % lead by weight.
	6(c)	Copper alloy containing up to 4% lead by weight.
	7(a)	Lead in high melting temperature type solders (i.e. lead based alloys containing 85% by weight or more lead).
	7(c)-I	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound.
	7(c)-II	Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher.
	7(c)-III	Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC. (*6)Expires on 1 January 2013 and after that date may be used in spare parts for EEE placed on the market before 1 January 2013.
	7(c)-IV	Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete semiconductors(*7). Expires on July 1, 2016.
	13(a)	Lead in white glasses used for optical applications.
	13(b)	Lead in filter glasses and glasses used for reflectance standards.
	15	Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages.

Mercury / Mercury Compounds

	No.	Use of Applications
Exceptions *5	Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes not exceeding (per lamp).	
(may be contained)	3(a)	Short length (≤ 500 mm):3.5 mg may be used per lamp.
	3(b)	Medium length (> 500 mm and ≤ 1 500 mm):5 mg may be used per lamp.
	3(c)	Long length (> 1 500 mm):13 mg may be used per lamp.

Polyvinyl Chloride (PVC)

	No.	Use of Applications
Exceptions (may be contained)	PV1	PVC is required due to a safety standard or for quality retention.
	PV2	There is no substitutable item because of special application or the like.
	PV3	Material is specified based on the customer's requirement.
	PV4	Those which do not contain phthalate compounds.

*5: Exceptions (cadmium, hexavalent chromium, mercury, lead) shall comply with the exceptions of the RoHS directives (2011/65/EU). If a new exception other than those described above is specified, it will be regarded as an exception. Exceptions relating to batteries shall conform to the EU batteries directive(2006/66/EC(2013/56/EU)).

*6: Application of exceptions is effective if permitted by the division in charge of products.

*7: Discrete semiconductors are the diode also known as individual semiconductors or mono-functional semiconductors. They are a generic term for simple semiconductors such as transistors performing only one function.

Annex 6 List of Containing Avoidance Substances in Goods

(Substances for which containing in goods is to be avoided)

			CAS No.	Threshold Level	Remark
Containing Avoidance	1	Arsenic / arsenic compounds	Refer to Annex O on page 16.	1000 ppm or intentional addition	Contents concentration in homogenous material
	2	Beryllium / beryllium compounds*1	Refer to Annex P on page 16.	1000 ppm or intentional addition	Contents concentration in homogenous material
	3	Pentachlorophenol and its salt	87-86-5	Intentional addition	
	4	Nickel / Nickel compounds *2	Refer to Annex Q on page 16.	1000 ppm or intentional addition	Contents concentration in homogenous material
	5	Phthalates(DEHP,BBP,DBP,DIBP)*1	Refer to Annex R on page 16.	1000 ppm or intentional addition	Contents concentration in homogenous material
	6	Radioactive substances	Refer to Annex S on page 16.	intentional addition	Contents concentration in plasticized material
	7	Brominated flame retardants (except PBB,PBDE and HBCDD)	Refer to Annex T on page 17.	1000 ppm or intentional addition	Contents concentration in homogenous material
	8	Perchlorate	7791-03-9	Intentional addition	
	9	Red phosphorus *1	7723-14-0	Intentional addition	Except for red phosphorus in the metal
	10	Chlorinated flame retardants	Refer to Annex U on page 17.	In case of (1) or (2) in the remark column.	(1)1000 ppm total chlorine content by weight in the plastic material (2)900 ppm total chlorine content by weight in the laminate
	11	Anthracene	120-12-7	If the contents concentration exceeds 1,000 ppm when the weight of the delivered product is used as the denominator	
	12	4,4'-methylenedianiline	101-77-9		This is prohibited from being contained in items that might be in direct contact with human skin or the mouth for a long period of time or short-term repetitive contact.
	13	Cobalt dichloride	7646-79-9		This is prohibited from being contained in drying agents (such as silica gel).
	14	Diarsenic pentaoxide*1	1303-28-2		
	15	Diarsenic trioxide*1	1327-53-3		
	16	Sodium dichromate	7789-12-0 10588-01-9		*3
	17	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2		
	18	Lead hydrogen arsenate	7784-40-9		*3
	19	Triethyl arsenate	15606-95-8		
	20	Anthracene oil	90640-80-5		
	21	Anthracene oil, anthracene paste,distn. lights	91995-17-4		
	22	Anthracene oil, anthracene paste,anthracene fraction	91995-15-2		
	23	Anthracene oil,anthracene-low	90640-82-7		
	24	Anthracene oil, anthracenepaste	90640-81-6		
	25	Coal tar pitch, high temperature	65996-93-2		
	26	Aluminosilicate, Refractory Ceramic Fibres	-		
	27	Zirconia Aluminosilicate, Refractory Ceramic Fibres	-		
	28	2,4-Dinitrotoluene	121-14-2		
	29	Lead chromate	7758-97-6		*3
	30	Lead chromate molybdate sulfate red (C.I. Pigment Red 104)	12656-85-8		*3
	31	C.I. Pigment Yellow 34	1344-37-2		*3
	32	Acrylamide	79-06-1		
	33	Trichloroethylene	79-01-6		
	34	Boric acid	10043-35-3 11113-50-1		
	35	Disodium tetraborate, anhydrous	1330-43-4 12179-04-3 1303-96-4		
	36	Tetraboron disodium heptaoxide, hydrate	12267-73-1		

*1. This may be specified as containing prohibition substance, by each business unit of SII upon request from an SII customer. Please follow the instructions made by each business unit.

*2. Except for alloys (such as stainless steel)

*3. This only applies to the exceptions for Lead /Lead Compounds and Hexavalent Chromium Compounds shown under Annex 5 on page 7. For other applications, the requirements under Cadmium/Cadmium Compounds and Lead/Lead Compounds and Hexavalent Chromium Compounds on Annex 5 must be satisfied.

Annex 6 List of Containing Avoidance Substances in Goods (continued)

		(Substances for which containing in goods is to be avoided)	CAS No.	Threshold Level	Remark
	37	Sodium chromate	7775-11-3		*3
	38	Potassium chromate	7789-00-6		*3
	39	Ammonium dichromate	7789-09-5		*3
	40	Potassium dichromate	7778-50-9		*3
	41	Cobalt(II) sulphate	10124-43-3		
	42	Cobalt(II) dinitrate	10141-05-6		
	43	Cobalt(II) carbonate	513-79-1		
	44	Cobalt(II) diacetate	71-48-7		
	45	2-Methoxyethanol	109-86-4		
	46	2-Ethoxyethanol	110-80-5		
	47	Chromium trioxide	1333-82-0		*3
	48	Acids generated fromchromium trioxide andtheir oligomers: ・Chromic acid ・Dichromic acid ・Oligomers of chromic acid and dichromic acid	7738-94-5 13530-68-2		*3
	49	2-ethoxyethyl acetate	111-15-9		
	50	strontium chromate	7789-06-2		*3
	51	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters（DHNUP）*1	68515-42-4		
	52	Hydrazine	7803-57-8 302-01-2		
	53	1-methyl-2-pyrrolidone	872-50-4		
	54	1,2,3-trichloropropane	96-18-4		
	55	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich(DIHP)*1	71888-89-6		
	56	Dichromium tris(chromate)	24613-89-6		*3
	57	Potassium hydroxy-octaoxodizincatedichromate	11103-86-9		*3
	58	Pentazinc chromate octahydroxide	49663-84-5		*3
	59	Formaldehyde, oligomeric reaction products with aniline (technical MDA)	25214-70-4		
	60	Bis(2-methoxyethyl) phthalate(DMEP)*1	117-82-8		
	61	2-Methoxyaniline;o-Anisidine	90-04-0	If the contents concentration exceeds 1,000 ppm when the weight of the delivered product is used as the denominator	This is prohibited from being contained in items that might be in direct contact with human skin or the mouth for a long period of time or short-term repetitive contact.
	62	4-(1,1,3,3-tetramethylbutyl)phenol,	140-66-9		
	63	1,2-Dichloroethane	107-06-2		
	64	Bis(2-methoxyethyl) ether	111-96-6		
	65	Arsenic acid	7778-39-4		
	66	Calcium arsenate	7778-44-1		
	67	Trilead diarsenate	3687-31-8		*3
	68	N,N-dimethylacetamide (DMAC)	127-19-5		
	69	4,4'-methylene-bis-(2-chloroaniline)	101-14-4		This is prohibited from being contained in items that might be in direct contact with human skin or the mouth for a long period of time or short-term repetitive contact.
	70	Phenolphthalein	77-09-8		
	71	Lead azide Lead diazide	13424-46-9		*3
	72	Lead styphnate	15245-44-0		*3
	73	Lead dipicrate	6477-64-1		*3
	74	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2		
	75	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4		
	76	Diboron trioxide	1303-86-2		
	77	Formamide	75-12-7		
	78	Lead(II) bis(methanesulfonate)	17570-76-2		*3
	79	TGIC (1.3.5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione)	2451-62-9		
	80	β-TGIC (1,3,5-tris [(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione)	59653-74-6		
	81	4,4'-bis(dimethylamino) benzophenone (Michler's ketone)	90-94-8		
	82	N,N,N'N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1		
	83	C.I, Basic Violet 3	548-62-9		
	84	[4-[[4-anilino-1-naphthl][4-(dimethylamino) phenyl] methylene]cyclohexa-2,5-dien-1- ylidene] dimethylammonium chloride (C.I.Basic Blue 26)	2580-56-5		
	85	α,α-Bis[4-(dimethylamino) phenyl]-4 (phenylamino) naphthalene-1- methanol (C.I.Solvent Blue 4)	6786-83-0		
	86	4,4'-bis(dimethlamino)- 4"-(methylamino)trityl alchol	561-41-1		

*1. This may be specified as containing prohibition substance, by each business unit of SII upon request from an SII customer. Please follow the instructions made by each business unit.

*3. This only applies to the exceptions for Lead/Lead Compounds and Hexavalent Chromium Compounds shown under Annex 5 on page 7.
For other applications, the requirements under Lead/Lead Compounds and Hexavalent Chromium Compounds on Annex 5 must be satisfied.

Annex 6 List of Containing Avoidance Substances in Goods (continued)

	(Substances for which containing in goods is to be avoided)	CAS No.	Threshold Level	Remark
87	Pentacosafluorotridecanoic acid	72629-94-8	If the contents concentration exceeds 1,000 ppm when the weight of the delivered product is used as the denominator	
88	Tricosafluorododecanoic acid	307-55-1		
89	Henicosafluoroundecanoic acid	2058-94-8		
90	Heptacosafluorotetradecanoic acid	376-06-7		
91	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated - covering well-defined substances and UVCB substances, polymers and homologues	-		
92	4-Nonylphenol, branched and linear - substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a	-		
93	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3		
94	Cyclohexane-1,2-dicarboxylic anhydride (Hexahydrophthalic anhydride - HHPA)	85-42-7		
95	Hexahydromethylphathalic anhydride, Hexahydro-4-methylphathalic anhydride, Hexahydro-1-methylphathalic anhydride, Hexahydro-3-methylphathalic anhydride	25550-51-0 19438-60-9 48122-14-1 57110-29-9		
96	Methoxy acetic acid	625-45-6		
97	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear *1	84777-06-0		
98	Diisopentylphthalate (DIPP) *1	605-50-5		
99	N-pentyl-isopentylphtalate *1	776297-69-9		
100	1,2-Diethoxyethane	629-14-1		
101	N,N-dimethylformamide; dimethyl formamide	68-12-2		
102	Dibutyltin dichloride (DBT)	683-18-1		For the fabric and leather product that might have contact with human skin, the content concentration exceeding 1000 ppm in tin component is prohibited.
103	Acetic acid, lead salt, basic	51404-69-4		*3
104	Lead (II) carbonate basic	1319-46-6		
105	Lead oxide sulfate (basic lead sulfate)	12036-76-9		
106	[Phthalato(2-)]dioxotrilead (dibasic lead phthalate)	69011-06-9		
107	Dioxobis(stearato)trilead	12578-12-0		
108	Fatty acids, C16-18, lead salts	91031-62-8		
109	Lead bis(tetrafluoroborate)	13814-96-5		
110	Lead cynamidate	20837-86-9		
111	Lead dinitrate	10099-74-8		
112	Lead oxide (lead monoxide)	1317-36-8		
113	Lead tetroxide (orange lead)	1314-41-6		
114	Lead titanium trioxide	12060-00-3		
115	Lead Titanium Zirconium Oxide	12626-81-2		
116	Pentalead tetraoxide sulphate	12065-90-6		
117	C.I. Pigment Yellow 41	8012-00-8		
118	Silicic acid, barium salt, lead-doped	68784-75-8		
119	Silicic acid, lead salt	11120-22-2		*3
120	Sulfurous acid, lead salt, dibasic	62229-08-7		*3
121	Tetraethyllead	78-00-2		*3
122	Tetralead trioxide sulphate	12202-17-4		*3
123	Trilead dioxide phosphonate	12141-20-7		*3
124	Furan	110-00-9		
125	Propylene oxide; 1,2-epoxypropane; methyloxirane	75-56-9		
126	Diethyl sulphate	64-67-5		
127	Dimethyl sulphate	77-78-1		
128	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2		
129	Dinoseb	88-85-7		
130	4,4'-methylenedi-o-toluidine	838-88-0		This is prohibited from being contained in items that might be in direct contact with human skin or the mouth for a long period of time or short-term repetitive contact.
131	4,4'-oxydianiline and its salts	101-80-4		
132	4-Aminoazobenzene; 4-Phenylazoaniline	60-09-3		
133	4-methyl-m-phenylenediamine (2,4-toluene-diamine)	95-80-7		
134	6-methoxy-m-toluidine (p-cresidine)	120-71-8		

*1. This may be specified as containing prohibition substance, by each business unit of SII upon request from an SII customer. Please follow the instructions made by each business unit.

*3. This only applies to the exceptions for Lead/Lead Compounds and Hexavalent Chromium Compounds shown under Annex 5 on page 7. For other applications, the requirements under Lead/Lead Compounds and Hexavalent Chromium Compounds on Annex 5 must be satisfied.

Annex 6 List of Containing Avoidance Substances in Goods (continued)

		(Substances for which containing in goods is to be avoided)	CAS No.	Threshold Level	Remark
	135	Biphenyl-4-ylamine	92-67-1		This is prohibited from being contained in items that might be in direct contact with human skin or the mouth for a long period of time or short-term repetitive contact.
	136	o-aminoazotoluene	97-56-3		
	137	o-Toluidine; 2-Aminotoluene	95-53-4		
	138	N-methylacetamide	79-16-3		
	139	1-bromopropane; n-propyl bromide	106-94-5		
	140	Cadmium	7440-43-9		*3
	141	Cadmium oxide	1306-19-0		*3
	142	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1		*4
	143	Dipentyl phthalate(DPP) *1	131-18-0		
	144	4-Nonylphenol,branched and linear,ethoxylated [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol,ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations	-		
	145	Cadmium sulphide	1306-23-6		*3
	146	Dihexyl phthalat	84-75-3		
	147	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0		
	148	Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo] -5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7	If the contents concentration exceeds 1,000 ppm when the weight of the delivered product is used as the denominator	
	149	Imidazolidine-2-thione; 2-imidazoline-2-thiol	96-45-7		
	150	Lead di(acetate)	301-04-2		*3
	151	Trixylyl phosphate	25155-23-1		
	152	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear (DIHP) *1	68515-50-4		
	153	Cadmium chloride	10108-64-2		*3
	154	Sodium perborate; perboric acid, sodium salt	(15120-21-5) (11138-47-9)		
	155	Sodium peroxometaborate	7632-04-4		
	156	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1		
	157	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1		*5
	158	Cadmium fluoride	7790-79-6		*3
	159	Cadmium sulphate	10124-36-4 31119-53-6		*3
	160	Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)	-		*5

*1. This may be specified as containing prohibition substance, by each business unit of SII upon request from an SII customer. Please follow the instructions made by each business unit.

*3. This only applies to the exceptions for Lead /Lead Compounds and Hexavalent Chromium Compounds shown under Annex 5 on page 7. For other applications, the requirements under Cadmium/Cadmium Compounds and Lead/Lead Compounds and Hexavalent Chromium Compounds on Annex 5 must be satisfied.

*4 This only applies to the exceptions for the application *9 shown under Annex 4 on page 6. For other applications, the requirements under PFOA, PFOA-salts, PFOA-esters on Annex 4 must be satisfied.

*5 This is prohibited from being contained in fabric and leather products that might touch human skin .

Tables: Compound Details (Main Examples)

Table A: Asbestos (Containing Prohibition)

		CAS No.
1	Asbestos	1332-21-4
2	Amosite	12172-73-5
3	Crocidolite	12001-28-4
4	Actinolite	77536-66-4
5	Anthophyllite	77536-67-5
6	Chrysotile	12001-29-5
7	Tremolite	77536-68-6

Table B: Tri-substituted organostannic compounds (including Tributyl tin and Triphenyl tin) (Containing Prohibition)

		CAS No.
1	Triphenyltin N, N'-dimethyldithiocarbamate	1803-12-9
2	Triphenyltin fluoride	379-52-2
3	Triphenyltin acetate	900-95-8
4	Triphenyltin chloride	639-58-7
5	Triphenyltin hydroxide	76-87-9
6	Triphenyltin fatty acid salts (C=9-11)	18380-71-7 18380-72-8 47672-31-1 94850-90-5
7	Triphenyltin chloroacetate	7094-94-2
8	Tributyltin methacrylate	2155-70-6
9	Bis (tributyltin) fumarate	6454-35-9 24291-45-0
10	Tributyltin fluoride	1983-10-4 7304-48-5
11	Bis (tributyltin) 2, 3-dibromosuccinate	31732-71-5 56323-17-2
12	Tributyltin acetate	56-36-0
13	Tributyltin laurate	3090-36-6
14	Bis (tributyltin) phthalate	4782-29-0
15	Coplymer of alkyl(c=8) acrylate,methyl methacrylate and tributyltin methacrylate	67772-01-4
16	Tributyltin sulfamate	6517-25-5
17	Bis (tributyltin) maleate	14275-57-1
18	Tributyltin chloride	1461-22-9 24291-45-0
19	Tributyltin cyclopentane carbonate = mixture	85409-17-2 7342-38-3
20	Tributyltin-1,2,3,4,4a,4b,5,6,10,10a-decahydro-7-isoplopyl-1,4a-dimethyl-1-phenanthrencarboxylatemix	26239-64-5
21	Tributyltin bromide	1461-23-0
22	Bis(tributan-1-ylstannyl) but-2-enedioate	24291-45-0

Table C: Polybromodiphenyl ethers (PBDE) (Containing Prohibition)

		CAS No.
1	Bromodiphenyl ether	101-55-3
2	Dibromodiphenyl ether	2050-47-7
3	Tribromodiphenyl ether	49690-94-0
4	Tetrabromodiphenyl ether	40088-47-9
5	Pentabromodiphenyl ether	32534-81-9
6	Hexabromodiphenyl ether	36483-60-0
7	Heptabromodiphenyl ether	68928-80-3
8	Octabromodiphenyl ether	32536-52-0
9	Nonabromodiphenyl ether	63936-56-1
10	Decabromodiphenyl ether	1163-19-5

Table D: Polybrominated biphenyls (PBB)(Containing Prohibition)

		CAS No.
1	Polybrominated Biphenyls	59536-65-1
2	DibromobiphenylX	92-86-4
3	2-Bromobiphenyl	2052-07-5
4	3-Bromobiphenyl	2113-57-7
5	4-Bromobiphenyl	92-66-0
6	Tribromobiphenyl	59080-34-1
7	Tetrabromobiphenyl	40088-45-7
8	Pentabromobiphenyl	56307-79-0
9	Hexabromobiphenyl	59080-40-9
10	Hexabromo-1,1-biphenyl	36355-01-8
11	Firemaster FF-1	67774-32-7
12	Heptabromobiphenyl	35194-78-6
13	Octabromobiphenyl	61288-13-9
14	Nonabromobiphenyl	27753-52-2
15	Decabromobiphenyl	13654-09-6

Table E: Azo Compounds(Containing Prohibition)

	Amines from which azo compounds should not be generated due to chemical dissolution	CAS No.
1	*o* -anisidine	90-04-0
2	2-naphthylamine	91-59-8
3	3,3'-dichlorobenzidine	91-94-1
4	Biphenyl-4-ylamine	92-67-1
5	Benzidine	92-87-5
6	*o* -toluidine	95-53-4
7	4-chloro-*o* -toluidine	95-69-2
8	2,4-toluenediamine	95-80-7
9	*o* -aminoazotoluene	97-56-3
10	5-nitro-*o* -toluidine	99-55-8
11	4,4'-methylene-bis-(2-chloroaniline)	101-14-4
12	4,4'-methylenedianiline	101-77-9
13	4,4'-oxydianiline	101-80-4
14	p-chloroaniline	106-47-8
15	3,3'-dimethoxybenzidine	119-90-4
16	3,3'-dimethylbenzidine	119-93-7
17	2-methoxi-5-methylaniline	120-71-8
18	2,4,5-trimethylaniline	137-17-7
19	4,4'-thiodianiline	139-65-1
20	4-methoxy-m-phenylenediamine	615-05-4
21	4,4'-methylenedi-*o* -toluidine	838-88-0
22	4-amino azobenzene	60-09-3

Amine: Hydrogen atom of ammonia was substituted with hydrocarbon group.
Azo compounds: Has an atomic group of "-N=N-." The term "azo" means nitrogen.

Table F: Dibutyltin Compounds (DBT) (Containing Prohibition)

		CAS No.
1	Dibutyltin oxide	818-08-6
2	Dibutyltin diacetate	1067-33-0
3	Dibutyltin dilaurate	77-58-7
4	Dibutyltin maleate	78-04-6
5	Dibutyltin dichloride	683-18-1
6	Other dibutyltin compounds	-

Table G: Dioctyltin Compounds (DOT) (Containing Prohibition)

		CAS No.
1	Dioctyltin Oxide	870-08-6
2	Dioctyltin dilaurate	3648-18-8
3	Dioctyltin dichloride	3542-36-7
4	Dioctyltin maleate	16091-18-2
5	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1
6	Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)	-
7	Other dioctyltin compounds	-

Table H: Hexabromocyclododecane(HBCDD) (Containing Prohibition)		CAS No.
1	Hexabromocyclododecane	25637-99-4
2	1,2,5,6,9,10-Hexabromocyclododecane	3194-55-6
3	rel-(1R,2R,5S,6R,9R,10S)-1,2,5,6,9,10-Hexabromocyclododecane	134237-50-6
4	rel-(1R,2S,5R,6R,9R,10S)-1,2,5,6,9,10-Hexabromocyclododecane	134237-51-7
5	rel-(1R,2R,5R,6S,9S,10R)-1,2,5,6,9,10-Hexabromocyclododecane	134237-52-8
6	rel-(1R,2S,5R,6S,9R,10S)-1,2,5,6,9,10-Hexabromocyclododecane	4736-49-6
7	rel-(1R,2S,5R,6S,9S,10R)-1,2,5,6,9,10-Hexabromocyclododecane	65701-47-5
8	(1R,2R,5R,6S,9S,10S)-1,2,5,6,9,10-Hexabromocyclododecane	138257-17-7
9	(1R,2R,5R,6S,9R,10S)-1,2,5,6,9,10-Hexabromocyclododecane	138257-18-8
10	(1R,2S,5S,6R,9S,10S)-1,2,5,6,9,10-Hexabromocyclododecane	138257-19-9
11	(1R,2S,5S,6S,9S,10R)-1,2,5,6,9,10-Hexabromocyclododecane	169102-57-2
12	(1R,2R,5S,6R,9R,10S)-1,2,5,6,9,10-Hexabromocyclododecane	678970-15-5
13	(1R,2S,5R,6S,9S,10S)-1,2,5,6,9,10-Hexabromocyclododecane	678970-16-6
14	(1R,2R,5R,6S,9S,10R)-1,2,5,6,9,10-Hexabromocyclododecane	678970-17-7

Table I: Polycyclic aromatic hydrocarbons(PAH) (Containing Prohibition)		CAS No.
1	*Benzo[a]pyrene (BaP)*	50-32-8
2	Benzo[e]pyrene (BeP)	192-97-2
3	Benzo[a]anthracene (BaA)	56-55-3
4	Chrysen (CHR)	218-01-9
5	Benzo[b]fluoranthene (BbFA)	205-99-2
6	*Benzo[j]fluoranthene (BjFA)*	205-82-3
7	Benzo[k]fluoranthene (BkFA)	207-08-9
8	Dibenzo[a,h]anthracene(DBAhA)	53-70-3

Table J: PFOA、PFOA-salts、PFOA-esters (Containing Prohibition)		CAS No.
1	perfluorooctanoic acid	335-67-1
2	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1
3	Sodium salt of Perfluorooctanoic acid	335-95-5
4	Potassium salt of Perfluorooctanoic acid	2395-00-8
5	Silver(1+) salt of Perfluorooctanoic acid	335-93-3
6	Perfluorooctanoyl fluoride	335-66-0
7	Methyl perfluorooctanoate	376-27-2
8	Ethyl perfluorooctanoate	3108-24-5

Table K: Cadmium / Cadmium Compounds (Conditional Containing Prohibition)		CAS No.
1	Cadmium	7440-43-9
2	Cadmium oxide	1306-19-0
3	Cadmium sulfide	1306-23-6
4	Cadmium chloride	10108-64-2
5	Cadmium sulphate	10124-36-4 31119-53-6
6	Cadmium nitrate	10325-94-7
7	Cadmium nitrate tetrahydrate	10022-68-1
8	Cadmium stearate (cadmium soap)	2223-93-0
9	Cadmium fluoride	7790-79-6
10	Other cadmium compounds	-

Table L: Hexavalent Chromium Compounds (Conditional Containing Prohibition)

		CAS No.
1	Sodium dichromate	10588-01-9
2	Potassium dichromate	7778-50-9
3	Chromium trioxide	1333-82-0
4	Lead (II) chromate	7758-97-6
5	Potassium chromate	7789-00-6
6	Calcium chromate	13765-19-0
7	Barium chromate	10294-40-3
8	Strontium chromate	7789-06-2
9	Zinc chromate	13530-65-9
10	Sodium chromate	7775-11-3
11	Lead chromate molybdate sulfate red (C.I. Pigment Red 104)	12656-85-8
12	C.I. Pigment Yellow 34	1344-37-2
13	Ammonium dichromate	7789-09-5
14	Pentazinc chromate octahydroxide	49663-84-5
15	Potassium zinc chromate hydroxide	11103-86-9
16	Dichromium tris(chromate)	24613-89-6
17	Acids generated fromchromium trioxide andtheir oligomers: ・Chromic acid ・Dichromic acid ・Oligomers of chromic acid and dichromic acid	 7738-94-5 13530-68-2
18	Patassium chlorochromate	16037-50-6
19	Ammonium chromate	7788-98-9
20	Copper chromate	13548-42-0
21	Magnesium chromate	13423-61-5
22	Calcium dichromate	14307-33-6
23	Other hexavalent chromium compounds	-

Table M: Lead/Lead Compounds (Conditional Containing Prohibition)

		CAS No.
1	Lead	7439-92-1
2	Lead (II) carbonate	598-63-0
3	Lead (IV) oxide	1309-60-0
4	Lead (II.IV) oxide	1314-41-6
5	Lead (II) sulfide	1314-87-0
6	Lead (II) oxide	1317-36-8
7	Lead (II) carbonate basic	1319-46-6
8	Lead hydroxidcarbonate	1344-36-1
9	Lead (II) sulfate	7446-14-2
10	Lead (II) phosphate	7446-27-7
11	Lead (II) chromate	7758-97-6
12	Lead titanium trioxide	12060-00-3
13	Lead sulfate, sulphuric acid, lead salt	15739-80-7
14	Lead difluoride	7783-46-2
15	Lead dichoride	7758-95-4
16	Lead(II) acetate	301-04-2
17	Lead (II) acetate, trihydrate	6080-56-4
18	Lead selenide	12069-00-0
19	Lead sulphate, tribasic	12202-17-4
20	Lead stearate	1072-35-1
21	Lead hydrogen arsenate	7784-40-9
22	Lead chromate molybdate sulfate red (C.I. Pigment Red 104)	12656-85-8
23	C.I. Pigment Yellow 34	1344-37-2
24	Trilead diarsenate	3687-31-8
25	Lead diazide	13424-46-9
26	Lead 2,4,6-trinitro-m-phenylene dioxide	15245-44-0
27	Lead dipicrate	6477-64-1
28	Lead(II) dimethanesulfonate	17570-76-2
29	Other lead compounds	-

Table N: Mercury/Mercury Compounds (Conditional Containing Prohibition)

		CAS No.
1	Mercury	7439-97-6
2	Mercury(II) chloride	7487-94-7
3	Mercury(II) oxide	21908-53-2
4	Diethylmercury	627-44-1
5	Phenylmercury chloride	100-56-1
6	Mercuric sulfate	7783-35-9
7	Mercuric nitrate	10045-94-0
8	Mercuric sulfide	1344-48-5
9	Mercuric chloride	33631-63-9
10	Dimercury sulphate	7783-36-0
11	Mercury difulminate	628-86-4
12	Mercury diacetate	1600-27-7
13	Other mercury compounds	-

Table O: Arsenic / Arsenic Compounds (Containing Avoidance)

		CAS No.
1	Arsenic	7440-38-2
2	Gallium arsenide	1303-00-0
3	Calcium arsenite	27152-57-4
4	Potassium arsenite	10124-50-2
5	Potassium arsenate	7784-41-0
6	Other arsenate compounds	-

Table P: Beryllium /Beryllium Compounds (Containing Avoidance)

		CAS No.
1	Beryllium	7440-41-7
2	Beryllium-aluminum alloy	12770-50-2
3	Beryllium chloride	7787-47-5
4	Beryllium fluoride	7787-49-7
5	Beryllium hydroxide	13327-32-7
6	Beryllium oxide	1304-56-9
7	Beryllium phosphate	13598-15-7
8	Beryllium sulfate	13510-49-1
9	Beryllium sulfate tetrahydrate	7787-56-6
10	Beryl ore	1302-52-9
11	Beryllium copper	11108-64-8
12	Other beryllium compounds	-

Table Q: Nickel / Nickel Compounds (Containing Avoidance)

		CAS No.
1	Nickel	7440-02-0
2	Nickel carbonyl	13463-39-3
3	Nickel oxide	1313-99-1
4	Nickelous carbonate	3333-67-3
5	Nickel sulfate	7786-81-4
6	Nickel sulfide	12035-72-2
7	Other nickel compounds	-

Table R: Phthalates (Containing Avoidance)

		CAS No.
1	Bis (2-ethyl(hexyl)phthalate) (DEHP)	117-81-7
2	Benzyl butyl phthalate(BBP)	85-68-7
3	Dibutyl phthalate(DBP)	84-74-2
4	Diisobutyl phthalate(DIBP)	84-69-5
5	Diisononyl phthalate (DINP)	28553-12-0 68515-48-0
6	1,2-Benzenedicarboxylic acid diisodecyl ester (DIDP)	26761-40-0 68515-49-1
7	Di-n-octyl phthalate (DNOP)	117-84-0
8	Dicyclohexyl phthalate(DCHP)	84-61-7
9	Diisooctyl phthalate(DIOP)	27554-26-3

Table S: Radioactive substances (Containing Avoidance)

		CAS No.
1	Uranium-238	7440-61-1
3	Radon	10043-92-2
4	Americium-241	14596-10-2
5	Thorium-232	7440-29-1
6	Cesium-137	10045-97-3
7	Strontium-90	10098-97-2

Table T: Brominated Flame Retardant (Excluding PBB ,PBDE and HBCDD)

	(Containing Avoidance)	CAS No.
1	Poly (2, 6-dibromo-phenylene oxide)	69882-11-7
2	Tetra-decabromo-diphenoxy-benzene	58965-66-5
3	1, 2-Bis (2, 4, 6-tribromo-phenoxy) ethane	37853-59-1
4	3, 5, 3', 5'-Tetrabromo-bisphenol A (TBBA)	79-94-7
5	TBBA, unspecified	30496-13-0
6	TBBA-epichlorhydrin oligomer	40039-93-8
7	TBBA-TBBA-diglycidyl-ether oligomer	70682-74-5
8	TBBA carbonate oligomer	28906-13-0
9	TBBA carbonate oligomer, phenoxy end capped	94344-64-2
10	TBBA carbonate oligomer, 2, 4, 6-tribromo-phenol terminated	71342-77-3
11	TBBA-(2, 3-dibromo-propyl-ether)	21850-44-2
12	TBBA bis-(2-hydroxy-ethyl-ether)	4162-45-2
13	TBBA-bis-(allyl-ether)	25327-89-3
14	TBBA-dimethyl-ether	37853-61-5
15	Tetrabromo-bisphenol S	39635-79-5
16	TBBS-bis-(2, 3-dibromo-propyl-ether)	42757-55-1
17	2, 4-Dibromo-phenol	615-58-7
18	2, 4, 6-tribromo-phenol	118-79-6
19	Pentabromo-phenol	608-71-9
20	2, 4, 6-Tribromo-phenyl-allyl-ether	3278-89-5
21	Tribromo-phenyl-allyl-ether, unspecified	26762-91-4
22	Tetrabromo-chyclo-octane	31454-48-5
23	1, 2-Dibromo-4-(1, 2 dibromo-ethyl)-cyclo-hexane	3322-93-8
24	Tetrabromo phthalic-anhydride	632-79-1
25	1, 3-Butadiene homopolymer, brominated	68441-46-3
26	2-Hydroxy-propyl-2-(2-hydroxy-ethoxy)-ethyl-TBP	20566-35-2
27	2, 3-Dibromo-2-butene-1, 4-diol	3224-02-4
28	Dibromo-neopentyl-glycol	3296-90-0
29	Dibromo-propanol	96-13-9
30	Tribromo-neopentyl-alcohol	36483-57-5
31	Poly tribromo-styrene	57137-10-7
32	Tibromo-styrene	61368-34-1
33	Poly-dibromo-styrene	31780-26-4
34	Bromo-/Chloro-paraffins	68955-41-9
35	Bromo-/Chloro-alpha-olefin	82600-56-4
36	Vinylbromide	593-60-2
37	Tris-(2, 3-dibromo-propyl)-isocyanurate	52434-90-9
38	Tris (2, 4-Dibromo-phenyl) phosphate	49690-63-3
39	Tris (tribromo-neopentyl) phosphate	19186-97-1
40	Pentabromo-toluene	87-83-2
41	Pentabromo-benzyl bromide	38521-51-6
42	Pentabromo-benzyl-acrylate, monomer	59447-55-1
43	Pentabromo-benzyl-acrylate, polymer	59447-57-3
44	TBBA-bisphenol A-phosgene polymer	32844-27-2
45	Brominated epoxy resin end-capped with tribromophenol	139638-58-7
46	Bis (methyl) tetrabromo-phtalate	55481-60-2
47	Bis (2-ethlhexyl) tetrabromo-phtalate	26040-51-7
48	TBPA, glycol-and propylene-oxide esters	75790-69-1
49	N, N'-Ethylene-bis-(tetrabromo-phthalimide)	32588-76-4
50	Ethylene-bis(5,6-dibromo-norbornane-2,3-dicarboximide)	52907-07-0
51	Chlorinated and brominated phosphate esther	125997-20-8
52	Tribromo-bisphenyl-maleinimide	59789-51-4
53	TBPA Na salt	25357-79-3
54	Decabromo-diphenyl-ethane	84852-53-9
55	Dibromo-styrene grafted PP	171091-06-8
56	Octabromo-1,1,3-trimethyl-1-phenylindane (FR-1808)	155613-93-7
57	Brominated epoxy resin end-capped with tribromophenol	135229-48-0
58	Other brominated flame retardants	-

Table U: Chlorinated Flame Retardants (Excluding Short-chain chlorinated paraffins)

	(Containing Avoidance)	CAS No.
1	Tetrakis(2-chloroethyl)dichloroisopentyldiphosphate	38051-10-4
2	Tris(2,3-dichloro-1-propyl)phosphate	66108-37-0
3	Other chlorinated flame retardants	-

Applicable Standards and Applications of Restricted Chemical Substances

Use Prohibition Substances

		(A) Ozone Layer Protection Law	(B) Global Warming Prevention Law	(C) Volatile Organic Compounds	(D) EU Directives	End Use Applications
1	1,1,1-trichloroethane	UP			○	Detergents, solvents
2	CFC group	UP				Washing agents, coolants, forming agents
3	HBFC group	UP				Extinguishants
4	Halon group	UP				Extinguishants, washing agents
5	Bromochloromethane	UP				Solvents, Extinguishants
6	Tetrachloroethylene			○		Solvents
7	Benzene			○	○	Solvents, washing agents
8	Pentachloroethane				○	Solvents, washing agents
9	1,1,1,2-tetrachloroethane				○	Solvents
10	Hexachloroethylene				○	Solvents
11	Methyl bromide	○				Soil fumigants
12	Carbon tetrachloride	UP				Solvents, washing agents
13	1,1,2,2-tetrachloroethane				○	Solvents, washing agents
14	1,1,2-trichloroethane			○	○	Solvents
15	1,1-dichloroethylene			○	○	Solvents

Use Avoidance Substances

		(A)	(B)	(C)	(D)	End Use Applications
1	1,2-dichloroethane			○		Solvents, washing agents
2	1,2-dichloroethylene			○		Solvents, washing agents
3	1,3-dichloropropene			○		Soil fumigants
4	HCFC group	○				Washing agents
5	HFC group		○			Washing agents, coolants
6	PFC group		○			Washing agents, coolants
7	Dichloromethane			○		Solvents, washing agents
8	Cis-1,2-dichloroethylene			○		Solvents, washing agents
9	Trichloroethylene			○	○	Washing agents
10	Nitrous oxide		○			Anaesthetics for medical treatments
11	Sulfur hexafluoride		○			Etching gas, insulated gas
12	Chloroform			○	○	Solvents, anaesthetics

(A) Ozone Layer Protection Law UP: Relevant to **II** of Annexes A, B and C attached to the Montreal Protocol
○: Relevant to **I** of Annex C and **I** of Annex E attached to the Montreal Protocol
(B) Global Warming Prevention Law ○: Appropriate substances
(C) Volatile Organic Compounds ○: Relevant to volatile organic compounds which might cause soil pollution (SII Standards)
(D) EU Regulations ○: Relevant to REACH Regulation or RoHS Directives

Supplementary Explanation

Ozone Layer Protection Law: Sets forth measures including production control, emission restraint and use rationalization of specified ozone depleting substances. Production of specific fluorine and halon is prohibited; HCFC will also be prohibited step by step.

Global Warming Prevention Law: Restricts emissions of greenhouse gases, such as CO_2 and PFC for global warming prevention.

Occupational Safety and Health Law: Sets forth measures for workers to ensure their safety and health and build up their comfortable working environment. It also lays down chemical substances whose manufacture should be prohibited or allowed and whose indication should be imposed.

Chemical Substances Examination and Manufacture Restriction Law: Prevents contamination of the environment by chemical substances that might damage health. Manufacture and import of new chemical substances should be examined for their decomposition level under this law and use restraint rules should be set forth in this law.

Special Chemical Substances Regulations: Rules defined in the Occupational Safety and Health Law to prevent workers' health disturbance, such as dermatitis and neuropathy. Confirmation of toxicity of substances to be used, measures for improvement of related facilities to minimize the term and the extent of exposure to chemical substances are set forth herein.

Pollutant Release Transfer Registers (PRTR) Law: Sets forth rules and regulations to confirm and report emissions of substances into the air and submit material safety data sheet information with the aim of promoting voluntary control of chemical substances and preventing environmental conservation-related issues.

EU Regulations

REACH Regulation: This regulation pertains to the registration, evaluation, approval, and restriction of chemical substances. This regulation restricts the sale and use of chemical substances that are carcinogenic, mutagenic, or otherwise harmful, and the regulation also requires that information be submitted for any article containing more than 1,000 ppm of an SVHC (substance of very high concern).

RoHS (2011/65/EU): Specifies containing prohibition instructions of toxic substances in electric and electronic products. Specific hazardous chemical substances (lead, mercury, cadmium, hexavalent chromium, polybrominate biphenyls (PBB), and polybrominated diphenyl ethers (PBDE))

Containing Prohibition Substances		(A) Occupational Safety and Health Law	(B) Chemical Substances Examination Law	(C) Special Chemical Substance Regulation	(D) PRTR Law	(E) EU Directives	End Use Applications
1	4-nitrobiphenyl and its salt	MP			1		Synthetic intermediates
2	DDT		1				Antiseptics, fungicides, paints
3	Asbestos			2	S1	○	Adiabators, insulators, bulking agents
4	Aldrin (HCB)		1				Antiseptics, fungicides, paints
5	Endrin		1				Antiseptics, fungicides, paints
6	Chlordane		1				Adhesives, paints
7	Dieldrin		1				Antiseptics, fungicides, paints
8	Bis(chloromethyl) ether	MP					Insecticides
9	Tributyl tin oxide（TBTO）		1				Antiseptics, paints, pigments
10	Tri-substituted organostannic compounds (including Tributyl tin and Triphenyl tin)					○	Fungicides,antiseptics,paints,pigments
11	Hexachloro benzene (HCB)		1				Disinfectants, antirust
12	Polychlorinated naphthalene (3 or more chlorine)		1				Lubricants, paints
13	Polychlorobiphenyls (PCB)		1		1	○	Insulation oil, lubricants
14	Polychlorinated terphenyls (PCT)					○	Insulation oil, lubricants
15	Polybrominated diphenylethers group (PBDE)					○	Fire retardant
16	Polybrominated biphenyls group (PBB)					○	Fire retardant
17	Azo compounds						Pigments,dyes
18	2,4,6-Tri-tert-butylphenol		1				Antioxidants
19	N,N'-ditolyl-p-phenylenediamine N-toly-N'-xylyl-p- phenylenediamine N,N'-dixylyl-p-phenylenediamine		1				Antioxidants, lubricants
20	Chlorinated paraffins (C10-13)					○	Plasticizer, fire retardant
21	Mirex		1				Fire retardant
22	Yellow phosphor	MP					Lucifer
23	Toxaphene		1				Insecticide
24	Monomethyl-dichloro-diphenyl methane (DBBT)					○	Insulation oil, lubricants
25	Di-u-oxo-di-n-butyl-stanniohydroxyborane (DBB)					○	Insulation oil, lubricants
26	Monomethyl-tetrahlorodiohenyl-methane					○	Insulation oil, lubricants
27	Monomethyl-dichloro-diphenyl-methane					○	Insulation oil, lubricants
28	Phenol,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dim ethylethyl)- (UV-320)		1				Ultraviolet rays inhibitor
29	Perfluorooctane sulfonates (PFOS)		1			○	surface-active agent, paints
30	Dimethyl fumarate (DMF)					○	Insecticide,fungicides
31	Cobalt dichloride					○	Water indicator in desiccants
32	Formaldehyde				1		Antiseptics,
33	Dibutyltin (DBT) compounds					○	PVC stabilizer and catalysts for curing silicone
34	Dioctyltin (DOT) compounds					○	resins and polyurethane resins.
35	Tris(2,3-dibromopropyl)phosphate(TRIS)					○	Fire retardant
36	Tris（1-aziridinyl）phosphine oxide(TEPA)					○	Fire retardant
37	Hexabromocyclododecane(HBCDD)					○	Fire retardant
38	Polycyclic aromatic hydrocarbons(PAH)					○	Antiseptics, lubricants
39	Tris(2-chloroethyl)phosphate (TCEP) *1					○	Fire retardant,lubricants
40	Tris(1-chloro-2-propyl)phosphate (TCPP) *1						Fire retardant
41	Tris(1,3-dichloro-2-propyl)phosphate (TDCPP) *1						Fire retardant
42	PFOA、PFOA-salts、PFOA-esters					○	surface-active agent, paints
43	N-Phenyl-benzenamine reaction products with styrene and 2,4,4-trimethylpentene(BNST) *2						Antioxidants

*1U

Conditional containing Prohibition Substances		(A)	(B)	(C)	(D)	(E)	End Use Applications
1	Cadmium / cadmium compounds			2	S1	○	Pigments, stabilizers, contact materials
2	Hexavalent chromium compounds				S1	○	Pigments, ink
3	Mercury / Mercury compounds			2	1	○	Electrodes
4	Lead / Lead compounds				1	○	Pigments, stabilizers, rubber stiffening agents
5	Polyvinyl chloride (PVC) *3						Cable coating, plastic resins

*3 Polyvinyl chloride is a substance that has been independently classified by SII into conditional containing prohibition.

（A） Occupational Safety and Health Law
MP: Manufacture Prohibition Substances
MA: Manufacture Allowed Substances

（B） Chemical Substances Examination and Manufacture Regulations
1: Type I Special Chemical Substances

（C） Special Chemical Substances Regulations
1: Classification I Substances 2; Classification II Substances 3; Classification III Substances 3
N: Upon emissions or discharge of those substances, a disposal system is needed.

（D） PRTR Law
1: Classification 1-Designated Chemical Substances
S1: Special Classification1-Designated Chemical Substances
2: Classification 2-Designated Chemical Substances

（E） EU Directives
○: Relevant to REACH Regulation or RoHS Directives

Containing Prohibition Substances

		(A) Occupational Safety and Health Law	(B) Substance Examination Law Chemical	(C) Special Chemical Substance Regulation	(D) PRTR Law	(E) EU Directives	End Use Applications
1	Arsenic / arsenic compounds			2	S1	○	Semiconductors, catalysts, pigments
2	Beryllium / beryllium compounds	MA		1	S1		Ceramic materials, catalysts
3	Pentachlorophenol and its salt			2	1	○	Insecticides
4	Nickel compounds				1		Pigments, paints
5	Phthalic ester						Plasticizer, pigments, paints
6	Radioactive material						Optical characteristic
7	Brominated flame retardants					○	Fire retardant
8	perchlorate ※						Lithium primary batteries
9	Red phosphorus						Fire retardant
10	Chlorinated flame retardants						Fire retardant
11	Anthracene					○	Material of crude carbon black, insecticides, wood preservatives, pesticides, plant growth regulators
12	4,4'-methylenedianiline					○	Epoxy resin curing agents, adhesive curing agents
13	Cobalt dichloride					○	Water indicator in desiccants, ammonia gas absorbent, gas masks
14	Diarsenic pentaoxide					○	Dye, metallurgy, industrial special glass, wood preservatives
15	Diarsenic trioxide					○	Glass and enamel bleaching, special glass cleaner and oxidizer
16	Sodium dichromate					○	Used to produce chromium compounds (chromium sulfate) and inorganic chromium acid pigment
17	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)					○	Fragrance
18	Lead hydrogen arsenate					○	Pesticides,chemical weapons, wood preservatives
19	Triethyl arsenate					○	Pesticides, wood preservatives
20	Anthracene oil					○	Antiseptic, waterproof material. Used to produce other substances such as anthracene and carbon black
21	Anthracene oil, anthracene paste,distn. lights					○	Antiseptic, waterproof material. Used to produce other substances such as anthracene and carbon black
22	Anthracene oil, anthracene paste,anthracene fraction					○	Antiseptic, waterproof material. Used to produce other substances such as anthracene and carbon black
23	Anthracene oil,anthracene-low					○	Antiseptic, waterproof material. Used to produce other substances such as anthracene and carbon black
24	Anthracene oil, anthracenepaste					○	Antiseptic, waterproof material. Used to produce other substances such as anthracene and carbon black
25	Coal tar pitch, high temperature					○	Electrode,molding material for carbon products, insulation filler, binder for briquette
26	Aluminosilicate, Refractory Ceramic Fibres					○	Substitute materials of the asbestos such as insulation materials
27	Zirconia Aluminosilicate, Refractory Ceramic Fibres					○	Substitute materials of the asbestos such as insulation materials
28	2,4-Dinitrotoluene					○	Dye, used to produce toluene diisocyanate which is a raw material of plasticized polyurethane foamed material
29	Lead chromate					○	Pigment, bleach
30	Lead chromate molybdate sulfate red (C.I. Pigment Red 104)					○	Additive plasticizers and viscocity regulator which provide flameproofness to acrylic resin, polyurethane, polyvinyl chloride and other polymer, lubricant additives
31	C.I. Pigment Yellow 34					○	Raw material for synthetic resin paints, inks, rubber
32	Acrylamide					○	Paper strengthening agents, fiber processing agents, processing agents for increasing adhesiveness, acrylamide thermosetting paint synthesis materials, coagulants, and soil improving agents
33	Trichloroethylene					○	Metal part cleaning and removal, solvents in adhesives, etc.
34	Boric acid					○	Pesticides, personal care products, food additives, glass, ceramic, rubber, flame retardants, etc.
35	Disodium tetraborate, anhydrous					○	Glass, glass fiber, ceramic, detergents, cleaners, personal care products, industrial fluids, adhesives, etc.
36	Tetraboron disodium heptaoxide, hydrate					○	
37	Sodium chromate					○	Laboratories (chemical reagents) and other chrome compound manufacturing
38	Potassium chromate					○	Leather product tanning, metal processing and coating, pigment/ink manufacturing, etc.
39	Ammonium dichromate					○	Leather product tanning, oxidants, photo sensitive screen (CRT) manufacturing, etc.
40	Potassium dichromate					○	Leather tanning, metal processing and coating, and photolithography

* Perchlorate is regulated by the California DTSC (Department of Toxic Substances Control).

(A) Occupational Safety and Health Law
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MA: Manufacture Allowed Substances

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1: Type I Special Chemical Substances

(C) Special Chemical Substances Regulations
1: Classification I Substances 2; Classification II Substances 3; Classification III Substances 3
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1: Classification 1-Designated Chemical Substances
S1: Special Classification1-Designated Chemical Substances
2: Classification 2-Designated Chemical Substances

(E) EU Directives
○: Relevant to REACH Regulation or RoHS Directives

Containing Prohibition Substances (continued)

		(A) Occupational Safety and Health Law	(B) Chemical Substance Examination Law	(C) Special Chemical Substance Regulation	(D) PRTR Law	(E) EU Directives	End Use Applications
41	Cobalt(II) sulphate					○	Surface treatment agents, anticorrosives, pigments
42	Cobalt(II) dinitrate					○	Surface treatment agents,catalysts
43	Cobalt(II) carbonate					○	Adhesives, pigments
44	Cobalt(II) diacetate					○	Surface treatment agents,dyes,rubber adhesion
45	2-Methoxyethanol					○	Solvents,fuel additive
46	2-Ethoxyethanol					○	Solvents
47	Chromium trioxide					○	Metal surface treating agents,antiseptics
48	Acids generated fromchromium trioxide andtheir oligomers: ・Chromic acid ・Dichromic acid ・Oligomers of chromic acid and dichromic acid					○	Metal surface treating agents,antiseptics
49	2-ethoxyethyl acetate					○	Solvents
50	strontium chromate					○	Anticorrosives
51	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters（DHNUP）					○	PVC plasticizers
52	Hydrazine					○	Fire retardant,
53	1-methyl-2-pyrrolidone					○	Solvents for paint dried at high temperature and washing agents
54	1,2,3-trichloropropane					○	Intermediates for insecticides and intermediates for chlorinated solvents
55	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich(DIHP)					○	PVC plasticizers, bulking agents, and ink plasticizers
56	Dichromium tris(chromate)					○	Metal surface treatment chemical
57	Potassium hydroxy-octaoxodizincatedichromate					○	Coating films and sealants
58	Pentazinc chromate octahydroxide					○	Coating films and paints
59	Formaldehyde, oligomeric reaction products with aniline (technical MDA)					○	Epoxy resin curing agents
60	Bis(2-methoxyethyl) phthalate(DMEP)					○	Plasticizers for paint and varnish
61	2-Methoxyaniline;o-Anisidine					○	Colored paper and dye
62	4-(1,1,3,3-tetramethylbutyl)phenol, (4-tert-Octylphenol)					○	Mainly used in the manufacture of polymer preparations and of ethoxylates.
63	1,2-Dichloroethane					○	Solvents
64	Bis(2-methoxyethyl) ether					○	Solvents for chemical reaction and battery electrolytes
65	Arsenic acid					○	Fining agents to disperse air bubbles in glass
66	Calcium arsenate					○	Chemical for separation of nickel from molten copper
67	Trilead diarsenate					○	Product from refining and smelting of non-ferrous metals
68	N,N-dimethylacetamide (DMAC)					○	Solvents, paints, and ink remover
69	4,4'-methylene-bis-(2-chloroaniline)					○	Curing agents for polyurethane resins
70	Phenolphthalein					○	Indicator in medical use and pH indicator
71	Lead azide Lead diazide					○	Detonator
72	Lead styphnate					○	Explosive and detonator
73	Lead dipicrate					○	Detonator
74	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)					○	Solvents and auxiliary agents in processing
75	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)					○	Solvents and electrolytes for lithium ion battery
76	Diboron trioxide					○	Glass, ceramics, and fire retardant
77	Formamide					○	Solvents, reagents, and plasticizers
78	Lead(II) bis(methanesulfonate)					○	Chemicals for plating of electronic parts
79	TGIC (1.3.5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione)					○	Resin curing agents and ink for printed-circuit board
80	β-TGIC (1,3,5-tris [(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione)					○	Resin curing agents and ink for printed-circuit board
81	4,4'-bis(dimethylamino) benzophenone (Michler's ketone)					○	Dyes, pigments
82	N,N,N'N'-tetramethyl-4,4'-methylenedianiline (Michler's base)					○	Dyes
83	C.I, Basic Violet 3					○	Chemicals for dyeing of paper and ink for jet printing and ballpoint pen
84	[4-[[4-anilino-1-naphthl][4-(dimethylamino) phenyl] methylene]cyclohexa-2,5-dien-1- ylidene] dimethylammonium chloride (C.I.Basic Blue 26)					○	Chemicals for dyeing of paper, packaging material, and fabric and coloring of resin
85	α,α-Bis[4-(dimethylamino) phenyl]-4 (phenylamino) naphthalene-1- methanol (C.I.Solvent Blue 4)					○	Dyes, inks

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Containing Prohibition Substances (continued)

		(A) Occupational Safety and Health Law	(B) Chemical Substance Examination Law	(C) Special Chemical Substance Regulation	(D) PRTR Law	(E) EU Directives	End Use Applications
86	4,4'-bis(dimethlamino)- 4"-(methylamino)trityl alchol					○	Dyes, inks
87	Pentacosafluorotridecanoic acid					○	Production of the fluoric resin and additive,surfactant
88	Tricosafluorododecanoic acid					○	Production of the fluoric resin and additive,surfactant
89	Henicosafluoroundecanoic acid					○	Production of the fluoric resin and additive,surfactant
90	Heptacosafluorotetradecanoic acid					○	Production of the fluoric resin and additive,surfactant
91	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated - covering well-defined substances and UVCB substances, polymers and homologues					○	Water paint
92	4-Nonylphenol, branched and linear - substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof					○	Antioxidants,plasticizer,paints,printing ink
93	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))					○	Synthetic resin rubber blowing agent, bleach catalysts, cement fillers, colorants, bleach photo
94	Cyclohexane-1,2-dicarboxylic anhydride (Hexahydrophthalic anhydride - HHPA)					○	Plasticizer for the thermoplastic resin, curing agent for epoxy resins, insecticides, anticorrosives
95	Hexahydromethylphathalic anhydride, Hexahydro-4-methylphathalic anhydride, Hexahydro-1-methylphathalic anhydride, Hexahydro-3-methylphathalic anhydride					○	Plasticizer for the thermoplastic resin, curing agent for epoxy resins, insecticides, anticorrosives
96	Methoxy acetic acid					○	Synthetic intermediates,anticorrosives
97	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear					○	Laboratories (chemical reagents)
98	Diisopentylphthalate (DIPP)					○	PVC plasticizers,pesticides
99	N-pentyl-isopentylphtalate					○	Plasticizer
100	1,2-Diethoxyethane					○	Paint solvent,inks
101	N,N-dimethylformamide; dimethyl formamide					○	Solvents, washing agents
102	Dibutyltin dichloride (DBT)					○	Rubber additive,pvc stabilizers
103	Acetic acid, lead salt, basic				1	○	Anticorrosive pigment
104	Lead (II) carbonate basic				1	○	Pigments, paints,pvc stabilizers
105	Lead oxide sulfate (basic lead sulfate)				1	○	Battery electrode materials,phosphor
106	[Phthalato(2-)]dioxotrilead (dibasic lead phthalate)				1	○	PVC stabilizers
107	Dioxobis(stearato)trilead				1	○	PVC stabilizers
108	Fatty acids, C16-18, lead salts				1	○	PVC stabilizers
109	Lead bis(tetrafluoroborate)				1	○	Solder plating, alloy plating, electroplating electrolyte
110	Lead cynamidate				1	○	Anticorrosive pigment
111	Lead dinitrate				1	○	Pigments
112	Lead oxide (lead monoxide)				1	○	PVC stabilizers,optical glass, pigments, paints, storage battery plates, vulcanization accelerator, pottery, enamel, glass general
113	Lead tetroxide (orange lead)				1	○	Paints, optical glass, general glass, ceramics, enamel, battery, pigments, rubber, pharmaceutical, plastics, electronic materials
114	Lead titanium trioxide				1	○	Electronic ceramic material
115	Lead Titanium Zirconium Oxide				1	○	Electronic ceramic material,Piezoelectric devices,Piezoelectric buzzers
116	Pentalead tetraoxide sulphate				1	○	PVC stabilizers
117	C.I. Pigment Yellow 41				1	○	Pigments
118	Silicic acid, barium salt, lead-doped					○	Lamp fluorescent material
119	Silicic acid, lead salt				1	○	Glass materials
120	Sulfurous acid, lead salt, dibasic				1	○	PVC stabilizers
121	Tetraethyllead				1	○	Gasoline additive
122	Tetralead trioxide sulphate				1	○	Battery electrode material, PVC stabilizer
123	Trilead dioxide phosphonate				1	○	PVC stabilizer
124	Furan					○	Solvent
125	Propylene oxide; 1,2-epoxypropane; methyloxirane					○	Pigments, pharmaceuticals, fungicides
126	Diethyl sulphate					○	Dyes, pharmaceuticals, agrochemicals, fine chemicals
127	Dimethyl sulphate					○	Manufacture of dyes and methylcellulose, stabilizer

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Containing Prohibition Substances (continued)

		(A) Occupational Safety and Health Law	(B) Chemical Substance Examination Law	(C) Special Chemical Substance Regulation	(D) PRTR Law	(E) EU Directives	End Use Applications
128	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine					○	-
129	Dinoseb					○	Polymer material
130	4,4'-methylenedi-o-toluidine					○	Curing agent for epoxy resin and urethane resin
131	4,4'-oxydianiline and its salts					○	Polyimide, polyamide imide, polyamide material. Cross-linking agent and polymer stock epoxy, urethane
132	4-Aminoazobenzene; 4-Phenylazoaniline					○	Dye, reagent
133	4-methyl-m-phenylenediamine (2,4-toluene-diamine)					○	Polyurethane resin raw materials, dye intermediates
134	6-methoxy-m-toluidine (p-cresidine)					○	Dye intermediate
135	Biphenyl-4-ylamine					○	Dyes, pesticide intermediate
136	o-aminoazotoluene					○	Dyes, pharmaceutical intermediates
137	o-Toluidine; 2-Aminotoluene					○	Reagent, dye intermediate
138	N-methylacetamide					○	Solvent, organic synthetic raw material
139	1-bromopropane; n-propyl bromide					○	Pharmaceuticals,pesticide intermediates, cleaning solvent
140	Cadmium			2	S1	○	Ni-Cd batteries, pigments, plating, stabilizers, alloys
141	Cadmium oxide			2	S1	○	Ni-Cd batteries, plating, alloys
142	Ammonium pentadecafluorooctanoate (APFO)					○	Reaction aid of fluorine rubber and fluoride resin
143	Dipentyl phthalate(DPP)					○	Plasticizer
144	4-Nonylphenol,branched and linear,ethoxylated [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol,ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations					○	Paints,Emulsifier
145	Cadmium sulphide			2	S1	○	Pigments
146	Dihexyl phthalat					○	Plasticizer
147	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)					○	Dye for e.g. textile and paper
148	Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo] -5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)					○	Dye leather, plastics,vegetable-ivory buttons andwood flour used as a resin filler; produce aqueous inks
149	Imidazolidine-2-thione; 2-imidazoline-2-thiol					○	Vulcanisation agent
150	Lead di(acetate)				1	○	Paints, waterproof material
151	Trixylyl phosphate					○	Fire-resistant hydraulic oil material
152	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear(DIHP)					○	Plasticizer,Jointing agents
153	Cadmium chloride			2	S1	○	Electroplating,component for production of photovoltaic modules
154	Sodium perborate; perboric acid, sodium salt					○	Bleaching agent in laundry detergent and machine dishwashing products
155	Sodium peroxometaborate					○	
156	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)					○	UV-stabilisers
157	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)					○	Heat stabiliser in the production of rigid and to a minor extent of plasticised PVC.
158	Cadmium fluoride				S1	○	Electric brushes, high-temperature dry-film lubricant, optical applications, and as starting material for crystals for lacer. Cadmium fluoride was used as an active component in fluxes for soldering of aluminium and its alloys .
159	Cadmium sulphate				S1	○	Intermediate for industrial production of inorganic cadmium compounds.Metal surface coating.
160	Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)					○	The production of PVC as heat stabiliser.

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Form 1

ENVIRONMENTAL CONTROL SYSTEM QUESTIONNAIRE

Date of preparation: _____

Company name: _____

Name of the place of business: _____

Department: _____

Name and title of the person who completes this format: _____ (Signature)

Contact: Phone: _____ Fax: _____

Please check "Yes" or "No" column.
If not applicable, enter "N.A."

Inquiries about [Environmental Control System]

No.	Item	Question	Answer		
			Yes	No	Remarks
1	Certification of environmental ISO	Have you obtained certification under ISO-14001 or other equivalent programs? If Yes, date of certification: If no, check either of the following: a. Have a plan to obtain certification by (date) _____ b. Have no plan to obtain certification			
		If you answer "Yes", proceed to No. 8.2. If you answer "no", proceed to No. 2.			
2	Environmental policy	Do you have any environmental policy on environmental preservation?			
3	Environmental goal	Do you have goals for environmental preservation?			
4	Action plan	Do you have an action plan to achieve the goals?			
5	Organization	Do you have a special organization to promote environmental control?			
6	Education & training	Do you provide employees with any educational or training program?			
7	Internal audit	Do you have a system to carry out an internal environmental audit?			
8.1	Control system	(1) Do you have a system to supervise legislative and voluntary control schemes?			
8.2		(2) Do you comply with all laws relating to environment? (Do you know and follow the applicable laws listed in Annex 1 (page 5)?)			
8.3		(3) Do you have a system to control energy consumption?			
8.4		(4) Do you take actions to reduce wastes?			
8.5		(5) Do you take actions to control and reduce chemical substances?			
8.6		(6) Do you introduce or try a product assessment scheme?			
8.7		(7) Do you have a system to collect and recycle used products and packaging materials?			
9	Information disclosure *1	Do you disclose information about environmental issues? (For example, by Internet, environmental pamphlet, report, etc.)			
10	Biodiversity *2	Are you actively involved in (or support) biodiversity conservation movement?			

*1: If you check "Yes" in the information disclosure column, and have an Internet home page, please enter your URL in the box below. If you publish environmental literature, please attach to this sheet.

*2: "10. Biodiversity" is not the subject for a survey of environmental management system, but we ask you how your organization is working on this issue.

Form 2

PRODUCTION GOODS PROCUREMENT QUESTIONNAIRE

Date of preparation: _____

Company name: _____

Name of the place of business: _____

Department: _____

Name and title of the person who completes this format: _____ (Signature)

Contact: Phone: _____ Fax: _____

Item name:	Model, Item No:	Weight (g):

Inquiries about [Goods being or to be procured for production] (Products, Parts, Packaging)]

Please check "Yes" or "No" column. If not applicable, enter "N.A."

No.	Item		Question	Answer		
				Yes	No	Remarks
1	Packaging materials	Containing of heavy metals	Does the packaging contain heavy metals, such as cadmium, sexiavalent chrome, mercury and lead? If Yes, list them in Form 4 (page 27).			
2		Use of polyvinyl chloride	Do you use polyvinyl chloride in your exterior packaging and buffer materials (e.g., bags)?			
3		Resources saving (packaging material)	Do you take or consider measures to reduce excessive packaging or packaging volume? (Reduced packaging compared with similar products and parts)			
4		Indication of materials (packaging material)	Do you indicate materials used for plastic packaging materials?			
5		Reduction of foams	Do you minimize the use of styrene foam or replace foam with other materials?			
6.1	Products, parts, packaging	Use prohibition substances *1	Do you use prohibition substances in the manufacturing process of products and parts? (See Annex 2,page 5.) If Yes, list the substances in Form 3, page 26.			
6.2		Use avoidance substances *1	Do you use avoidance substances in the manufacturing process of products or parts? (See Annex 3,page 5.) If Yes, list the substances in Form 3, page 26.			
7.1		Containing prohibition substances *2	Do you use containing prohibition substances in products or parts? (See Annex 4, page 6) If Yes, list the substances in Form 4, page 27.			
7.2		Containing avoidance substances *2	Do you use containing avoidance substances in products or parts? (See Annex 6,page 8 to 11.) If Yes, list the substances in Form 4, page 27.			
7.3		Conditional containing prohibition substances *3	Do you use conditional containing prohibition substances in products or parts? (See Annex 5, page 7). If Yes, list the substances in Form 4, page 27. Note: Please check "Yes" even if exclusion clauses are included.			
8		Indication of materials (products, parts)	Do you indicate materials used for plastic products or parts? (Preferably, molded items weighing 25 grams or over.)			
9	Products	Compliance with laws	Does the product comply with applicable laws, including the Recycling Law and Energy Saving Law?			
10		Resources saving	Do you use recycled resources or parts, or do you miniaturize the product? (As compared with similar products) Do you intend to take the above-mentioned measures?			
11		Energy saving	Do you take measures to reduce power consumption in both operation and standby modes? (As compared with similar products). Do you intend to take the above-mentioned measures?			
12		Disposition	Do you take into account the separability and degradability to ensure proper disposition of the product?			

Note: If any of the above has changed, immediately contact the SII operating division that requested the survey. (Please note that changes of use prohibition substances, containing prohibition substances, and conditional containing prohibition substances are especially important.)
If "No" is checked in questions 1 and 6.1-7.3, it is not necessary to submit Forms 3 and 4.

*1: "Use" means “to use” for manufacturing, i.e. washing, products and parts that do not contain chemical substances.

*2: "Containing" means “to contain” chemical substances that have been intentionally added to products and parts to meet their functionality and performance. Reaction-type residue like non-reaction monomer and impurities are excluded.
If an impurity in a chemical substance for which a threshold level is specified exceeds an acceptable value, the chemical substance is judged to contain a prohibited substance.

*3: “**Conditional Containing Prohibition Substances**” are chemical materials that is basically prohibited to contain and include some exceptions according to applications.
Even if exceptions are included, please check "Yes" in 7.3 and write the name of chemical compounds present in Form 4.

Form 3

RESULTS OF RESEARCH ON CHEMICAL SUBSTANCES BEING USED IN THE MANUFACTURING PROCESS

Date of preparation: _____

Company name: _____

Name of the place of business: _____

Department: _____

Name and title of the person who completes this format: _____ (Signature)

Contact: Phone: _____ Fax: _____

No.	Name of product or part	Model or type	Chemical substances being used			Abolition plan Yes/No	Abolition schedule (M/Y)	Purpose of use
			Prohibition/ Avoidance *1	CAS No.	Name of chemical substance			
Ex.	Metal sheet	123-456	Avoidance	79-01-6	Trichloroethylene	Yes	Dec. 2016	Degreasing washing

*1:Prohibition/ Avoidance
Please specify Use Prohibition (UP) or Use Avoidance (UA) referring to page 5.

Form 4

RESULTS OF RESEARCH ON CHEMICAL SUBSTANCES CONTAINED IN GOODS

Date of preparation: _____

Company name: _____

Name of the place of business: _____

Department: _____

Name and title of the person who completes this format: _____ (Signature)

Contact: Phone: _____ Fax: _____

No.	Name of product, part or packaging materia	Model or type	Weight (g)	Chemical substances being used			Content *2 (ppm)	Intentional addition/ Impurities/ Exceptions *3	Exceptions No.*4	Form and purpose of containing
				Prohibition/ Conditional/ Avoidance *1	CAS No.	Name of chemical substances				
Ex.	IC	123-456	0.1	CCP	7439-92-1	Lead	40,000	Intentional	-	Lead wire soldered plating
Ex	Ceramic capacitor	ABC-123	0.7	CCP	1317-36-8	Lead (II) oxide	3,400	Exception	7c-III	

*1: Prohibition/Conditional/Avoidance :
Please specify Containing Prohibition (CP), Conditional Containing Prohibition (CCP), or Containing Avoidance (CAV), referring to pages 6 to 11.

*2: Content :
Enter the concentration of the target chemical substance by using the weight based on the threshold level column or remarks column as the denominator.

*3:Intentional addition/ Impurities/ Exceptions
Enter as follows according to the reason.
・Intentional addition: [Intentional]
・Impurities or reaction-type residue: [Impurities]
・When exception of conditional containing prohibition applies: [Exception]

*4: Enter the number of exceptions.

Note: If any of the above has changed, immediately contact the SII operating division that requested the survey.