

Epson Group

Green Purchasing Standard for Production Materials

Rev. 7

Established: January 15, 2003

Revised: June 1, 2021

Enacted: September 1, 2021

SEIKO EPSON CORPORATION

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STANDARDS

1. Purpose

This Green Purchasing Standard sets forth the principles, specific criteria for, and use of a product substance assurance system that can ensure that certain hazardous substances are not present in products. The purpose is to prevent substance-related problems for the Epson Group (“Epson” hereafter) and its customers.

2. Scope

This Green Purchasing Standard applies to all production materials that Epson procures. “Production materials” include all finished products, semi-finished products, units, components, raw materials, accessories, options, packaging materials* and other goods comprising Epson products.

* Examples of packaging materials that fall within the scope of this standard: individual boxes, outer boxes (carton boxes), carrying cases, cushioning material, internal and external partitions, fixtures, adhesives, coating materials, staples, OPP tape, ink, and transport pallets (Epson specification).

3. Epson’s Basic Principles of Product Substance Assurance

Epson procures production materials on the basis of the following five principles:

- (1) Comply with applicable laws and regulations.
- (2) Procure materials from suppliers that can comply with conditions specified in this standard regarding banned substances (e.g., thresholds, parts and locations where substances are present, uses).
- (3) Procure materials from suppliers who can guarantee that banned substances are not present in their products.
- (4) Procure materials from suppliers who can provide data on target substances present in their products.
- (5) Accept goods that have been guaranteed by the supplier.

4. Epson’s Expectations of Suppliers

Epson asks its suppliers to do the following three things for the purpose of product substance assurance based on “3. Epson’s Basic Principles of Product Substance Assurance”:

- (1) Comply with this standard.
- (2) Build and maintain a product substance assurance system.
- (3) Report information about substances in products.

Details are provided below.

(1) Comply with this standard.

Epson generally buys from suppliers who agree to comply with the content of this standard. This standard will be presented to suppliers prior to the start of transactions and each time it is revised. Epson asks that supplier agree to comply with this standard. Please see “5. Before Transactions Can Begin” and “6. When This Standard is Revised” for details.

(2) Build and maintain a product substance assurance system.

To provide reliable product substance assurance, suppliers need to build and maintain a system for doing so. Epson asks that you build and maintain a product substance assurance system based on this Green Purchasing Standard. Please see “8. Requests Regarding the Assurance System for Substances in Products” for details.

Epson will check your product substance assurance system before beginning transactions and thereafter as necessary. For details about the checking method, please see “5. Before Transactions Can Begin” for details.

(3) Reporting information about substances in products.

Information about substances present in products must be accurately communicated to guarantee that restricted substances are not present in products in the supply chain. Use either 1) the chemSHERPA-AI file or 2) a format specified by an Epson business unit to report substances in production materials delivered to Epson. Please notify Epson if a substance of high concern (SVHC) on the Candidate List is found to be present in a concentration greater than 0.1% w/w in articles in accordance with the manual and usage rules in 1) the chemSHERPA-AI file or 2) the specified format.

1) chemSHERPA-AI file

Please use the data entry support tool provided by chemSHERPA when filling out the chemSHERPA-AI file. Compliance assessment information is mandatory. Please provide composition information to the extent possible. For detailed information and instructions about chemSHERPA, please see the following website:

URL: https://global.epson.com/SR/supply_chain_csr/green_purchasing/chemical_substances.html

2) Other: Format specified by Epson

Surveys and Submissions (Operations Division Surveys)

URL: https://global.epson.com/SR/supply_chain_csr/green_purchasing/green_standards.html

Epson may ask you to provide information by other means if necessary to respond to our customers’ requirements or Epson’s business unit, industry, or legal and regulatory needs. Please provide information using the method specified by Epson.

Examples:

Report on the results of analyses or tests of substances specified by an Epson business unit (Use the method of analysis, testing, or measurement specified by the Epson business unit, if any. See Table 2.1-5 for analysis standards.)

Survey data on the amount of substances banned in products, non-controlled substances in products, or a certificate declaring that a product does not contain banned substance

5. Before Transactions Can Begin

Epson presents new suppliers with the latest version of this standard before beginning new transactions. Please complete and submit to Epson the separately requested survey forms to meet the expectations in “4. Epson’s Expectations of Suppliers” to (1) comply with this standard and (2) build and maintain a product substance assurance system. Epson will evaluate your answers and decide whether transactions can begin.

6. When This Standard is Revised

Epson will present the revised version of this standard to you at least 30 days before the effective date each time it is updated. Please review the revised version, agree to comply with

it, and notify Epson to that effect. In general, you should use the electronic survey system prescribed by Epson for notification purposes. If you do not agree to the revised content, please contact Epson by the effective date of the revised version. If you do not contact us, Epson will assume that you have accepted the revised version of this standard. If Epson does not notify you at least 30 days before the effective date of the revised version, we will separately discuss how to handle the situation with you.

7. Information handling

Generally, the documents and information that you provide for product substance control will be used only within the Epson Group. However, we may share your information with third parties if required to do so by a public agency or certification authority or by an Epson customer or other delivery destination. In this case, care will be taken to ensure your anonymity. We handle personal data in accordance with legal, regulatory, and other requirements.

8. Requests Regarding the Assurance System for Substances in Products

Below are the requirements regarding suppliers' assurance system for substances in products.

8.1 Establishment of policies and plans

8.1.1 Preparation of policies

Establish and maintain policies that incorporate actions relating to product substance control.

8.1.2 Identification of requirements

(1) Identification of legal, regulatory, and customer requirements

Control documents describing laws, regulations, and customer requirements relating to products. Keep this information up-to-date. Communicate information relating to product substance control to other internal departments that need it.

Key points

- Exercise close internal management of substance groups specified by laws, regulations, and Epson. Make information about these substance groups readily available for viewing by all departments that need access to such information.

(2) Definition of the scope of control

Specify the processes and substances to which product substance control applies.

8.1.3 Drafting targets and plans

Define the scope of control, and set clear internal targets and plans in line with the scope of control.

Key points

- Prepare plans to eliminate any substances that are scheduled for a ban in the future, and monitor progress. This should result in meeting the legal, regulatory, and Epson requirements.

8.1.4 Definition of the system, roles, authority

Establish a system (responsible person and organization) for product substance control.

Key points

- Establish a shipping assurance system, and clearly identify the responsible departments and persons [when launching new products, in mass production, when there is a 4M change (a change in man, machine, material, and manufacturing method), in supplier management, etc.].
- If using alternative goods, decide what departments are to be responsible for selecting and evaluating alternatives, and ensure that quality, legal, regulatory, and Epson requirements are met.

8.1.5 Document control

Prepare documents (including records) relating to product substance control and have in place a system for maintaining and controlling the documents.

Key points

- Document the specific procedures based on the shipping assurance system described above in item 8.1.4. Control all forms that are used.

8.1.6 Training

Identify your training needs and establish a curriculum that suits those needs and that is useful in enabling people to acquire sufficient knowledge about chemicals and other substances themselves and about their control. Provide systematic training to all employees who need it.

Key points

Prepare and implement a plan that follows a training curriculum so that legal, regulatory and Epson requirements are understood and so that operations are carried out by people who have the required knowledge and skills.

8.2 Implementation and operation

8.2.1 Design and development

Identify and implement the things that should be done in the product design and development process (design and verification) in order to avoid using substances banned in products.

Key points

- Specify materials in specifications, drawings, and other documentation, and clearly note requirements regarding the avoidance of banned substances.
- Communicate legal, regulatory, and Epson requirements to your suppliers.
- Check that the production materials used conform to all legal, regulatory, and Epson requirements.

8.2.2 Obtaining and checking substance content information

Check that all product substance information obtained from suppliers is complete and proper. Carefully check the information against the requirements.

Key points

- Establish a form that allows you to check that all legal, regulatory and Epson requirements are met. Check whether the production materials procured with this form conform to all legal, regulatory, and Epson requirements.

8.2.3 Procurement management

Check whether the suppliers of the components and raw materials that comprise your products are properly controlling substances contained in products. You should have a system for urging and implementing improvements.

Key points

- Require suppliers to build and maintain a product substance assurance system based on this Green Purchasing Standard.
- Procure goods from suppliers that conform to the requirements of this Green Purchasing Standard.
- Confirm and instruct suppliers on the things they need to do based on this Green Purchasing Standard, and rectify any problems.
- Ask suppliers to request that secondary suppliers and other suppliers all the way down the supply chain build and maintain a product substance assurance system.

8.2.4 Manufacturing process

(1) Incoming checks

Clearly specify and implement inspection methods and criteria for substances contained in products within your own incoming checks. Check physical goods by using the proper analytical measurement methods.

Key points

- Check the data for incoming components and raw materials or conduct screening analysis to confirm that they conform to all legal, regulatory, and Epson requirements.
- If you cannot ascertain the state of control exercised over incoming components and raw materials (because recycled materials were used, etc.), physically inspect the item to verify conformance to legal, regulatory and Epson requirements.

(2) Process control

- 1) Control processes in a way that prevents commingling and contamination (including migration) in manufacturing processes and that prevents processes and goods from being affected by oxidation, vaporization, chemical reactions, changes in material concentrations, and so forth.**

Key points

- Use separate production lines for products that have different legal, regulatory and customer requirements to prevent commingling and contamination. If lines cannot be separated, clearly specify and implement means to prevent the commingling of and contamination by substances banned in products in mixed

product processes.

- Identify products according to legal, regulatory, and customer requirements.
- If you have inventory that includes substances banned in products, store goods that contain banned substances separately from those that do not. Keep records about goods that do and do not contain banned substances.
- For substances such as phthalates that are known to migrate from article to article, assess the risk of contamination from them in-process and implement preventive measures.
- Do not use banned substances in processes used to manufacture production materials destined for Epson (Appendix 1: 2.2).

2) Require contract manufacturers to comply with the requirements for controlling substances in products. Prepare and use a system for periodically checking, giving instructions on, and auditing the state of control at contract manufacturer sites.

Key points

- Require contract manufacturers to build and maintain a product substance assurance system based on this Green Purchasing Standard.
- Confirm and instruct contract manufacturers on the things they need to do based on this Green Purchasing Standard. Rectify any problems.
- Request that contract manufacturers and others down the supply chain build and maintain a product substance assurance system.
- Ask contract manufacturers not to use substances banned from use in manufacturing processes (see item 2.2 in Appendix 1) in manufacturing processes for production materials destined for Epson.

8.2.5 Change control

Establish and strictly follow change control rules involving product substance control.

Key points

- Provide and follow clear procedures for 4M changes
 - Define as a 4M change any change that has the potential to affect substances present in products. This includes things such as a change in manufacturer or a change in raw materials.
 - Verify that the 4M change will not lead to problems.
 - Epson needs to verify any changes that have the potential to affect the substances present in products. Notify your point of contact at Epson before implementing changes.
 - Wait for Epson to check the situation before making a 4M change.
- Control changes in the same way for your own suppliers.

8.2.6 Shipping verification

Perform shipping verification in all processes relating to product substance control. Shipping decisions must be made on the basis of reliable data.

Key points

- Specify and implement a method for verifying that all legal, regulatory and Epson requirements have been met. Keep records of the results of verification.

8.2.7 Handling nonconformance

Nonconforming goods must be disposed of appropriately (including to prevent commingling with conforming products). Put in place a system for promptly reporting nonconformances to all stakeholders (officers, managers, relevant departments, suppliers, customers, etc.). Investigate the causes of accidents and take action to prevent recurrence.

Key points

- Establish who is to be responsible for reporting to Epson in the event of a nonconformance and establish the reporting procedure.
- Establish and implement a method (lot tracing) that enables you to identify nonconforming goods.
- Establish and implement clear corrective actions and preventive actions.

8.2.8 Providing information

Calculate data on specific substances contained in products so that you can provide accurate information to customers and third parties.

Key points

- Establish a route for providing information in response to inquiries from Epson.

8.3 Inspection and issues needing correction

Conduct internal audits to assess product substance control practices.

Key points

- Check that procedures relating to product substance assurance are being observed. Rectify any problems.
- Conduct checks at supplier and contract manufacturer sites in accordance with “8.2.3 Procurement management” and “8.2.4 (2) Process control.”

8.4 Management review

When an internal audit shows that a problem exists, create targets, action plans, and/or other means to resolve the problem.

Key points

- Continuously improve your assurance system based on the results of checks described in “8.3 Inspection and issues needing correction.”

Appendix 1: Substance Handling Standards

1. Definitions

- (1) substance banned in products
A substance whose presence in an Epson product (including supplied accessories, options, packaging materials, etc.) is prohibited.
 - Level 1 banned substances are currently banned.
 - Level 2 banned substances are substances that are scheduled to be banned.

- (2) substance banned from use in manufacturing processes
Substances whose use is banned in manufacturing processes for production materials

- (3) controlled substances
IEC 62474 substance list (Declarable substance groups and declarable substances)
URL: <http://std.iec.ch/iec62474/iec62474.nsf/Index?open&q=110741>
See item 4 (3) “Reporting information about substances in products” on page 3 for information about controlled substance surveys.

- (4) present
This means that a substance is present in a component or material that comprises a product, regardless of whether the substance was added intentionally.

- (5) presence banned
This means that a substance cannot be present in components or materials that comprise a product, regardless of whether the substance was added intentionally.
If laws or regulations specify a maximum allowed concentration for a substance, the substance must not exceed that limit even if it is present as an impurity.

- (6) intentional inclusion
This means that a substance is present in a component or material that comprise a product, the substance having been intentionally added to impart particular characteristics, properties, functions, qualities, or a particular appearance. This does not include cases where the substance is not present in the components or materials that comprise the end product.

- (7) intentional inclusion prohibited
This means that a substance is not intentionally used in components or materials that comprise a product and, moreover, that the prohibition on use has been communicated to suppliers through the supply chain. This does not include cases where the substance is not present in the components or materials that comprise the end product.

- (8) impurity
An impurity is a substance that is present in a naturally occurring material and that cannot be completely removed by technical means when refined as an industrial material. An impurity may also be a substance that was produced synthetically and cannot be completely removed by technical means.

(9) homogeneous material

A homogeneous material is a single material that has a uniform composition or a single material that is comprised of multiple materials that cannot be separated or dissolved into different materials by mechanical action.

(10) threshold

This is the maximum allowable concentration of a substance in a component or material that comprises a product.

(11) concentration (weight of substance) / (weight of part containing the substance)

Since the denominator of the concentration differs depending on the law or regulation, please calculate the concentration of the substance based on the denominator specified for the threshold in this standard.

(12) article

An object which during production is given a special shape, surface or design which determines its function to a greater degree than does its chemical composition; production materials other than chemical substances and mixtures (preparations) are considered to be articles.

(13) chemical substance

A chemical element or compound that either exists in nature or is obtained through a manufacturing process.

(14) mixture (preparation)

A mixture intentionally comprising two or more chemical substances. Examples are paints, inks, alloy ingot, solder, resin pellets containing additives, etc.

2. Substance Group Handling Standards

Standards for the handling of substance groups are shown in items 2.1 and 2.2 below. Handling standards have been established pursuant to applicable laws and regulations.

Please ensure compliance with specified conditions relating to banned substances (e.g., thresholds, parts where substances are present, uses).

2.1 Substances Banned in Products

Table 2.1-1 Battery Restrictions

Table 2.1-2 EU RoHS Directive Exemptions

Table 2.1-3 Examples of Banned Substances & Substance Groups

Table 2.1-4 Regulations Referenced

Table 2.1-5 Analysis Standards

2.2 Substances Banned from Use in Manufacturing Processes

2.1 Substances Banned in Products

Substances banned in products are shown below. There are currently no Level 2 banned substances (substances scheduled to be banned).

Level 1 banned substances (currently banned)

No.	Substance (Group) Name	CAS No.	Regulation (Threshold)	Referenced Regulation
1	White phosphorous match (white phosphorous)	12185-10-3	Presence banned	16
2	Benzidine and its salts	92-87-5, etc.	Presence banned	16
3	4-aminodiphenyl and its salts	92-67-1, etc.	Presence banned	16
4	4-nitrodiphenyl and its salts	92-93-3, etc.	Presence banned	16
5	Bis (chloromethyl) ether	542-88-1	Presence banned	16
6	2-naphthylamine (also known as beta-naphthylamine) and its salts	91-59-8, etc.	Presence banned	16
7	Rubber cement containing benzene, where the benzene accounts for more than 5% of the rubber cement solvent (including diluting agent)	-	Presence banned	16
8	Polychlorinated biphenyls (PCBs) and specific substitutes	See Table 2.1-3	Presence banned	6, 17, 25
9	Polychlorinated terphenyls (PCTs)* ¹	See Table 2.1-3	Presence banned	3
10	Hexachlorobenzene	118-74-1	Presence banned	6, 17
11	Aldrin	309-00-2	Presence banned	6, 17
12	Dieldrin	60-57-1	Presence banned	6, 17
13	Endrin	72-20-8	Presence banned	6, 17
14	DDT	50-29-3	Presence banned	6, 17
15	Chlordanes or Heptachlor	57-74-9, etc.	Presence banned	6, 17
16	Bis (tributyltin) oxide	56-35-9	Presence banned	17
17	N,N'-ditolyl-p-phenylenediamine, N-Tolyl-N'-xylyl-p-phenylenediamine, or N,N'-Dixylyl-p-phenylenediamine	27417-40-9, 28726-30-9, 70290-05-0	Presence banned	17
18	2,4,6-tri-tert-butylphenol	732-26-3	Presence banned	17, 25
19	Toxaphene	8001-35-2	Presence banned	6, 17
20	Mirex	2385-85-5	Presence banned	6, 17
21	2,2,2-trichloro-1,1-bis (4-chlorophenyl) ethanol (Kelthane or Dicofol)	115-32-2	Presence banned	6, 17
22	Hexachlorobuta-1,3-diene	87-68-3	Presence banned	6, 17, 25
23	2-(2H-Benzof[d][1,2,3]triazol-2-yl)-4,6-di-tert-butylphenol (also known as UV-320)	3846-71-7	Presence banned	17
24	Perfluorooctane sulfonyl fluoride (PFOS-F) * ²	307-35-7	Presence banned	17
25	Pentachlorobenzene	608-93-5	Presence banned	6, 17
26	Alpha hexachlorocyclohexane	319-84-6	Presence banned	6, 17
27	Beta hexachlorocyclohexane	319-85-7	Presence banned	6, 17
28	Gamma hexachlorocyclohexane	58-89-9	Presence banned	6, 17
29	Chlordecone	143-50-0	Presence banned	6, 17
30	Endosulfan	115-29-7 959-98-8 33213-65-9	Presence banned	6, 17
31	Hexabromocyclododecane (HBCDD)	See Table 2.1-3	Presence banned	6, 17
32	Pentachlorophenol or its salts and esters	87-86-5, etc.	Presence banned	6, 17
33	DBBT (monomethyl-dibromo-diphenyl methane)	99688-47-8	Presence banned	3
34	DBB (di-μ-oxo-di-n-butyltin hydroxyborane)	75113-37-0	Presence banned	3
35	Monomethyl-tetrachloro-diphenyl methane	76253-60-6	Presence banned	3
36	Monomethyl-dichloro-diphenyl methane	81161-70-8	Presence banned	3
37	Polybrominated biphenyls (PBB)* ¹	See Table 2.1-3	Presence banned	2
38	Polybrominated diphenylethers (PBDE)	See Table 2.1-3	Presence banned	2, 17, 25 (* ³)
39	Polychlorinated naphthalene (Cl: 1 or more)	See Table 2.1-3	Presence banned	6, 17
40	Asbestos	See Table 2.1-3	Presence banned	3, 11, 25
41	Ozone-depleting substances (CFC, Halon, HBFC, HCFC & others)	See Table 2.1-3	Presence banned	1, 5, 18, 27
42	Dimethyl fumarate* ¹	624-49-7	Presence banned	3

No.	Substance (Group) Name	CAS No.	Regulation (Threshold)	Ref. Reg.
43	Alkanes, C10-13, chloro (Short chain chlorinated paraffins)	See Table 2.1-3	Presence banned	6, 11, 15, 17
44	Perfluorooctane sulfonates (PFOS) and its salt *4	See Table 2.1-3	Presence banned	6, 17, 34
45	Nickel and nickel compounds	See Table 2.1-3	Products that maintain direct, sustained contact with the skin, including watch cases and watch belts: <ul style="list-style-type: none"> - Use is prohibited if the rate of nickel released from these products exceeds 0.5 µg/cm² per week. - Use is acceptable if non-nickel coatings are provided on the products and the rate of nickel released from these products does not exceed 0.5 µg/cm² per week for at least two years under normal usage conditions. 	3
46	Formaldehyde	50-00-0	Presence is prohibited in products directly and indirectly related to fiber products such as clothing.*1	9, 10
			Composite wood products below that do not meet the requirements of TSCA Title VI and sections 93120-92130.12, title 17, California Code of Regulations. (1) Hardwood plywood - veneer core (HWPW-VC) (2) Hardwood plywood - composite core (HWPW-CC) (3) Particleboard (PB) (4) Medium density fiberboard (MDF) (5) Thin medium density fiberboard (Thin MDF) (6) Finished goods that contain (1)-(5) The following items are exempt. <ul style="list-style-type: none"> - Packing materials - Products where the final place of consumption is outside the U.S. 	28
47	Cadmium and cadmium compounds	See Table 2.1-3	Prohibited in homogeneous materials in concentrations exceeding 100 ppm. Exemptions: See Table 2.1-2 on pages 20-23.	2
			Stabilizers, pigments, paints/inks, and plating used in products: Prohibited in concentrations exceeding 75 ppm in homogeneous materials.	14
			Batteries: See Table 2.1-1 on page 18-19.	Table 2.1-1
			Packaging materials: Intentional inclusion prohibited. If present as an impurity, heavy metals (lead, mercury, cadmium, and hexavalent chromium) shall not be present in materials in a total combined mass exceeding 100 ppm.	7, 31
48	Hexavalent chromium compounds	See Table 2.1-3	Prohibited in homogeneous materials in concentrations exceeding 1000 ppm.	2
			Prohibited in leather articles and articles containing leather parts that come into contact with the skin in concentrations equal to or greater than 3 ppm of the total dry weight of the leather.	3
			Packaging materials: Intentional inclusion prohibited. If present as an impurity, heavy metals (lead, mercury, cadmium, and hexavalent chromium) shall not be present in materials in a total combined mass exceeding 100 ppm.	7, 31

No.	Substance (Group) Name	CAS No.	Regulation (Threshold)	Ref. Reg.
49	Lead and lead compounds	See Table 2.1-3	Prohibited in homogeneous materials in concentrations exceeding 1000 ppm. Exemptions: See Table 2.1-2 on page 20-23.	2, 3
			Plastics, paints, and inks used in products: Prohibited in homogeneous materials in concentrations of 100 ppm or more. (Lead carbonate and lead sulfate are prohibited in any concentration in paints and inks.)	13
			Batteries: See Table 2.1-1 on page 18-19.	Table 2.1-1
			Packaging materials: Intentional inclusion prohibited. If present as an impurity, heavy metals (lead, mercury, cadmium, and hexavalent chromium) shall not be present in materials in a total combined mass exceeding 100 ppm.	7, 31
			Thermoset and thermoplastic-sheathed electrical wires, cables and cords: Prohibited in surface coating material in concentrations exceeding 300 ppm, unless the amount has been reported and approved by Epson.	32
			Jewelry (including watch bands): Prohibited in individual parts in amounts of 500 ppm or more. This does not apply, however, to internal watch parts that consumers do not touch, crystal glass, and natural gems that have not been treated with a lead additive.	3
50	Mercury and mercury compounds	See Table 2.1-3	Intentional inclusion prohibited.	12
			Prohibited in homogeneous materials in concentrations exceeding 1000 ppm. Exemptions: See Table 2.1-2 on page 20-23.	2
			Batteries: See Table 2.1-1 on page 18-19.	Table 2.1-1
			Packaging materials: Intentional inclusion prohibited. If present as an impurity, heavy metals (lead, mercury, cadmium, and hexavalent chromium) shall not be present in materials in a total combined mass exceeding 100 ppm.	7, 31
51	Azocolourants and azodyes which form certain aromatic amines* ⁵	See Table 2.1-3	Azo compounds that form designated amines are prohibited in parts that come into contact with the human body in products designed to be in continuous physical contact with the human body.	3
		See Table 1.	The use as substances of azodyes contained in the list of azodyes is prohibited. Prohibited in compounds in concentrations exceeding 1000 ppm.	3
52	Cobalt chloride* ⁶	7646-79-9	Prohibited in silica gel or other preparations in concentrations exceeding 100 ppm.	3
53	Tri-substituted organostannic compounds* ⁷	See Table 2.1-3	Prohibited in articles and their parts in concentrations exceeding 1000 ppm (calculated as a tin equivalent).	3, 15, 17
54	Diocetyl tin (DOT) compounds	See Table 2.1-3	Prohibited in articles and their parts in concentrations exceeding 1000 ppm (calculated as a tin equivalent). Adhesives are exempt.	3

No.	Substance (Group) Name	CAS No.	Regulation (Threshold)	Ref. Reg.
55	Bis (2-ethylhexyl) phthalate (DEHP) Dibutyl phthalate (DBP) Benzyl butyl phthalate (BBP) Diisobutyl phthalate (DIBP)	117-81-7 84-74-2 85-68-7 84-69-5	Each of the substances is prohibited in homogeneous materials in concentrations exceeding 1000 ppm.	2
			Production materials to which the RoHS Directive does not apply (e.g., carrying cases, screens, packaging materials, batteries, instruction manuals): DEHP, DBP, BBP, and DIBP shall not be used, individually or in combination, in plasticized materials* ⁸ in concentrations equal to or greater than 1000 ppm. However, this excludes production materials that meet both of the following conditions: 1) Production materials are not in contact with human mucous membranes and are not in prolonged contact with human skin. 2) Production materials for products that are used only in industrial or agricultural applications or for products that are used only in the open air.	3
56	Dibutyltin (DBT) compounds	See Table 2.1-3	Prohibited in concentrations exceeding 1000 ppm (calculated as a tin equivalent) in mixtures (preparations) and articles and their parts for the general public.	3
57	Polyvinyl chloride (PVC)	9002-86-2	Intentional inclusion prohibited in packaging materials, except in packaging materials for industrial products.	21
58	Red phosphorus* ⁹	7723-14-0	Inclusion in concentrations exceeding 1000 ppm in resin materials used in electrical or electronic parts is prohibited. An exemption is granted, however, when any of the following apply: Inclusion in parts or locations that are not involved in the electrical insulation between different electrodes. Red phosphorus is coated with a water-proof substance or a corresponding action has been taken to effectively control the generation of phosphate.	Epson Policy
59	PAH Benzo[a]pyrene Benzo[e]pyrene Benzo[a]anthracene Chrysene Benzo[b]fluoranthene Benzo[j]fluoranthene Benzo[k]fluoranthene Dibenzo[a, h]anthracene	50-32-8 192-97-2 56-55-3 218-01-9 205-99-2 205-82-3 207-08-9 53-70-3	Production materials containing rubber or plastic components that come into direct as well as prolonged or short-term repetitive contact with the skin or oral cavity must not contain 1 ppm or more per piece.	3
60	4,4'-isopropylidenediphenol (bisphenol A, BPA)	80-05-7	Prohibited in thermal paper in concentrations of 200 ppm or more.	3
61	Perfluorooctanoic acid (PFOA) and its salts and PFOA-related substances * ¹⁰	See Table 2.1-3	Presence is banned, except in the following cases: 1) PFOA or any of its salts are present as impurities in substances, mixtures or articles in concentrations equal to or below 0.025 ppm (25 ppb). 2) Any individual PFOA-related compound or a combination of PFOA-related compounds are present as impurities in substances, mixtures or articles in concentrations equal to or below 1 ppm (1,000 ppb). 3) Use of PFOA, its salts and PFOA-related compounds shall be allowed for photolithography or etch processes in semiconductor manufacturing until 4 July 2024.	6
62	Long-chain perfluoroalkyl carboxylate subject to the TSCA Significant New Use Rule* ¹¹	See Table 2	Intentional inclusion prohibited in parts that have a surface coating (including platings) and in materials for coatings	26

No.	Substance (Group) Name	CAS No.	Regulation (Threshold)	Ref. Reg.
63	Phenol, isopropylated phosphate (3:1) [PIP(3:1)]	68937-41-7	Presence banned.	25
64	Pentachlorothiophenol (PCTP)	133-49-3	Presence banned unless present in an amount equal to or less than 10,000 ppm (1 wt%) in components, units, or products as delivered and, moreover, the amount has been reported and approved by Epson.	25
65	Fluorinated greenhouse gases (PFCs, SF6, HFCs)	See Table 2.1-3	Intentional inclusion is prohibited for the applications in Table 3.	8

Treatment of Substances Regulated by REACH Regulation No. 1907/2006

- Substances subject to restrictions under Annex X-VIII shall be handled as required by law.
Reference: European Chemical Agency website <https://echa.europa.eu/web/guest/home>
- IEC 62474 and other sources were used for the CAS Nos. Not all substances banned from inclusion in products are covered. See Table 2.1-3 “Examples of Banned Substances & Substance Groups” on pages 24-34.
- For referenced regulations, see Table 2.1-4 “List of Regulations Referenced” on page 35.

Table 1: List of Azodyes

Substance name	CAS No
A mixture of disodium(6-(4-anisidino)-3-sulfonato-2-(3,5-dinitro-2-oxidophenylazo)-1-naohtholato)(1-(5-chloro-2-oxidophenylazo)-2-naphtholato)chromate(1-); trisodium bis(6-(4-anisidino)-3-sulfonato-2-(3,5-dinitro-2-oxidophenylazo)-1-naphtholato)chromate(1-)	Not allocated Component 1: CAS-No.:118685-33-9 C ₃₉ H ₂₃ ClCrN ₇ O ₁₂ S ₂ Na Component 2: C ₄₆ H ₃₀ CrN ₁₀ O ₂₀ S ₂ .3Na

Table 2: List of long-chain perfluoroalkyl carboxylate subject to the TSCA Significant New Use Rule*11

No.	Substance (Group) Name	CAS No.	Remarks
1	Sodium;2-methylpropane-1-sulfonate	68187-47-3	Use in adhesives is exempt.
2	1,1,2,2- Tetrahydroperfluoroalkyl (C8-C14) alcohol	68391-08-2	Uses in the manufacture or processing of surface coatings and finishes for surface treatments of textiles, leather, and hard materials (resins, wood, metals, etc.), and in the manufacture of wetting agents are exempt.
3	Thiols, C8-20, gamma-omega-perfluoro, telomers with acrylamide	70969-47-0	-
4	Thiols, C4-20, gamma-omega-perfluoro, telomers with acrylamide and acrylic acid, sodium salts	1078712-88-5	-
5	1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-(2-((gamma-omega-perfluoro-C4-20-alkyl)thio)acetyl) derivs., inner salts	1078715-61-3	-
6	Polyfluoroalkyl betaine	CBI	EPA accession number about CBI (Confidential Business Information) : 71217
7	Modified fluoroalkyl urethane	CBI	EPA accession number about CBI (Confidential Business Information) : 89419
8	Perfluorinated polyamine	CBI	EPA accession number about CBI (Confidential Business Information) : 274147
9	Perfluorooctyl iodide	507-63-1	Substances included in “No. 61 PFOA and its salts and PFOA-related substances” in Level 1 Banned Substances
10	Tetrahydroperfluoro-1-decanol	678-39-7	
11	Perfluoro-1-dodecanol	865-86-1	
12	Perfluorodecyl iodide	2043-53-0	
13	1,1,2,2-Tetrahydroperfluorododecyl iodide	2043-54-1	
14	Perfluorodecylethyl acrylate	17741-60-5	
15	1,1,2,2-Tetrahydroperfluorodecyl acrylate	27905-45-9	
16	1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12-Pentacosafuoro-14-iodotetradecane	30046-31-2	
17	3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-Pentacosafuorotetradecan-1-ol	39239-77-5	
18	3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,16-Nonacosafuorohexadecan-1-ol	60699-51-6	
19	1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14-Nonacosafuoro-16-iodohexadecane	65510-55-6	
20	Silicic acid (H ₄ SiO ₄), sodium salt (1:2), reaction products with chlorotrimethylsilane and 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-1-decanol	125476-71-3	

Table 3: Uses for which the intentional inclusion of fluorinated greenhouse gases (PFCs, SF6, HFCs) is prohibited

Substance	Prohibited Uses	Exemptions, Date of Prohibition
PFCs, SF6, HFCs	Non-refillable containers, windows, footwear, tires	-
	One-component foams	Except when required to meet safety standards
HFCs, PFCs	Non-confined direct evaporation systems	-
PFCs, HFC-23	Fire protection equipment	-
HFCs (with GWP of 150 or more)	Aerosol generators marketed and intended for sale to the general public for entertainment and decorative purposes; domestic refrigerators and freezers; industrial aerosol products; refrigerators and freezers for commercial use (with a GWP of 2,500 or more); movable room air-conditioning equipment; foam (extruded polystyrene) used for insulation, soundproofing, etc.	-
	Stationary refrigeration equipment (with a GWP2500 or more)	Except equipment intended for applications designed to cool products to temperatures below – 50 °C
	Refrigerators and freezers for commercial use (with a GWP of less than 2,500) and multipack centralized refrigeration systems for commercial use with a rated capacity of 40 kW or more	1 January 2022
	Foam used for insulation, soundproofing, etc. (and other foams)	1 January 2023
	Single split air-conditioning systems containing less than 3 kg of fluorinated GHGs with GWP of 750 or more	1 January 2025

Notes/Comments on substances

- *1 Threshold per Epson policy
- *2 N/A (only applies in Japan)
- *3 Substance subject to the Toxic Substances Control Act (TSCA): Decabromodiphenyl ether (CAS. No.: 1163-19-5)
- *4 C8F17SO2X [X=OH, Metal salts (O-M+), halide, amide, and other derivatives including polymers], PFOS
- *5 A list of azodyes is shown in Table 1.
- *6 Indicator cards are exempt because there are no risk of aspirating cobalt chloride under ordinary conditions (ordinary use).
- *7 Tributyltin (TBT) compounds / Triphenyltin (TPT) compounds / Other tri-substituted organostannic compounds
Inclusion of Bis (tributyltin) oxide is prohibited, as it belongs to a group of substances that is unconditionally banned under Japan's Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances. (See No. 16.)
- *8 “Plasticized material” means any of the following homogeneous materials:
 - polyvinyl chloride (PVC), polyvinylidene chloride (PVDC), polyvinyl alcohol (PVA), polyurethanes;
 - any other polymer (including, inter alia, polymer foams and rubber material) except silicone rubber and natural latex coatings;
 - surface coatings, non-slip coatings, finishes, decals, printed designs;
 - adhesives, sealants, paints and inks.
- *9 See Ban on red phosphorus https://www.epson.jp/SR/supply_chain_csr/pdf/seg_k_0100_rp_e.pdf for details.
- *10 The threshold is determined by national or local laws pursuant to the Stockholm Convention
PFOA-related substances:
 - Any substances (including salts and polymers) having a linear or branched perfluoroheptyl group with the moiety (C₇F₁₅)C as one of the structural elements.
 - However, the following compounds are not included:
 - C₈F₁₇-X, where X = F, Cl, Br.
 - fluoropolymers that are covered by CF₃[CF₂]_n-R', where R'=any group, n> 16
 - perfluoroalkyl carboxylic acids (including their salts, esters, halides and anhydrides) with ≥ 8 perfluorinated carbons
 - perfluoroalkane sulfonic acids and perfluoro phosphonic acids (including their salts, esters, halides and anhydrides) with ≥ 9 perfluorinated carbons
 - perfluorooctane sulfonic acid and its derivatives (PFOS)
- *11 Applies to substances specified in 40 C.F.R. § 721.10536 (b) (2). See the [Federal Register Notice](#) for details.

Table 2.1-1 Battery Restrictions

Primary battery						
Battery type			Restricted substances and thresholds (as a % of battery weight)			Referenced regulation
			Cadmium and cadmium compounds	Lead and lead compounds	Mercury and mercury compounds	
1	Alkaline battery	Button cell	< 10 ppm	< 1000 ppm	Intentional inclusion prohibited. If present as an impurity, < 5 ppm in homogeneous material and < 25 mg per cell.	19, 20, 24, 29, 30, 33, 36, 37
		Non-button cell	< 10 ppm	< 40 ppm	Intentional inclusion prohibited. If present as an impurity, < 1 ppm by weight of the battery and < 5 ppm in homogeneous material.	19, 20, 22, 23, 29, 33
2	Manganese battery	All	< 10 ppm	< 1000 ppm	Intentional inclusion prohibited. If present as an impurity, < 1 ppm by weight of the battery and < 5 ppm in homogeneous material.	19, 20, 22, 23, 24, 29, 30, 33, 37
3	Mercury-oxide battery	All	Use prohibited			19, 24, 29, 30
4	Other primary battery	All	< 20 ppm	< 2000 ppm	Intentional inclusion prohibited. If present as an impurity, < 5 ppm in homogeneous material, and < 25 mg per cell in case of button cells.	4, 19, 24, 30, 33, 35, 36

Table 2.1-1 Battery Restrictions

Secondary battery						
Battery type			Restricted substances and thresholds (as a % of battery weight)			Referenced regulation
			Cadmium and cadmium compounds	Lead and lead compounds	Mercury and mercury compounds	
5	Ni-MH battery Alkaline secondary battery	Button cell	< 20 ppm	< 2000 ppm	Intentional inclusion prohibited. If present as an impurity, < 5 ppm in homogeneous material and < 25 mg per cell.	4, 19, 24, 33, 36
		Non-button cell	< 10 ppm	< 2000 ppm	Intentional inclusion prohibited. If present as an impurity, < 1 ppm by weight of the battery and < 5 ppm in homogeneous material.	19, 20, 24, 33, 36
6	Lead-acid battery	Use prohibited except for industrial/commercial batteries*				36
		Industrial/commercial batteries	< 100 ppm	-	Intentional inclusion prohibited. If present as an impurity, < 5 ppm in homogeneous material.	19, 24, 33, 37
7	Other secondary battery	All	< 20 ppm	< 2000 ppm	Intentional inclusion prohibited. If present as an impurity, < 5 ppm in homogeneous material and < 25 mg per cell.	4, 19, 24, 33, 36

*Commercial/industrial battery: A battery designed exclusively for industrial or commercial use.

Table 2.1-2 EU RoHS Directive Exemptions

Table 2.1-2 lists exemptions that apply to Epson and exemption expiration dates. If the item is not listed, please check the legal exemption and its expiration date. Please contact Epson if you have any questions.

Reference: EU Commission website http://ec.europa.eu/environment/waste/rohs_eee/legis_en.htm

This table lists exemptions and expiration dates based on legal requirements that are current as of May 1, 2021. If the exemptions and their expiration dates are revised in conjunction with amendments to the exemptions of the RoHS Directive, please apply the exemptions and expiration dates of the latest legal requirements to this table.

Substances: Cadmium and Cadmium Compounds			
No.	Exemption ^{*1}	Expiration	Legal expiration date ^{*1}
8(b) ^{*2}	Cadmium and its compounds in electrical contacts	One year prior to the legal expiration date ^{*4}	2024/7/21
8(b)-I ^{*3}	Cadmium and its compounds in electrical contacts used in: - circuit breakers, - thermal sensing controls, - thermal motor protectors (excluding hermetic thermal motor protectors), - AC switches rated at: - 6 A and more at 250 V AC and more, or - 12 A and more at 125 V AC and more, - DC switches rated at 20 A and more at 18 V DC and more, and - switches for use at voltage supply frequency \geq 200 Hz.		2021/7/21
13(b) ^{*2}	Cadmium in filter glasses and glasses used for reflectance standards		2024/7/21
13(b)-II ^{*3}	Cadmium in striking optical filter glass types; excluding applications falling under point 39 of this Annex		2021/7/21

Table 2.1-2 EU RoHS Directive Exemptions

Substances: Lead and Lead Compounds			
No.	Exemption ^{*1}	Expiration	Legal expiration date ^{*1}
5 (b)	Lead in glass of fluorescent tubes not exceeding 0.2% by weight	Expired ^{*6}	Undecided
6 (a)	Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0.35% lead by weight	Expired	6/30/2019 ^{*5}
6(a)-I ^{*7}	Lead as an alloying element in steel for machining purposes containing up to 0.35% lead by weight and in batch hot dip galvanized steel components containing up to 0.2% lead weight	One year prior to the legal expiration date ^{*4}	7/21/2021 ^{*5}
6 (b)	Lead as an alloying element in aluminum containing up to 0.4% lead by weight	Expired	6/30/2019 ^{*5}
6 (b)-I ^{*7}	Lead as an alloying element in aluminum containing up to 0.4 % lead by weight, provided it stems from lead-bearing aluminum scrap recycling	One year prior to the legal expiration date ^{*4}	7/21/2021 ^{*5}
6 (b)-II ^{*7}	Lead as an alloying element in aluminum for machining purposes with a lead content up to 0.4 % by weight		5/18/2021 ^{*5}
6 (c)	Copper alloy containing up to 4% lead by weight		7/21/2021 ^{*5}
7 (a)	Lead in high melting temperature type solders (i.e., lead-based alloys containing 85% by weight or more lead)		7/21/2021 ^{*5}
7 (b)	Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signaling, transmission, and network management for telecommunications	Expired	7/21/2016 ^{*5}
7 (c)-I	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g., piezoelectric devices, or in a glass or ceramic matrix compound	One year prior to the legal expiration date ^{*4}	7/21/2021 ^{*5}
7 (c)-II	Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher	One year prior to the legal expiration date ^{*4}	7/21/2021 ^{*5}
7 (c)-III	Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC	Expired	1/1/2013
7 (c)-IV	Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete semiconductors	One year prior to the legal expiration date ^{*4}	7/21/2021 ^{*5}
13 (a)	Lead in white glass used for optical applications	One year prior to the legal expiration date ^{*4}	7/21/2021 ^{*5}
15 (a)	Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages	Expired ^{*6}	2/29/2020 ^{*5} ^{*8}
29	Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC (1)	Expired ^{*6}	7/21/2021 ^{*5}
34	Lead in cermet-based trimmer potentiometer elements	One year prior to the legal expiration date ^{*4}	7/21/2021 ^{*5}

Table 2.1-2 EU RoHS Directive Exemptions

Substances: Mercury and Mercury Compounds			
No.	Exemption ^{*1}	Expiration	Legal expiration date ^{*1}
1 (a)	Mercury in single-capped (compact) fluorescent lamps of < 30 W for general lighting purposes: ≤ 5 mg per burner	Expired	12/31/2011
1 (a)	Mercury in single-capped (compact) fluorescent lamps of < 30 W for general lighting purposes: ≤ 3.5 mg per burner	Expired	12/31/2012
1 (a)	Mercury in single-capped (compact) fluorescent lamps of < 30 W for general lighting purposes: ≤ 2.5 mg per burner	Expired ^{*6}	Undecided
1 (b)	Mercury in single-capped (compact) fluorescent lamps of ≥ 30 W and < 50W for general lighting purposes: ≤ 5 mg per burner	Expired	12/31/2011
1 (b)	Mercury in single-capped (compact) fluorescent lamps of ≥ 30 W and < 50 W for general lighting purposes: ≤ 3.5 mg per burner	Expired ^{*6}	Undecided
1 (c)	Mercury in single-capped (compact) fluorescent lamps of ≥ 50 W and < 150 W for general lighting purposes: ≤ 5 mg per burner	Expired ^{*6}	Undecided
1 (d)	Mercury in single-capped (compact) fluorescent lamps of ≥ 150 W for general lighting purposes: ≤ 15 mg per burner	Expired ^{*6}	Undecided
1 (e)	Mercury in single capped (compact) fluorescent lamps for general lighting purposes with a circular or square structural shape and tube diameter ≤ 17 mm: >7 mg per burner	Expired	12/31/2011
1 (e)	Mercury in single capped (compact) fluorescent lamps for general lighting purposes with circular or square structural shape and tube diameter ≤ 17 mm: ≤ 7 mg per burner	Expired ^{*6}	Undecided
1 (f)	Mercury in single capped (compact) fluorescent lamps for special purposes: ≤ 5 mg per burner	Expired ^{*6}	Undecided
3 (a)	Mercury in short (≤ 500 mm) cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes: > 3.5 mg per lamp	Expired	12/31/2011
3 (a)	Mercury in short (≤ 500 mm) cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes: ≤ 3.5 mg per lamp	Expired ^{*6}	Undecided
3 (b)	Mercury in medium (> 500 mm ≤ 1500 mm) cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes: > 5 mg per lamp	Expired	12/31/2011
3 (b)	Mercury in medium (> 500 mm ≤ 1500 mm) cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes: ≤ 5 mg per lamp	Expired ^{*6}	Undecided
3 (c)	Mercury in long (> 1500 mm) cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes: >13 mg per lamp	Expired	12/31/2011
3 (c)	Mercury in long (> 1500 mm) cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes: ≤ 13 mg per lamp	Expired ^{*6}	Undecided
4 (f)	Mercury in other discharge lamps not specifically addressed in RoHS Directive annexes	Undecided	Undecided

- *1 If the exemptions and their expiration dates are revised in conjunction with amendments to the exemptions of the RoHS Directive, please apply the exemptions and expiration dates of the latest legal requirements to this table*
- *2 Category 9 industrial monitoring and control equipment, and Category 11 exemptions
- *3 Categories 1–7 and 10 electrical and electronic equipment exemptions
- *4 The exemption expiration date is one year prior to the legal expiration date. If the exemptions and their expiration dates are revised based on amendments to the exemptions of the RoHS Directive, please comply with the latest legal requirements. However, exemptions may be approved after the expiration date only if you receive instructions from the Epson Group or the Epson Group has verified that legal and customer requirements can be met.
Example: If the materials are spare parts for a product that was put on the market prior to the legal expiration date. If an extension request has already been submitted and the substance can be used until the expiration date is decided by review.
- In this case, we ask that you continue your efforts to develop alternatives so that you are prepared to begin shipping alternatives as soon as the legal expiration date is finalized. Your cooperation is greatly appreciated. There are items whose legal expiration date has passed, but an extension request has already been submitted, so they can be used until one year prior to the new expiration date.
- *5 The legal expiration date for the following electrical and electronic equipment is 7/21/2024:
- Category 9 monitoring and control instruments
 - Category 11 electrical and electronic equipment
- *6 The Epson Group has already banned these substances in goods delivered to the Epson Group in advance of the legal expiration date.
- *7 New exempted applications under either 6(a) or 6(b).
- *8 The expiration date is 7/21/2021 if any of the following criteria apply:
- a semiconductor technology node of 90 nm or larger;
 - a single die of 300 mm² or larger in any semiconductor technology node;
 - stacked die packages with die of 300 mm² or more, or silicon interposers of 300 mm² or larger

Table 2.1-3 Examples of Banned Substances & Substance Groups

IEC 62474 and other sources were used as references for the substance names and CAS Nos. entered in the table. Not all substances and substance families banned from inclusion in products are covered.

No.	Substance Group	Substance Name	CAS No.
8	Polychlorinated biphenyls (PCBs) and specific substitutes	Polychlorinated biphenyls (all isomers and congeners)	1336-36-3
8	Polychlorinated biphenyls (PCBs) and specific substitutes	Monomethyl-tetrachloro-diphenyl methane	76253-60-6
8	Polychlorinated biphenyls (PCBs) and specific substitutes	Monomethyl-dichloro-diphenyl methane	81161-70-8
8	Polychlorinated biphenyls (PCBs) and specific substitutes	Monomethyl-dibromo-diphenyl methane (DBBT)	99688-47-8
9	Polychlorinated terphenyls (PCTs)	Polychlorinated terphenyls (PCT) (all isomers and congeners)	61788-33-8
31	Hexabromocyclododecane (HBCDD)	Hexabromocyclododecane (HBCDD)	25637-99-4
31	Hexabromocyclododecane (HBCDD)	alpha-hexabromocyclododecane	134237-50-6
31	Hexabromocyclododecane (HBCDD)	beta-hexabromocyclododecane	134237-51-7
31	Hexabromocyclododecane (HBCDD)	gamma-hexabromocyclododecane	134237-52-8
31	Hexabromocyclododecane (HBCDD)	1,2,5,6,9,10-hexabromocyclodecane	3194-55-6
37	Polybrominated biphenyls (PBB)	Polybrominated biphenyls	59536-65-1
37	Polybrominated biphenyls (PBB)	Dibromobiphenyl	92-86-4
37	Polybrominated biphenyls (PBB)	2-Bromobiphenyl	2052-07-5
37	Polybrominated biphenyls (PBB)	3-Bromobiphenyl	2113-57-7
37	Polybrominated biphenyls (PBB)	4-Bromobiphenyl	92-66-0
37	Polybrominated biphenyls (PBB)	Tribromobiphenyl	59080-34-1
37	Polybrominated biphenyls (PBB)	Tetrabromobiphenyl	40088-45-7
37	Polybrominated biphenyls (PBB)	Pentabromobiphenyl	56307-79-0
37	Polybrominated biphenyls (PBB)	Hexabromobiphenyl	59080-40-9
37	Polybrominated biphenyls (PBB)	hexabromo-1,1-biphenyl	36355-01-8
37	Polybrominated biphenyls (PBB)	Firemaster FF-1	67774-32-7
37	Polybrominated biphenyls (PBB)	Heptabromobiphenyl	35194-78-6
37	Polybrominated biphenyls (PBB)	Octabromobiphenyl	61288-13-9
37	Polybrominated biphenyls (PBB)	Nonabromobiphenyl	27753-52-2
37	Polybrominated biphenyls (PBB)	Decabromobiphenyl	13654-09-6
38	Polybrominated diphenylethers (PBDE)	Bromodiphenyl ether	101-55-3
38	Polybrominated diphenylethers (PBDE)	Dibromodiphenyl ethers	2050-47-7
38	Polybrominated diphenylethers (PBDE)	Tribromodiphenyl ether	49690-94-0
38	Polybrominated diphenylethers (PBDE)	Tetrabromodiphenyl ethers	40088-47-9
38	Polybrominated diphenylethers (PBDE)	Hexabromodiphenyl ether	36483-60-0
38	Polybrominated diphenylethers (PBDE)	Heptabromodiphenylether	68928-80-3
38	Polybrominated diphenylethers (PBDE)	Nonabromodiphenylether	63936-56-1
38	Polybrominated diphenylethers (PBDE)	Decabromodiphenyl ether	1163-19-5
38	Polybrominated diphenylethers (PBDE)	Pentabromodiphenyl ether	32534-81-9
38	Polybrominated diphenylethers (PBDE)	Octabromodiphenyl ether	32536-52-0
39	Polychlorinated naphthalene (Cl: 1 or more)	Naphthalene, chloro derivatives	70776-03-3
39	Polychlorinated naphthalene (Cl: 1 or more)	1-Chloronaphthalene	90-13-1
39	Polychlorinated naphthalene (Cl: 1 or more)	2-Chloronaphthalene	91-58-7
39	Polychlorinated naphthalene (Cl: 1 or more)	1,5-Dichloronaphthalene	1825-30-5
39	Polychlorinated naphthalene (Cl: 1 or more)	1,4-Dichloronaphthalene	1825-31-6
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2-Dichloronaphthalene	2050-69-3
39	Polychlorinated naphthalene (Cl: 1 or more)	1,6-Dichloronaphthalene	2050-72-8
39	Polychlorinated naphthalene (Cl: 1 or more)	1,7-Dichloronaphthalene	2050-73-9
39	Polychlorinated naphthalene (Cl: 1 or more)	1,8-Dichloronaphthalene	2050-74-0
39	Polychlorinated naphthalene (Cl: 1 or more)	2,3-Dichloronaphthalene	2050-75-1
39	Polychlorinated naphthalene (Cl: 1 or more)	2,6-Dichloronaphthalene	2065-70-5

Table 2.1-3 Examples of Banned Substances & Substance Groups

IEC 62474 and other sources were used as references for the substance names and CAS Nos. entered in the table. Not all substances and substance families banned from inclusion in products are covered.

No.	Substance Group	Substance Name	CAS No.
39	Polychlorinated naphthalene (Cl: 1 or more)	1,3-Dichloronaphthalene	2198-75-6
39	Polychlorinated naphthalene (Cl: 1 or more)	2,7-Dichloronaphthalene	2198-77-8
39	Polychlorinated naphthalene (Cl: 1 or more)	Chloronaphthalene	25586-43-0
39	Polychlorinated naphthalene (Cl: 1 or more)	Dichloronaphthalene	28699-88-9
39	Polychlorinated naphthalene (Cl: 1 or more)	Pentachloronaphthalene	1321-64-8
39	Polychlorinated naphthalene (Cl: 1 or more)	Trichloronaphthalene	1321-65-9
39	Polychlorinated naphthalene (Cl: 1 or more)	Hexachloronaphthalene	1335-87-1
39	Polychlorinated naphthalene (Cl: 1 or more)	Tetrachloronaphthalene	1335-88-2
39	Polychlorinated naphthalene (Cl: 1 or more)	Perchloronaphthalene	2234-13-1
39	Polychlorinated naphthalene (Cl: 1 or more)	1,4,6-Trichloronaphthalene	2437-54-9
39	Polychlorinated naphthalene (Cl: 1 or more)	1,4,5-Trichloronaphthalene	2437-55-0
39	Polychlorinated naphthalene (Cl: 1 or more)	1,4,5,8-Tetrachloronaphthalene	3432-57-3
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,4,8-Tetrachloronaphthalene	6529-87-9
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,4,5-Tetrachloronaphthalene	6733-54-6
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,3,6,7,8-Hexachloronaphthalene	17062-87-2
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,3,4-Tetrachloronaphthalene	20020-02-4
39	Polychlorinated naphthalene (Cl: 1 or more)	1,3,5,8-Tetrachloronaphthalene	31604-28-1
39	Polychlorinated naphthalene (Cl: 1 or more)	Heptachloronaphthalene	32241-08-0
39	Polychlorinated naphthalene (Cl: 1 or more)	2,3,6,7-Tetrachloronaphthalene	34588-40-4
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,4-Trichloronaphthalene	50402-51-2
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,3-Trichloronaphthalene	50402-52-3
39	Polychlorinated naphthalene (Cl: 1 or more)	1,3,5-Trichloronaphthalene	51570-43-5
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,6-Trichloronaphthalene	51570-44-6
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,4,6-Tetrachloronaphthalene	51570-45-7
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,3,5-Tetrachloronaphthalene	53555-63-8
39	Polychlorinated naphthalene (Cl: 1 or more)	1,3,5,7-Tetrachloronaphthalene	53555-64-9
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,3,5,7-Pentachloronaphthalene	53555-65-0
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,5-Trichloronaphthalene	55720-33-7
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,7-Trichloronaphthalene	55720-34-8
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,8-Trichloronaphthalene	55720-35-9
39	Polychlorinated naphthalene (Cl: 1 or more)	1,3,6-Trichloronaphthalene	55720-36-0
39	Polychlorinated naphthalene (Cl: 1 or more)	1,3,7-Trichloronaphthalene	55720-37-1
39	Polychlorinated naphthalene (Cl: 1 or more)	1,3,8-Trichloronaphthalene	55720-38-2
39	Polychlorinated naphthalene (Cl: 1 or more)	1,6,7-Trichloronaphthalene	55720-39-3
39	Polychlorinated naphthalene (Cl: 1 or more)	2,3,6-Trichloronaphthalene	55720-40-6
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,3,7-Tetrachloronaphthalene	55720-41-7
39	Polychlorinated naphthalene (Cl: 1 or more)	1,3,6,7-Tetrachloronaphthalene	55720-42-8
39	Polychlorinated naphthalene (Cl: 1 or more)	1,4,6,7-Tetrachloronaphthalene	55720-43-9
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,3,4,5,6,7-Heptachloronaphthalene	58863-14-2
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,3,4,5,6,8-Heptachloronaphthalene	58863-15-3
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,3,4,5,6-Hexachloronaphthalene	58877-88-6
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,4,7-Tetrachloronaphthalene	67922-21-8
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,5,6-Tetrachloronaphthalene	67922-22-9
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,5,7-Tetrachloronaphthalene	67922-23-0
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,6,8-Tetrachloronaphthalene	67922-24-1
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,3,4,5-Pentachloronaphthalene	67922-25-2
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,3,4,6-Pentachloronaphthalene	67922-26-3
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,3,4,5,7-Hexachloronaphthalene	67922-27-4
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,4,5,6,8-Hexachloronaphthalene	90948-28-0
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,4,5,7,8-Hexachloronaphthalene	103426-92-2
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,3,4,5,8-Hexachloronaphthalene	103426-93-3

Table 2.1-3 Examples of Banned Substances & Substance Groups

IEC 62474 and other sources were used as references for the substance names and CAS Nos. entered in the table. Not all substances and substance families banned from inclusion in products are covered.

No.	Substance Group	Substance Name	CAS No.
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,3,5,7,8-Hexachloronaphthalene	103426-94-4
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,3,5,6,8-Hexachloronaphthalene	103426-95-5
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,3,4,6,7-Hexachloronaphthalene	103426-96-6
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,3,5,6,7-Hexachloronaphthalene	103426-97-7
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,3,6-Tetrachloronaphthalene	149864-78-8
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,6,7-Tetrachloronaphthalene	149864-79-9
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,5,8-Tetrachloronaphthalene	149864-80-2
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,3,8-Tetrachloronaphthalene	149864-81-3
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,7,8-Tetrachloronaphthalene	149864-82-4
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,3,7,8-Pentachloronaphthalene	150205-21-3
39	Polychlorinated naphthalene (Cl: 1 or more)	1,3,6,8-Tetrachloronaphthalene	150224-15-0
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,3,6,7-Pentachloronaphthalene	150224-16-1
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,4,6,7-Pentachloronaphthalene	150224-17-2
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,3,5,6-Pentachloronaphthalene	150224-18-3
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,4,5,7-Pentachloronaphthalene	150224-19-4
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,4,5,6-Pentachloronaphthalene	150224-20-7
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,4,7,8-Pentachloronaphthalene	150224-21-8
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,4,6,8-Pentachloronaphthalene	150224-22-9
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,3,6,8-Pentachloronaphthalene	150224-23-0
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,3,5,8-Pentachloronaphthalene	150224-24-1
39	Polychlorinated naphthalene (Cl: 1 or more)	1,2,4,5,8-Pentachloronaphthalene	150224-25-2
40	Asbestos	Asbestos	1332-21-4
40	Asbestos	Actinolite	77536-66-4
40	Asbestos	Amosite (Grunerite)	12172-73-5
40	Asbestos	Anthophyllite	77536-67-5
40	Asbestos	Chrysotile	12001-29-5
40	Asbestos	Crocidolite	12001-28-4
40	Asbestos	Tremolite	77536-68-6
41	Ozone-depleting substances	CFC-11	75-69-4
41	Ozone-depleting substances	CFC-12	75-71-8
41	Ozone-depleting substances	CFC-13	75-72-9
41	Ozone-depleting substances	CFC-111	354-56-3
41	Ozone-depleting substances	CFC-112 CFC-112 CFC-112a	76-12-0 76-12-0 76-11-9
41	Ozone-depleting substances	CFC-113 CFC-113 CFC-113a	76-13-1 76-13-1 354-58-5
41	Ozone-depleting substances	CFC-114	76-14-2
41	Ozone-depleting substances	CFC-115	76-15-3
41	Ozone-depleting substances	CFC-211 CFC-211aa CFC-211ba	422-78-6 135401-87-5 422-78-6 422-81-1
41	Ozone-depleting substances	CFC-212	3182-26-1
41	Ozone-depleting substances	CFC-213	2354-06-5 134237-31-3
41	Ozone-depleting substances	CFC-214 CFC-214aa CFC-214cb	29255-31-0 2268-46-4 -

Table 2.1-3 Examples of Banned Substances & Substance Groups

IEC 62474 and other sources were used as references for the substance names and CAS Nos. entered in the table. Not all substances and substance families banned from inclusion in products are covered.

No.	Substance Group	Substance Name	CAS No.
41	Ozone-depleting substances	CFC-215 CFC-215aa CFC-215ba CFC-215bb CFC-215cb CFC-215ca	1599-41-3 1599-41-3 76-17-5 - - 4259-43-2
41	Ozone-depleting substances	CFC-216	661-97-2
41	Ozone-depleting substances	CFC-217	422-86-6
41	Ozone-depleting substances	Halon-1011	74-97-5
41	Ozone-depleting substances	Halon-1202	75-61-6
41	Ozone-depleting substances	Halon-1211	353-59-3
41	Ozone-depleting substances	Halon-1301	75-63-8
41	Ozone-depleting substances	Halon-2402	124-73-2
41	Ozone-depleting substances	Carbon tetrachloride	56-23-5
41	Ozone-depleting substances	Methylchloroform	71-55-6
41	Ozone-depleting substances	Methyl bromide	74-83-9
41	Ozone-depleting substances	Ethyl bromide	74-96-4
41	Ozone-depleting substances	Trifluoromethyl iodide	2314-97-8
41	Ozone-depleting substances	Methyl chloride	74-87-3
41	Ozone-depleting substances	HBFC-21 B2	1868-53-7
41	Ozone-depleting substances	HBFC-22 B1	1511-62-2
41	Ozone-depleting substances	HBFC-31 B1	373-52-4
41	Ozone-depleting substances	HBFC-121 B4	306-80-9
41	Ozone-depleting substances	HBFC-122 B3	-
41	Ozone-depleting substances	HBFC-123 B2	354-04-1
41	Ozone-depleting substances	HBFC-124 B1	124-72-1
41	Ozone-depleting substances	HBFC-131 B3	-
41	Ozone-depleting substances	HBFC-132 B2	75-82-1
41	Ozone-depleting substances	HBFC-133 B1	421-06-7
41	Ozone-depleting substances	HBFC-141 B2	358-97-4
41	Ozone-depleting substances	HBFC-142 B1	420-47-3
41	Ozone-depleting substances	HBFC-151 B1	762-49-2
41	Ozone-depleting substances	HBFC-221 B6	-
41	Ozone-depleting substances	HBFC-222 B5	-
41	Ozone-depleting substances	HBFC-223 B4	-
41	Ozone-depleting substances	HBFC-224 B3	-
41	Ozone-depleting substances	HBFC-225 B2	431-78-7
41	Ozone-depleting substances	HBFC-226 B1	2252-78-0
41	Ozone-depleting substances	HBFC-231 B5	-
41	Ozone-depleting substances	HBFC-232 B4	-
41	Ozone-depleting substances	HBFC-233 B3	-
41	Ozone-depleting substances	HBFC-234 B2	-
41	Ozone-depleting substances	HBFC-235 B1	460-88-8
41	Ozone-depleting substances	HBFC-241 B4	-
41	Ozone-depleting substances	HBFC-242 B3	70192-80-2
41	Ozone-depleting substances	HBFC-243 B2	431-21-0
41	Ozone-depleting substances	HBFC-244 B1	679-84-5
41	Ozone-depleting substances	HBFC-251 B3	75372-14-4
41	Ozone-depleting substances	HBFC-252 B2	460-25-3
41	Ozone-depleting substances	HBFC-253 B1	421-46-5
41	Ozone-depleting substances	HBFC-261 B2	51584-26-0

Table 2.1-3 Examples of Banned Substances & Substance Groups

IEC 62474 and other sources were used as references for the substance names and CAS Nos. entered in the table. Not all substances and substance families banned from inclusion in products are covered.

No.	Substance Group	Substance Name	CAS No.
41	Ozone-depleting substances	HBFC-262 B1	-
41	Ozone-depleting substances	HBFC-271 B1	1871-72-3
41	Ozone-depleting substances	HCFC-21	75-43-4
41	Ozone-depleting substances	HCFC-22	75-45-6
41	Ozone-depleting substances	HCFC-31	593-70-4
41	Ozone-depleting substances	HCFC-121 HCFC-121 HCFC-121a	134237-32-4 354-14-3 354-11-0
41	Ozone-depleting substances	HCFC-122 HCFC-122 HCFC-122a HCFC-122b	41834-16-6 354-21-2 354-15-4 354-12-1
41	Ozone-depleting substances	HCFC-123 HCFC-123 HCFC-123a HCFC-123b	34077-87-7 306-83-2 354-23-4 90454-18-5 812-04-4
41	Ozone-depleting substances	HCFC-124 HCFC-124 HCFC-124a	63938-10-3 2837-89-0 354-25-6
41	Ozone-depleting substances	HCFC-131 HCFC-131 HCFC131a HCFC-131b	27154-33-2; (134237-34-6) 359-28-4 811-95-0 2366-36-1
41	Ozone-depleting substances	HCFC-132 HCFC-132 HCFC-132a HCFC-132b HFCF-132c	25915-78-0 431-06-1 471-43-2 1649-08-7 1842-05-3
41	Ozone-depleting substances	HCFC-133 HCFC-133 HCFC-133a HCFC-133b	1330-45-6 431-07-2 1330-45-6 75-88-7 421-04-5
41	Ozone-depleting substances	HCFC-141 HCFC-141 HCFC-141a HCFC-141b	1717-00-6; (25167-88-8) 430-57-9 430-53-5 1717-00-6
41	Ozone-depleting substances	HCFC-142 HCFC-142 HCFC-142b HCFC-142a	25497-29-4 338-65-8 75-68-3 338-64-7
41	Ozone-depleting substances	HCFC-151 HCFC-151 HCFC-151a	110587-14-9 762-50-5 1615-75-4
41	Ozone-depleting substances	HCFC-221 HCFC-221ab	134237-35-7 29470-94-8 422-26-4
41	Ozone-depleting substances	HCFC-222 HCFC-222ca HCFC-222aa	134237-36-8 422-49-1 422-30-0

Table 2.1-3 Examples of Banned Substances & Substance Groups

IEC 62474 and other sources were used as references for the substance names and CAS Nos. entered in the table. Not all substances and substance families banned from inclusion in products are covered.

No.	Substance Group	Substance Name	CAS No.
41	Ozone-depleting substances	HCFC-223 HCFC-223ca HCFC-223cb	134237-37-9 422-52-6 422-50-4
41	Ozone-depleting substances	HCFC-224 HCFC-224ca HCFC-224cb HCFC-224cc	134237-38-0 422-54-8 422-53-7 422-51-5
41	Ozone-depleting substances	HCFC-225 HCFC-225aa HCFC-225ba HCFC-225bb HCFC-225ca HCFC-225cb HCFC-225cc HCFC-225da HCFC-225ea HCFC-225eb	127564-92-5 128903-21-9 422-48-0 422-44-6 422-56-0 507-55-1 13474-88-9 431-86-7 136013-79-1 111512-56-2
41	Ozone-depleting substances	HCFC-226 HCFC-226da	134308-72-8 431-87-8
41	Ozone-depleting substances	HCFC-231 HCFC-231bb	134190-48-0 421-94-3
41	Ozone-depleting substances	HCFC-232 HCFC-232fc	134237-39-1 460-89-9
41	Ozone-depleting substances	HCFC-233 HCFC-233fb	134237-40-4 7125-83-9
41	Ozone-depleting substances	HCFC-234 HCFC-234db	127564-83-4 425-94-5
41	Ozone-depleting substances	HCFC-235 HCFC-235fa	134237-41-5 460-92-4
41	Ozone-depleting substances	HCFC-241 HCFC-241db	134190-49-1 666-27-3
41	Ozone-depleting substances	HCFC-242 HCFC-242fa	134237-42-6 460-63-9
41	Ozone-depleting substances	HCFC-243 HCFC-243cc HCFC-243db HCFC-243fa	134237-43-7 7125-99-7 338-75-0 460-69-5
41	Ozone-depleting substances	HCFC-244 HCFC-244ca HCFC-244cc	134190-50-4 679-85-6 421-75-0
41	Ozone-depleting substances	HCFC-251 HCFC-251fb HCFC-251dc	134190-51-5 818-99-5 421-41-0
41	Ozone-depleting substances	HCFC-252 HCFC-252fb	134190-52-6 819-00-1
41	Ozone-depleting substances	HCFC-253 HCFC-253fb	134237-44-8 460-35-5
41	Ozone-depleting substances	HCFC-261 HCFC-261fc HCFC-261ba	134237-45-9 7799-56-6 420-97-3
41	Ozone-depleting substances	HCFC-262 HCFC-262ca HCFC-262da HCFC-262fc	134190-53-7 420-99-5 102738-79-4 421-02-3

Table 2.1-3 Examples of Banned Substances & Substance Groups

IEC 62474 and other sources were used as references for the substance names and CAS Nos. entered in the table. Not all substances and substance families banned from inclusion in products are covered.

No.	Substance Group	Substance Name	CAS No.
41	Ozone-depleting substances	HCFC-271 HCFC-271ba HCFC-271fb	134190-54-8 420-44-0 430-55-7
43	Alkanes, C10-13, chloro (Short chain chlorinated paraffins)	Alkanes, C10-13, chloro	85535-84-8
43	Alkanes, C10-13, chloro (Short chain chlorinated paraffins)	Alkanes, C10-12, chloro	108171-26-2
43	Alkanes, C10-13, chloro (Short chain chlorinated paraffins)	Alkanes, C12-13, chloro	71011-12-6
43	Alkanes, C10-13, chloro (Short chain chlorinated paraffins)	Alkanes, chloro	61788-76-9
43	Alkanes, C10-13, chloro (Short chain chlorinated paraffins)	Other short chain chlorinated paraffins	-
44	Perfluorooctane sulfonates (PFOS) and its salt	2-Propenoic acid, 2-methyl-, dodecyl ester, polymers with 2-[methyl[(perfluoro-C4-8-alkyl)- sulfonyl]amino]ethyl acrylate and vinylidene chloride	306975-62-2
44	Perfluorooctane sulfonates (PFOS) and its salt	Glycine, N-ethyl-N-[(heptadecafluorooctyl)sulfonyl]-, potassium salt	2991-51-7
45	Nickel and nickel compounds	Nickel	7440-02-0
45	Nickel and nickel compounds	Nickel (II) oxide	1313-99-1
45	Nickel and nickel compounds	Nickel (II) chloride	7718-54-9
45	Nickel and nickel compounds	Nickel (II) chloride, hexahydrate	7791-20-0
45	Nickel and nickel compounds	Nickel (II) sulfate	7786-81-4
45	Nickel and nickel compounds	Nickel (II) sulfate, hexahydrate	10101-97-0
45	Nickel and nickel compounds	Nickel (II) sulfate, heptahydrate	10101-98-1
45	Nickel and nickel compounds	Antimony nickel titanium oxide yellow	8007-18-9
45	Nickel and nickel compounds	Nickel niobium titanium yellow rutile	68611-43-8
45	Nickel and nickel compounds	Cobalt titanate green spinel	68186-85-6
47	Cadmium and cadmium compounds	Cadmium	7440-43-9
47	Cadmium and cadmium compounds	Cadmium oxide	1306-19-0
47	Cadmium and cadmium compounds	Cadmium sulfide	1306-23-6
48	Hexavalent chromium compounds	Barium chromate	10294-40-3
48	Hexavalent chromium compounds	Calcium chromate	13765-19-0
48	Hexavalent chromium compounds	Strontium chromate	7789-06-2
48	Hexavalent chromium compounds	Zinc chromate	13530-65-9
49	Lead and lead compounds	Lead	7439-92-1
49	Lead and lead compounds	Lead (II) sulfate	7446-14-2
49	Lead and lead compounds	Lead (II) carbonate	598-63-0
49	Lead and lead compounds	Trilead bis (carbonate) dihydroxide	1319-46-6
49	Lead and lead compounds	Lead (II) acetate, trihydrate	6080-56-4
49	Lead and lead compounds	Lead selenide	12069-00-0
49	Lead and lead compounds	Lead (IV) oxide	1309-60-0
49	Lead and lead compounds	Lead (II,IV) oxide	1314-41-6
49	Lead and lead compounds	Lead (II) sulfide	1314-87-0
49	Lead and lead compounds	Lead (II) phosphate	7446-27-7
49	Lead and lead compounds	Lead (II) titanate	12060-00-3
49	Lead and lead compounds	Lead sulfate, sulphuric acid, lead salt	15739-80-7
49	Lead and lead compounds	Lead sulphate, tribasic	12202-17-4
49	Lead and lead compounds	Lead stearate	1072-35-1
49	Lead and lead compounds	Lead (II) chromate	7758-97-6

Table 2.1-3 Examples of Banned Substances & Substance Groups

IEC 62474 and other sources were used as references for the substance names and CAS Nos. entered in the table. Not all substances and substance families banned from inclusion in products are covered.

No.	Substance Group	Substance Name	CAS No.
49	Lead and lead compounds	Lead chromate molybdate sulphate red	12656-85-8
49	Lead and lead compounds	Lead sulfochromate yellow	1344-37-2
50	Mercury and mercury compounds	Mercury	7439-97-6
50	Mercury and mercury compounds	Mercury, chloro(cyclohexylmethyl)-	33631-63-9
50	Mercury and mercury compounds	Mercury (II) chloride	7487-94-7
50	Mercury and mercury compounds	Mercuric sulfate	7783-35-9
50	Mercury and mercury compounds	Mercuric nitrate	10045-94-0
50	Mercury and mercury compounds	Mercuric (II) oxide	21908-53-2
50	Mercury and mercury compounds	Mercuric sulfide	1344-48-5
51	Azocolourants and Azodyes which form certain aromatic amines	Biphenyl-4-ylamine	92-67-1
51	Azocolourants and Azodyes which form certain aromatic amines	Benzidine	92-87-5
51	Azocolourants and Azodyes which form certain aromatic amines	4-chloro-o-toluidine	95-69-2
51	Azocolourants and Azodyes which form certain aromatic amines	2-naphthylamine	91-59-8
51	Azocolourants and Azodyes which form certain aromatic amines	o-aminoazotoluene	97-56-3
51	Azocolourants and Azodyes which form certain aromatic amines	5-nitro-o-toluidine	99-55-8
51	Azocolourants and Azodyes which form certain aromatic amines	4-chloroaniline	106-47-8
51	Azocolourants and Azodyes which form certain aromatic amines	4-methoxy-m-phenylenediamine	615-05-4
51	Azocolourants and Azodyes which form certain aromatic amines	4,4'-methylenedianiline	101-77-9
51	Azocolourants and Azodyes which form certain aromatic amines	3,3'-dichlorobenzidine	91-94-1
51	Azocolourants and Azodyes which form certain aromatic amines	3,3'-dimethoxybenzidine	119-90-4
51	Azocolourants and Azodyes which form certain aromatic amines	3,3'-dimethylbenzidine	119-93-7
51	Azocolourants and Azodyes which form certain aromatic amines	4,4'-methylenedi-o-toluidine	838-88-0
51	Azocolourants and Azodyes which form certain aromatic amines	6-methoxy-m-toluidine	120-71-8
51	Azocolourants and Azodyes which form certain aromatic amines	4,4'-methylene-bis(2-chloroaniline)	101-14-4
51	Azocolourants and Azodyes which form certain aromatic amines	4,4'-oxydianiline	101-80-4
51	Azocolourants and Azodyes which form certain aromatic amines	4,4'-thiodianiline	139-65-1
51	Azocolourants and Azodyes which form certain aromatic amines	o-toluidine	95-53-4
51	Azocolourants and Azodyes which form certain aromatic amines	4-methyl-m-phenylenediamine	95-80-7
51	Azocolourants and Azodyes which form certain aromatic amines	2,4,5-trimethylaniline	137-17-7
51	Azocolourants and Azodyes which form certain aromatic amines	o-anisidine	90-04-0
51	Azocolourants and Azodyes which form certain aromatic amines	4-amino azobenzene	60-09-3
53	Tri-substituted organostannic compounds	Triphenyltin-N, N-dimethyldithiocarbamate	1803-12-9

Table 2.1-3 Examples of Banned Substances & Substance Groups

IEC 62474 and other sources were used as references for the substance names and CAS Nos. entered in the table. Not all substances and substance families banned from inclusion in products are covered.

No.	Substance Group	Substance Name	CAS No.
53	Tri-substituted organostannic compounds	Triphenyltinfluoride	379-52-2
53	Tri-substituted organostannic compounds	Triphenyltinacetate	900-95-8
53	Tri-substituted organostannic compounds	Triphenyltinchloride	639-58-7
53	Tri-substituted organostannic compounds	Triphenyltinhydroxide	76-87-9
53	Tri-substituted organostannic compounds	Triphenyltin fattyacid [(9-11)salt]	18380-71-7 18380-72-8 47672-31-1 94850-90-5
53	Tri-substituted organostannic compounds	Triphenyltinchloroacetate	7094-94-2
53	Tri-substituted organostannic compounds	Tributyltinmethacrylate	2155-70-6
53	Tri-substituted organostannic compounds	Bis (tributyltin) fumalate	6454-35-9
53	Tri-substituted organostannic compounds	Tributyltinfluoride	1983-10-4
53	Tri-substituted organostannic compounds	Bis (tributyltin) 2,3-dibromosuccinate	31732-71-5
53	Tri-substituted organostannic compounds	Tributyltinacetate	56-36-0
53	Tri-substituted organostannic compounds	Tributyltinlaurate	3090-36-6
53	Tri-substituted organostannic compounds	Bis (tributyltin) phthalate	4782-29-0
53	Tri-substituted organostannic compounds	Copolymer of alkyl (c=8) acrylate,methyl methacrylate and tributyltin methacrylate	67772-01-4
53	Tri-substituted organostannic compounds	Tributyltinsulfamate	6517-25-5
53	Tri-substituted organostannic compounds	Bis (tributyltin) maleate	14275-57-1
53	Tri-substituted organostannic compounds	Tributyltinchloride	1461-22-9 7342-38-3
53	Tri-substituted organostannic compounds	Tributyltin cyclopentane carbonate mixture	85409-17-2
53	Tri-substituted organostannic compounds	Tributyltin-1, 2,3,4,4a, 4b, 5,6,10,10a-decahydro-7-isopropyl-1, 4a-dimethyl-1-phenanthrenecarboxylatemix	26239-64-5
53	Tri-substituted organostannic compounds	Other tri-substituted organostannic compounds	-
54	Diocetyl tin (DOT) compounds	Diocetyl tin oxide	870-08-6
54	Diocetyl tin (DOT) compounds	Diocetyl tin dilaurate	3648-18-8
54	Diocetyl tin (DOT) compounds	Other Diocetyl tin compounds	-
56	Dibutyltin (DBT) compounds	Dibutyltin oxide	818-08-6
56	Dibutyltin (DBT) compounds	Dibutyltin diacetate	1067-33-0
56	Dibutyltin (DBT) compounds	Dibutyltin dilaurate	77-58-7
56	Dibutyltin (DBT) compounds	Dibutyltin maleate	78-04-6
56	Dibutyltin (DBT) compounds	Other dibutyltin compounds	-
61	Perfluorooctanoic acid (PFOA) and its salts	Pentadecafluorooctanoic acid	335-67-1
61	Perfluorooctanoic acid (PFOA) and its salts	Ammonium pentadecafluorooctanoate	3825-26-1
61	Perfluorooctanoic acid (PFOA) and its salts	Sodium pentadecafluorooctanoate	335-95-5
61	Perfluorooctanoic acid (PFOA) and its salts	Potassium pentadecafluorooctanoate	2395-00-8
61	Perfluorooctanoic acid (PFOA) and its salts	Silver pentadecafluorooctanoate	335-93-3
61	Perfluorooctanoic acid (PFOA) related substances	Pentadecafluorooctanoic acid	335-67-1
61	Perfluorooctanoic acid (PFOA) related substances	Ammonium pentadecafluorooctanoate	3825-26-1
61	Perfluorooctanoic acid (PFOA) related substances	Sodium pentadecafluorooctanoate	335-95-5
61	Perfluorooctanoic acid (PFOA) related substances	Potassium pentadecafluorooctanoate	2395-00-8
61	Perfluorooctanoic acid (PFOA) related substances	Silver pentadecafluorooctanoate	335-93-3
61	Perfluorooctanoic acid (PFOA) related substances	Pentadecafluorooctanoyl fluoride	335-66-0

Table 2.1-3 Examples of Banned Substances & Substance Groups

IEC 62474 and other sources were used as references for the substance names and CAS Nos. entered in the table. Not all substances and substance families banned from inclusion in products are covered.

No.	Substance Group	Substance Name	CAS No.
61	Perfluorooctanoic acid (PFOA) related substances	Methyl pentadecafluorooctanoate	376-27-2
61	Perfluorooctanoic acid (PFOA) related substances	Ethyl pentadecafluorooctanoate	3108-24-5
61	Perfluorooctanoic acid (PFOA) related substances	Perfluorooctyl iodide	507-63-1
61	Perfluorooctanoic acid (PFOA) related substances	Tetrahydroperfluoro-1-decanol	678-39-7
61	Perfluorooctanoic acid (PFOA) related substances	Perfluoro-1-dodecanol	865-86-1
61	Perfluorooctanoic acid (PFOA) related substances	Perfluorodecyl iodide	2043-53-0
61	Perfluorooctanoic acid (PFOA) related substances	1,1,2,2-Tetrahydroperfluorododecyl iodide	2043-54-1
61	Perfluorooctanoic acid (PFOA) related substances	Perfluorodecylethyl acrylate	17741-60-5
61	Perfluorooctanoic acid (PFOA) related substances	1,1,2,2-Tetrahydroperfluorodecyl acrylate	27905-45-9
61	Perfluorooctanoic acid (PFOA) related substances	1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12-Pentacosafuoro-14-Iodotetradecane	30046-31-2
61	Perfluorooctanoic acid (PFOA) related substances	3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-Pentacosafuorotetradecan-1-ol	39239-77-5
61	Perfluorooctanoic acid (PFOA) related substances	3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,16-Nonacosafuoro-hexadecan-1-ol	60699-51-6
61	Perfluorooctanoic acid (PFOA) related substances	1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14-Nonacosafuoro-16-iodohexadecane	65510-55-6
61	Perfluorooctanoic acid (PFOA) related substances	Silicic acid (H ₄ SiO ₄), sodium salt (1:2), reaction products with chlorotrimethylsilane and 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluoro-1-decanol	125476-71-3
65	Fluorinated greenhouse gases (PFCs, SF ₆ , HFCs)	Trifluoromethane (HFC-23)	75-46-7
65	Fluorinated greenhouse gases (PFCs, SF ₆ , HFCs)	Difluoromethane (HFC-32)	75-10-5
65	Fluorinated greenhouse gases (PFCs, SF ₆ , HFCs)	Methyl fluoride (HFC-41)	593-53-3
65	Fluorinated greenhouse gases (PFCs, SF ₆ , HFCs)	Pentafluoroethane (HFC-125)	354-33-6
65	Fluorinated greenhouse gases (PFCs, SF ₆ , HFCs)	1,1,2,2-Tetrafluoroethane (HFC-134)	359-35-3
65	Fluorinated greenhouse gases (PFCs, SF ₆ , HFCs)	1,1,1,2-Tetrafluoroethane (HFC-134a)	811-97-2
65	Fluorinated greenhouse gases (PFCs, SF ₆ , HFCs)	1,1,2-Trifluoroethane (HFC-143)	430-66-0
65	Fluorinated greenhouse gases (PFCs, SF ₆ , HFCs)	1,1,1-Trifluoroethane (HFC-143a)	420-46-2
65	Fluorinated greenhouse gases (PFCs, SF ₆ , HFCs)	1,2-difluoroethane (HFC-152)	624-72-6
65	Fluorinated greenhouse gases (PFCs, SF ₆ , HFCs)	1,1-Difluoroethane (HFC-152a)	75-37-6
65	Fluorinated greenhouse gases (PFCs, SF ₆ , HFCs)	Fluoroethane (HFC-161)	353-36-6
65	Fluorinated greenhouse gases (PFCs, SF ₆ , HFCs)	2H-Heptafluoropropane (HFC-227ea)	431-89-0

Table 2.1-3 Examples of Banned Substances & Substance Groups

IEC 62474 and other sources were used as references for the substance names and CAS Nos. entered in the table. Not all substances and substance families banned from inclusion in products are covered.

No.	Substance Group	Substance Name	CAS No.
65	Fluorinated greenhouse gases (PFCs, SF ₆ , HFCs)	1,1,1,2,2,3-Hexafluoro-propane (HFC-236cb)	677-56-5
65	Fluorinated greenhouse gases (PFCs, SF ₆ , HFCs)	1,1,1,2,3,3-Hexafluoropropane (HFC-236ea)	431-63-0
65	Fluorinated greenhouse gases (PFCs, SF ₆ , HFCs)	1,1,1,3,3,3-Hexafluoropropane (HFC-236fa)	690-39-1
65	Fluorinated greenhouse gases (PFCs, SF ₆ , HFCs)	1,1,2,2,3-Pentafluoropropane (HFC-245ca)	679-86-7
65	Fluorinated greenhouse gases (PFCs, SF ₆ , HFCs)	1,1,1,3,3-Pentafluoropropane (HFC-245fa)	460-73-1
65	Fluorinated greenhouse gases (PFCs, SF ₆ , HFCs)	1,1,1,3,3-Pentafluorobutane (HFC-365mfc)	406-58-6
65	Fluorinated greenhouse gases (PFCs, SF ₆ , HFCs)	2H,3H-Decafluoropentane (HFC-43-10mee)	138495-42-8
65	Fluorinated greenhouse gases (PFCs, SF ₆ , HFCs)	Tetrafluoromethane (Carbon tetrafluoride, (PFC-14))	75-73-0
65	Fluorinated greenhouse gases (PFCs, SF ₆ , HFCs)	Hexafluoroethane (PFC-116)	76-16-4
65	Fluorinated greenhouse gases (PFCs, SF ₆ , HFCs)	Octafluoropropane (PFC-218)	76-19-7
65	Fluorinated greenhouse gases (PFCs, SF ₆ , HFCs)	Decafluorobutane (PFC-3-1-10)	355-25-9
65	Fluorinated greenhouse gases (PFCs, SF ₆ , HFCs)	Dodecafluoropentane (PFC-4-1-12)	678-26-2
65	Fluorinated greenhouse gases (PFCs, SF ₆ , HFCs)	Tetradecafluorohexane (PFC-5-1-14)	355-42-0
65	Fluorinated greenhouse gases (PFCs, SF ₆ , HFCs)	Octafluorocyclobutane (PFC-c-318)	115-25-3
65	Fluorinated greenhouse gases (PFCs, SF ₆ , HFCs)	Sulfur Hexafluoride (SF ₆)	2551-62-4

Table 2.1-4 Regulations Referenced

No.	Name of Regulation, Legislation, Etc.	Country or Region
1	Montreal Protocol	Treaty
2	EU RoHS Directive and its revisions 2011/65/EU	EU
3	EU REACH Regulation (EC) No 1907/2006, Annex XVII (Restrictions on substances)	EU
4	EU Battery Directive 2006/66/EU	EU
5	(EC) No. 1005/2009 on substances that deplete the ozone layer	EU
6	(EU) No. 2019/1021 on Persistent Organic Pollutants (POPS)	EU
7	EU Directive 94/62/EEC on packaging and packaging waste	EU
8	EU Regulation No. 517/2014 on Fluorinated Greenhouse Gases	EU
9	BGBI 1990/194: Formaldehyde Regulation §2, 12/2/1990	Austria
10	Lithuania HN 96:2000 "Hygiene Norms and Regulations"	Lithuania
11	ORRChem (Ordinance on the reduction of risks relating to substances)	Switzerland
12	Sweden SFS 1998:944	Sweden
13	Denmark Lead Regulation (Ordinance No. 1012)	Denmark
14	Denmark Cadmium Regulation	Denmark
15	Norway Product Regulations	Norway
16	Japan Industrial Safety and Health Act, Harmful Substances, etc., Prohibited for Manufacturing, etc.	Japan
17	Law Concerning the Examination and Regulation of the Manufacture etc. of Chemical Substances	Japan
18	Ozone Layer Protection Act	Japan
19	Act on Preventing Environmental Pollution of Mercury	Japan
20	Quality Control and Safety Management of Industrial Products Act	South Korea
21	Regulations concerning standards, etc., concerning packaging methods for packaging materials for Korean products	South Korea
22	Restrictions on the Manufacture, Import, and Sale of Dry Batteries	Taiwan
23	Chinese National Standards (GB 24427-2009): alkaline and non-alkaline zinc manganese dioxide batteries mercury cadmium lead restriction requirements	China
24	Limits on mercury content in battery products	China
25	Toxic Substances Control Act (TSCA)	US
26	TSCA Significant New Use Rule	US
27	Clean Air Act of 1990, Art. 611	US
28	Formaldehyde Standards for Composite Wood Products Act	US
29	Mercury-Containing and Rechargeable Battery Management Act	US
30	US state battery regulations (Maine, Connecticut, Rhode Island)	US
31	US regulations on hazardous substances in packaging materials	US
32	Proposition 65 Case Law	California
33	Products Containing Mercury Regulations (SOR/2014-254)	Canada
34	Prohibition of Certain Toxic Substances Regulations SOR/2012-285 and its amendment	Canada
35	Law No. 26.184 Portable Power and Resolution	Argentina
36	Manganese battery and alkaline-manganese battery regulations	Paraguay
37	Resolution 401/2008	Brazil

Table 2.1-5 Analysis Standards

Substance	Analysis Standard
Cadmium and cadmium compounds	<p>Analytical method in accordance with IEC 62321 <u>Polymers / Metals / Electronics</u> - ICP-OES (inductively coupled plasma-optical emission spectrometry) - ICP-MS (inductively coupled plasma mass spectrometry) - AAS (atomic absorption spectroscopy) - AFS (atomic fluorescence spectroscopy)</p> <p>* Analysis should be performed by one of analytical methods described above*¹. However, alternative analytical methods recommended by analysis laboratories are also acceptable.</p> <p>* It is preferable to perform analysis by laboratories certified according to ISO 17025.</p>
Hexavalent chromium compounds	<p>Analytical method in accordance with IEC 62321 <u>Polymers / Metals / Electronics</u> - Colorimetric method</p> <p>Analysis should be performed by the above analytical method*¹. An analytical method recommended by an analysis laboratory may also be acceptable, but spot tests are not acceptable due to large limits of quantification (LOQ) and low accuracy.</p> <p>* It is preferable to perform analysis by laboratories certified according to ISO 17025.</p>
Lead and lead compounds	<p>Analytical method in accordance with IEC 62321 <u>Polymers / Metals / Electronics</u> - ICP-OES (inductively coupled plasma-optical emission spectrometry) - ICP-MS (inductively coupled plasma mass spectrometry) - AAS (atomic absorption spectroscopy) - AFS (atomic fluorescence spectroscopy)</p> <p>* Analysis should be performed by one of analytical methods described above*¹. However, alternative analytical methods recommended by analysis laboratories are also acceptable.</p> <p>* It is preferable to perform analysis by laboratories certified according to ISO 17025.</p>
Mercury and mercury compounds	<p>Analytical method in accordance with IEC 62321 <u>Polymers / Metals / Electronics</u> - CV-AAS (cold vapor atomic absorption spectrometry) - CV-AFS (cold vapor atomic fluorescence spectrometry) - ICP-OES (inductively coupled plasma-optical emission spectrometry) - ICP-MS (inductively coupled plasma mass spectrometry)</p> <p>* Analysis should be performed by one of analytical methods described above*¹. However, alternative analytical methods recommended by analysis laboratories are also acceptable.</p> <p>* It is preferable to perform analysis by laboratories certified according to ISO 17025.</p>
Di (2-ethylhexyl) phthalate (DEHP) Dibutyl phthalate (DBP) Benzyl butyl phthalate (BBP) Diisobutyl phthalate (DIBP)	<p>Analytical method in accordance with IEC 62321 <u>Polymers / Electronics</u> - GC-MS (gas chromatography-mass spectrometry)</p> <p>* Analysis should be performed by the above analytical method*¹. However, alternative analytical methods recommended by analysis laboratories are also acceptable.</p> <p>* It is preferable to perform analysis by laboratories certified according to ISO 17025.</p>

*1 Use the method of analysis, testing, or measurement specified by the Epson Group, if any.

2.2 Substances Banned from Use in Manufacturing Processes

The following is a list of substances whose use in manufacturing is prohibited by legal or other regulations. The list is not comprehensive.

No.	Substance (Group) Name	CAS No.	Referenced Regulation
1	White phosphorous match (white phosphorous)	12185-10-3	Substances prohibited by the Industrial Safety and Health Law (Japan) (Article 55 and Enforcement Order 16)
2	Benzidine and its salts	92-87-5, etc.	
3	4-aminodiphenyl / 4-aminodiphenyl and its salts	92-67-1, etc.	
4	Asbestos	See Table 2.1-3, No. 40	
5	4-nitrodiphenyl and its salts	92-93-3	
6	Bis (chloromethyl) ether	542-88-1	
7	2-Naphthylamine / beta-naphthylamine and its salts	91-59-8	
8	Rubber cement containing benzene, where the benzene accounts for more than 5% of the rubber cement solvent (including diluting agent)	-	
9	Preparations or other substances that contain > 0.1% asbestos by weight; or preparations or other substances that contain > 1% of items 2, 3, 5, 6, or 7 above by weight	-	
10	1,1,1-trichloroethane	71-55-6	Montreal Protocol Montreal Protocol Annex A, B, E and C-I, II, III
11	Carbon tetrachloride	56-23-5	
12	Methyl bromide / Bromomethane	74-83-9	
13	CFC	See Table 2.1-3, No. 41	
14	Halon		
15	HBFCs		
16	Bromochloromethane	74-97-5	
17	HCFC* ¹	See Table 2.1-3, No. 41	
18	Aldrin	309-00-2	POPs Convention, Annex A (Elimination)
19	Alpha hexachlorocyclohexane	319-84-6	
20	Beta hexachlorocyclohexane	319-85-7	
21	Chlordane	57-74-9	
22	Chlordecone	143-50-0	
23	Decabromodiphenyl oxide (DecaBDE)	1163-19-5	
24	Dieldrin	60-57-1	
25	Endrin	72-20-8	
26	Heptachlor	76-44-8	
27	Hexabromobiphenyl	36355-01-8	
28	Hexabromocyclododecane (HBCDD)	See Table 2.1-3	
29	Hexabromodiphenyl ether	36483-60-0, etc.	
30	Heptabromodiphenyl ether	68928-80-3, etc.	
31	Hexachlorobenzene	118-74-1	
32	Hexachlorobuta-1,3-diene	87-68-3	
33	Gamma hexachlorocyclohexane	58-89-9	
34	Mirex	2385-85-5	
35	Pentachlorobenzene	608-93-5	
36	Pentachlorophenol or its salts and esters	87-86-5, etc.	
37	Polychlorinated biphenyl (PCB)	See Table 2.1-3	
38	Polychlorinated naphthalenes (with 2–8 chlorine atoms)	See Table 2.1-3	
39	Short-chain chlorinated paraffins (SCCPs) (limited to those with carbon chains from C10 to C13 and a chlorine content that exceeds 48% to the total mass)	See Table 2.1-3	
40	Endosulfan	115-29-7 959-98-8 33213-65-9	
41	Tetrabromodiphenyl ether	40088-47-9, etc.	
42	Pentabromodiphenyl ether	32534-81-9, etc.	
43	Toxaphene	8001-35-2	
44	2,2,2-trichloro-1,1-bis(4-chlorophenyl)ethanol (Kelthane or Dicofof)	115-32-2	

No.	Substance (Group) Name	CAS No.	Referenced Regulation
45	Perfluorooctanoic acid (PFOA) and its salts and PFOA-related substances	See Table 2.1-3	POPs Convention, Annex B (Restriction)
46	DDT	50-29-3	
47	Perfluorooctane sulfonates (PFOS) and its salts	See Table 2.1-3	
48	Perfluoro-1-octanesulfonyl fluoride (PFOS-F)	307-35-7	

The following uses are exempt from this prohibition:

- (1) Small amounts of chemical reagent occasionally used as a comparative or calibration chemical in R&D applications.
- (2) CFC and HCFC contained as a cooling agent in existing facilities or equipment.
- (3) Halons contained as an extinguishing material in existing facilities or equipment.

*1 The elimination schedule is per the Montreal Protocol and applicable national laws and regulations.

Appendix 2: Revision History

Rev.	Date of Revision	Revised Content
1	January 15, 2003	Rev. 1.0
2	August 15, 2003	Added information on things such as groups of controlled substances in products added by Epson
3	April 15, 2005	Added information regarding an assurance system relating to substances included in products, etc.
3.1	December 15, 2006	Added information to Appendix 1 Substance Handling Standards, including the addition of cobalt chloride to conditionally banned substances and exceptions to substances to be eliminated.
3.2	April 1, 2008	Appendix 1: Substance Handling Standards <ul style="list-style-type: none"> - Added 3 substances to unconditionally banned substances (subject to the Chemical Substance Control Law) - Added perfluorooctane sulfonate (PFOS) and its salts to conditionally banned substances Updated Appendix 3: List of Epson Group Companies
3.3	January 20, 2009	Added "Compliance documents for California Formaldehyde Regulation for Composite Wood Products" to Documents to Be Submitted Appendix 1: Substance Handling Standards <ul style="list-style-type: none"> - Added conditions to conditionally banned substances (formaldehyde) - Added conditions to conditionally banned substances (cadmium, mercury, lead) Added transport pallets (SEG specifications) to examples of packing materials
3.4	August 20, 2009	Appendix 1: Substance Handling Standards <ul style="list-style-type: none"> - Added dimethyl fumarate to unconditionally banned substances - Added examples of general use to unconditionally banned substances - Added conditions to conditionally banned substances (formaldehyde) - Added exempted applications to conditionally banned substances (cadmium and cadmium compounds) - Revised conditions for conditionally banned substances (lead and lead compounds) - Added exempted application to three substances to be eliminated from products (cadmium and cadmium compounds, mercury and mercury compounds, lead and lead compounds) - Revised analytical standards for four substances to be eliminated from products (cadmium and cadmium compounds, hexavalent chromium and its compounds, mercury and mercury compounds, lead and lead compounds) - Added phthalate to level 2 substances to be eliminated from products Updated Appendix 3: List of Epson Group Companies
3.5	May 21, 2010	Appendix 1: Substance Handling Standards < Unconditionally banned substances > Added 6 substances to the "Group subject to the Law Concerning the Examination and Regulation of Manufacture etc. of Chemical Substances (Japan)" < Conditionally banned substances > <ul style="list-style-type: none"> - Added tri-substituted organostannic compounds (tributyltin (TBT)/ triphenyltin (TPT) / other tri-substituted organostannic compounds) - Added dioctyltin (DOT) compounds - Revised condition of prohibitions for mercury and its compounds - Revised condition of prohibitions and exemptions for perfluorooctane sulfonates (PFOS) and its salts <Substances to be eliminated from products> <ul style="list-style-type: none"> - Added dibutyltin (DBT) compounds to level 2 substances <p style="text-align: right;"><i>(Continued on the next page...)</i></p>

Rev.	Date of Revision	Revised Content
3.5	May 21, 2010	<ul style="list-style-type: none"> - Added exempted application for cadmium and cadmium compounds, mercury and mercury compounds, lead and lead compounds - Limit the scope of Phthalate to DEHP, DBP, BBP - Deleted conditions of prohibitions already controlled in accordance with those of conditionally banned substances (e.g. batteries, packaging materials) - Updated Appendix 3 List of Epson Group Companies *1 dioctyltin (DOT)/ tributyltin (TBT)/ triphenyltin (TPT) / other Tri-substituted organostannic compounds
3.6	July 1, 2011	<p>Appendix 1: Substance Handling Standards</p> <p>< Unconditionally banned substances ></p> <ul style="list-style-type: none"> - Added two substances to the “Group subject to the Law Concerning the Examination and Regulation of Manufacture etc. of Chemical Substances (Japan)” <p>< Conditionally banned substances ></p> <ul style="list-style-type: none"> - Revised the conditions for prohibitions on cadmium and cadmium compounds, mercury and mercury compounds, lead and lead compounds - Added "Treatment of Substances Regulated by REACH Regulation No. 1907 / 2006" <p><Substances to be eliminated from products></p> <ul style="list-style-type: none"> - Revised exempted applications for cadmium and cadmium compounds, mercury and mercury compounds, lead and lead compounds - Added diisobutyl phthalate (DIBP) and hexabromocyclododecane (HBCDD) to level 2 substances to be eliminated from products
3.7	August 1, 2012	<p>Deleted “PREFACE”, “QUALITY PHILOSOPHY”</p> <p>Appendix 1: Substance Handling Standards</p> <p>< Conditionally banned substances ></p> <ul style="list-style-type: none"> - Deleted one of the exemptions from Formaldehyde. - Revised conditions for mercury and mercury compounds. - Revised conditions for Tri-substituted organostannic compounds and Dioctyltin (DOT) compounds. - Added (Di(2-ethylhexyl) phthalate(DEHP), Dibutyl phthalate(DBP), Benzyl butyl phthalate(BBP), Diisobutyl phthalate(DIBP), Dibutyltin (DBT) compounds, Hexabromocyclododecane (HBCDD) * moved from level 2 substances to be eliminated from products - Added “until December 31, 2014” to the exemption of Dioctyltin (DOT) compounds - Added URL of European Chemical Agency’s website to “Treatment of Substances Regulated by REACH Regulation No. 1907/2006” - Revised the organization names. - Added “for information on production materials used for products to which EU RoHS Directive (2011/65/EU) applies” to Note A. <p><Substances to be eliminated from products></p> <ul style="list-style-type: none"> - Deleted “(e.g. Projector lamp) from Hg-4 of Mercury And Mercury Compounds. - Regarding exempted application of Lead and Lead Compounds “Pb-7”, added “7(c)-IV” to the No. of application exempted from amended RoHS Directive and added “Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete semiconductors” to the comment. - Deleted (Di(2-ethylhexyl) phthalate(DEHP), Dibutyl phthalate(DBP), Benzyl butyl phthalate(BBP), Diisobutyl phthalate(DIBP), Dibutyltin (DBT) compounds, Hexabromocyclododecane (HBCDD) from level 2 substances to be eliminated from products. * moved to conditionally banned substances. - Added Perfluorooctanoic acid (PFOA) and its salt, Musk xylene, 4,4’-Diaminodiphenylmethane (MDA), Diarsenic pentaoxide, Diarsenic trioxide, 2,4 - Dinitrotoluene (2,4-DNT), Tris(2-chloroethyl)phosphate (TCEP) to level2 Substances to be eliminated from products. - Updated Appendix 3 List of Epson Group Companies
3.7.1	April 1, 2013	Updated Appendix 3 List of Epson Group Companies

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3.7.2	August 1, 2013	<ul style="list-style-type: none"> - Updated Appendix 3 List of Epson Group Companies - Revised the organization name from “Visual Device Business Unit (the former TFT Operations Division) of the Visual Products Operations Division” to “the TFT liquid crystal panels business of the Visual Products Operations Division”
3.8	July 1,2014	<p>Deleted “APPROACH TO ASSURANCE AGAINST CHEMICAL SUBSTANCE INCLUSION IN PRODUCTS” STANDARDS</p> <ul style="list-style-type: none"> - Added 2. Basic rules for assuring that banned substances are not contained in products <p>Appendix 1: Substance Handling Standards</p> <ul style="list-style-type: none"> - Revised the explanation in 2.Substance group handling standards partially <p>< Unconditionally banned substances ></p> <ul style="list-style-type: none"> - Added Endosulfan, Hexabromocyclododecane (HBCDD) - Polychlorinated naphthalene: (Cl: 3 or more) => (Cl: 1 or more) <p>< Conditionally banned substances ></p> <ul style="list-style-type: none"> - Cadmium and its compounds, lead and its compounds, Mercury and its compounds: For use in batteries, see Appendix 2 - Added a condition for jewelry to Lead and its compounds - Added a condition for azodyes to azo compounds - Moved HBCDD to unconditionally banned substances - Moved musk xylene, MDA, diarsenic pentaoxide, diarsenic trioxide, 2,4-DNT, TCEP from level2 Substances to be eliminated from products <p><Notes regarding substances></p> <ul style="list-style-type: none"> - *A: Moved “Products to which EU RoHS Directive (2011/65/EU) applies” from Notes regarding laws <p><Notes regarding laws></p> <ul style="list-style-type: none"> - Added *1 According to Annex XVII of REACH Regulation No. 1907/2006, revised the name of the law of *7 - Added list of azodyes <p><Substances to be eliminated from products ></p> <ul style="list-style-type: none"> - Added the following explanations <p>As of July 2014, applications exempted from the RoHS Directive are being reviewed.</p> <p>The dates provided in the "Effective date of the prohibition" column in the tables on pages 21-25 are the dates that Epson has independently set as the final dates for accepting goods containing substances that are being phased out. Exempted applications and effective dates of the prohibition may change, depending on the results of reviews of applications exempted from the RoHS Directive.</p> <ul style="list-style-type: none"> - Deleted “Analytical standards for substances to be eliminated from products are also shown below. Analytical methods have not been established for all test samples.” - Added “Effective date of the prohibition” for exempted applications and the following explanation. <p>Exempted applications and effective dates of the prohibition may change, depending on the results of reviews of applications exempted from the RoHS Directive.</p> <ul style="list-style-type: none"> - Analytical standards: Added the following explanation. <p>*Use the method of analysis, testing, or measurement specified by Epson, if any.</p> <ul style="list-style-type: none"> - Moved musk xylene, MDA, diarsenic pentaoxide, diarsenic trioxide, 2,4-DNT, TCEP to Conditionally banned substances - Hexavalent Chromium and Its Compounds => Hexavalent Chromium Compounds - Added the following condition to level 2 of Hexavalent Chromium Compounds. Hexavalent Chromium Compounds must not be present in leather articles and articles containing leather parts that come into contact with the skin in concentrations equal to or greater than 3 ppm of the total dry weight of the leather or leather part

Rev.	Date of Revision	Revised Content
3.8	July 1, 2014	<ul style="list-style-type: none"> - Mercury And Mercury Compounds: Revised the name of Hg-3 from “Mercury in straight fluorescent lamps for special purposes” to “Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes” - Lead and Lead Compounds: Revised the name of Pb-7 from Lead in ceramic for piezoelectronic devices to Lead in ceramic for electrical and electronic components - Lead and Lead Compounds: Revised the comment of Pb-7 - Lead and Lead Compounds: Added *See Pb-4 for high melting temperature type solders to the comment of Pb-14 - Added PAH, Trichloroethylene to level 2 <Substances Banned From Use In Manufacturing Processes> - Added Montreal Protocol Annex III and Bromochloromethane Appendix 2 - Deleted Appendix 2 “System Check Sheet for Assurance Against Chemical Substance Inclusion in Products” - Added Appendix 2 “Conditionally banned substances for battery” Appendix 3 - Updated Appendix 3 “List of Epson Group Companies”
3.9	July 1, 2015	<ul style="list-style-type: none"> < Conditionally banned substances > - Moved “Leather articles and articles containing leather parts that come into contact with the skin shall not contain in concentrations equal to or greater than 3 ppm of the total dry weight of the leather” from level 2 Substances to be eliminated from products - Dibutyltin (DBT) compounds: Deleted “Adhesives are exempt until December 31, 2014.” - Moved Trichloroethylene from level 2 Substances to be eliminated from products - Added Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-Trimethylpentene (BNST), and Polyvinyl chloride (PVC) <Substances to be eliminated from products> - Lead and Lead Compounds: Revised effective date of the prohibition for Pb-2 and Pb-3 from July 21, 2015 to April 21, 2016 - Added Arsenic acid, technical MDA, Diglyme, EDC to level 2 Appendix 2 “Conditionally banned substances for battery” - Mercury and its compounds: Revised threshold for button cell battery from 20,000ppm to 5ppm - Updated Appendix 3 “List of Epson Group Companies”
4	July 1, 2016	<ul style="list-style-type: none"> <Unconditionally banned substances> Revised “DBBTs: Pentachlorophenol (87-86-5)” to “Group subject to the Law Concerning the Examination and Regulation of the Manufacture etc. of Chemical Substances (Japan): Pentachlorophenol or its salts and esters” <Conditionally banned substances> - Changed the ban conditions for chlorinated paraffin to "Prohibited in amounts exceeding 1000 ppm per delivery configuration." - Added red phosphorus - Moved "Perfluorooctanoic acid (PFOS) and its salt" and "PAH" from "Substances to Be Eliminated From Products (Level 2)" <Substances to Be Eliminated From Products> - Mercury and its compounds: The effective date of the prohibition was changed from July 21, 2015 to "Immediate" for Hg-1 and Hg-3 used in exempted applications.

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4	July 1,2016	<p>- Lead and its compounds: The effective date of the prohibition was changed from July 21, 2015 to "Immediate" for Pb-5, Pb-14, Pb-27, and Pb-33 used in exempted applications.</p> <p>The effective date of the prohibition of Pb-2 and Pb-3 used in exempted applications was changed from April 21, 2016 to "One year prior to the legally mandated exemption expiration date."</p> <p>- Moved "Perfluorooctanoic acid (PFOS) and its salt" and "PAH" to "Conditionally banned substances."</p>
5	July 1, 2018	<p>STANDARDS</p> <ul style="list-style-type: none"> - Added "(2) Ensure that banned substances are not present in your products." (See Appendix 1 for substance handling standards.)" to 4. Supplier Agreements - In accordance with the introduction of chemSHERPA, revised requirements in 5. (2) Reporting information about substances in products <p>Appendix 1: Substance Handling Standards</p> <p>1. Definitions</p> <p>(1) substance banned in products</p> <p>Consolidated conditionally banned substances, unconditionally banned substances, and substances to be eliminated from products to "substances banned in products" and regulated "Level 1 banned substances (currently banned)" and "Level 2 banned substances (substances scheduled to be banned)"</p> <ul style="list-style-type: none"> - In accordance with the introduction of chemSHERPA, revised the definition of (3) controlled substances - Added the following definitions: (4) present, (5) presence banned, (6) intentional inclusion, (7) intentional inclusion prohibited, (8) impurity, (9) homogeneous material, (10) threshold, (11) concentration, (12) article - Added the following tables: <ul style="list-style-type: none"> Table 2.1-2 EU RoHS Directive Exemptions Table 2.1-3 Examples of Banned Substances & Substance Groups Table 2.1-4 Regulations Referenced Table 2.1-5 Analysis Standards <p>2.1 Substances Banned in Products</p> <ul style="list-style-type: none"> - Consolidated conditionally banned substances, unconditionally banned substances, and substances to be eliminated from products to "substances banned in products" and specified "Regulation (Threshold)" and "Referenced Regulation" - In accordance with the introduction of chemSHERPA, revised the substance (group) names - Revised regulations (thresholds) of the following substances: <ul style="list-style-type: none"> No.43 SCCPs (short-chain chlorinated paraffin: 10-13 carbon atoms) are prohibited in amounts exceeding 1000 ppm per delivery configuration (Parts, units, finished products, etc.) => Presence banned No.44 Perfluorooctane sulfonates (PFOS) and its salt: deleted exemptions No.46 Formaldehyde: Composite wood products below that do not meet the requirements of sections 93120-92130.12, title 17, California Code of Regulations => Composite wood products below that do not meet the requirements of sections 93120-92130.12, title 17, California Code of Regulations and TSCA Title VI No. 49 Lead and lead compounds: <ul style="list-style-type: none"> - Cord and cable jackets/sheathing that contain 300 ppm lead or lead compounds must be labeled => Thermoset and thermoplastic-sheathed electrical wires, cables and cords: Prohibited in surface coating material in concentrations exceeding 300 ppm, unless the amount has been reported and approved by Epson.

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5	July 1,2018	<ul style="list-style-type: none"> - In jewelry products (including watch bands), shall not exceed 200ppm. Crystal glass, glass, stainless steel, and natural jewelry not treated with lead additives are exempt. - Jewelry (including watch bands) glass and stainless steel shall not contain more than 500 ppm. This does not apply, however, to internal watch parts that consumers do not touch. => Jewelry (including watch bands): Prohibited in individual parts in amounts of 500 ppm or more. This does not apply, however, to internal watch parts that consumers do not touch, crystal glass, and natural gems that have not been treated with a lead additive. No.68 Polyvinyl chloride (PVC): Shall not intentionally be added to packing materials. Packing materials used for industrial products and TFT liquid crystal panels are exempt. => Intentional inclusion prohibited in packaging materials, except in packaging materials for industrial products. - Based on the latest legal requirements, revised Table 2.1-1 Battery Restrictions 2.2 Substances Banned from Use in Manufacturing Processes <ul style="list-style-type: none"> - Revised names of the following substances: No.4 Amosite, Crocidolite (blue asbestos) => Asbestos - Revised regulations (thresholds) of the following substances: No. 9 Formulations and other substances containing in excess of 1% by weight of any of the substances cited in Nos. 2 through 8 => Preparations or other substances that contain > 0.1% asbestos by weight; or preparations or other substances that contain > 1% of items 2, 3, 5, 6, or 7 above by weight - Added HCFC - Deleted Appendix 3, List of Epson Group Companies
6	October 1, 2019	<p>STANDARDS</p> <p>5. (2) Reporting information about substances in products</p> <ul style="list-style-type: none"> - Additions: 5. (3) Information handling - chemSHERPA-AI file URL: https://chemsherpa.net/english => https://global.epson.com/SR/supply_chain_csr/green_purchasing/chemical_substances.html <p>Appendix 1: Substance Handling Standards</p> <p>1. Definitions</p> <ul style="list-style-type: none"> - Added definitions for “chemical substance” and “mixture (preparation)” <p>2.1 Substances Banned in Products Level 1 banned substances</p> <ul style="list-style-type: none"> - The names of the following substances were revised: No. 31: “Hexabromocyclododecane (HBCDD) and all major diastereoisomers” was changed to “Hexabromocyclododecane (HBCDD)” No. 69: “Perfluorooctanoic acid (PFOA) and individual salts and esters of PFOA” was changed to “Perfluorooctanoic acid (PFOA) and its salts and PFOA-related substances” - Revised “in articles” in the Regulation (Threshold) column to “articles and their parts” for the following substances: No. 53: Tri-substituted organostannic compounds; No. 54: Dioctyltin (DOT) compounds; and No. 59: Dibutyltin (DBT) compounds - Deletions: Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-Trimethylpentene (BNST) - Additions: No. 75: 4,4'-isopropylidenediphenol (bisphenol A, BPA) <p>2.1 Substances Banned in Products Level 2 banned substances</p> <ul style="list-style-type: none"> - Added 14 substances to a list of level 2 banned substances

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6	October 1, 2019	<p>Table 2.1-1 Battery Restrictions</p> <ul style="list-style-type: none"> - Deleted exemption for batteries designed exclusively for industrial or commercial use (except for lead-acid batteries) <p>Table 2.1-2 EU RoHS Directive Exemptions</p> <ul style="list-style-type: none"> - Updated based on the latest EU RoHS information <p>Table 2.1-3 Examples of Banned Substances & Substance Groups</p> <ul style="list-style-type: none"> - Updated based on the latest IEC62474 information <p>Table 2.1-5 Analysis Standards</p> <ul style="list-style-type: none"> - Updated based on the latest information
7	June 1, 2021	<p>STANDARDS</p> <ul style="list-style-type: none"> - Deleted “4. Supplier Agreements,” “5. Principles for Component Substance Assurance,” and “7. Additional Clauses” - Added “4. Epson’s Expectations of Suppliers,” “5. Before Transactions Can Begin,” “6. When This Standard is Revised,” “7. Information Handling,” and “Appendix 2: Revision History” - Changed the number and name of “2. Basic Principles of Product Substance Assurance” to “3. Epson’s Basic Principles of Product Substance Assurance” - Changed the number of “3. Scope” to “2. Scope” - Changed the number and name of “6. Requests Regarding Product Substance Assurance” to “8. Requests Regarding the Assurance System for Substances in Products” <p>Appendix 1: Substance Handling Standards</p> <p>2.1 Substances Banned in Products Level 1 banned substances</p> <ul style="list-style-type: none"> - Revised names of the following substances: <ul style="list-style-type: none"> - No. 1 White phosphorous -> White phosphorous match (white phosphorous) - Added “intentional inclusion prohibited” to the thresholds for packaging materials for the following substances and revised the referenced regulations: <ul style="list-style-type: none"> - No. 47, No. 48, No. 49, No. 50 - Gathered the following 4 substances under No. 55: <ul style="list-style-type: none"> - Di (2-ethylhexyl) phthalate (DEHP), Dibutyl phthalate (DBP), Benzyl butyl phthalate (BBP), Diisobutyl phthalate (DIBP) - The following substances were transferred from the list of level 2 prohibited substances and the thresholds were revised based on the latest information on laws and regulations: <ul style="list-style-type: none"> - No.61 - Added the following substances: <ul style="list-style-type: none"> - No.62, No.63, No.64, No.65 - Removed 11 substances, of which referenced regulation is EU REACH Regulation (EC) No. 1907/2006, Annex XIV (Substances subject to authorization) - Added “Table 2. List of long-chain perfluoroalkyl carboxylate subject to the TSCA Significant New Use Rule” - Added “Table 3. Uses for which the intentional inclusion of fluorinated greenhouse gases (PFCs, SF6, HFCs) is prohibited” <p>2.1 Substances Banned in Products Level 2 banned substances</p> <ul style="list-style-type: none"> - Deleted 14 substances <p>Notes/Comments on substances</p> <ul style="list-style-type: none"> - Added *3 and *11 - Revised the definition of PFOA-related substances in *10 based on the latest information on laws and regulations <p>Table 2.1-1 Battery Restrictions</p> <ul style="list-style-type: none"> - Revised the threshold for cadmium and cadmium compounds in button cell alkaline batteries

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7	June 1, 2021	<p>Table 2.1-2 EU RoHS Directive Exemptions</p> <ul style="list-style-type: none"> - Added a table for cadmium and cadmium compounds exemptions <p>Table 2.1-3 Examples of Banned Substances & Substance Groups</p> <ul style="list-style-type: none"> - Updated based on the latest IEC62474 information - Added 12 substances to the substances that are known to be PFOA-related substances <p>Table 2.1-4 Regulations Referenced</p> <ul style="list-style-type: none"> - Revised number of the law in No. 6 based on the latest regulation - Revised the names of the regulation in No. 34 - Added the following laws and regulations: <ul style="list-style-type: none"> - EU Regulation No. 517/2014 on Fluorinated Greenhouse Gases - No. 26 TSCA Significant New Use Rule - No. 31 U.S. regulations on hazardous substances in packaging materials - Deleted the following laws and regulations: <ul style="list-style-type: none"> - EU REACH Regulation (EC) No 1907/2006, Annex XIV (Substances subject to authorization) <p>2.2 Substances banned from use in manufacturing processes</p> <ul style="list-style-type: none"> - Revised names of the following substances: <ul style="list-style-type: none"> - No. 1 White phosphorous -> White phosphorous match (white phosphorous) - Added the following substances: <ul style="list-style-type: none"> - 31 substances from No. 18 to No. 48

Issued by

Seiko Epson Corporation

CS/Quality Assurance & Environment Department

Contact information

Seiko Epson Corporation
CS/Quality Assurance & Environment Department
e-mail: QA.chem@exc.epson.co.jp